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# Controlling the Northern Seas: The Influence of Exclusive Economic Zones on the Development of Norwegian, Danish, and Canadian Naval Forces

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Controlling the Northern Seas: The Influence of Exclusive Economic Zones on the Development of  
Norwegian, Danish, and Canadian Naval Forces

by

Timothy Hiu-Tung Choi

A THESIS

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## Abstract

The military challenge of climate change in the Arctic is often centered upon resource access within Arctic states' Exclusive Economic Zones (EEZ). There is thus a need to understand how those states' naval forces have responded to EEZ creation during the Cold War and their consequences through the present day. Examining the navies of Norway, Denmark, and Canada, this dissertation asks how the EEZ directly and indirectly affected their force structures and sea control operations and whether smaller navies consistently differ from larger one, which tackles the dearth of literature on smaller navies and peacetime naval operations. This dissertation finds that while all three Arctic states created and exploited the 200 NM zones, only Norway developed notably increased constabulary seapower inputs for controlling its blue water offshore area. For Denmark, its colonial territories in the North Atlantic meant its navy already had the constabulary fleet and organizational infrastructure necessary to control its EEZ even as its warfighting fleet focused on Baltic operations. Meanwhile, Canada could depend on its pre-existing blue water warfighting fleet to serve as *ad hoc* constabulary platforms for legally-endowed civilian fisheries officers. Despite these differences in each country's force structures, the actual operations of all three countries' navies would converge in the post-Cold War era, which called for overseas expeditionary missions in accordance with alliance interests. For the two smaller navies of Norway and Denmark, such missions were carried out with the same constabulary forces originally designed for EEZ concerns as they were the ones with the necessary blue water characteristics. In contrast, Canada already had a fleet of naval vessels that were suitable for such expeditionary operations due to its focus on blue water antisubmarine warfare. By the early 2010s, all three countries would have the necessary warfighting assets to operate in expeditionary roles, though only Canada would have the numbers required to do so on a continuous basis. However, rising geopolitical tensions and climate change's effect on increasing activity in and around these countries' EEZs is leading to a convergence of warfighting and constabulary requirements in these northern seas close to home.

## Preface

This thesis is original, unpublished, independent work by the author, Timothy Hiu-Tung Choi. The fieldwork and interviews incorporated in Chapters 5 and 6 were covered by Ethics ID number REB16-2135, issued by the Conjoint Faculties Research Ethics Board (CFREB) at the University of Calgary for the study entitled “Scandinavia at Sea: The Seapower of Small Navies in an Era of Broadened Security” on March 6, 2017.

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Choi, Timothy. “Sea Control by Other Means: Norwegian Coast Guard Operations under International Maritime Law.” *Ocean Development and International Law* 51, no. 1: 35-46.

Choi, Timothy. “Ready to Secure: A Sea Control Perspective on Canadian Fisheries Enforcement.” In *Grey and White Hulls: An International Analysis of the Navy-Coastguard Nexus*, edited by Ian Bowers and Collin Koh Swee Lean, 223-244. Singapore: Palgrave Macmillan, 2019.

Permission has been received from the publishers of these works for the inclusion of the relevant paragraphs and figures as part of the works’ original contracts.

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Firstly, I am grateful to my supervisor, Dr. Rob Huebert, for having the patience and strength to see this project through to completion. Thank you for always reminding me about the project's big picture and supporting my numerous CV-building activities. My appreciation also goes out to Drs. Ian Holloway and John Ferris, who agreed to form my dissertation committee without quite knowing the length of that commitment. Thank you as well to my external examiners, Drs. Elinor Sloan and Paul Chastko, for taking time out of their busy schedules to examine this thesis. Drs. Andrea Charron and Evan Wilson also deserve my thanks for providing me with additional academic opportunities throughout the last several years.

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## Chapter 1: Introduction

### 1.0 Setting the Scene

While returning from the North Atlantic Treaty Organization (NATO) exercise *Trident Juncture 2018*, the Royal Norwegian Navy warship HNoMS *Helge Ingstad* collided with the oil tanker *Sola TS* at 4:01am on November 8, 2018, as the latter was departing the Sture Oil Terminal located 35 kilometres northwest of Bergen, Norway.<sup>1</sup> This resulted in a long gash below the Nansen-class frigate's waterline which led to such extensive flooding that, within the hour, the crew notified the Joint Rescue Coordination Centre that "they had lost control of the frigate's stability" and would be abandoning the ship.<sup>2</sup> By 6:34am, the last ten members of the crew had been evacuated to the Norwegian Coast Guard offshore patrol ship KV *Bergen*, which had arrived on scene to assist along with KV *Tor*, an inshore patrol ship.<sup>3</sup> Thankfully, no crew members were killed and injuries were light.<sup>4</sup> Through the following months, attempts to salvage the sunken frigate were stymied by poor weather conditions until the final week of February 2019, when it was finally raised and transported to the main Norwegian naval base of Haakonsværn, a few kilometres south of Bergen.<sup>5</sup>

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<sup>1</sup> HNoMS stands for His/Her Norwegian Majesty's Ship and tends to be used in English-language publications, while KNM, or Kongelig Norsk Marines, is the equivalent prefix in Norwegian. Accident Investigation Board Norway [AIBN] and Defence Accident Investigation Board Norway [DAIBN], *PART ONE REPORT ON THE COLLISION ON 8 NOVEMBER 2018 BETWEEN THE FRIGATE HNoMS HELGE INGSTAD AND THE OIL TANKER SOLA TS OUTSIDE THE STURE TERMINAL IN THE HJELTEFJORD IN HORDALAND COUNTY* (Lillestrøm: Accident Investigation Board Norway, 2019), 6; Astrid Rommetveit et al., "Hjemreisen til KNM «Helge Ingstad» er over," *NRK.no*, March 3, 2019, <https://www.nrk.no/vestland/knm-helge-ingstad-er-tilbake-pa-haakonvern-1.14312996>.

<sup>2</sup> AIBN and DAIBN, *PART ONE REPORT ON THE COLLISION ON 8 NOVEMBER 2018*, 28. Throughout this dissertation, names of individual ships will be italicized (e.g. *Fridtjof Nansen*). When a class name is used as an adjective for a ship type, a hyphen will be used and the type is set without italics (e.g. Nansen-class frigate). When the class name is used as a noun on its own, no hyphen will be used (e.g. the Nansen class). When the class name is used as a plural noun, the name will be italicized to avoid confusion with the plural character (e.g. the *Nansens*).

<sup>3</sup> AIBN and DAIBN, *PART ONE REPORT ON THE COLLISION ON 8 NOVEMBER 2018*, 28. The presence of KV *Tor* was determined by the author while tracking Automatic Identification System data on the website MarineTraffic.com shortly after the incident on November 8, 2018, at 9:24am MST.

<sup>4</sup> Forsvaret, "Logg for KNM <<Helge Ingstad>>," *Forsvaret.no*, March 4, 2019, <https://forsvaret.no/pressesider/logg-knm-helge-ingstad>.

<sup>5</sup> Forsvaret, "Logg for KNM <<Helge Ingstad>>"; Rommetveit et al., "Hjemreisen til."

With the loss of the *Ingstad* came, it would seem, the loss of a fifth of Norway's seapower: there were only five Nansen-class frigates in the Royal Norwegian Navy and they formed the backbone of its surface combat fleet. Built during the 2000s, at the time they were the single most expensive military expenditure in Norwegian history.<sup>6</sup> Grabbing media attention worldwide, the accident served not only to remind observers that Norway has a navy, but that it was comprised of large state-of-the-art modern warships – the four distinctive hexagonal SPY-1F radar antennas on *Ingstad's* superstructure are but smaller versions of those on the United States Navy's (USN) frontline destroyers and cruisers.<sup>7</sup> Despite being a small country, Norway's navy was shown to be an incredibly advanced one, with the accident depicted as even more tragic and stunning by the very modernity of the vessel involved.<sup>8</sup> That the USN recently experienced its own tragic collisions with destroyers USS *Fitzgerald* and USS *McCain* in 2017 seemed to highlight the similarities in the challenges faced by maritime forces big and small.<sup>9</sup> As with *Ingstad*, both American warships collided with much larger civilian commercial ships, resulting in large holes in the sides of the naval vessels while the civilian ships suffered little more than scraped paint. Worse, while the *Ingstad* collision resulted only in minor injuries on the part of its crew, the *Fitzgerald* and *McCain's* crews lost seven and ten of their shipmates, respectively. On the face of it, the Norwegian navy shares major similarities with its much larger American cousin, differing only in magnitude: similar warship types with similar vulnerabilities and challenges.

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<sup>6</sup> Jacob Børresen, *Det Store Fregattkjøpet: Historien om Anskaffelsen av Fridtjof Nansen-Klasse Fregatter til Sjøforsvaret* (Oslo: Vidarforlaget, 2015), 17.

<sup>7</sup> Missile Defense Advocacy Alliance, "AN/SPY-1 Radar," *MDAA*, December 2018, <https://missiledefenseadvocacy.org/defense-systems/anspy-1-radar/>.

<sup>8</sup> Ryan Pickrell, "The elite warship that collided with a massive tanker on its way home from NATO's big war games unexpectedly sank overnight," *Business Insider*, November 12, 2018, <https://www.businessinsider.com/norways-elite-frigate-sinks-after-damages-from-devastating-collision-2018-11>; Thomas Nilsen, "Frigate 'Helge Ingstad' Sinks," *The Barents Observer*, November 13, 2018, <https://thebarentsobserver.com/en/security/2018/11/latest-frigate-helge-ingstad-sinks>.

<sup>9</sup> Robert Faturechi, Megan Rose, and T. Christian Miller, "Years of Warnings, Then Death and Disaster: How the Navy Failed Its Sailors," *ProPublica*, February 7, 2019, <https://features.propublica.org/navy-accidents/us-navy-crashes-japan-cause-mccain/>.

## 1.1 The Empirical Impetus: Naval Development in Peace

Yet, while the Norwegian and American collisions themselves share remarkable similarities, they differed greatly in the contexts in which they occurred, which highlights the character of smaller maritime forces. The *Ingstad* accident is a vignette that captures cross-sections of not just the force structure of the Royal Norwegian Navy, but also its roles and responsibilities. From the exercise that *Ingstad* had just been participating to the Coast Guard ships that responded, the singular incident encompasses missions ranging from high intensity warfare to environmental protection, and maritime geography ranging from the “blue water” of the high seas and Exclusive Economic Zone to sheltered fjords. Indeed, even though the Nansen class forms the most notable high-ticket procurement in recent history, Norway’s naval modernization continues apace with the current procurement of the even larger 9800-ton Jan Mayen-class offshore patrol ships for the Coast Guard.<sup>10</sup> This broad scope of missions and the oceanic spaces in which they are conducted was not a constant in Norwegian conceptions of seapower, however, and is in some respects a relatively recent development.

On the other side of the Skagerrak, fellow Scandinavian state Denmark also saw recent changes in its naval forces. In the same period that the Norwegians procured their Nansen class, the Royal Danish Navy (RDN) undertook a dramatic transformation in its combat forces by divesting its myriad coastal vessels meant for closing the Danish Straits to Soviet forces.<sup>11</sup> In their stead were just five ships, albeit an order of magnitude larger in tonnage: the three Iver Huitfeldt-class air defence frigates and the two Absalon-class support ships.<sup>12</sup> The two classes shared a common hull, though the *Absalons* had an extra

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<sup>10</sup> Timothy Choi, “Recent Developments in Arctic Maritime Constabulary Forces: Canadian and Norwegian Perspectives,” *Arctic Relations*, 2020, <https://www.arctic-relations.info/recent-developments-in-arctic-marit>.

<sup>11</sup> Richard Scott, “Danish Task Group Charts a New Course,” *Jane’s Navy International*, June 13, 2002; Richard Scott and Guy Toremans, “Flexible Friends: Flexible Support Ships,” *Jane’s Defence Weekly*, February 26, 2009.

<sup>12</sup> Scott, “Danish Task Group Charts a New Course,”; Scott and Toremans, “Flexible Friends”.

reinforced transport deck instead of the *Huitfeldts'* advanced radars. Part of the RDN's 2<sup>nd</sup> Squadron, these five ships were conceived to support Denmark's internationalist foreign and security policy, providing a diverse set of capabilities ranging from air defence to amphibious assault that ensures Denmark could participate in a wider number of contingencies around the globe. Much as the Nansen class overshadows the Norwegians' investments in their Coast Guard, however, the RDN has also modernized its smaller vessels in the 1<sup>st</sup> Squadron responsible for peacetime constabulary duties in and around the 200 nautical mile (NM) Exclusive Economic Zones off Greenland and the Faroe Islands. Recent developments in the Arctic, however, have initiated what appears to be a gradual erosion of the sharp distinction between the two squadrons: starting in 2019, ships from the combat-oriented 2<sup>nd</sup> Squadron have begun deploying to 1st Squadron's traditional area of responsibility in the Arctic.<sup>13</sup> Understanding the significance of this change requires a comprehensive understanding of the history that has led to the current force structure as well as the geographical and logistical constraints brought about by the vast distances between Denmark and the rest of its Realm.

Across the Davis Strait, Canada is similarly increasing the role of its maritime combat arm in peacetime surveillance and patrol off its southern and Arctic coasts with the ongoing procurement and commissioning of its six Harry DeWolf-class Arctic and offshore patrol ships. For the first time since the 1950s, the Royal Canadian Navy (RCN) will have a dedicated armed response capability in icy waters against low-intensity threats in support of other government departments.<sup>14</sup> The DeWolf class will also be the RCN's first vessels purpose-built for constabulary tasks rather than military and defence roles. Although only in their second summer of operations, the first ship has already been deployed through the Northwest Passage where it tested a containerized antisubmarine sonar before heading south to

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<sup>13</sup> Arktisk Kommando, "Træning med udenlandske flådeenheder ved Grønlands vestkyst," *Forsvaret*, August 22, 2019, <https://www2.forsvaret.dk/omos/organisation/arktisk/Pages/TraeningmedudenlandskeflaadeenhedervedGroenlandsvestkyst.aspx>.

<sup>14</sup> Choi, "Recent Developments."

Latin America for drug interdiction operations.<sup>15</sup> The construction of the *DeWolfs* precedes the modernization of the RCN's warfighting fleet, which is slated to comprise of fifteen large surface combatants that have an order of magnitude greater firepower than the existing Halifax class frigates.<sup>16</sup> Canada's other major federal maritime arm, the Canadian Coast Guard, is also in the process of bolstering its capabilities through the procurement of two of its own DeWolf-class patrol ships, several new icebreakers, and science vessels.<sup>17</sup>

Across the three smaller Arctic coastal states, we therefore see a number of recent and ongoing naval projects that suggest seapower remains a key element in the North. But seapower for what purpose? Much of the new hardware is characterized by increasing endurance and ability to operate for extended periods of time in remote waters away from land-based support, which is a feature often associated with traditional "blue water" navies that vie for control of the sea against other navies in war. Yet, this has taken place during a period of peace that has reigned in the Arctic since the end of the Cold War and, despite increased military activity, the relatively low prospects for the region being a source (if not location) of military conflict.<sup>18</sup> Thus, it would be reasonable to expect that these billion-dollar investments play peacetime roles to justify their procurement. While the majority of attention in terms of naval procurement in recent years have been focused on the dramatic narrowing of the numerical and technological gap between the large navies of the United States and China, smaller states have

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<sup>15</sup> Royal Canadian Navy, "New sonar system tested aboard Harry DeWolf," *Government of Canada*, December 6, 2021, <https://www.canada.ca/en/department-national-defence/maple-leaf/rcn/2021/12/new-sonar-system-tested-aboard-harry-dewolf.html>; Lisa Tubb, "HMCS Harry DeWolf makes Operation Caribbe history," *Lookout: CFB Esquimalt Navy News*, November 30, 2021, <https://www.lookoutnewspaper.com/hmcs-harry-dewolf-makes-operation-caribbe-history/>.

<sup>16</sup> See Chapter 7: Canada, pages 406-424.

<sup>17</sup> Public Services and Procurement Canada, "Large vessel shipbuilding projects," *Government of Canada*, November 13, 2019, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/grandnav-largeves-eng.html>.

<sup>18</sup> Marc Lanteigne, "The changing shape of Arctic security," *NATO Review*, June 28, 2019, <https://www.nato.int/docu/review/articles/2019/06/28/the-changing-shape-of-arctic-security/index.html>; Office of the Under Secretary of Defense for Policy, *Report the Congress: Department of Defense Arctic Strategy* (Department of Defense, June 2019), 3; Chief of Naval Operations, *Strategic Outlook for the Arctic: January 2019*, (Department of the Navy, 2019), 5.

clearly not stood idly by during the same period.<sup>19</sup> Despite the varying levels of combat capability between these and other projects by Norway, Denmark, and Canada, they all – as will be argued in this dissertation – share one thing in common: sea control. Despite its traditional use as a core concept to describe the functions of navies in wartime, this dissertation will argue that sea control also has a peacetime manifestation that is essential for understanding what navies do in peacetime and contextualizing the tools available to them.

## 1.2 The Theoretical Impetus: Smaller Navies, Peacetime Seapower, and Sea Control

Although the seas have been the subject of much discussion in extant discourses on state power, much of that literature has tended to focus on issues most salient for major powers and in times of war.<sup>20</sup> Certainly, the two world wars and the subsequent Cold War involved active and latent competitions for naval superiority involving the more powerful countries such as Great Britain, the United States, Japan, Germany, and the Soviet Union. These had dramatic consequences for the world and continue to inspire numerous English-language publications at levels ranging from the political to the technical.<sup>21</sup> Under the threat of nuclear Armageddon during the Cold War, academic scholarship also

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<sup>19</sup> Academic published works include Andrew S. Erickson, ed., *Chinese Naval Shipbuilding* (Annapolis, Naval Institute Press: 2017); Michael McDevitt, *China as a Twenty-First Century Naval Power: Theory, Practice, and Implications* (Annapolis: Naval Institute Press, 2020). Popular media coverage include Rick Joe, “The Chinese Navy’s Destroyer Fleet Will Double by 2025. Then What?” *The Diplomat*, July 12, 2020, <https://thediplomat.com/2020/07/the-chinese-navys-destroyer-fleet-will-double-by-2025-then-what/>; Jon Harper, “Eagle vs Dragon: How the U.S. and Chinese Navies Stack Up,” *National Defense*, March 9, 2020, <https://www.nationaldefensemagazine.org/articles/2020/3/9/eagle-vs-dragon-how-the-us-and-chinese-navies-stack-up>.

<sup>20</sup> Classic examples include the following: Alfred Thayer Mahan, *The Influence of Seapower Upon History 1660-1783* (New York: Hill and Wang, 1957); Julien S. Corbett, *Some Principles of Maritime Strategy* (London: Brassey’s Defence Publishers, 1988); Raoul Castex, *Strategic Theories* (Annapolis: Naval Institute Press, 1994); Philip Howard Colomb, *Naval Warfare: Its Ruling Principles and Practice Historically Treated* (Annapolis: Naval Institute Press, 1990).

<sup>21</sup> For Great Britain, recent works include Andrew Boyd and N.A.M. Rodger, *The Royal Navy in Eastern Waters: Linchpin of Victory 1935-1942* (Barnsley: Seaforth Publishing, 2017); Bernard Edwards, *Churchill’s Thin Grey Line:*

undertook several attempts at theorizing how naval power could be employed in situations short of actual war, such as James Cable's *Gunboat Diplomacy* (first edition in 1971) and Ken Booth's *Law, Force, and Diplomacy at Sea* (1985).<sup>22</sup> The end of the Cold War, however, also meant the temporary end of naval competition between major powers and their allies. This was visible in the United States, as the sole superpower in the unipolar moment, focusing on naval power projection landwards without worrying about how to attain and ensure the continued safety of naval assets on the oceans.<sup>23</sup> At the same time, academic focus on security embraced a shift away from "traditional" issue areas such as the

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*British Merchant Ships at War 1939-1945* (Barnsley: Pen & Sword Maritime, 2017); Norman Friedman, *British Destroyers and Frigates: The Second World War and After* (Annapolis: Naval Institute Press, 2017); Norman Friedman, *British Cruisers: Two World Wars and After* (Annapolis: Naval Institute Press, 2011); and Alan Raven, *British Cruiser Warfare: The Lessons of the Early War, 1939-1941* (Barnsley: Seaforth Publishing, 2019).

For Germany, examples include David W. Wragg, *Operation Sealion: Hitler's Invasion Plan for Britain* (Barnsley, Pen & Sword Military, 2018); Francis M. Carroll, *Athenia Torpedoed: The U-Boat Attack that Ignited the Battle of the Atlantic* (Barnsley: Pen & Sword Maritime, 2012); Aidan Dodson, *The Kaiser's Battlefleet: German Capital Ships 1871-1918* (Annapolis, Naval Institute Press, 2016); Gary Staff, *German Battlecruisers of World War One: Their Design, Construction, and Operations* (Annapolis: Naval Institute Press, 2014); and Gary Staff, *Skagerrak: The Battle of Jutland Through German Eyes* (Barnsley: Pen and Sword, 2016).

For the United States, see John Jordan, *Warships After Washington: The Development of the Five Major Fleets, 1922-1930* (Annapolis: Naval Institute Press, 2012); Craig L. Symonds, *The Battle of Midway* (Oxford: Oxford University Press, 2013); Anthony P. Tully, *Battle of Surigao Strait* (Bloomington: Indiana University Press, 2014); Peter D. Haynes, *Toward a New Maritime Strategy: American Naval Thinking in the Post-Cold War Era* (Annapolis: Naval Institute Press, 2015); Douglas V. Smith, *Carrier Battles: Command Decisions in Harm's Way* (Annapolis: Naval Institute Press, 2020); Steven T. Wills, *Strategy Shelved: The Collapse of Cold War Strategic Planning* (Annapolis: Naval Institute Press, 2021); and Norman Friedman, *Fighters Over the Fleet: Naval Air Defence from Biplanes to the Cold War* (Annapolis: Naval Institute Press, 2016). See also the numerous monographs put out by think tanks such as RAND.

For Japan, see Sadao Asada, *From Mahan to Pearl Harbor: American Strategic Theory and the Rise of the Imperial Japanese Navy* (Annapolis: Naval Institute Press, 2013); Mark R. Peattie, *Sunburst: The Rise of Japanese Naval Air Power, 1909-1941* (Annapolis: Naval Institute Press, 2013); David C. Evans and Mark R. Peattie, *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887-1941* (Annapolis: Naval Institute Press, 2012); David C. Evans, ed., *The Japanese Navy in World War II: In the Words of Former Japanese Naval Officers, Second Edition* (Annapolis: Naval Institute Press, 2017); Bernard D. Cole, *Asian Maritime Strategies: Navigating Troubled Waters* (Annapolis: Naval Institute Press, 2013); and Naoyuki Agawa, *Friendship Across the Seas: The US Navy and the Japan Maritime Self-Defense Force*, trans. Hiraku Yabuki (Tokyo: Japan Publishing Industry Foundation for Culture, 2019);

For Russia and the Soviet Union, see S. N. Timiryov, *The Russian Baltic Fleet in the Time of War and Revolution, 1914-1918: The Recollections of Admiral S N Timiryov*, trans. Stephen Ellis (Annapolis: Naval Institute Press, 2020); Phil Carradic, *The Battle of Tsushima* (Annapolis: Naval Institute Press, 2020); Norman Polmar, Thomas A. Brooks, and George E. Fedoroff, *Admiral Gorshkov: The Man Who Challenged the U.S. Navy* (Annapolis: Naval Institute Press, 2019); and Poul Grooss, *The Naval War in the Baltic, 1939-1945* (Annapolis: Naval Institute Press, 2017).

<sup>22</sup> J.J. Widen, "Naval Diplomacy – A Theoretical Approach," *Diplomacy & Statecraft* 22, no. 4 (2011): 717.

<sup>23</sup> Robert C. Rubel, "Talking about Sea Control," *Naval War College Review* 63, no. 4 (Autumn 2010): 38.



military power of state actors and towards a broadening and deepening of what constitutes “security” issues to include, for example, the environment and individual humans.<sup>24</sup> It would appear that just as the practitioner demand for naval strategic thought was reduced due to geopolitical circumstances, so, too, was there a decreasing interest for further developing it within the academic community. With a few exceptions, such as Geoffrey Till’s *Seapower: A Guide for the 21<sup>st</sup> Century* in 2003 (updated in 2018 to the 4<sup>th</sup> edition) and Milan Vego’s *Maritime Strategy and Sea Denial: Theory and Practice* (2018), comprehensive works theorizing power and the seas had stagnated in the twenty years between the end of the Cold War and the rapid rise of the People’s Republic of China’s navy. Since then, there has been a revitalization of naval-oriented works, but again concentrating on major powers such as China and Russia.<sup>25</sup> There thus lies a relative absence of literature on the seapower of smaller countries and how their navies use the seas, especially in peacetime. This dissertation will therefore speak not only to the empirical developments mentioned above, but help fill a major gap in theorizing power and the seas.

Within the existing literature on seapower, the concept of sea control occupies a central space and any discussion of seapower would be remiss without reference to it. Defined by British maritime strategic thinker Geoffrey Till as “the capacity to use the sea while denying that use to the adversary,”

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<sup>24</sup> Stuart Croft, “What Future for Security Studies?” in *Security Studies: An Introduction*, ed. Paul D. Williams (New York: Routledge, 2013), 579-570; Barry Buzan, Ole Waever, and Jaap de Wilde, *Security: A New Framework for Analysis* (Boulder: Lynne Rienner Publishers, 1998); Mary Martin, Mary Kaldor, and Narcís Serra, *National, European and Human Security: From Co-Existence to Convergence* (London: Routledge, 2013), 9; and Barry Buzan and Lene Hansen, *The Evolution of International Security Studies* (Cambridge: Cambridge University Press, 2009), 187.

<sup>25</sup> For examples, see Bernard D. Cole, *The Great Wall at Sea: China’s Navy in the Twenty-First Century* (Annapolis: Naval Institute Press, 2010); Toshi Yoshihara and James R. Holmes, *Red Star Over the Pacific: China’s Rise and the Challenge to U.S. Maritime Strategy* (Annapolis: Naval Institute Press, 2013); Andrew S. Erickson, ed., *Chinese Naval Shipbuilding* (Annapolis, Naval Institute Press: 2017); Michael McDevitt, *China as a Twenty-First Century Naval Power: Theory, Practice, and Implications* (Annapolis: Naval Institute Press, 2020); Magnus Nordenman, *The New Battle for the Atlantic: Emerging Naval Competition with Russia in the Far North* (Annapolis, Naval Institute Press: 2019).

the sea control concept is most frequently used to refer to activities by larger navies in wartime.<sup>26</sup> For smaller navies, the bulk of attention has been on the notion of “sea denial”, which is concerned with preventing an opponent from using the seas and less so with making use of those seas in any active sense.<sup>27</sup> Norwegian naval scholar Jacob Børreson’s concept of “coastal power”, for example, stresses the limited wartime role that smaller coastal navies can play.<sup>28</sup> However, even though the literature often employs the concepts of sea control and denial most frequently for wartime purposes, there is no logical reason why it cannot also be used in peacetime for “uses” of the sea beyond conventional military objectives. Thus, clearly defining sea control and its conceptual components is key to understanding the broad variety of what navies do and how they do it in peacetime.

But militaries operate under different rules and laws in peacetime than in war, with much greater restrictions on what, how, and where they conduct their operations. In the maritime realm, the “where” has, over the past forty decades, changed dramatically due to the near-global acceptance of the divisions of maritime boundaries enshrined in the 1982 United Nations Convention on the Law of the Sea (UNCLOS). Although UNCLOS covers a very wide range of maritime issues ranging from navigational rights to environmental protection, the most significant component is, arguably, the legitimization of the Exclusive Economic Zone (EEZ). Extending 200 nautical miles (NM) from the coastlines of every coastal state, the EEZ is an area where the coastal state has sovereignty over the exploitation of living and non-living resources such as fish, seabed minerals, and hydrocarbons. By treating parts of the oceans as having economic value in and of themselves rather than merely as transport spaces, EEZs greatly altered the geographic extent in which coastal states’ maritime forces have peacetime legal authority. With EEZs extending some degree of state authority to 40% of the world

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<sup>26</sup> Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 4<sup>th</sup> ed. (London: Routledge, 2018), 200.

<sup>27</sup> Till, *Seapower*, 4<sup>th</sup> ed., 194.

<sup>28</sup> Jacob Børreson, “The Seapower of the Coastal State,” in *Seapower: Theory and Practice*, ed. Geoffrey Till (Portland: Frank Cass, 1994), 151-152.

ocean, such a development offers ample room for international conflict scholars to study how it has affected individual states.<sup>29</sup>

### 1.3 Research Questions and Hypotheses

This impact of EEZs is especially salient for the naval forces of the three smaller Arctic coastal states of Norway, Denmark, and Canada. Concerns over the effects of climate change on increasing the ease of access to Arctic waters have risen sharply over the last decade.<sup>30</sup> With warmer waters and weather resulting in decreased sea ice thickness and extent, Arctic waters have become a speculated source of conflict as both waterways for navigation and as spaces for exploiting natural resources – both of which are circumscribed by the terms of UNCLOS.<sup>31</sup> Within this context, the aforementioned development of regional naval forces and the potential role of EEZs in those developments become key for understanding the likelihood and character of such potential conflicts.

With this impetus in mind, this dissertation has as its primary research question (R1) as follows:

**to what extent have smaller Arctic countries adapted their naval force structures and sea control operations in response to the legitimization of coastal authority over their 200 nautical mile offshore maritime zones?** The use of the term “offshore maritime zones” reflects the fact that although Exclusive Economic Zone is the term used in UNCLOS, in some cases states had already passed national legislation claiming maritime rights in those same geographic areas that were more or less similar to what would be enshrined under UNCLOS. Meanwhile, other spaces such as the Fisheries Protection Zone off

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<sup>29</sup> Kimbra Cutlip, “Taming the Ocean’s Wild West,” *Global Fishing Watch*, November 11, 2016, <https://globalfishingwatch.org/fisheries/taming-the-oceans-wild-west/>.

<sup>30</sup> Scott Borgerson, Lawson Brigham, Michael Byers, Heather Conley, and Marlene Laruelle, “The Emerging Arctic,” *Council on Foreign Relations*, 2014, <https://www.cfr.org/interactives/emerging-arctic#!/emerging-arctic>; Heljar Havnes, “The Increasing Security Focus in China’s Arctic Policy,” *The Arctic Institute*, July 16, 2019, <https://www.thearcticinstitute.org/increasing-security-focus-china-arctic-policy/>.

<sup>31</sup> Borgerson et al., “The Emerging Arctic”; Havnes, “The Increasing Security Focus in China’s Arctic Policy”;

Svalbard in northern Norway are ineligible for the EEZ label due to historical treaties, but which nonetheless offer similar tasks and challenges to maritime forces as EEZs.

To answer this question, the following hypothesis (R1H) is posited: the creation of the 200 nautical mile offshore maritime zones resulted in a shift in Norway, Denmark, and Canada's naval force structures and operational practices away from coastal sea denial in wartime and toward offshore sea control in peacetime. The independent variable is the change in maritime areas, measured in nautical miles away from coastlines, over which the coastal state has some level of legal authority that can be enforced by the use of naval forces. The dependent variables are the activities and suitability of vessels for operating in offshore waters to contest sea control against civilian actors (which may be supported by state forces) who behave in violation of that legal authority. Such vessels would generally be characterized by relatively large hulls for improved seakeeping and increased endurance, but with only limited armament in keeping with their constabulary role. Their activities would involve sailing within and around offshore waters, surveilling and monitoring both domestic and foreign civilian vessels for compliance with state regulations, and interdicting physically where compliance is refused.

A secondary research question (R2) is also asked: **do smaller countries consistently differ from larger ones in their responses to the creation and legitimization of the 200 NM offshore maritime zones?** Within the literature on seapower, a relatively recent question that has arisen is whether smaller navies fundamentally differ from their larger counterparts, or do they do similar things only at a smaller scale – a difference in kind or in degree, in other words.<sup>32</sup> The earlier comparison of the *Ingstad* collision with its American counterparts is a broad example of similar challenges in terms of the incident's scale and character. The impact, however, is harder to discern. While permanently losing one-fifth of a navy's frigate fleet would be expected to have a much more significant impact on overall sea control capability

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<sup>32</sup> Ian Speller, Deborah Sanders, and Michael Mulqueen, "Introduction," in *Small Navies: Strategy and Policy for Small Navies in War and Peace*, eds. Michael Mulqueen, Deborah Sanders, and Ian Speller (Burlington, Vt.: Ashgate, 2014), 2.

than the Americans temporarily losing two of sixty-seven destroyers<sup>33</sup>, this assumes all five Nansen-class frigates were fully crewed and part of the operational force in the first place. When *Ingstad* met its demise, Norway was in the midst of implementing its 2017-2020 Defence Plan that authorized funding to increase the number of Nansen class crews from three to five, ensuring that four ships would be available at any time.<sup>34</sup> It is uncertain how much the loss of one frigate, but thankfully not its crew, might affect the frigate force's overall availability. At the very least, the impact of *Ingstad's* loss is not as simple as a straightforward one-fifths reduction in availability, especially given one of its tasks was to monitor the 200 nautical mile offshore zone alongside the Coast Guard.<sup>35</sup> It is therefore not self-evident that a smaller navy is necessarily more vulnerable to sudden losses in seapower inputs (e.g. ships) than larger navies, nor that it would dramatically reduce its overall ability to conduct sea control in peacetime contexts. Such an apparent paradox merits a more extensive investigation as part of this dissertation.

The associated hypothesis (R2H) for the secondary research question is posed as follows: Norway and Denmark's operational, organizational, and force structure responses to the establishment and legitimization of the 200 NM offshore maritime zones are consistent with each other, but noticeably different from the response of Canada. This hypothesis is comparative in scope and is not meant to test whether all small navies always behave in certain ways that larger ones do not. Given the wide variance in factors such as economies, politics, and geostrategic situations between states, any attempt to generalize the experiences of three relatively wealthy Western countries to the rest of the world would encounter significant problems. Thus, this element of the dissertation serves to provide a constrained comparison that controls for a number of factors that maximizes the comparability between the three cases, but at the expense of their applicability to other countries. These factors include the following:

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<sup>33</sup> United States Navy, "Destroyers – DDG," *United States Navy Fact File*, August 21, 2019, [https://www.navy.mil/navydata/fact\\_display.asp?cid=4200&tid=900&ct=4](https://www.navy.mil/navydata/fact_display.asp?cid=4200&tid=900&ct=4).

<sup>34</sup> Norwegian Ministry of Defence, *Capable and Sustainable: Long Term Defence Plan 17 June 2016*, Norwegian Ministry of Defence, June 17, 2016, 13.

<sup>35</sup> Børresen, *Det Store Fregattkjøpet*, 18, 47.

membership in a military alliance backed by a superpower (the North Atlantic Treaty Organization), significant offshore maritime interests, UNCLOS ratification, proximity to the Arctic, Western liberal democratic governments, consistent participation in international organizations, and a high regard for and adherence to international institutions. With these factors being broadly consistent across the three countries, it becomes a more manageable task to compare the three states' "answers" to the primary research question in service of the secondary question. That is to say, if the establishment of the 200 NM offshore maritime zones did in fact result in navies prioritizing their sea control objectives and force structures towards peacetime constabulary missions, and if smaller states responded differently than larger ones, then we might expect to observe such a difference in this study of three states where one of them is perhaps most notable for differing greatly from the other two in its geographic, population, and economic sizes. In the subsequent section on case selection, more details will be provided regarding the choice of Norway, Denmark, and Canada for this dissertation. But for now, it suffices to say that within the context of a changing international maritime legal order, a changing Arctic climate that encourages more activity in a "new" region, a series of swings in the regional maritime threat environment, and the relative dearth of English-language literature on smaller Western navies, the three countries offer overlapping yet potentially unique approaches to answering the research questions.

## **1.4 Methodology**

The first research question (R1) and its associated hypothesis (R1H) is one of causal inference. It seeks to know whether the establishment of 200 nautical mile offshore maritime zones caused a shift in naval force structures and operations aimed at controlling those waters for peacetime purposes and, if so, how much of that shift is in addition to versus in stead of warfighting force capabilities. To do this, the dissertation conducts within-case comparisons of naval force development through the times before and after 200 NM zones were declared for the three countries of Norway, Denmark, and Canada. The

need to study both the force structures themselves as well as sea control operations stems from seapower theory's recognition that seapower consists of both inputs and outputs. That is, both what tools an actor has and what the actor does with those tools. While sea control has been a traditional fundamental output of seapower, it has generally been reserved for wartime scenarios carried out as a struggle between opposing naval forces. It is not immediately evident that the concept of sea control should remain confined to such bounds, however, and this dissertation will undertake a critical review of the term to broaden its applicability to peacetime operations carried out by naval forces against civilian and military actors. Similarly, while the literature on Cold War naval affairs have spent much effort on the warfighting potential of navies in preparation for and deterring war between East and West, constabulary forces within (and after) that period have been relatively little-discussed both in terms of their equipment and their roles.<sup>36</sup>

In terms of the temporal scope, the cases span from the interwar period through to the near future. This long expanse of time is necessary due to two primary factors: the length of time for a naval project to go from conception to decommissioning is on the order of decades, and the length of time it

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<sup>36</sup> For Cold War examples of naval wartime focus, see Colin S. Gray and Roger W. Barnett, eds., *Seapower and Strategy* (Annapolis: Naval Institute Press, 1989); Colin S. Gray, *Leverage of Sea Power: The Strategic Advantage of Navies in War* (New York: Free Press, 1992); John B. Hattendorf and Robert S. Jordan, eds., *Maritime Strategy and the Balance of Power: Britain and America in the Twentieth Century* (London: The Macmillan Press, 1989); Geoffrey Till, *Maritime Strategy and the Nuclear Age* (London: The Macmillan Press, 1982) (especially noteworthy here are the six pages towards the end dedicated to the issue of protecting the "offshore estate", in contrast to the rest of the book's focus on wartime concerns); John J. Mearsheimer, "A Strategic Misstep: The Maritime Strategy and Deterrence in Europe," *International Security* 11, no. 2 (1986); and Steven T. Wills, *Strategy Shelved: The Collapse of Cold War Strategic Planning* (Annapolis: Naval Institute Press, 2021). One of the few volumes that spoke specifically to the uses of navies short of war are Ken Booth's *Law, Force, and Diplomacy at Sea* and *Navies and Foreign Policy*, both of which will be discussed in Chapter 3. In more recent years, several newer works have come out to emphasize the constabulary mission, including the following: Ian Bowers and Collin Koh, eds., *Grey and White Hulls: An International Analysis of the Navy-Coastguard Nexus* (Singapore: Palgrave Macmillan, 2019); Andreas Østhagen, *Coast Guards and Ocean Politics in the Arctic* (Singapore: Palgrave Pivot, 2020); Michael Mulqueen, Deborah Sanders, and Ian Speller, eds., *Small Navies: Strategy and Policy for Small Navies in War and Peace* (Burlington, Vt.: Ashgate, 2014) and Robert McCabe, Deborah Sanders, and Ian Speller, eds., *Europe, Small Navies and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century* (London: Routledge, 2020); and Dennis L. Noble, *The U.S. Coast Guard's War on Human Smuggling* (Gainesville: University Press of Florida, 2011).

took for the 200 NM offshore zone concepts to be proposed and instituted from the 1970s until entering into force as the UNCLOS EEZ in 1994. Both factors are further confounded by the creation of NATO and the demise of the Soviet Union, which can be expected to dramatically alter the defence priorities of the states and navies being examined in this dissertation. Only a lengthy and detailed analysis of the force structures and operations of each navy can dis-entangle the near-simultaneous influences of the 200 NM zones and the dynamics of the Cold War. The long time period is also essential for avoiding the risk of selecting an arbitrary year which may not accurately reflect the general priorities of a given navy. For example, there is a possibility that a country that has traditionally operated a short-ranged coastal defence warfighting fleet was delayed in their renewal, leaving behind only a small number of large long-range constabulary patrol ships in a given year. If that year was selected as the “before EEZ” comparison point, it would provide the wrong impression that the country only ever operated such long-range patrol ships and that the acquisition of new patrol ships for long-range EEZ operations was not a major shift in its priorities. By taking the longer view across both the warfighting and constabulary components of each navy, this dissertation ensures it accurately captures the overall priorities of its case before, during, and after their responses to the implementation of the EEZ.

Each of the three countries will be covered in their own chapter. Each of these empirical chapters will be split into two main sections: one for their respective warfighting fleet, and one for their constabulary fleet. With R1’s interest in the 200 NM zones and the constabulary activities therein, the majority of the emphasis will be on the constabulary forces and their operations. However, detailed discussion of the general contours of each country’s warfighting forces is necessary in order to understand the extent to which constabulary investments and operations are in addition to or have replaced warfighting concerns. These discussions will integrate detailed discussions of specific examples of sea control events in the offshore area. These provide a much closer look at how, exactly, sea control occurs in a peacetime context as shaped and dictated by the establishment of the 200 NM offshore



zones. Where opportunities arise, comparisons are made with inshore (territorial and internal) waters to see how sea control activities do or do not differ as a function of legal authorities granted to maritime forces in different maritime zones. Although the warfighting and constabulary elements receive separate attention in all three empirical chapters, the reality of each country's situations means that the distinction between the two cannot be so simply isolated. In the Danish and Canadian chapters, there are additional sections to explain how constabulary and warfighting concerns have merged or will likely merge over time.

The hypothesis for the first research question, R1H, is structured such that it can be falsified in a number of different ways to ensure it is more likely to be accurate. Potential answers to R1 which would suggest R1H is false include the following: that force structures and their duties did not change significantly before and after the institution of 200 NM offshore zones; that force structures changed to favour increased warfighting capabilities with no changes to or reduced capacity dedicated to peacetime constabulary missions (example observable data would include greater numbers of short-ranged heavily-armed vessels like torpedo and missile boats, with a corresponding decrease in the number of minimally-armed long-endurance ships); that although vessels with minimal armament and long endurance were procured, they were not employed in the offshore zones for constabulary missions; or that force structures did not change, but those same assets were utilized for constabulary missions in the expanded offshore zones.

To answer the second research question (R2) on potential differences between smaller and larger countries, a between-case analysis will be conducted where the Canadian case plays a central role in the associated hypothesis (R2H). This analysis will be conducted throughout the Canadian chapter as differences and similarities are identified, and will be more explicitly discussed in the final Conclusion chapter. Canada provides a larger country for comparison: six times larger by population; over five times by gross domestic product; and nearly five and twenty-six times larger in land mass than the Danish

Kingdom and Norway, respectively.<sup>37</sup> At the same time and as mentioned previously, all three states share similarities in many other respects, such as membership in the same military alliance, proximity to the Arctic, major coastlines and offshore areas, liberal democratic governments, and relatively high degree of respect for the rule of law in international and national settings. All these similarities help serve as controls for possible alternative variables that may play a larger role in determining any differences between how larger and smaller states responded to the creation of 200 NM offshore zones. In other words, if larger countries (by population, geographic size, and economy) do in fact behave differently from smaller ones in how they responded to the same development, it is reasonable to expect it to occur here.

As mentioned before, R2H has a descriptive and comparative agenda rather than a causal one. It calls for comparing how the force structures and sea control operations do or do not differ between the three cases in order to identify any variations. It does not, however, seek to determine whether the size differences between those three cases are the *cause* of such variations, which would require a different research question and approach. Although this lack of a causal scope may be seen by some as a missed opportunity to for a greater academic contribution, the literature on smaller maritime forces compared to larger ones remain at such a nascent stage that comparative case studies limited to describing differences between differently-sized actors is in itself worth exploring.

### 1.4.1 Case Selection

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<sup>37</sup> Canada's land mass is 9,984,670 km<sup>2</sup> while the Danish Kingdom is 2,210,315 km<sup>2</sup> and Norway is 385,000 km<sup>2</sup>. Statistics Canada, "Geography," *Government of Canada*, January 17, 2018, <https://www150.statcan.gc.ca/n1/pub/11-402-x/2011000/chap/geo/geo-eng.htm>; The Arctic Institute, "Kingdom of Denmark," *The Arctic Institute*, June 19, 2020, <https://www.thearcticinstitute.org/countries/denmark/>; The Arctic Institute, "Norway," *The Arctic Institute*, June 19, 2020, <https://www.thearcticinstitute.org/countries/norway/>. Canada's GDP is \$1 947 958m USD while Norway and Denmark's were \$376 402m USD and \$361 273m USD, respectively, in 2019. OECD, "Gross Domestic Product (GDP) (Indicator)," *Organisation for Economic Co-operation and Development*, 2021, <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>.

The selection of the three countries as the cases to be studied was inductively derived from the author's initial observations of their naval modernization during a period of relative peace and a desire to know the rationales behind them. For Norway, the aforementioned Nansen-class frigates as well as the Skjold-class stealth missile corvettes throughout the 2000s stood at odds with the "peace dividend" theory that periods of post-war (in this case, post-Cold War) peace would result in dramatically reduced military spending until a new threat arises to merit further military growth.<sup>38</sup> For Denmark, the same time period saw the arrival of the Absalon- and Huitfeldt-class long-range warships, along with the smaller Knud Rasmussen-class patrol ships, posing further puzzles. Canada, despite not acquiring any major new vessels during the period, embarked upon its multidecade National Shipbuilding Strategy that included vessels spanning the gamut from multipurpose surface warships to science vessels for its Coast Guard. Taken together with climate change's impact on increased ease of access to the Arctic's natural resources and navigational waterways, an initial hypothesis was that these new construction programs were related to ensuring state interests in the Arctic could be maintained and achieved. During the initial data collection to learn more about the nature and character of Arctic politics, however, it became clear that UNCLOS played a major role in determining the agenda over which states would come into conflict in the region. Yet, with UNCLOS's terms negotiated back in the 1970s and early 1980s, it became distinctly plausible that force structure adaptations to the introduction of EEZs in UNCLOS and their national level predecessors may have occurred much earlier than the recent concerns over Arctic access would suggest.

This insight resulted in a new research direction where the primary research question, rather than explaining the rationales behind recent naval procurements, became whether and how the legitimization of 200 NM offshore zones affected maritime force development and employment. In

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<sup>38</sup> Hugh Rockoff, "The Peace Dividend in Historical Perspective," *The American Economic Review* 88, no. 2 (1998): 46; Alex Mintz and Randolph T. Stevenson, "Defense Expenditures, Economic Growth, and the 'Peace Dividend': A Longitudinal Analysis of 103 Countries," *Journal of Conflict Resolution* 39, no. 2 (1995): 283-284.

deciding which countries to include as the cases, three main criteria were identified: their relative absence in the English seapower literature, their policy relevance to the “opening” of Arctic waters, and finally a high degree of similarities so as to better isolate any causal variances in the independent and dependent variables.

Regarding the first criteria, the literature on navies and seapower is dominated by empirical cases consisting of larger powers, such as the United States, the United Kingdom, France, the Soviet Union, and the People’s Republic of China. With the exception of the lattermost, the literature on the experiences of these countries’ maritime forces have been focused on their ability to fight and deter major interstate conflict.<sup>39</sup> What they do in peacetime, however, has received comparatively little attention.<sup>40</sup> Thus, two major overlapping categories, one spatial and one temporal, are lacking in the seapower literature: smaller states and peacetime. Given that the majority of recent world history consists of smaller states existing in relatively peaceful times, they are worth studying on their own.

The questions then became, which smaller countries? This was informed greatly by the aforementioned empirical observations of the smaller Arctic powers with their recent developments in maritime forces. Not only do Norway and Denmark share a high level of domestic and foreign policy similarities, one further structural factor they shared distinguishing them from other smaller Western states was their bordering the ice-covered waters of Arctic Ocean, which provides a unique environmental dynamic that their maritime forces and opponents must account for. In terms of countries *not* selected, Iceland stands out as perhaps the oddest decision to exclude. Certainly its Coast Guard’s numerous “battles” with the British Royal Navy in disputed offshore maritime zones make it of

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<sup>39</sup> See footnote 25, page 16, and footnote 36, page 22 for examples of such literature.

<sup>40</sup> With the following recent exceptions as mentioned in footnote 29, page 13: Bowers and Koh, eds., *Grey and White Hulls*; Østhagen, *Coast Guards and Ocean Politics in the Arctic*; Mulqueen, Sanders, and Speller, eds., *Small Navies: Strategy and Policy for Small Navies in War and Peace*; McCabe, Sanders, and Speller, eds., *Europe, Small Navies and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century*; and Noble, *The U.S. Coast Guard’s War on Human Smuggling*.

very close interest to both research questions in this dissertation. However, that very involvement of the British was likely a reason for the relatively large amount of existing English literature on Iceland's experiences during the so-called Cod Wars.<sup>41</sup> Two other small Arctic states, Sweden and Finland, are also excluded due to their lack of direct contact with the Arctic Ocean and limited EEZ extents, having only maritime borders in the Baltic Sea's confined waters.

Ideally, the countries selected would also vary widely in their independent variable, such as one country experiencing an increase in offshore areas under some degree of its authority while the other experiences a decrease. However, given the near-universality of UNCLOS, it is challenging to find a state that did not see an increase. While the United States is a notable hold-out to ratifying UNCLOS and would, on that basis, be an interesting test of the IV's influence, it nonetheless has granted itself the EEZ limits and rights consistent with UNCLOS's terms.<sup>42</sup> Even if the US had not granted itself such rights, its dramatically different international and domestic characteristics compared to the two Scandinavian states make it much more difficult to say whether similarities or differences in the DV (force structure and sea control activities) are due to the IV (offshore areas). The same drawback applies to the United Kingdom, which otherwise may be of interest due to the proximity of its Shetland Isles to the Arctic, lying at latitudes similar to southern Iceland and whose navy has operated in and beneath Arctic waters.

To address the second research question, a country had to be identified that met not only the criteria set out for R1, but had to differ in the one IV that R2 is interested in: relative size. This meant a country similar in nearly every way to Norway and Denmark but significantly larger in population,

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<sup>41</sup> For examples, see Hannes Jónsson, *Friends in conflict : the Anglo-Icelandic cod wars and the Law of the Sea* (London: C. Hurst, 1982); Jeffrey A. Hart, *The Anglo-Icelandic Cod War of 1972-1973 : a case study of a fishery dispute* (Berkeley: University of California, 1976); Norman Storey, *What Price Cod? A Tugmaster's View of the Cod Wars* (Beverly: Hutton, 1992); Morris Davis, *Iceland Extends its Fisheries Limits: A Political Analysis* (Oslo: Universitetsforlaget, 1963); and Andrew Welch, *The Royal Navy in the Cod Wars : Britain and Iceland in conflict 1958-61, 1972-73, 1975-76* (Liskeard: Maritime Books, 2006).

<sup>42</sup> National Ocean Service, "What is the EEZ?" *National Oceanic and Atmospheric Administration*, November 13, 2019, <https://oceanservice.noaa.gov/facts/eez.html>.

geographic extent, and economy. Given the empirical interest in the Arctic arena, there were very few other options. Only five countries border the Arctic Ocean, and of these only one other state could safely be said to meet those criteria: Canada. The United States, as a superpower and the dominant member of NATO, has a much greater range of responsibilities and interests at the global scale to make it a reasonable point of comparison to Norway and Denmark. Russia, meanwhile, led the opposing military bloc during the Cold War and had a dramatically different form of government and economy that makes it even more challenging to operationalize as a comparative case study to two small Western powers. Chapter 3 will go into details on the naval considerations that help support the choice of Canada as the “medium power” case study to help answer R2.

And so, with all other Arctic states disqualified for the reasons outlined above, there were only three states that would fulfill the requirements for both R1 and R2. Two of these, Denmark and Norway, met the criteria for lack of coverage in English language literature, Arctic policy relevance, and a high degree of similarities in many potential confounding variables. Canada, though well-covered in English language literature, meets the other two criteria while also clearly larger than the other two in order to fulfill R2’s requirements.

### *1.4.2 Data Collection and Sourcing*

The multidecade span of the dissertation requires significant historical data. Despite the limited amount of English language literature on the history of the maritime forces of Norway and Denmark, much data can be gleaned from translating extant secondary source works written in Norwegian and Danish. Although the availability of these works is limited in North America, I was able to identify, locate, and access copies located in the Norwegian Naval Academy (Sjøkrigsskolen) library in Bergen, as well as the Royal Library (Det Kongelige Bibliotek) and Main Library (Københavns Hovedbibliotek) in Copenhagen. These works include dedicated monographs on particular ship classes constructed from

the Cold War through to the present day, as well as topics on specific weapons systems (such as the Norwegian Penguin anti-ship missile), maritime organizations (such as the Norwegian Coast Guard), and specific operations (such as the Danish Navy sailing around Greenland). By heavily leveraging the scholarship produced by Danish and Norwegian authors, the raw numbers and statistics of force structure changes throughout time in compendium texts like *Jane's Fighting Ships* are given sufficient context and depth of detail to fully appreciate their roles and duties.

Despite the great contribution to English-language knowledge offered by Norwegian and Danish secondary sources, primary sources were also consulted where feasible given time and financial constraints. For much of the post-Cold War era, many government documents have been produced in both the original languages as well as in English. Although some of the latter are only offered as summaries of the originals, they nonetheless provide valuable information and serve as shortcuts for the English-speaking researcher to locate and identify further details in the original documents. The already-digitized texts of these non-English documents make them readily and easily translatable by modern digital translators, and most errors and mistakes were able to be identified and corrected by myself using my separate language training.

During two periods totalling approximately one month's time, I was able to make some use of the Danish National Archives (Rigsarkivet) in Copenhagen in 2018 and 2019. However, the limited operating hours of the reading room (3.5 days per week, not including holidays) and the complex ordering process limited the extent to which I could make full use of my time. Further complicating matters was the fact that all boxes coming from the Foreign and Defence ministries require additional justification for each order. If a box had not previously been accessed by the public, it needs to undergo further declassification review before it can be made available to the researcher. The general process can therefore appear as follows: a box is identified via the Rigsarkivet online ordering database ("Daisy") and ordered, then a separate form must be filled and submitted with justification for why access is

required, followed by some time for archivists to locate the box. If the box has already undergone declassification, a physical letter approving access to the box is mailed to the researcher for their signature to agree to terms and conditions of access, which the researcher is to mail back or bring with them to the reading room. The box will then be available for the researcher to access in the reading room once they arrive on the premises. However, if the box has yet to undergo declassification (there is no indication of such status on the online database), the researcher is then informed by email that it must be sent for such declassification by the relevant ministry. Once that is finished, the agreement letter is sent for signature and the box accessible. One can easily see how this process becomes quite complicated for researchers who live on the opposite side of the world and who are otherwise unfamiliar with such processes! In the case of several otherwise promising boxes, then, I was not able to access them before my time in Denmark had run out. Nonetheless, valuable knowledge on the processes involved in navigating the Rigsarkivet was gleaned and will prove very useful for future development of the topics in this dissertation. The boxes that I were able to access have proven useful in supporting the details provided in secondary source materials, as will be shown in the Danish chapters.

Finally, to expand upon the relatively limited literature on the peacetime activities of maritime forces, especially at the tactical level, I sought out opportunities to observe Danish and Norwegian maritime patrols in person on board relevant vessels. Due to military operational limitations and the timings of my own availabilities, I was unable to make equivalent observations for both countries. Specifically, while I was able to successfully board and sail on the 3500-ton Thetis-class offshore patrol vessel HDMS *Hvidbjørnen* on its way from Reykjavik, Iceland, to Nuuk, Greenland in May 2019, I was unable to board an equivalent offshore patrol ship with the Norwegian Coast Guard. Instead, I was invited to stay on board the 761-ton inshore patrol ship KV *Tor* while sailing between Bergen and Haugesund in January 2018. While the dramatic difference between the two ships limit their utility for cross-case (i.e. Norway-Denmark) comparison from a methodological perspective, they nonetheless



proved useful for highlighting the vastly different duties, crewing, and capabilities of large offshore patrol ships versus inshore patrol vessels. My experience on board the smaller *Tor* would also prepare me to make comparisons to the Danes' own Knud Rasmussen class, which are smaller than their Thetis class. I expect that my experience on board *Tor* will contribute even to the Norwegian literature on their Coast Guard, given that the bulk of attention is on the offshore "outer" coast guard's activities. I did not pursue a similar opportunity with the Canadian navy and coast guard due to the expectation of more plentiful English-language literature and concerns that my colleagues have expressed to me regarding the lengthy periods required for multistage approval processes for such requests.

During my stays on HDMS *Hvidbjørnen* and KV *Tor*, I conducted two data collection approaches: direct observation of crew and shipboard activities via participant observation, and interviews with the crew members. The primary goal was to identify the limits, capabilities, and challenges faced by the vessels and their crews as they carried out their daily tasks in support of their respective missions. These included technical, operational, maintenance, and logistical concerns that are not otherwise available in literary sources, which in some cases confirmed or rejected assumptions often repeated in the literature. Observations were recorded textually in a written notebook, as well as visually by photography. Due to the relatively small sizes of both ships' crews (13 for *Tor* and under 50 for *Hvidbjørnen*), preservation of anonymity requires generalized references to the crew members' identities. No names, rank, or position will be specified for officers (which numbered 6 and 12, for each ship, respectively), and the rest of the crew will be referenced only by their position or general length of service where necessary. Due to the nature of shipboard life and military service, interviews were conducted on an as-available basis and with minimal formal structure. Questions were tailored to the crewmember's experience and expected level of knowledge on the topic after initial introductions as to their backgrounds. Because this anonymity prevents data replicability by other researchers, information gleaned during the field research process will be supported by open-source intelligence sources where

possible. For my observations on board *Hvidbjørnen*, I had agreed to abide by the researcher rules stipulated by Joint Arctic Command, which forbid the divulgence of classified data and information. In accordance with this, any mention of the information I collected during that trip will be to support or emphasize publicly-accessible and -observable (if not obviously available) data. While this may cause some readers to ask “Well, what was the point?”, I deem the following two points to be sufficient justification. Firstly, the field research experience served as additional evidence in support of existing arguments and (sometimes weak) evidence noted in extant public and open-source discussions. Secondly, the experience also served to help direct my research attention on certain topics that are discussed publicly and with perspectives that I would otherwise have never considered in the absence of that field experience.

## **1.5 Chapter Layout**

This dissertation is separated into two halves. Part 1 consists of Chapters 2 through 4 and deals with the theory and literature on seapower, especially as they pertain to smaller powers. In addition to establishing the analytical framework, these chapters develop the definitions necessary to allow the use of some key concepts throughout the rest of the dissertation without having to explain them repeatedly. Part 2 is made up of Chapters 5 through 7, each containing the three case studies: Norway, Denmark, and Canada. These are analyzed and discussed in accordance with the methodology outlined above and uses the framework and conceptual language that are developed in Part 1. Chapter 8 forms the conclusion, which summarizes, analyzes, and discusses the empirical and theoretical findings of the dissertation.

The chapters in Part 1 address the literature behind seapower from three angles: defining seapower, ways of conceptualizing the seapower outputs and inputs of naval forces (especially smaller ones), and conceptualizing sea control as a specific seapower output. As noted earlier, there remains a

relative paucity of literature on the role and place of smaller navies in peacetime. However, far from automatically assuming the irrelevancy of existing works that focus empirically on large navies in wartime, the dissertation approaches Part 1's review of existing literature on maritime and naval strategy with the possibility that the theoretical insights contained in older works may continue to be relevant across different empirical contexts. Despite their theories being inductively derived from empirical cases that focus on larger navies in wartime, those theories continue to be relevant as starting points for a deductive approach in examining the behaviours of smaller navies in peacetime. In turn, this dissertation's examination of those smaller navies' actual historical and present experiences will inductively refine and extend the applicability of those theories to the peacetime activities of smaller navies.

Chapter 2's review of the literature, therefore, focuses on several maritime and naval theorists whose canonical works continue to inform and shape the discussions today on maritime power. A total summary of each of their works being well beyond what could fit in this dissertation, this chapter begins by employing one of the more recent comprehensive books on maritime power, Till's *Seapower*, as a way to frame and organize the analysis of those previous works. Specifically, Till's work is chosen for its simple and broad definitions of power at sea, allowing for a wide range of possible prior definitions and phenomena. After reviewing the past century's literature on how maritime power is interpreted and understood, this chapter will arrive at a working definition that attempts to integrate the core tenants and arguments of the literature to date on what maritime power is. This process includes a discussion of varied notions of "power" in an attempt to bring seapower discussions more in line with broader political science research on the use of force. The chapter concludes by defining seapower as comprising both compulsive and institutional measures, which encapsulates the role of naval units and legal arrangements in how states control their maritime areas.

Chapter 3 will go on to explore notions of “small” versus “medium” and “large” navies, highlighting the still-nascent discussions on whether these categorizations are useful and the debate over whether any differences between them are matters of kind or degree. The discussion of attempts to develop universal methods for categorizing navies will involve the very concept of “navy” itself and how it may differ or overlap with other maritime forces like coast guards and police units. It concludes that it may be most fruitful for scholars to accept the subjectivities involved in ranking naval powers, and that the criteria be selected based on the scholar’s requirements for their project. Chapter 3 will also discuss the roles of navies as have been observed and predicted in the literature, with a special focus on how these roles may or may not differ depending on the navy’s “size”. In particular, these are discussed in accordance with Ken Booth’s notion of military, diplomatic, and constabulary functions of naval forces. The military and constabulary functions will be especially important as they form the basic framing mechanism when the three empirical case studies are analyzed in the second half of the dissertation. The discussion will also cover some general force structure requirements that are associated with these roles, though in-depth details will be dispensed with and reserved for the discussions in Part 2, the empirical second half of the dissertation.

Chapter 4 will conclude Part 1 with how this dissertation understands and uses the term “sea control”, defining it in ways that are broad in scope, while reconciling the various implicit and seemingly contradictory approaches in extant scholarship’s usage of the term. Given that sea control operations are a key dependent variable in the dissertation, such definitional work is fundamental. It further argues that based on extant discussions in maritime strategic literature and the definitions proposed, “sea control” is the central defining element of maritime strategy and should be the basis of discussion of compulsive and institutional forms of seapower in war, crisis, and peace. It concludes by establishing a universal framework for the sea control concept that enables scholars to compare a vast array of phenomenon while respecting qualitative differences between different uses of the seas.

Part 2 of the dissertation will be the empirical chapters, with a chapter each for the Norway, Denmark, and Canada case studies. Each chapter will consist of at least two parts, one each for force structures and sea control operations carried out by their respective navy's warfighting and constabulary fleets. In the cases of Denmark and Canada, additional parts are included to reflect the merger of these two fleets and their roles over time. Each chapter consists of in-depth studies of how sea control operations have taken place during peacetime, particularly following the establishment of their 200 NM offshore zones. These studies will be contextualized within discussions of the development of each navy's general force structures. A particular emphasis will be on the extent to which the 200 NM zones drove the force structure changes of these navies. This requires examining not just the large ocean-going offshore patrol vessels that are obvious candidates for conducting the constabulary duties called for by the EEZ, but also the part of the navies that are dedicated to deterring and fighting wars. This enables an analysis of both immediate and long term consequences of each navy's response to the EEZ and whether there was a shift in priorities towards securing their EEZs. Temporally, all three empirical chapters begin in the interwar period and end in 2020, minus detailed coverage of their activities during the Second World War. This long duration is necessary to address the methodological challenge of naval vessels' long procurement periods and lifespans, while also identifying the extent to which each navy's responses to the EEZ were truly novel developments versus modified versions of long-standing practices.

Chapter 5 covers the Royal Norwegian Navy. It is separated into two main parts. The first part covers the Marinen, which this dissertation characterizes as the portion of the Royal Norwegian Navy that is responsible for military and warfighting duties. The discussion of the Marinen is thus distinguished from that of the Kystvakt, or Coast Guard, which performs constabulary functions and is the focus of the second portion of Chapter 5. In answering the dissertation's first research question regarding the influence of the EEZ on Norway's naval forces, the chapter finds that the EEZ directly

resulted in the creation of the Kystvakt and procurement of dedicated long-range helicopter-carrying offshore patrol ships that entered service just as UNCLOS III was open for signing in 1982. Such efforts were necessary due to the highly divergent priorities between the offshore low-intensity violence and specialized fisheries inspection skills required of EEZ control versus the coastal defence high-intensity warfare activities for which the Marinen was responsible. The indirect influence of the EEZ took the form of the Kystvakt's fleet of new long-range patrol vessels being the only ships in the Norwegian navy that could support the government's post-Cold War emphasis on expeditionary military activities. These included using such Coast Guard ships as support vessels for other small navies like Denmark in the Persian Gulf or to support United Nations peacekeeping operations in the Mediterranean. In the post-Cold War period, the EEZ also helped drive the creation of the Nansen-class frigates, whose large sizes were required in part to support EEZ surveillance and defence but have since made them eminently suitable for supporting expeditionary operations. In sum, Norway responded to the EEZ by not only procuring new vessels to patrol them, but by using those same vessels to support its post-Cold War reorientation to expeditionary operations. Initially such operations were conducted by sacrificing the Kystvakt's constabulary assets meant for use at home, but newer replacement vessels for the Marinen eventually became more suitable and allowed the Kystvakt's ships to remain in their home area of operations. Despite the use of such vessels in expeditionary operations, however, Norway's priority in terms of force structure procurement and modernization remained driven primarily by the need to secure its EEZ and coastal regions rather than by a strong need to optimize itself for global operations.

Chapter 6 covers the Royal Danish Navy (RDN). As with the Norwegian chapter, Parts I and II cover the development, priorities, and characteristics of the RDN's military versus constabulary forces, respectively. Unlike the Norwegian chapter, Part I's coverage of the RDN's military role ends in the late 1980s. Instead, the post-Cold War military role of the RDN is covered in the additional Part III in order to better discuss the near and longer-term consequences of its wholesale transformation towards

expeditionary duties. Unlike the Norwegians, the RDN did not respond to the establishment of the EEZ with the same level of immediate investment in new OPVs or a dedicated coast guard. Instead, it continued to use ships that had been designed decades earlier specifically for operating in Greenlandic and Faroese waters. This was possible due to the similarity in design requirements between ships that can sail safely *through* the North Atlantic and carry out offshore search and rescue operations and ships that can sail *in* the North Atlantic offshore areas for the purposes of fisheries inspections. Accordingly, ships that were fully optimized for offshore patrol in the EEZ were not put into service until over a decade after Denmark's EEZ establishment. Similarly, there were only minimal organizational changes to the RDN's constabulary fleet. Rather than establishing a permanent new agency like the Norwegian Kystvakt, Denmark only grouped all of its coastal and offshore constabulary assets into a single RDN squadron rather than grouping them with their warfighting brethren based on size. The direct influence of the EEZ on the RDN was therefore less acute and severe than on the Norwegians. Indirectly, however, Part III notes similarities in how Denmark would also end up employing its new OPVs in the post-Cold War era on globe-spanning tours and operations despite being tailor-built for EEZ patrols close to home. This similarity with the Norwegian navy's use of its own OPVs on expeditionary operations stemmed from the same problem that both experienced with their respective navies' military arms, which were designed for coastal area denial against the Soviet threat and lacked the range, endurance, and seakeeping for expeditionary operations. In the absence of long-endurance naval vessels built for military roles, both the Danes and Norwegians employed their constabulary-centric OPVs for expeditionary operations. Unlike the Norwegians, the Danes placed a much higher emphasis on such expeditionary missions, which resulted in their wholesale fleet transformation from the Cold War coastal sea denial force to a much smaller fleet that could contest and exercise sea control around the globe. This alignment of naval means with drastically changed security policy ends serves as a cautionary tale, however, as the chapter concludes with some observations on the consequences of the

transformation in the face of Russia's invasions of Ukraine and the renewed emphasis on European defence.

Chapter 7 is the final empirical chapter and deals with Canada. As the larger country and navy of the three being studied, it serves as a counterpoint to the Norwegian and Danish cases. It begins with Part I, which discusses the military and constabulary functions of the interwar Royal Canadian Navy. The two are combined into this short section rather than incorporated into the dedicated military and constabulary sections like the Norwegian and Danish chapters due to the tremendous changes that occurred with the RCN at the end of the Second World War. The outcomes of these changes are discussed in detail in Part II, which covers the military role of the RCN during the Cold War. It traces how the RCN's military role became focused on blue water antisubmarine warfare at the expense of nearly all other inputs and outputs of seapower. Part III then teases out the less well-known constabulary history of the Canada's other federal armed maritime service, the Department of Fisheries and Oceans' fisheries protection fleet, which was responsible for enforcing regulations out to the edges of the EEZ. This discussion begins with how the DFO's OPVs played instrumental roles in ensuring long-term institutional solutions to Canada's offshore jurisdictional challenges through their operational sea control activities. This is discussed alongside the RCN's own supporting role during several key events in the aftermath of the EEZ establishment. Part III continues with an analysis of how the DFO came to be armed with limited weaponry and the RCN's role within that context. It finally concludes with a discussion of the current state of Canada's naval constabulary developments, particularly the RCN's new Harry DeWolf-class Arctic and Offshore Patrol Vessels. The chapter concludes with Part IV, which notes a convergence in military and constabulary duties in the post-Cold War period that has been enabled by Canada's fleet of large ocean-going combat frigates, the Halifax class. Unlike the Norwegian Nansen class that had its roots in EEZ operations or Denmark's Huitfeldt/Absalon class built specifically for expeditionary operations, Canada's Halifax class shared similar size, endurance, and combat capabilities



due to the RCN's Cold War-era need for blue water and trans-oceanic ASW operations. Ultimately, all three countries arrived at broadly similar vessels that could contribute to a wide range of post-Cold War operations at home and abroad despite different demands for their initial designs.

Chapter 8 forms the conclusion, which brings together the key findings from each of the empirical chapters in order to answer both of the dissertation's research questions. A table is used to help the reader organize the differences and similarities within and between the three case studies as they relate to the research questions. It concludes with some proposed avenues of potential future research on the topics covered in this dissertation but which could not be discussed in detail due to time and space limitations. It also contextualizes the findings of this dissertation within the latest developments stemming from the ongoing Russian invasion of Ukraine in 2022 and provides an assessment of the possible future paths of the navies covered in this dissertation.

## **1.6 Conclusion**

Militaries, especially those in Western democracies with strict civilian oversight and control, are often conceptualized as tools designed for deterring war based on its ability to win them. The emphasis is therefore on equipment and forces aimed at dealing, and receiving, great physical violence in the highly unlikely worst-case scenario of interstate war. Yet, navies frequently take on physical forms and missions that are arguably in direct contradiction to this purpose. Whereas air forces comprise of heavily-armed fighters, bombers, and attack helicopters, and armies have their main battle tanks, self-propelled or towed artillery, and any number of lighter-armoured vehicles meant for missions in war zones, navies have their inshore and offshore constabulary patrol ships constantly sailing in peaceful waters with a minimum of armament. This contrast reflects the dichotomy of the current land and sea domains: the former is (except Antarctica and a few minor territories) subject to the full sovereignty of

one state, while the latter is not. The scope of activities expected of military forces in one geographic domain is vastly different from the other, reflecting those domains' respective political statuses. With maritime forces charged with *active* duties in peacetime in non-combat areas, it becomes crucial to identify when and how these forces balance their everyday constabulary missions with the prospect of fighting high-intensity interstate war.

The creation and legitimization of the 200 NM offshore zones provide a dramatic change in the extent and intensity of state sovereign rights and responsibilities on the oceans, with significant consequences for their maritime forces' own roles. Because the 200 NM EEZ enshrined under UNCLOS applies to states of all sizes, it creates an especially intriguing conundrum for smaller states, where their ratio of maritime to terrestrial space is higher than for states with larger terrestrial territories. As this dissertation finds, while all three states created and exploited the 200 NM zones, only one of them – Norway – could definitively be identified as spending notably increased constabulary resources and carrying out activities to ensure control of that new region. For Denmark, historical circumstances meant it already had much of the constabulary fleet and organizational infrastructure necessary to control the 200 NM zone by virtue of similar technical and organizational requirements as for patrolling their colonial territories. Meanwhile, the larger country of Canada had not gone to the same relative lengths until much more recently, being dependent on its warfighting fleet to serve as constabulary platforms for legally-endowed civilian fisheries officers on *ad hoc* bases. Despite these differences in each country's force structures, the actual operations of all three countries' navies would converge in the post-Cold War era, which called for long-range expeditionary missions in accordance with alliance interests. For the two smaller navies of Norway and Denmark, such missions were carried out with the same constabulary forces originally designed for EEZ concerns as they were the ones with the necessary blue water characteristics. In contrast, Canada already had a fleet of naval vessels that were suitable for

such expeditionary operations due to its focus on blue water antisubmarine warfare in prospective wartime.

## **Part 1 - Theory: Seapower and its Pursuit**

## Chapter 2

### Putting the “Sea” in “Power”: The varied definitions of “Seapower”

#### 2.0 Introduction

Up until this point, the dissertation has treated the terms “sea power” and “seapower” as though they were self-explanatory. Certainly, the two terms have been used frequently in the literature, from Mahan’s *The Influence of Sea Power Upon History* to Soviet admiral Sergei Gorshkov’s *The Seapower of the State*, and, more recently, former NATO Supreme Allied Command Admiral James Stavridis’ *Sea Power: The History and Geopolitics of the World’s Oceans*. But already in these titles one can see different ways to pair the words “sea” and “power”, which, far from reflecting mere historical language development or publishing houses’ arbitrary idiosyncracies, has become a point of contention between maritime scholars. The words and how they have become phrased are not, therefore, self-explanatory and require analytical clarification. This chapter begins by detailing how modern scholars have explicitly defined “seapower” and “sea power.” This sets a baseline for the next section, which compares those modern definitions with how classical authors’ have employed those two terms in order to assess whether they may have had different or more nuanced understandings. These reviews of modern and classical understandings are then combined with contemporary political science literature’s understanding of “power” in the final section of the chapter. The conclusion of this chapter builds on these steps to derive a comprehensive definition of seapower that will be used throughout this dissertation. This is necessary to ensure a definition that is applicable to navies of varying sizes and situations including both within and outside of wartime, which is vital for this dissertation’s focus on smaller navies and the influence of the Exclusive Economic Zone on their forces and activities.

## 2.1 Contemporary Definitions of Seapower

First published in 2004, Geoffrey Till's *Seapower* has become a standard reference work for maritime scholars seeking to understand the phenomena of power at and from the sea. It has since come out three more times, the latest in 2018 to reflect the sharp growth in the Chinese maritime forces. With the benefit of the previous decades of maritime scholars' research, Till was able to establish several concise, but necessarily broad, definitions for various terms that have come to be standard in the literature. His *Seapower* is perhaps the most well-known work to consciously inform the reader that "sea power" and "seapower" are, or perhaps should be, distinct terms. Quite simply, the distinction can be boiled down to "sea powers possess seapower" – that is, "sea powers" are countries while "seapower" is "the ability to influence behaviour at sea or from the sea".<sup>43</sup> A broad definition, it avoids arbitrarily restricting seapower to particular physical manifestations, such as bombarding cities from the sea, or that only countries possessing certain amounts and types of vessels can be considered "real" sea powers. The use of "sea power" and "seapower" as distinct terms in the same publication goes back to at least 1989, when Colin S. Gray employed the two terms similarly in *Seapower and Strategy*: "Seapower...can never be decisive...which is why sea powers throughout history have sought continental allies."<sup>44</sup> Gray stops short of explicating the difference, however, leaving it to the reader to discern the distinction. The Till definition does leave open at least one obvious question, however: why are sea powers restricted to only countries? If seapower is variable in degree and kind, then why could sea powers not also be comprised of non-state actors like the Sea Shepard environmental group or international organizations which have enormous influence in how the seas are used, such as the International Maritime Organization? Nonetheless, Till's definitions are sufficiently broad to encourage

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<sup>43</sup> Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 4<sup>th</sup> ed. (London: Routledge, 2018), 34n97.

<sup>44</sup> Colin S. Gray, "1 Seapower and Landpower," in *Seapower and Strategy*, eds. Colin S. Gray and Roger W. Barnett (Annapolis: Naval Institute Press, 1989), 4.

the reader to question their preconceived and unconscious preconceptions of how maritime power (this term Till employs interchangeably with seapower) can take form.<sup>45</sup>

Not all modern naval thinkers agree on this approach, however. British naval historian Andrew Lambert recently argued in his *Seapower States: Maritime Culture, Continental Empires, and the Conflict that Made the Modern World* that the terms should be used more narrowly. For him, “seapower” is merely “an identity consciously created by medium-sized powers attempting to exploit the asymmetric strategic and economic advantages of maritime power, to enable them to act as great powers”, while “sea power” is “the strategic advantage gained by dominating the oceans with superior naval force.”<sup>46</sup> Broadly speaking, this reverses the “seapower as ability” and “sea power as actor” definitions employed by Till and Gray. Lambert’s seapower describes actors, while his sea power describes something which can be possessed. But this inversion of definition is a minor point. More significantly, Lambert’s decision to specifically qualify his “seapower” actor identity as applying to (or rather, “consciously created by”) *only* medium-sized powers is far removed from Till’s much more generous and unrestricted approach to which countries can be described as such. While Till argues that any country, no matter what size or capability, can be a sea power to some degree, clearly Lambert has a much more limited conception.<sup>47</sup> True seapowers are, to Lambert, those of only medium *size* (however that is defined) but are able to *behave* as great powers due to a dedication to cultivating and employing maritime power. Indeed, he goes so far as to suggest that England was “the last seapower”, an identity that in 1945 “succumbed to an overwhelming economic assault on the strategic sinews of seapower” in the form of “American loans

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<sup>45</sup> Till, *Seapower*, 4<sup>th</sup> ed., 27.

<sup>46</sup> Lincoln Paine, “Book Review: Seapower States: Maritime Culture, Continental Empires, and the Conflict that Made the Modern World,” *US Naval Institute Blog*, October 1, 2019, <https://blog.usni.org/posts/2019/10/01/book-review-seapower-states-maritime-culture-continental-empires-and-the-conflict-that-made-the-modern-world>; Andrew Lambert, *Seapower States: Maritime Culture, Continental Empires, and the Conflict that Made the Modern World* (New Haven: Yale University Press, 2018), 333.

<sup>47</sup> Till, *Seapower*, 4<sup>th</sup> ed., 26.

of money and material [coming] with carefully contrived strings.”<sup>48</sup> Thus, contrary to some characterizations that the British Empire passed its political, military, and economic torch to the United States in an unusually benign, and even friendly, example of hegemonic transition, Lambert employs his seapower lens to highlight the coercive nature of that transition.<sup>49</sup>

Lambert differentiates the United States as a global superpower from his seapowers. This is not only in the sense that the US has “exponentially superior resources” over great powers (including those comprised of medium-sized powers), but more particularly that the US is essentially a *continentalist* power that employs its dominant naval forces for objectives centered upon land-based strategies.<sup>50</sup> With a large army and a preference for “total” victory, the US differs from seapowers like England that used their relative maritime strength to pursue more limited objectives in wartime.<sup>51</sup> From this, one can distill the essential reasoning behind why only “medium-sized powers” can be considered seapowers in Lambert’s formulation. For Lambert, smaller-sized powers would not have the capacity, no matter how much they devote themselves to a maritime identity, to “act as great powers”, while larger-sized powers inevitably become tempted to employ their overwhelming resources to pursue “continentalist” approaches to international politics and war as they no longer need to rely on the “asymmetric” advantages of maritime power. Only medium-sized powers have the capacity necessary to act as a great power via maritime means, while also lacking the land-based capacity to adopt continentalist ways. In a sense, this is not dissimilar from Gray’s idea that “seapower...can never be decisive”, though the direction of the relationship is inverted: whereas Gray’s seapower will never *lead* to decisive victories,

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<sup>48</sup> Lambert, *Seapower States*, 307.

<sup>49</sup> A recent in-depth look at the British-US hegemonic transition highlighting the self-interested, yet unusually “affectionate”, relationship of the two countries can be found in Kori Schake, *Safe Passage: The Transition from British to American Hegemony* (Cambridge, Massachusetts: Harvard University Press, 2017), 4.

<sup>50</sup> Lambert, *Seapower States*, 332-333.

<sup>51</sup> Lambert, *Seapower States*, 306.



Lambert proposes that larger-sized powers' ability to attain decisive victories through continentalist strategies obviates the need *to be* a seapower state.

Lambert's emphasis on a narrow definition of which countries may be seapowers does not completely do away with the multifaceted and varied intensity of maritime involvement, however. Lambert also uses the term "sea states", which he defines in his glossary as "a state dominated by the sea...but not capable of becoming, or aspiring to be, a great power," and thus appears to share the broad sense of Till's unrestricted "sea power" actor.<sup>52</sup> However, Lambert makes it clear that these sea states are those smaller-sized powers, such as Rhodes, destined to never or decide not to achieve seapower status.<sup>53</sup> Clearly, this shares Till's exclusion of non-state actors as influencers of behaviour at and from the sea.

## 2.2 Classical Definitions of The Term

But how have the classic naval scholars understood seapower and sea power? While a vast array of global writers from King Alfonso X of 1270 Castile to Suleiman al Malin in 1511 Oman and Giulio Rocco in 1814 Italy have published works on naval thought, they have little direct influence today, and the terms seapower or sea power appear to be a much more recent invention.<sup>54</sup> The most famous of the explicit employment of the terms is likely then-Captain Alfred Thayer Mahan in his inaugural work, *The Influence of Sea Power Upon History 1660-1783*, first published in 1890. Head of the United States Naval War College at the time, Mahan has become a household name in naval and military history, known for being among the first of a long line of scholars dedicated to elucidating generalizable "principles" from

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<sup>52</sup> Lambert, *Seapower States*, 17, 333.

<sup>53</sup> Lambert, *Seapower States*, 204-226.

<sup>54</sup> Not least because any manifestation of "sea power" or "seapower" would be up to the translators' own preferences and therefore of limited assistance in this section's quest to arrive at a definition. Till, *Seapower* (2018), 69-71.

historical “illustrations”.<sup>55</sup> Although well-aware of the distinction between science and art, and the importance of good, in-depth historical study to the derivation of principles, he did not live in a time where the careful and explicit definition of key conceptual terms was commonplace in the humanities and social sciences. As a result, the use of the term “sea power”, though prevalent throughout *Influence*, was never fully defined either in its substantive components nor its grammatical and syntactical use. Indeed, the first in-text mention of the titular term “sea power” does not occur until the middle of the seventh paragraph in *Influence*’s first chapter, titled “The Elements of Sea Power”. There, it is employed in what one might consider a definitional statement amidst a wordy sentence:

“It must however be admitted, and will be seen, that the wise or unwise action of individual men has at certain periods had a great modifying influence upon the growth of sea power in the broad sense, which includes not only the military strength afloat, that rules the sea or any part of it by force of arms, but also the peaceful commerce and shipping from which alone a military fleet naturally and healthfully springs, and on which it securely rests.”<sup>56</sup>

While this statement is helpful for understanding what Mahan saw as the physical manifestations of sea power, it remains lacking in what it actually *is* and how the term should be used. It remains necessary for the modern scholar, then, to derive those elements from careful reading of the text.

In essence, Mahan’s “sea power” is used much in the same ways as current scholars as outlined above, but without the convenience of explicit early definition or typographical clues. The latter is seen as in Till’s use of the space between “sea” and “power”. Perhaps the most succinct demonstration of

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<sup>55</sup> Alfred Thayer Mahan, *Naval Strategy Compared and Contrasted with the Principles and Practice of Military Operations on Land* (Westport, CT: Greenwood Press, 1975), 17.

<sup>56</sup> Mahan, *The Influence of Sea Power Upon History*, 25.

Mahan's thoughts regarding how sea power is conceived can be found deep in the middle of *Influence*. Within the context of his historical discussion on England's naval operations and development during the War of Spanish Succession, he writes the following,

“The sea power of England therefore was not merely in the great navy, with which we too commonly and exclusively associate it; France had had such a navy in 1688, and it shrivelled away like a leaf in the fire. Neither was it in a prosperous commerce alone; a few years after the date at which we have arrived, the commerce of France took on fair proportions, but the first blast of war swept it off the seas as the navy of Cromwell had once swept that of Holland. It was in the union of the two, carefully fostered, that England made the gain of sea power over and beyond all other States; and this gain is distinctly associated with and dates from the War of the Spanish Succession. Before that war England was one of the sea powers; after it she was *the* sea power, without any second. This power also she held alone, unshared by friend and unchecked by foe. She alone was rich, and in her control of the sea and her extensive shipping had the sources of wealth so much in her hands that there was no present danger of a rival on the ocean. Thus her gain of sea power and wealth was not only great but solid, being wholly in her own hands; while the gains of the other States were not merely inferior in degree, but weaker in kind, in that they depended more or less upon the good will of other peoples.”<sup>57</sup>

From this one can discern both the variety of ways in which Mahan conceptualizes *sea power*, as well as what his default use of the term was. The first and most obvious understanding of the term,

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<sup>57</sup> Alfred Thayer Mahan, *The Influence of Seapower Upon History 1660-1783* (New York: Hill and Wang, 1957), 200. Note this edition publisher's choice of "seapower" as one word on the cover, despite retaining Mahan's original two-word arrangement on the inside frontispieces.

which can be called “S1” (the “S” to signify sea power), is similar to that of Geoffrey Till’s one-word “seapower”: sea power is something that an actor, in this case nation states, can possess. Narrower than Till, however, this Mahanian sea power comprises of only two major elements that a state can possess: naval strength and seaborne commerce.

The second understanding, or S2, is seen in the phrase “England was one of the sea powers”. This usage is similar to Till’s two-word “sea power” to describe actors. For Mahan, sea powers can thus be used to describe *actors* that possess some degree of naval strength and seaborne commerce. Identifying the use of this definition in the text is most easily done via the prefacing grammatical article of “a” for the singular (“a sea power”) and “the” for plural (“the sea powers”).

Finally, the third understanding of sea power, or S3, describes an actor with such overbearing and hegemonic power that it renders all maritime competition incapable of obstructing that actor at sea. This use is manifest in Mahan’s statement that England “was *the* sea power, without any second”. Mahan’s use of the italicized “the” helps to highlight the exceptionally powerful character of England as a sea power. This is similar to Andrew Lambert’s conception that seapower is an identity that applies to only certain states. In Lambert’s case, seapower states are medium powers with specific preferences and practices favouring maritime and naval approaches, while in Mahan’s case an S3 actor is any power that manages to ascend to the unassailable top of the naval and maritime commercial hierarchy with no effective opposition. In his use of the italicized *the*, however, Mahan appears to be indicating that S3 is an unusual prospect and not the default definition of “sea power”. Meanwhile, S1 and S2 are used frequently throughout *Influence*, and which definition is being employed depends on the context of the sentence.<sup>58</sup> That said, it is clear that the emphasis is on S1, not least as in the title of the book itself.

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<sup>58</sup> Mahan, *Influence*. Surveying the first chapter, which contains the core summary of Mahan’s principles relating to elements of sea power and can therefore be expected to be a representative sample of how he uses the term “sea power”, the following examples are identified:

Mahan's contemporaries similarly emphasized the S1 definition (sea power as naval strength and seaborne commerce). Sir Julian S. Corbett, who would go on to write Britain's official history of the First World War, is perhaps foremost among those who engaged with Mahan's ideas whilst the latter was still involved in writing on maritime power.<sup>59</sup> Similar to Mahan, Corbett served in a teaching

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For examples of S1, see pages 25 ("...growth of sea power..."), 28 ("conditions affecting her sea power"; "secure development of sea power"), 30 ("the development of sea power"), 32 ("so their sea power grew"), 33 ("the sea power to which their poverty gave birth"), 34 ("the foundations of our sea power."), 35 ("gives birth and strength to sea power"), 39 ("character of the sea-coast that is to be considered with reference to sea power"; "but in respect of sea power in general"), 41 ("dependence of the nation upon her sea power"), 43 ("a great element of sea power"; "development of sea power", "If sea power be really based upon...commerce", ), 46 ("a support which will be considered...as affecting sea power"), 49 ("Successful colonization, with its consequent effect upon commerce and sea power"), 50 ("development of a nation's sea power"), 51 ("in the matter of sea power"), 54 ("England was steadily fixed in the maintenance of her sea power."), 55 ("effects of either upon England's sea power and honor"), 56 ("In strictly European affairs her wealth, the outcome of her sea power"; "looked at from the point of view of sea power"), 57 ("[the American colonies] formed a solid base for [England's] sea power"; "The firm maintenance of her sea power"), 58 ("Whether her sea power will suffer"; "far less favourable to a consistent support of sea power"), 60 ("From that time Holland ceased to have a great sea power, and rapidly lost the leading position among the nations which that power had built up."), 60 ("France, admirably situated for the possession of sea power"; "opportunities of France for achieving sea power"), 61 ("the aims of Colbert as regards two of the three links in the chain of sea power"; "building up the sea power of the State"), 62 ("all these means, embracing countless details, were employed to build up for France (1) Production; (2) Shipping; (3) Colonies and Markets,—in a word, sea power."; "the whole theory of sea power"), 63 ("Thus the action of Louis...struck at the roots of her sea power"), 64 ("the growth and decay of sea power"), 66 ("the tremendous weapon of her sea power"), 68 ("the happy influence of his action of the government upon her sea power"), 71 ("making or marring the sea power of the country"), 72 ("supporting abroad the sea power of a country."; "in order to build again her sea power"; "first link in the chain which makes sea power"), 73 ("what need has the United States of sea power?"), 76 ("Such an interest in sea power does not exist"; "the growth of sea power in nations."; "the effect exercised upon that history...by sea power in its broad sense."), and 77 ("Naval strategy has for its end to found, support, and increase, as well in peace as in war, the sea power of a country.").

For examples of S2, see pages 25 ("...Holland as a sea power."), 34 ("those tendencies and pursuits upon which a healthy sea power depends."), 35-36 ("when the parts are not knit together by a strong sea power."), 36 ("yet so low had the Spanish sea power fallen"), 37 ("the development of a nation as a sea power"; "a navy commensurate to its other resources as a sea power"), 44 ("foremost place among the sea powers"), and 54 ("was opposed by the sea powers England and Holland"), 61 ("direct it as to make, among other things, a great sea power.").

There are instances where the usage can be interpreted to mean either/both S1 and S2, such as page 59 ("He found in England the sea power he needed, and used the resources of Holland for the land war."), 60 ("the two continental States might have checked the growth of the enormous sea power which has just been considered."), and 75 ("History has proved that such a purely military sea power can be built up by a despot, as was done by Louis XIV.").

<sup>59</sup> Andrew Lambert, "Introduction: Making National Strategy," in *21<sup>st</sup> Century Corbett: Maritime Strategy and Naval Policy for the Modern Era*, ed. Andrew Lambert (Annapolis: Naval Institute Press, 2017), 17.

capacity for naval officers whilst writing his most well-known work on maritime power, *Some Principles of Maritime Strategy*.

Unlike *Influence*, however, *Some Principles* does not actually employ either the term “sea power” or “seapower”, making it a poor choice, but one that must be mentioned due to its fame, for discussing classic usages and definitions of the term.<sup>60</sup> Andrew Lambert suggests that instead of “sea power”, Corbett preferred “command of the sea” to “describe the strategic dimension of sea power.”<sup>61</sup> This, however, bypasses the definitional problem by skipping directly to a fairly restricted understanding of a particular form of maritime power: specifically, control over commercial and military shipping.<sup>62</sup> And so, even though *Some Principles* shares in the dual concerns of maritime commerce and naval warfare of Mahan’s *Influence*, its theoretical emphasis, though incredibly well-grounded and sophisticated, is constrained to the place of naval force in war and how naval forces should be employed establish control over commercial and military shipping.<sup>63</sup> Little room is reserved for grander theorizing over what maritime power is and how it should be characterized in situations outside of war. Because of *Some Principles’* emphasis on wartime, it is quite a different work from Mahan’s *Influence* with different scopes and intent. More accurately, *Some Principles* should be compared with *Naval Strategy*, which was Mahan’s attempt at collating and organizing his various Naval War College lectures focusing on wartime concerns with the benefit of two decades of further refinement since *Influence*.

Although Corbett receives much of the current attention in terms of classic British maritime strategy thinkers, he had a number of contemporaries. George Sydenham Clarke, Fred T. Jane (of *Jane’s*

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<sup>60</sup> J.J. Widen, *Theorist of Maritime Strategy: Sir Julian Corbett and His Contribution to Military and Naval Thought* (Farnham, Surrey: Ashgate, 2012), 1; see also Kevin D. McCranie, *Mahan, Corbett, and the Foundations of Naval Strategic Thought* (Annapolis: Naval Institute Press, 2021).

<sup>61</sup> Andrew Lambert, “Sea Power,” in *The Ashgate Research Companion to Modern Warfare*, eds. George Kassimeris and John Buckley (Farnham: Ashgate, 2010), 78

<sup>62</sup> Lambert, “Sea Power,” 78.

<sup>63</sup> Widen, *Theorist of Maritime Strategy*, 85.

*Fighting Ships* fame), and Thomas Gibson Bowles all published monographs with some permutation of “sea power” in their titles.<sup>64</sup> But it would appear to take until 1943, when Royal Navy Admiral Sir Herbert W. Richmond delivered his address to the Historical Association, for “sea power” to receive explicit definitional treatment. Richmond recognized the popular uses of the term in question, and echoes the continuing frustration embodied in this chapter on the varied, inconsistent, and implicit definitions employed. Within the context of the debate on the continued relevancy of sea power (in the S1 sense of naval strength and seaborne commerce), Richmond noted two opposing camps. One saw “power” as the “capacity to perform a function or achieve a particular aim”, and the other saw it as “the strength of a part of the material with which the aim is achieved.”<sup>65</sup> The former reflects the S1 definition, while the latter reflects what Geoffrey Till characterizes today as “Seapower Inputs”, which are the constituent components such as ships, sailors, and bases that enable an actor to have the naval strength and seaborne commerce of S1.<sup>66</sup> Richmond more specifically goes on to say that “sea power enables its possessor to send his troops and trade across those spaces of water which lie between nations and the objects of their desires, and to prevent his opponent from doing so.”<sup>67</sup> Translated into definitional language, Richmond saw sea power as the ability to send ground forces and commercial goods through the ocean spaces and the ability to prevent an opponent from doing the same. This somewhat restricted view of sea power, manifest as the enabling and denying an actor’s use of the seas as a highway, is

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<sup>64</sup> Lambert, “Sea Power,” 78n22, 79. Jane’s *Heresies of Sea Power*, perhaps due to its critical nature, notes well in its introduction the “vague” definition of the term, but employs it in the sense of S1; Fred T. Jane, *Heresies of Sea Power* (London: Longmans, Green, and Co., 1906), 1. Thomas Gibson Bowles employs both M1 (e.g. 50, “When the Declaration of Paris was agreed to, much sea power was lost”) and S2 (e.g. viii, “[England] exerted herself as a great sea power”) sparingly in his *Sea Law and Sea Power as they would be affected by recent proposals, with reasons against those proposals* (London: John Murray, Abermarle Street, W, 1910).

<sup>65</sup> Admiral H.W. Richmond, *The Objects and Elements of Sea Power in History* (Annual Address delivered at the Annual General Meeting of the Historical Association: January 2, 1943), republished in *History* no. 107, XXVIII, 1.

<sup>66</sup> Till, *Seapower*, 4<sup>th</sup> ed., 24-25.

<sup>67</sup> Richmond, *The Objects and Elements of Sea Power*, 2.

consistent with Mahan's S1 definition: sea power is something an actor can possess to accomplish military and commercial goals in the maritime domain.

Looking outside the Anglosphere, one of the most renowned 20<sup>th</sup> century writers on maritime power has been Admiral Sergei Georgiyevich Gorshkov, commander of the Soviet navy from 1956 to 1985. Most noted in the West for his 1976 book *The Sea Power of the State* (translated to English and published in 1979 by Naval Institute Press), he also published a number of shorter articles in the Soviet/Russian naval journal *Morskoy Sbornik* (Naval Digest). The earlier ones of the latter were translated and republished by the United States Naval Institute's *Proceedings* journal in a series called "Navies in War and Peace" throughout 1974.<sup>68</sup> These provided Western analysts a rare glimpse into the Soviet naval establishment, not least in how it viewed its role within the Soviet military and political apparatus. The works addressed why Gorshkov successfully sought to increase the breadth and depth of Soviet naval forces from one merely focused on continental army support and local defence via submarines to a globally-present, forward-deployed surface and subsurface source of maritime influence.<sup>69</sup>

Written during the negotiations for the United Nations Convention on the Law of the Sea, Gorshkov's articles in *Morskoy Sbornik* and as later collated in *The Sea Power of the State* reflected a much wider interpretation of sea power than previous strategists discussed in this chapter. From fisheries to hydrography to commercial shipping, Gorshkov had what could be considered a "grand strategic" view of the state's relations with the seas. The state's interests concerning the World Ocean, as he termed the world's contiguous waterbodies, lay not merely in the number of combat vessels in its

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<sup>68</sup> Kevin Rowlands, "Introduction," in *21<sup>st</sup> Century Gorshkov: The Challenge of Sea Power in the Modern Era*, ed. Kevin Rowlands (Annapolis: Naval Institute Press, 2017), 11-12.

<sup>69</sup> Rowlands, "Introduction", *21<sup>st</sup> Century Gorshkov*, 9; Ronald J Kurth, "Gorshkov's Gambit," *Journal of Strategic Studies* 28, no. 2: 275.



navy or the ability of those vessels to interdict enemy military and commercial assets. Rather, the state should cultivate a cross-societal appreciation and use of the oceans in peace and war. The “sea power of the state” had to encompass an entire range of social, scientific, and economic activities in addition to traditional wartime naval combat capabilities.<sup>70</sup>

Nonetheless, Gorshkov’s “sea power” is still closely associated with the S1 definition that stressed naval strength and seaborne commerce. In the first edition of *The Sea Power of the State*, he indicated sea power’s “essence” as “the degree of ability to most effectively utilize the World Ocean...in the interests of the state as a whole.”<sup>71</sup> Noteworthy here is the qualitatively unbounded “ability” to use the seas, reflective of his conception of power beyond the strictly military and commercial that characterizes Mahan’s S1 sea power. That this ability can be had in greater or lesser amounts (i.e. “the degree of”) further recognizes that the possession of power is not a binary variable, though this nuanced qualification was apparently removed in the second edition of the book.<sup>72</sup> The emphasis on sea power as serving “the interests of the state” reflects his position as a serving member of the state military. It reminds readers that the various sources of sea power, including civilian science and resources extraction, all play a role in serving and strengthening the state rather than just the individual interests of scientists and fishermen. By adopting this broad cross-societal understanding of sources of sea power, Gorshkov goes beyond Mahan’s S1 definition constrained to the strictly military and commercial realms.

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<sup>70</sup> Sergei Georgiyevich Gorshkov, *The Sea Power of the State*, trans. Foreign Broadcast Information Service [FBIS] (Moscow: Military Publishing House, 1979), 1-2.

<sup>71</sup> Gorshkov, *The Sea Power of the State*, trans. FBIS, 1.

<sup>72</sup> Gorshkov, *The Sea Power of the State*, trans. FBIS, ii, 1.

Gorshkov took pains to remind readers that “sea power” was not synonymous with the sources of that power. Take the following series of sentences from one of his *Morskoy Sbornik* articles republished in *Proceedings*, for example:

“...the Soviet Union, in cooperation with the other Warsaw Pact member nations, is constantly strengthening her own sea power, including several necessary components....Special expeditionary, research oceanographic ships, scientific organizations...are required to understand the seas and oceans. All of this is one component of the sea power of a country....However we must consider the most important component of the sea power of the state to be the Navy, whose mission is to protect state interests on the seas and oceans and to defend the country from possible attacks from the direction of the Soviet Armed Forces.”<sup>73</sup>

Clearly, Gorshkov saw sea power as something that an actor can possess, but it is an ability that is comprised of multiple components, without which a state has no sea power. These components range from traditional armed force as in the Navy as well as scientific research capabilities embodied in oceanographic research vessels and associated organizations. The clear qualification that sea power is comprised of tangible components would be echoed later on in Geoffrey Till’s specification of “seapower inputs”.<sup>74</sup> As for the S2 notion of sea power as a type of actor, the English translations of Gorshkov’s works employ that definition for those pair of words where applicable.<sup>75</sup> However, there is no need to confuse S1 and S2 uses of “sea power” in the original Russian, where the two definitions of

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<sup>73</sup> Sergei Georgiyevich Gorshkov, “Navies in War and Peace,” U.S. Naval Institute *Proceedings* 100, no. 11 (November 1974), reprinted in *21<sup>st</sup> Century Gorshkov: The Challenge of Sea Power in the Modern Era*, ed. Kevin Rowlands (Annapolis: Naval Institute Press, 2017), 135-137.

<sup>74</sup> Till, *Seapower*, 4<sup>th</sup> ed., 25.

<sup>75</sup> For examples, see “Many sea powers, and also countries not having access to the sea, are expressing concern...” in Sergei Georgiyevich Gorshkov, “Navies in War and Peace,” U.S. Naval Institute *Proceedings* 100, no. 11 (November 1974), reprinted in *21<sup>st</sup> Century Gorshkov: The Challenge of Sea Power in the Modern Era*, ed. Kevin Rowlands (Annapolis: Naval Institute Press, 2017), 134 and Gorshkov, *The Sea Power of the State*, trans. FBIS, 223.

“power” use different words: *мощь* for S1, and *державы* for S2.<sup>76</sup> For Gorshkov, then, sea power as the core topic of interest in *Sea Power of the State* is explicitly not only the variable ability to use the seas, but to use them for the interests of the state and comprising of military, economic, scientific, and social components. This broad sense of sea power makes Gorshkov’s definition a distinct one, worthy of its own moniker: S4.

In sum, this exposition on the explicit historical uses of the term “sea power” and “seapower” reveals to us four definitions employed by some of the most influential classical writers of naval strategy:

S1: the ability to enable military and civilian commercial movement on the seas;

S2: any actor, not necessarily a state, that has some degree of S1;

S3: a type of actor, usually a state, that meets a minimum threshold of S1;

S4: the ability to use the seas for the benefit of the state incorporating all components of society, including military, commercial, economic, scientific, and cultural.

Essentially, these four uses can be narrowed down into two camps. One sees sea power as some ability to use the seas, while the other sees a sea power as an *actor* who has some ability to use the seas. The difference lies in whether such abilities are limited to only certain forms, such as naval force, and/or whether that actor needs to meet some threshold in its ability to use the seas.

To these four classical understandings of sea power we can add Geoffrey Till’s broad but explicit definition:

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<sup>76</sup> For example, compare Gorshkov, *The Sea Power of the State*, trans. FBIS, 223, with С.Г.Горшков, *Морская Мощь Государства*, 2<sup>nd</sup> ed. (Moscow: Military Publishing House, 1979), 229.

S5: “[seapower] is the capacity to influence the behaviour of other people or things by what one does at or from the sea”<sup>77</sup>

Clearly, S5 incorporates S1 and S4, but goes beyond specific forms of seapower and expands the possible wielders of seapower beyond states. For S2 and S3, Till uses “sea power” in the same fashion as one would use “Great Power” or “superpower”: an actor that possesses some form of S5.<sup>78</sup>

Because Till’s definitions so succinctly incorporates the varying definitions employed by the classical writers, this dissertation employs S5 as the baseline definition of seapower. Meanwhile, actors who possess S5 to some degree will be marked by the two words, sea power.

However, all these definitions ignore, or at least leave implicit, one fundamental aspect of the term “power.” As will be detailed below, to influence behaviour is to *alter* that behaviour *counter* to an original course of action. The ability of Actor A to alter the behaviour of Actor B means that Actor B would originally behave in a way *counter* to what the Actor A would prefer. Actor A, then, must be able to overcome an amount of *resistance* on the part of Actor B in order to be able to influence Actor B’s behaviour. That resistance and the ability to overcome it can be passive and/or active. Seapower is therefore not just the ability to make use of the seas, but to *overcome* resistance by “other people or things”.

With this recognition that seapower must include some form of influence over a resisting actor or object, the dissertation can integrate Lambert’s distinction between a “sea state” versus “seapower state.” A sea state, rather than a sea-using state that fails to become or falls from great power status as Lambert formulates it, is a state that merely uses the seas but is unable to do so if faced with any resistance by another actor. A sea state is one who can only use the seas in the most permissive of

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<sup>77</sup> Till, *Seapower*, 4<sup>th</sup> ed., 25.

<sup>78</sup> Till, *Seapower*, 4<sup>th</sup> ed., 24, 34n97.

environments. Meanwhile, a sea power is an actor that can not only make use of the seas, but to do so in the face of some opposition posed by another actor. In this the dissertation differ from Till's formulation. While he includes seapower as influence over both people and things, this dissertation excludes the latter to dismiss the logic that, for example, sea-users who can successfully overcome some arbitrary amount of rough seas (a form of opposition by a "thing") is sufficient to include them into the population of sea powers.

<b>Actor type</b>	<b>Lambert</b>	<b>Till</b>	<b>Choi</b>
Sea States	Fail to achieve or fall from great power status	N/A	Use the sea only in permissive environment
Sea Powers	Medium-sized powers using maritime leverage to have great power status	Can use the sea to influence actors and things	Can use the sea in the face of some opposition by another actor

*Figure 1. Chart showing Sea States versus Sea Powers*

At this point, this dissertation defines seapower as follows: it is the capacity of sea powers to alter the behaviour of other actors counter to their original course of action at sea and from the sea.

### **2.3 Seapower as Compulsive and Institutional Power**

But how is that alteration of behaviour effected? On the surface, it implies a sequence where Actor A acts directly upon Actor B to affect the latter's actions. However, the broader field of international relations offers a more nuanced typology of power than this linear interaction. As Michael

Barnett and Raymond Duvall suggested in 2005, four forms of power can be discerned in international politics: compulsory, institutional, structural, and productive.<sup>79</sup> While the first two forms of power emphasize the primacy of agents, the latter two emphasize structure, though none of them emphasize agent or structure to the absolute exclusion of the other. A thorough discussion of different forms of power being well beyond the scope of this dissertation (and having filled multiple books in political science), this dissertation's notion of seapower is confined to the agent-centric notions of compulsive and institutional power.

Seapower literature has generally assumed the compulsory form of power, which emphasizes "control by identifiable actors over the objections of other actors through deployment (even if only symbolically) of resources" and that such "resources...are deployed by A to exercise power directly over B".<sup>80</sup> Examples of compulsory power in the seapower realm include the use of submarines to directly destroy another state's supply ships and, as an example of non-physical resources, the use of unilateral sanctions to curtail another country's ability to exploit technologically-intensive seabed resources.

Meanwhile, institutional power involves the *indirect* control of other actors through "the rules and procedures that define" institutions. Such institutions are *independent* (to greater or lesser degree) from the two (or more) actors. Actor A does not employ their resources to directly influence Actor B. Rather, a mediating institution influences the behaviour of Actor B in a way that corresponds to Actor

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<sup>79</sup> Michael Barnett and Raymond Duvall, "Power in International Politics," *International Organization* 59, Winter 2005, 48. Barnett and Duvall's work is chosen here for its enduring utility across a range of political science literature. Examples include the following: Jonas Wolff, "Power in Democracy Promotion," *Alternatives: Global, Local, Political* 40, no. 3-4 (2015): 219-236; Rodney Bruce Hall, "Deontic power, authority, and governance in international politics," *International Relations* 32, no. 2 (2018): 173-193; Jeffrey Reeves and Ramon Pacheco Pardo, "Parsing China's power: Sino-Mongolian and Sino-DPRK relations in comparative perspective," *International Relations of the Asia-Pacific* 13, no. 3 (2013): 449-477; Renée de Nevers, "Sovereignty at Sea: States and Security in the Maritime Domain," *Security Studies* 24, no. 4 (2015): 597-630; Tom Casier, "The different faces of power in European Union-Russia relations," *Cooperation and Conflict* 53, no. 1 (2018): 101-117; and W. Kuindersma, B. Arts, and M.W. van der Zouwen, "Power faces in regional governance," *Journal of Political Power* 5, no. 3 (2012): 411-429.

<sup>80</sup> Barnett and Duvall, "Power in International Politics," 50.

A's interests. In the maritime realm, an obvious example would be the first research question of this dissertation: how has the legitimization of 200 nautical mile offshore zones affected the way states structure and use their maritime forces? The fact that all coastal states are entitled to control who may exploit the resources within their 200 nautical mile Exclusive Economic Zone (EEZ) is thanks to the institution of the United Nations and the Convention on the Law of the Sea. A coastal state can, via the UNCLOS regime, indirectly control the behaviour of other states and their shipping. For instance, a coastal state can delimit their EEZ boundary in such ways that would bring certain fisheries within that state's control rather than leaving it to unregulated exploitation on the high seas. The coastal state is thus using the EEZ element of the UNCLOS institution to indirectly alter the behaviour of foreign and domestic fishers without having to employ compulsive measures. However, as Barnett and Duvall stress, the different forms of power are not mutually exclusive, and often "operat[e] in relation to each other" and recognizing these different forms "encourages a consideration of their conjunction".<sup>81</sup> In the case of EEZs, while it was the UN architecture that defined the 200 nautical mile limit and what rights coastal states may have, it remains up to individual states' compulsory power to *directly* coerce violators, whether they operate under other states' flags or not. Yet, it is important to note that institutional power does not have to reside strict in international institutions, which presumes a state as the actor of concern. In this dissertation, much of the emphasis will be on how navies, as the primary actor at sea, employ or benefit from institutional measures to indirectly affect other actors. These institutional measures can thus include those implemented by the coastal state to which that navy belongs, not just international measures. A coastal state can implement institutional measures that do not themselves control the behaviour of actor actors at sea, but can be taken advantage of by its navy to more effectively wield its compulsive power.

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<sup>81</sup> Barnett and Duvall, "Power in International Politics," 57.

The two remaining forms of power discussed by Barnett and Duvall, structural and productive, are outside the scope of this dissertation. However, they may prove fruitful for future researchers seeking to broaden seapower's understanding of how maritime actors behave due to long-term structural constraints on their resources and identities.<sup>82</sup> This dissertation's emphasis on the compulsive and institutional forms of power reflects the research questions' interests in states' interaction with the institution of offshore maritime zones (eventually formalized as EEZs under UNCLOS) and how force structures and sea control operations are actively formulated and practiced. Seapower, then, can be specified here as the compulsive seapower of states and the institutional seapower of legal arrangements governing offshore maritime zones. It means that the seapower of states is manifest in how they employ maritime forces to directly control the actions of an objecting actor, and that the seapower of offshore maritime zones is manifest in their definition of boundaries and permissible behaviours for vessels inside those boundaries, which allow coastal states to indirectly alter the behaviour of vessels operating within those boundaries. However, as will be seen in Chapter 7 on the long-term resolution to Canada's position on straddling fish stocks, institutional seapower is also manifest in the creation of new international arrangements to allow third parties to carry out compliance activities on behalf of coastal and flag states when jurisdictional conflicts crop up on the outer edges of the offshore zones.

It will be the contention throughout this dissertation that even though institutional seapower affects where, when, and how compulsive seapower manifests, it is ultimately compulsive seapower which gives the EEZ institution much of its influence. To bring this discussion on defining seapower to a close, the following working definition shall be employed throughout this dissertation:

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<sup>82</sup> At least one researcher has proposed research with greater emphasis on the economic structure of seapower: Robert C. Rubel, "Navies and Economic Prosperity – the New Logic of Sea Power," *Corbett Paper No. 11, King's College London*, October 2012, <https://www.kcl.ac.uk/dsd/assets/corbettpaper11.pdf>, 1-2.



**Definition of Seapower: Seapower is the capacity of sea powers to alter the behaviour of other actors counter to their original course of action through compulsive and institutional measures at sea and from the sea.**

The following chapter will review the literature on how some of these sea powers can be categorized based on their relative size, purposes, capabilities, and force structures. This is essential for contextualizing the three empirical case studies to understand the extent to which they are similar or different to each other. With this chapter having discussed seapower in overarching terms, it is now necessary to examine the different levels of resources that sea powers have access to, as well as what they may do with them. Seapower does not manifest in the same way for all actors, and this next chapter explores whether such differences are a matter of degree or kind.

## **Chapter 3: Conceptualizing Maritime Forces – Smaller Navies and their**

### **Characteristics**

#### **3.0 Introduction**

The previous chapter arrived at a working definition for seapower: the capacity of sea powers to alter the behaviour of other actors counter to their original course of action through compulsive and institutional measures at sea and from the sea. But not all sea powers have the means or will to allocate same levels of resources (whether in absolute amounts or as percentage of available resources) to their maritime forces, which in turn have presumably different scope of activities. This chapter provides an overview of the state of the literature regarding the notion of relatively small sea powers as a discrete category of seapower studies. With this dissertation's second hypothesis interested in the possibility of commonalities in how smaller maritime forces may behave differently from larger ones, it is important to review the literature on what are some ways of conceptualizing the sizes of maritime forces and what that implies in terms of seapower. In the terminology of Geoffrey Till, what are the inputs (e.g. force structures, personnel, infrastructure) and outputs (e.g. missions and responsibilities) of smaller maritime forces?<sup>83</sup> Can these inputs and outputs be conceptually differentiated from those of larger maritime forces?

The term "maritime forces" reflects the many varied names given to waterborne government agencies charged with carrying out missions assigned to them by the state involving some component of violent force. While the most obvious of these are those organizations called "navies", there are also coast guards, "maritime surveillance agencies", maritime police units, and more.<sup>84</sup> The distinctions

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<sup>83</sup> Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 4<sup>th</sup> ed. (London: Routledge, 2018), 25-26.

<sup>84</sup> The People's Republic of China, for example, had formerly no fewer than five different organizations with maritime mandates: the People's Liberation Army Navy, the Maritime Militia, the Border Defence Coast Guard, the China Marine Surveillance [agency], the China Fisheries Administration, and the General Administration of

between these different terms are not immediately obvious. For example, some cutters of the United States Coast Guard during the Cold War were equipped with torpedoes and anti-ship missiles, giving it weaponry equivalent to or greater than those possessed by many navies around the world.<sup>85</sup> In understanding the differences and similarities between smaller and larger sea powers, then, it can be useful to employ the broader term “maritime forces” to be cognizant of the wide range of maritime organizations employed by states. This helps to avoid accidentally restricting the scope of analysis to just maritime agencies that happen to call themselves a navy. This being said, given that much of the literature reviewed in this section refers to most seagoing armed forces as “navies” regardless of their actual title or capability, “navy” will continue to be used when discussed within the context of that literature.

This chapter is separated into two parts. Part I reviews the literature on smaller maritime forces and begins with a discussion of how previous scholars have attempted to establish typologies for maritime forces of varying sizes and capabilities. This will be used to help understand how Canada is a significantly larger naval power than Norway and Denmark, justifying its selection to help answer Hypothesis 2 (whether and how smaller maritime forces responded differently to the implementation of the 200 NM offshore zones). Part II of this chapter will use Ken Booth’s trinity of naval roles (military, diplomatic, and constabulary) to frame a discussion of what navies actually do, with an especial focus on those from smaller countries.<sup>86</sup> For each of these three roles, other authors will be brought in to provide more updated and comprehensive perspectives on conceptualizing those roles. The chapter concludes

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Customs. The maritime functions of the latter four have since consolidated into the China Coast Guard. Ryan D. Martinson, “The Militarization of China’s Coast Guard,” *The Diplomat*, November 21, 2014, <https://thediplomat.com/2014/11/the-militarization-of-chinas-coast-guard/>; Andrew S. Erickson and Ryan D. Martinson, ed., *China’s Maritime Gray Zone Operations* (Annapolis: Naval Institute Press, 2019).

<sup>85</sup> Robert E. Johnson and Robert E. Williams, “Coast Guard Cutter Design, 1941-1990,” *Coast Guard Engineer’s Digest* (Winter 1992), 17-18, <https://media.defense.gov/2020/Feb/28/2002256800/-1/-1/0/CGCUTTERDESIGN1941-1990.PDF>.

<sup>86</sup> Ken Booth, *Navies and Foreign Policy* (London: Croom Helm, 1977), 15-25.

by noting the overlapping nature of both inputs and outputs across these three roles, especially for smaller maritime forces. It also highlights where the three case study countries sit on the spectrum of maritime force sizes. Ultimately, having a concrete understanding of the three naval roles will be vital to analyzing the dissertation's three case studies in terms of the development of their force structures and operations.

### 3.1 Part I: Typologies of Maritime Forces

While the study of “small navies” (including non-navy maritime forces) as a discrete category is a fairly recent development in academia<sup>87</sup>, there was some interest in the maritime forces of countries other than the Western and Eastern Blocs towards the end of the Cold War, as well as somewhat greater interest in the notion of ranking maritime forces relative to each other based on absolute criteria. Exemplary of the latter approach, Ken Booth's 1977 *Navies and Foreign Policy* outlined four categories of navies (Booth and the following scholars use “navy” in the broad sense) defined by their geographic reach: Global navy, Ocean-going navy, Contiguous sea navy, and Coastal navy.<sup>88</sup> Each of these could then be further divided into either sea control or sea denial navies in terms of their general strategic orientation. Sea control was the desire to actively use the seas after (or while) contesting another actor for that use, and sea denial was the less ambitious desire to only prevent another actor

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<sup>87</sup> It appears that prior to 2014, no book had been published with the term “Small Navies” in its title. The only works to date with that term are two anthologies stemming from the Small Navies conferences held by National University of Ireland, Maynooth in 2012 and King's College London in 2018; respectively, see Michael Mulqueen, Deborah Sanders, and Ian Speller, eds., *Small Navies: Strategy and Policy for Small Navies in War and Peace* (Burlington, Vt.: Ashgate, 2014) and Robert McCabe, Deborah Sanders, and Ian Speller, eds., *Europe, Small Navies and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century* (London: Routledge, 2020).

<sup>88</sup> Booth, *Navies and Foreign Policy*, 120-121.

from using the seas.<sup>89</sup> However, Booth's world-spanning categorization rendered it, by his own admission, "simple" and lacked any nuance regarding the interests and capabilities of the states that these navies served.<sup>90</sup>

A decade later in 1987, Michael Morris's *Expansion of Third-World Navies* is perhaps the most concise and methodologically-detailed example of a work that tackles both the issue of naval ranking and a specific interest in non-"major" navies.<sup>91</sup> Taking the growth of Third World navies throughout the 1970s and 1980s as his empirical focus, he developed a "Hierarchy of Naval Capability" tailored for the maritime forces of countries outside the North Atlantic Treaty Organization (NATO) and the Warsaw Pact. In ascending order, this hierarchy consisted of six ranks: Token navies, Constabulary navies, Inshore territorial defence navies, Offshore territorial defence navies, Adjacent force projection navies, and Regional force projection navies.<sup>92</sup> Although Morris chose the names of these ranks based on the navy's function, "each rank synthesise[s] the respective equipment characteristics" and therefore reflect not only what the navy is capable of but also its physical composition. Morris's careful four-stage classification criteria to develop his hierarchy is admirable in its thoroughness compared to previous (and later) efforts.<sup>93</sup> Employing both quantitative and qualitative approaches, his classifications account for numbers and types of ships, the quality of their weapons, non-navy organizations such as marines and coast guards, domestic shipbuilding capacity, and the state's overall power base manifest in areas such as infrastructure.<sup>94</sup> Still, as the title of his book clearly indicates, Morris selected his cases based on

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<sup>89</sup> Booth, *Navies and Foreign Policy*, 119-120. For a more in-depth discussion of sea control versus sea denial, see the following chapter in this dissertation.

<sup>90</sup> Booth, *Navies and Foreign Policy*, 121.

<sup>91</sup> Michael A. Morris, *Expansion of Third-World Navies* (Basingstoke, England: Macmillan, 1987).

<sup>92</sup> Morris, *Expansion of Third-World Navies*, 24, 34.

<sup>93</sup> Morris, *Expansion of Third-World Navies*, 22-33.

<sup>94</sup> Morris, *Expansion of Third-World Navies*, *ibid.* It is worth noting that by including measures of power beyond those directly related to the state's navy, then the classification starts getting into the territory of classifying the state as a sea power. By including overall state power, it becomes difficult to distinguish between a hierarchy of navies versus a hierarchy of sea powers.

their political alignment rather than any specific notion of country or navy size. “Third World” does not necessarily mean “small” in size, despite the relatively high correlation. Illustrating this, the top of Morris’s Rank 6 “Regional force projection navies” are Brazil, Argentina, and India.<sup>95</sup> Even in the mid-1980s when Morris wrote his book, the Indian Navy already possessed some 120 vessels, including major warships such as an aircraft carrier, domestically-built frigates, submarines, amphibious landing ships, and numerous supply vessels capable of sustaining long-endurance missions.<sup>96</sup> Thus, his hierarchy was not designed to account for the functions and characteristics of maritime forces belonging to the smaller member states of NATO and the Warsaw Pact, though he does apply his ranking to a limited number of higher-developed countries for comparison’s sake such as South Africa and Australia.<sup>97</sup>

Morris’s hierarchy was quickly picked up and expanded upon by the British naval historian and strategist Eric Grove in his 1990 *The Future of Sea Power*.<sup>98</sup> Rather than delving more deeply into the characteristics of relatively weak (if not small) navies, Grove expanded upon Morris’s six rankings with three further levels: Medium Global Force Projection Navy, Major Global Force Projection Navy - Partial, and Major Global Force Projection Navy - Complete.<sup>99</sup> These were exemplified by the larger NATO and Warsaw Pact countries. While a Medium Global Force Projection Navy could be seen in the United Kingdom and France, Major Global Force Projection Navy- Partial consisted of only the Soviet Union, and Major Global Force Projection Navy - Complete was held by that hegemon of the seas, the United States.<sup>100</sup> In so doing, Grove accepted the adequacy of Morris’ original six categories to encompass all remaining navies. He was also satisfied with simply applying Morris’s criteria to smaller non-Third World navies, such as Norway and Denmark under Offshore Territorial Defence Navies.<sup>101</sup> However, while this

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<sup>95</sup> Morris, *Expansion of Third-World Navies*, 34.

<sup>96</sup> Morris, *Expansion of Third-World Navies*, 235-236.

<sup>97</sup> Morris, *Expansion of Third-World Navies*, 232, 243.

<sup>98</sup> Eric Grove, *The Future of Sea Power* (London: Routledge, 1990).

<sup>99</sup> Grove, *The Future of Sea Power*, 236-238.

<sup>100</sup> Grove, *The Future of Sea Power*, 236-238.

<sup>101</sup> Grove, *The Future of Sea Power*, 239.

works to help describe what those countries were capable of, it does not leave much room to consider overlapping rankings. Furthermore, in some situations, it prevents conceptualizing how an actor might occupy rankings that are seemingly mutually exclusive to each other. For example and as Chapter 6 will detail, while the numerous fast-attack missile craft of the 1980s Royal Danish Navy fleet in continental Europe was consistent with that of an “Inshore territorial defence navy”, it also had a robust naval force consistently operating around Greenland far beyond the “adjacent” waters of continental Denmark.<sup>102</sup> But rather than a straightforward increase in fighting power as one moves farther offshore as stipulated in the Grove and Morris categories, the opposite held true. The ships meant for the defence of the Danish homeland in the Baltic Sea approaches were much more combat capable than the larger and more seaworthy, but relatively weakly armed, patrol ships off Greenland.<sup>103</sup> Thus, even though Denmark’s fleet in and around Greenland meant it had the “ability to project force into the adjoining ocean basin” and thus meets the basic tenets of a “Regional Force Projection navy”, the type and amount of force being projected was limited to what was typical for constabulary purposes.<sup>104</sup> As this dissertation’s empirical chapters on Danish and Norwegian naval development and operations will detail, such an apparent paradox was far from uncommon in the two countries’ modern histories. Their arrangements for balancing coastal defence and offshore constabulary tasks were notably different from each other’s, and both varied even more greatly from how Canada addressed its military versus constabulary needs. This highlights the dramatic differences between smaller navies themselves, creating a challenge in categorizing navies based simply on size.

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<sup>102</sup> Peter Bogason, *Søværnet under den kolde krig – Politik, strategi og taktik* (Copenhagen: Snorres Forlag, 2016), 252-254; Per Herholdt Jensen, *Atlantsejlerne: Flådens inspektionsskibe i 100 år* (Copenhagen: Aschehoug, 2005), 243-245.

<sup>103</sup> Bogason, *Søværnet under den kolde krig*, 252-254; Jensen, *Atlantsejlerne*, 243-245.

<sup>104</sup> Grove, *The Future of Sea Power*, 238.

### 3.1.1 Embracing Subjectivity: Small Navies within Small Navies

Perhaps one of the greatest challenges in defining an agenda of study for “small navies” is the dramatic differences in the range of capabilities between those maritime forces of relatively limited size. As Booth noted in 1977, his simple geography-based hierarchy emphasized the vast differences between a small handful of naval powers versus what was essentially “the rest”. While the United States, the Soviet Union, the United Kingdom, and France had “global” and “ocean-going” navies capable of independent operations on any ocean of the globe across the entire spectrum of conflict, the rest of the world’s fleets were significantly more reduced in both the types of missions they could undertake and how far away from home they could do them. However, these other fleets had as much, if not greater, differences between them than with those of the superpowers and their major allies.

This observation has, in recent years, been repeatedly noted in the nascent “small navies” academic circle. Geoffrey Till in the 2012 Small Navies conference held at the University of Ireland, Maynooth, suggested that rather than attempting to derive a universally acceptable definition of what makes up a “small navy”, it would be better to use “smaller navy” to highlight the relative nature of the differences between countries and their maritime forces.<sup>105</sup> This observation was put subtly into text in his chapter for McCabe, Sanders, and Speller’s *Small Navies, Europe, and Maritime Security*, in which the use of “smaller navies”, rather than “small navies”, became the standard term of reference halfway through the chapter.<sup>106</sup> As that volume’s editors noted, the varying criteria by which one might categorize navies rendered it a fruitless task to “define scientifically the term ‘small navies’”, and that it was, for that volume’s purpose, satisfactory to resort to the “subjective approach” that interprets “a

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<sup>105</sup> As heard by the author during the conference proceedings. See also Robert McCabe, Deborah Sanders, and Ian Speller, “Introduction,” in *Europe, Small Navies, and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century*, ed. Robert McCabe, Deborah Sanders, and Ian Speller (London: Routledge, 2020), 5.

<sup>106</sup> Geoffrey Till, “Small navies in the current strategic context,” in *Europe, Small Navies, and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century*, eds. Robert McCabe, Deborah Sanders, and Ian Speller (London: Routledge, 2020), 19.



small navy is simply one that has ‘limited means and aspirations’.<sup>107</sup> This subjectivity has its own issues (what constitutes “limited” or “unlimited”?) but allows individual researchers to argue in favour or against the inclusion of cases as required by their own research agendas. This becomes especially important as one considers the proliferation of naval capabilities that are traditionally the purview of great powers, such as land-attack cruise missiles and amphibious assault ships.<sup>108</sup> As more and more navies, especially the smaller ones, gain such capabilities, it becomes increasingly difficult to justify the Morris and Grove approach of categorizing navies by the quality of their defensive and power projection potential. This makes the subjective approach to categorizing navies an attractive prospect for researchers, especially those taking in-depth case study approaches where the specific contexts of each navy can be more fully considered to justify how they may or may not fit the researcher’s interest in the “small navy” notion.

### *3.1.2 Small, but Big Enough: Canada as a Medium Navy*

This idea of leaving it up to the author to justify whether a navy can be considered “small” by some absolute metric or merely “smaller” relative to other navies is perhaps best exemplified by the Canadian case featured in this dissertation. While the literature has repeated the notion that the modern Norwegian and Danish navies are small or at least “minor”<sup>109</sup>, the dissertation’s selection of

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<sup>107</sup> McCabe, Sanders, and Speller, “Introduction,” 5.

<sup>108</sup> For the proliferation of submarine-launched cruise missiles, see Swee Lean Collin Koh, “Emerging from obscurity: small navies and sea-launched land-attack cruise missiles,” *Maritime Affairs: Journal of the National Maritime Foundation of India* 12, no. 1 (2016), 52-53; for an example of increasing amphibious capability on the part of a small navy, see the Danish Absalon-class support ships in Chapter 6 on Danish naval force structure development later in this dissertation. Other examples can also be seen in the recent Algerian and Egyptian procurement of helicopter-carrying amphibious assault ships: Trevor Hollingsbee, “Column | Emerging North African Naval powers [Naval Gazing],” *Baird Maritime*, November 18, 2019, <https://www.bairdmaritime.com/work-boat-world/maritime-security-world/naval/ships-naval/column-emerging-north-african-naval-powers-naval-gazing/>.

<sup>109</sup> For examples, see Grove, *The Future of Sea Power*, 239, in which Norway and Denmark are Rank 6 out of 9; Booth, *Navies and Foreign Policy*, 126n24; Tor Ivar Strømme, “Bulwark and Balancing Act: The Strategic Role of the Royal Norwegian Navy,” in *Europe, Small Navies, and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century*, eds. Robert McCabe, Deborah Sanders, and Ian Speller (London: Routledge,

Canada as an example of a significantly larger navy to serve as a comparison for Hypothesis 2 (that small navies responded differently from larger ones to the implementation of the 200 NM offshore zones) may be disputed by some. Hence, it is the goal of this section to provide some insights into why the dissertation considers it large enough for the research purpose. While Chapter 7 of this dissertation will dive deeper into the details, it suffices for the purpose of illustrating the subjective nature of categorizing navy sizes to reference extant authors' assessments of the Canadian navy's status in the global hierarchy and which informed the selection of Canada as a study case.

In asserting that Canada has a relatively large navy compared to Norway and Denmark, one must be able to say that it is not, at least by some logics and criteria, as small or smaller than those latter two countries. In other words, can Canada, a country with the world's second largest landmass and tenth highest Gross Domestic Product (2019), be considered to possess merely a small navy?<sup>110</sup> Joseph Morgan at the University of Hawaii in 1986 (when Canada had the seventh highest GDP in the world) certainly thought so.<sup>111</sup> His "admittedly arbitrar[y]" conceptualization of "small navies" was a binary distinction where any navy that did not have nuclear-armed or -powered vessels and did not have modern aircraft carriers was considered "small".<sup>112</sup> With this definition, Morgan sought to take a broader set of examples from which to derive the following common features of most of the world's small navies: 1) ships were indigenously-built or built in other developing countries, 2) larger numbers of fast missile-armed ships, 3) lightly armed, but long-endurance, ships for patrolling the new Exclusive Economic Zone, 4) small numbers of modern submarines, 5) a significant number of minesweepers and light amphibious craft, and 6) better-trained and more highly-skilled sailors to operate the more

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2020), 133-151; Johannes Riber, "The Royal Danish Navy: How Small States Use Naval Strategy," in *Europe, Small Navies, and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21<sup>st</sup> Century*, eds. Robert McCabe, Deborah Sanders, and Ian Speller (London: Routledge, 2020), 152-167.

<sup>110</sup> The World Bank, "GDP (current US\$)," *The World Bank DataBank*, 2020, [https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most\\_recent\\_value\\_desc=true&view=chart](https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most_recent_value_desc=true&view=chart).

<sup>111</sup> The World Bank, "GDP"; Joseph R. Morgan, "Small Navies," in *Ocean Yearbook 6* (1986), 369-370.

<sup>112</sup> Morgan, "Small Navies," 362.

technically advanced vessels common by this period.<sup>113</sup> The limits of deriving such general features from countries ranging from India to Fiji are clearly seen when trying to apply them to the mid-1980s Canada. Of these six characteristics, Canada might be said to possess only two: an indigenous shipbuilding capacity and high skilled sailors operating on high-technology platforms.<sup>114</sup> Regardless of the (in)applicability of his generalized features to individual cases, Morgan grouped Canada amongst other countries (such as Brazil, Nigeria, and Yugoslavia) which shared long coastlines and whose navies' "primary missions are coastal defence."<sup>115</sup> This is an unusual decision, especially given Morgan's own acknowledgement that the vast majority of the Canadian navy's sixteen frigates and four destroyers in the mid-1980s was designed for anti-submarine warfare in the North Atlantic for the defence of shipping.<sup>116</sup> The mid-Atlantic would be a far cry from most reasonable definitions of "coastal", even if escorting shipping may be considered a defensive mission (which would have to ignore the fact that said shipping might have as its objective the offensive projection of land power onto distant shores). Morgan's analysis of Canada shows how adopting an overly broad criteria for "small navies" results in generalizations that serve relatively little analytical value and forces the scholar to shoehorn navies into categories that do not accurately describe them.

Morgan's characterization of Canada as a small navy is thus a perfect example of the drawbacks to taking a subjective approach to categorizing navies as "small" or "large". Certainly, the Royal

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<sup>113</sup> Morgan, "Small Navies," 365-366.

<sup>114</sup> Although no naval ships were in process of being built at this time, planning was under way for the Canadian Patrol Frigate that would enter service the following decade. Meanwhile, the ships then operating in the Canadian fleet hosted state-of-the-art equipment requiring skilled sailors. Canada was also on the leading edge of new naval technologies, such as towed array sonars for surface ships. It did, however, lack Morgan's four other characteristics: the Canadian navy had no fast attack craft, no lightly-armed long-endurance patrol ships, and little in the way of minesweepers and landing craft. A good overview of these developments can be found in Peter T. Haydon, "From Uncertainty to Maturity (1968-1989)," and Harold Merklinger, "Maritime Research and Development, 1968-89," in *The Naval Service of Canada, 1910-2010: The Centennial Story*, ed. Richard H. Gimblett (Toronto: Dundurn Books, 2009), 163-184.

<sup>115</sup> Morgan, "Small Navies," 388.

<sup>116</sup> Morgan, "Small Navies," 369.

Canadian Navy (RCN) did not consider itself “small”, even in the post-Cold War period when it had a smaller fleet. Its 2001 strategic document, *Leadmark 2020*, explicitly envisioned itself as Eric Grove’s “Rank 3: Medium Global Force Projection Navy” alongside the Netherlands and Australia, just behind the United Kingdom and France.<sup>117</sup> Such a navy “may not possess the full range of capabilities, but have a credible capacity in certain of them and consistently demonstrate a determination to exercise them at some distance from home waters, in cooperation with other Force Projection Navies.”<sup>118</sup> This emphasis on “consistently demonstrate a determination” marks the Royal Canadian Navy’s major modification upon Grove’s original ranking system. It essentially argues that a navy cannot be ranked merely by the geographical extent to which its aggregate instruments could *potentially* project force, but also how *often* throughout history. Time, not just space and material, becomes a key element for ranking a country’s navy. This temporal element is governed not just by the readiness of the navy in terms of its material and organizational ability to reliably send ships abroad, but also by the Canadian political leadership’s own willingness to authorize or order such overseas deployments.<sup>119</sup> Supporting this, *Leadmark* dedicates a chapter to the RCN’s history precisely to highlight its historical “determination to exercise [naval capabilities] at some distance from home”.<sup>120</sup> Examples ranged from the 1932 amphibious landing of troops from a pair of RCN destroyers in El Salvador and numerous Second World War operations in Europe and the western Pacific, to the deployment of destroyers in the Korean War and the use of its aircraft carrier to transport peacekeeping forces to Suez (1956) and Cyprus (1964).<sup>121</sup> More recently, the deployment of a three-ship task group to the first Gulf War in 1991, the flagship role of RCN destroyers at the head of NATO naval forces off Bosnia and Kosovo in the ‘90s, and the use of its

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<sup>117</sup> Directorate of Maritime Strategy, *Leadmark 2020: The Navy’s Strategy for 2020* (Ottawa: National Defence Headquarters, 2001), 44.

<sup>118</sup> Directorate of Maritime Strategy, *Leadmark 2020*, 44.

<sup>119</sup> Directorate of Maritime Strategy, *Leadmark 2020*, 44.

<sup>120</sup> Directorate of Maritime Strategy, *Leadmark 2020*, 52-66.

<sup>121</sup> Directorate of Maritime Strategy, *Leadmark 2020*, 55-60.

auxiliary replenishment ships to provide humanitarian assistance in East Timor in 1999 all illustrate the frequency and alacrity with which the RCN operates far from home waters.<sup>122</sup> As Chapter 7 will demonstrate, this global presence will continue and intensify through the new millennium even as the RCN would experience further reductions in its fleet numbers.

Admittedly, the frequency criteria that *Leadmark* added to the Grove ranking typology may have been more the product of a desire to find some reason to move Canada's position further up the ranks than the outcome of an objective academic exercise aimed at developing a more comprehensive set of criteria. As McCabe, Sanders, and Speller noted, one of the challenges to defining "small navies" is that navies "might prefer not to be described in such terms."<sup>123</sup> Using a navy's own definition of its ranking is, by this logic, clearly biased and should not be taken at face value. In the case of *Leadmark*, it may well have been the case that its creators, subconsciously or not, sought to revise Grove's typology to incorporate criteria that would categorize Canada's naval experience in a more favourable light. In Grove's original book, after all, Canada was ranked one tier lower at "Rank 4: Medium Regional Force Projection Navy" and this was at a time when the RCN had a larger number of oceangoing warships.<sup>124</sup> Under *Leadmark*'s criteria of regular overseas deployments, however, the emphasis is less on the number of ships, and more on their availability and use. In this way, *Leadmark* justifies Canada as having a very respectable and highly-ranked *medium* navy despite its somewhat meagre numbers. Despite *Leadmark*'s potential bias, it has been received favourably by naval scholars at home and abroad, some of whom have continued to cite it as an authoritative summary and analysis of post-Cold War naval dynamics.<sup>125</sup>

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<sup>122</sup> Directorate of Maritime Strategy, *Leadmark 2020*, 64-65.

<sup>123</sup> McCabe, Sanders, and Speller, *Small Navies, Europe, and Maritime Security*, 4.

<sup>124</sup> Grove, *The Future of Sea Power*, 238.

<sup>125</sup> For examples, see Christopher Martin, *The UK as a Medium Maritime Power in the 21<sup>st</sup> Century: Logistics for Influence* (London: Palgrave Macmillan, 2016), 25, 27, 45-46; Kevin Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century: A Model for the Post-Cold War Global Order* (London: Routledge, 2019), 14n36, 23n32.

While *Leadmark* employed primarily absolute criteria to argue for Canada being in possession of a medium navy, an argument based on Canada's position relative to other navies can also be made. As Jeremy Stöhs has recently argued, there has been a dramatic decline in the numbers and, to some extent, capabilities, of European naval forces.<sup>126</sup> The most dramatic of this is perhaps that former ruler of the seas, the United Kingdom's Royal Navy (RN). In the late-Cold War rankings produced by Grove, the RN sat in comfortable third place alongside France, behind the United States and the Soviet Union.<sup>127</sup> This 1990 Royal Navy boasted a fleet with eighty major warships: three aircraft carriers, forty-eight large surface combatants (missile-armed frigates and destroyers), twenty-two submarines, and seven amphibious assault ships.<sup>128</sup> But by 2016, this had fallen down to thirty-five: zero aircraft carriers, nineteen large surface combatants, ten submarines, and six amphibious assault ships.<sup>129</sup> This dramatic reduction in hulls, though accompanied by significant improvements in the quality of each remaining/replacement vessel, stands in marked contrast with the state of the Royal Canadian Navy between the same period. While the RCN of 1990 had nineteen surface combatants and three submarines, twelve of former were replaced and the latter were replaced and expanded by one throughout the 1990s, resulting in a much less dramatic relative change in the RCN's overall numbers compared to its senior brethren across the Atlantic.<sup>130</sup> By 2016, the Royal Canadian Navy operated a combat fleet of twelve Halifax-class frigates (large surface combatants) and four submarines. In contrast to the RN being left with only approximately 40% of its Cold War fleet size, Canada managed to maintain a fleet that was 73% of its Cold War numbers.

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<sup>126</sup> Jeremy Stöhs, *The Decline of European Naval Forces: Challenges of Sea Power in an Age of Fiscal Austerity and Political Uncertainty* (Annapolis: Naval Institute Press, 2018).

<sup>127</sup> Grove, *The Future of Sea Power*, 237-238.

<sup>128</sup> Stöhs, *Decline of European Naval Forces*, 49.

<sup>129</sup> Stöhs, *Decline of European Naval Forces*, 49.

<sup>130</sup> For details of these units, see Chapter 7: Canada, section 7.2.2.

Of course, the numbers themselves do not tell the whole story: the quality of this change in equipment matter as well. But even here, Canada comes out favourably. The Halifax-class frigates, by 2016, were nearing the completion of their mid-life modernizations, equipping them with updated sensors and weapons versus when they were introduced in the 1990s.<sup>131</sup> Even when they were brand new, they marked a dramatic increase in the RCN surface fleet's combat capability. Whereas none of the ships that the *Halifaxes* replaced had surface-to-air missile systems and thus incredibly vulnerable to air attack, the *Halifaxes* were equipped with Sea Sparrow anti-air missiles. They were all also equipped with Harpoon anti-ship missiles, which only two of their predecessors had (and only temporarily for participation in Operation Desert Storm using the launchers and missiles slated for installation on the *Halifaxes* then being built). The widespread introduction of these guided missile systems ensured the Canadian fleet was now capable of fighting on and above the surface, not just below it as was the focus of the ships they replaced. Even in regards to anti-submarine warfare (ASW), the *Halifaxes* brought fleet-wide the ability to carry its own ASW CH-124 Sea King helicopter. While the RCN was famous for introducing organic helicopters to surface combatants, that capability was scattered between only a few of its Cold War ships. Of the fifteen ships that the twelve *Halifaxes* replaced, only seven of them had the hangar and helicopter deck necessary to carry the Sea King. Thus, although the new post-Cold War fleet meant the Canadian navy lost three hulls, each of the remaining vessels were equipped with the latest in anti-submarine warfare equipment, as well as a serious ability to defend themselves from surface and aerial threats. This extension of the RCN into all three physical domains of naval warfare was a marked qualitative improvement over the preceding fleet structure and was supported by extensive upgrades to the four Iroquois-class destroyers that gave them long-range anti-air defence capability. Meanwhile, the three old Oberon-class submarines were replaced with four second-hand, but relatively modern, British

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<sup>131</sup> Department of National Defence, "Halifax-class Modernization/Frigate Life Extension (HCM/FELEX)," *Government of Canada*, November 29, 2016, <https://www.canada.ca/en/department-national-defence/news/2016/11/halifax-class-modernization-frigate-life-extension-felex.html>.

Upholder-class boats, renamed the Victoria class. Despite their infamous history as troublesome vessels, they were still marked improvements on their predecessors.<sup>132</sup> In short, the RCN had managed to pull through the post-Cold War period with relatively fewer losses than other Western navies, while increasing its overall combat capability.

Admittedly, this focus on combatant vessels has its limits. The UK, after all, is one of the very few countries with a nuclear-powered ballistic missile submarine force, a robust auxiliary support fleet, and amphibious assault capabilities for projecting conventional power onto land for sustained periods.<sup>133</sup> Canada, meanwhile, had none of these in 2016: its two Protecteur-class auxiliary oiler replenishment (AOR) ships had been taken out of service due to accidents and age, while their replacements were still being designed and built.<sup>134</sup> Despite the absence of the AORs, however, the Halifax class fleet were able to consistently deploy globally and participate in key operations with Canada's allies and partners from Europe to Africa to East Asia.<sup>135</sup> This ability to project power globally, even under logistical conditions limited by the AORs' absence, remains a naval capability that very few countries practice even if they have the technical capability. If one measures a navy based on what it does and not just what it can theoretically do with its equipment, then Canada's navy has been near the top of the global naval hierarchy in terms of projecting naval power. This frequency arguably surpasses even the Royal Navy in recent years.<sup>136</sup> Although what it could theoretically accomplish with that power

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<sup>132</sup> See Chapter 7: Canada, sections 7.2.3 and 7.4.2.

<sup>133</sup> Stöhs, *Decline of European Naval Forces*, 49.

<sup>134</sup> Marc Montgomery, "Naval supply ships for Canada: a question of politics, time, money," *RCI Radio Canada International*, November 18, 2020, <https://www.rcinet.ca/en/2020/11/18/naval-supply-ships-for-canada-a-question-of-politics-time-money/>; Douglas Campbell, "The Canadianization of the Joint Support Ship: From Mature Design to a Unique Canadian Solution," *Canadian Global Affairs Institute*, March 2021, [https://www.cgai.ca/the\\_canadianization\\_of\\_the\\_joint\\_support\\_ship\\_from\\_mature\\_design\\_to\\_a\\_unique\\_canadian\\_solution](https://www.cgai.ca/the_canadianization_of_the_joint_support_ship_from_mature_design_to_a_unique_canadian_solution).

<sup>135</sup> See Chapter 7: Canada, section 7.4.2.

<sup>136</sup> Excluding sporadic responses to natural disasters such as Operation PATWIN in 2013, it would appear that the Royal Navy has not sent its warships farther east than the Arabian Sea during most of the 2010s. Royal Navy, "Operations," *Royal Navy*, n.d., <https://www.royalnavy.mod.uk/news-and-latest-activity/operations>.



is much more limited than navies with a broader spectrum of capabilities like amphibious assault or carrier-based persistent airpower, the Canadian navy has the force structure, institutional and political will, and organizational expertise which allow it to participate in a wide number of alliance operations that helps to legitimize its own claim as a “Rank 3: Medium Global Power Projection Navy”.<sup>137</sup>

Thus, while some observers may pine for those early Cold War days when Canada had its own aircraft carrier with jet fighters and opine that the RCN is now but a shadow of its former self, in actual practice the RCN remains a highly active arm of the Canadian military. It is second to only very few countries in terms of its ability to participate to some degree in any coalition operation on almost every ocean on the globe. However, its lack of full-spectrum warfare capabilities limits its ability to independently pursue many forms of warfare, preventing it from securing it a place within the highest tiers of the literature’s constructions of naval hierarchy. Taken together, Canada’s unusual combination of frequent globe-spanning naval operations conducted with a fleet that has limited independent warfighting utility puts it safely within a category that is substantially “larger” than most, making it a suitable candidate for study in comparison with the two smaller navies of Denmark and Norway in this dissertation.

### **3.2 Part II: The Functions and Structures of Smaller Maritime Forces**

Having discussed how navies can be conceptualized relative to each other, this section will dive into some of the actual functions (seapower outputs) and force structures (seapower inputs) of maritime forces. What is it, exactly, that maritime forces do, how do they do it, and with what assets?

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<sup>137</sup> Jonathan Bentham and Nick Childs, “UK Littoral Response Group: the shape of things to come?” *IJSS Military Balance*, June 25, 2021, <https://www.ijss.org/blogs/military-balance/2021/06/uk-littoral-response-group>; Xavier Vavasseur, “French Aircraft Carrier Now Supporting NATO,” *Naval News*, March 4, 2022, <https://www.navalnews.com/naval-news/2022/03/french-aircraft-carrier-now-supporting-nato/>; BBC, “France to deploy largest warship in mission against IS,” *BBC News*, November 5, 2015, <https://www.bbc.com/news/world-europe-34738177>.

After all, the point of a navy is not to just have naval equipment, but to do something with them. Focusing on smaller maritime forces, this section employs Ken Booth's trinity of naval roles as its framework: military, diplomatic, and constabulary (or policing as he termed it in 1977).<sup>138</sup> For each of these roles, additional scholars who have produced specialized works on those issues will have those works incorporated into the discussion. Booth's trinity is chosen for the framework as it continues to be one regularly used and referenced in both academic and professional military education settings through to the present.<sup>139</sup> Although modifications to Booth's trinity have been made by some subsequent scholars such as Christian Le Mière, these have been relatively minor and the basic premise appears to have been accepted by scholars and navies from around the world since it was published in Booth's late 1970s *Navies and Foreign Policy*.<sup>140</sup> A navy's ability to fulfill each of these three functions (seapower outputs) thus forms the fundamental core of its existence, whereas the particular assets (seapower inputs) only affects the extent to which it fulfills those functions. Whether a navy needs to be able to perform all three military, diplomatic, and constabulary functions to some degree in order to be considered a navy is debatable. As the section below will highlight, however, scholars have made the case that the foundational function is the military one, and it is from the military function that the other two functions stem. From this logic, it would seem a navy can only be considered as such if, and only if, it has a military function. But what does the military function involve and how does it differ from the diplomatic and constabulary? The following sections will elucidate this from the perspective of smaller navies.

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<sup>138</sup> Booth, *Navies and Foreign Policy*, 16.

<sup>139</sup> For examples see the following: John B. Hattendorf, "Recent Thinking on the Theory of Naval Strategy," in *Maritime Strategy and the Balance of Power: Britain and America in the Twentieth Century*, eds. John B. Hattendorf and Robert S. Jordan (London: Palgrave Macmillan, 1989), 141; Directorate of Maritime Strategy, *Leadmark 2020*, 30-34, 93-100; Till, *Seapower*, 4<sup>th</sup> ed., 362; Royal Australian Navy, *Australian Maritime Doctrine: RAN Doctrine 1 2010*, 99-100.

<sup>140</sup> *Ibid.* and Till, *Seapower*, 4<sup>th</sup> ed., 362-363.

### 3.2.1 The Military Role

This discussion begins with the military role of naval forces. Eric Grove has noted that the military role is the one “for which most naval forces are primarily designed.”<sup>141</sup> Grove thus lends his support to Booth’s argument that “it is appropriate that the military role forms the base of the triangle, for the essence of navies is their military character. Actual or latent violence is their currency.”<sup>142</sup> But this currency can be spent in a number of different ways, and in two different contexts: peacetime versus wartime. In peace, navies can provide four following “balance of power” functions:

1. strategic nuclear deterrence: “the capability of project[ing] nuclear weapons against their enemies from the sea, and so also of withholding them to affect post-exchange bargaining.”<sup>143</sup>
2. conventional deterrence and defence: using non-nuclear weapons “to extend metropolitan defence (and possibly offensive potentialities) into adjoining sea areas, thereby raising the cost of any unwelcome maritime intrusion or interference.”<sup>144</sup>
3. extended deterrence and defence: “for the protection of one’s own nationals and state activities in distant areas, and for protective responsibilities for allies.”<sup>145</sup>
4. international order: either “to maintain order” or to “change the *status quo* by extending national claims, or challenging a naval monopoly.”<sup>146</sup>

Not all four of these basic naval peacetime functions directly apply to the smaller navies that are of this dissertation’s interest. Most obviously, Norway, Denmark, and Canada lack the naval nuclear

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<sup>141</sup> Grove, *The Future of Sea Power*, 233.

<sup>142</sup> Booth, *Navies and Foreign Policy*, 16.

<sup>143</sup> Booth, *Navies and Foreign Policy*, 21.

<sup>144</sup> Booth, *Navies and Foreign Policy*, 22.

<sup>145</sup> Booth, *Navies and Foreign Policy*, 22.

<sup>146</sup> Booth, *Navies and Foreign Policy*, 23.

weapons that that would merit their respective maritime forces possessing the strategic nuclear deterrence role. So, too, do most smaller navies around the world, with notable exceptions. Israel has been rumoured to have their undisclosed nuclear arsenal partially based on the cruise missiles in their conventionally-powered submarines, while Pakistan and North Korea both have ongoing efforts to establish their own underwater nuclear missile capability.<sup>147</sup> Generally speaking, then, the function of providing nuclear deterrence is the exception rather than the rule for the vast majority of navies. Nonetheless, such navies can still play a part within the nuclear context: for example, non-nuclear-armed navies can help protect allied nuclear-armed platforms or threaten the enemy's equivalent. As a result, the nuclear deterrent function cannot be automatically ignored even when looking at non-nuclear navies.

For the remaining three peacetime military functions, the ability of any given navy to fulfill them depends to a great extent on their ability to fulfil wartime roles. As Booth puts it, "However remote war might sometimes seem, it is from their fighting ability that warships have their ultimate significance."<sup>148</sup> Thus, a navy's utility in peacetime is shaped significantly by its wartime functions, which shape (if not drive) what assets that navy has to work with. By this logic, the types of ships in a navy, for example, are determined by that navy's expected role in wartime, rather than peacetime. Therefore, despite the many roles fulfilled by navies in peacetime, a discussion of their wartime roles must come first.

Booth saw six operational-level roles for navies in wartime, all of which fall under the umbrella term of "projection of force":

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<sup>147</sup> James Martin Center for Nonproliferation Studies, "Israel Submarine Capabilities," *Nuclear Threat Initiative*, October 16, 2019, <https://www.nti.org/analysis/articles/israel-submarine-capabilities/>; Ankit Panda, "Pakistan Conducts Second Test of Babur-3 Nuclear-Capable Submarine-Launched Cruise Missile," *The Diplomat*, April 1, 2018, <https://thediplomat.com/2018/04/pakistan-conducts-second-test-of-babur-3-nuclear-capable-submarine-launched-cruise-missile/>; Elizabeth Shim, "North Korea SLBM launch could happen soon, Seoul official says," *UPI*, September 17, 2020, [https://www.upi.com/Top\\_News/World-News/2020/09/16/North-Korea-SLBM-launch-could-happen-soon-Seoul-official-says/9601600262128/](https://www.upi.com/Top_News/World-News/2020/09/16/North-Korea-SLBM-launch-could-happen-soon-Seoul-official-says/9601600262128/).

<sup>148</sup> Booth, *Navies and Foreign Policy*, 24.

1. “To meet the level of challenge of whatever level is considered militarily and politically desirable.”<sup>149</sup>
2. “To challenge and prevent the enemy from using the sea for his own purposes.”
3. “To command the areas of sea required for allied or national use.”
4. “To use the seas for the transportation of men and supplies.”
5. “To use the sea for the projection of force against targets on land.”
6. “To support international peace-keeping operations.”<sup>150</sup>

While roles 2 through 5 are consistent with the notions of contesting and exercising sea control prevalent in the wider seapower literature (and which will be discussed in detail in Chapter 4’s coverage of the Sea Control concept), the remaining two are conceptually problematic in terms of how they relate to the others.<sup>151</sup> Role 1, for instance, might also be reworded as simply “to have the minimum ability to do what one wants to accomplish”. This is not a particularly useful statement. At best it serves as a reminder that naval forces *should* be structured and prepared to meet the objectives set forth by their political and military leaders, and at worst it is a claim that naval means *are* always rationally established for military and political ends. In either case, it is a statement of how navies relate to those in charge of them, not what role navies play in wartime. Role 6, meanwhile, received no further exposition by Booth, but may refer to navies’ ability to provide logistical support to peacekeeping troops on land or to enable interventions between parties with maritime forces. In either case, both are just specific examples of Role 4 (“to use the sea for the transportation of men and supplies”) and Role 2 (“prevent the enemy from using the sea”). While the notion of peacekeeping was relatively novel in terms of the seapower

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<sup>149</sup> Booth, *Navies and Foreign Policy*, 23.

<sup>150</sup> Booth, *Navies and Foreign Policy*, 24.

<sup>151</sup> See next chapter for details on conceptualizing sea control.

literature during Booth's time and thus worthy of inclusion in a book on navies, it is not apparent that it qualifies as a distinct naval role outside Roles 2 through 5.

Booth's use of the term "projection of force" to describe all those above wartime duties runs into some confusion within the context of the overall seapower literature. As noted in the first half of this chapter, many scholars and practitioners characterize power projection as being able to deploy (and, if necessary, employ) armed force far away from one's shores. This capability is often used as a metric to help rank navies' relative positioning. Smaller navies tend to be less capable of force/power projection than their larger brethren, focusing instead on defensive tasks closer to home. It is thus much more specific than the "projection of force" heading under which Booth put all his wartime objectives. A salient question becomes, how far away from its own land territory must a naval operation take place before it can be considered force projection? With the legitimization of the 200 NM EEZ, the maritime region that one may consider as part of local defence rather than force projection would certainly seem to be extended. In this regard, Michael Morris has an elegant response: "Since constabulary responsibilities are recognized in law out to the 200-mile limit and since these legitimise some coastal defence functions, force projection at sea in this new context refers most appropriately to naval operations beyond the EEZ."<sup>152</sup> In terms of seapower inputs, this creates a blurred line between forces designed for coastal defence versus force projection: any ship that can operate 200 NM away from the shoreline almost certainly has the hull size and endurance to operate beyond that and into the high seas or seas under other states' jurisdiction.<sup>153</sup> The distinguishing features, then, would fall down to the degree and scope of the force that can be brought to bear by that ship, but this runs into the problem of usage. The same anti-ship missile system that can deter or defend against an intruding enemy warship is the same missile that can be used to destroy ships defending another state's maritime boundary. With

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<sup>152</sup> Morris, *Expansion of Third World Navies*, 18.

<sup>153</sup> Morris, *Expansion of Third World Navies*, 18.

the expansion of the EEZ, the changes required for a navy to enable it to fully defend the entire extent of the 200 NM boundary would seem to lead to capabilities that are difficult to distinguish in terms of their suitability for defensive versus offensive sea control. How Norway, Denmark, and Canada have tried to tread this fine line will be discussed in depth in their respective empirical chapters, but it suffices to say for now that the large long-endurance hulls designed for EEZ work have indeed been deployed to areas well beyond the coastal state's domestic jurisdiction. Given the practical and logical problems with Booth's role 1 and role 6 for navies' wartime tasks, and the similarity between roles 2 through 5 with those generally considered under "sea control", it makes more sense to characterize Booth's wartime roles for navies under the general umbrella of "sea control" rather than "projection of force".

Whether sea control is applicable to peacetime will be detailed in the next chapter. In the meantime, it is necessary to discuss here as to what it is that small navies do in wartime since this forms the basis of their ability to provide credible deterrence in their peacetime military roles. To that end, and specifically due to the countries selected in this dissertation, Norwegian naval specialist Jacob Børreson's idea of "coastal power" will be discussed. He identified the following as a "coastal state": a "small or medium size state situated by the sea, but without the ability or the will to maintain a bluewater navy with the capacity to establish sea control outside its own local waters."<sup>154</sup> Most notably for this dissertation, he considers Norway, Denmark, and Canada as members of this group of coastal states.<sup>155</sup> In turn, the seapower possessed by such coastal states is called "coastal power".<sup>156</sup> Such coastal states are distinguished from "Naval Powers", such as the US, Russia, UK, and France, who do have the ability to establish sea control on the open ocean outside the reach of their shore-based

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<sup>154</sup> Jacob Børreson, "The Seapower of the Coastal State," in *Seapower: Theory and Practice*, ed. Geoffrey Till (Portland: Frank Cass, 1994), 148.

<sup>155</sup> Børreson, "Seapower of the Coastal State", 148.

<sup>156</sup> Børreson, "Seapower of the Coastal State", 150. It is uncertain whether Børreson considers coastal power to be potentially just one category of seapower that coastal states possess, or if coastal states possess *only* coastal power.

aviation and missile systems.<sup>157</sup> This characterization of “sea control” as a binary concept that one either can or cannot establish is not one that this dissertation will employ, though the details of this will be discussed in Chapter 4.

Utilizing Norway as his primary example, Børreson details the range of roles that a coastal state’s navy can play, though focused primarily on war and the armed forces’ role in averting it. In this regard, Børreson does not believe military victory is possible for coastal states due to their unfavourable balance of military power versus most prospective assailants, and thus the primary goals of their militaries are to prevent crises from escalating into war or to prevent an enemy from achieving victory to its fullest extent.<sup>158</sup> This approach is agnostic in terms of what that assailant’s military objective and political purpose may be, however, and takes a Jominian approach where military possibilities drive political desires and outcomes. But given the desire to outline a generalized “wartime” set of missions for coastal navies, it is understandable to assume the worst-case scenario that the coastal state may encounter in terms of an enemy attack and invasion.

For Børreson, coastal navies have two main tasks in wartime: anti-invasion and coastal control.<sup>159</sup> These are fundamentally defensive missions and Børreson apparently does not envision coastal states employing their navies as part of offensive operations (whether by itself or with allies) against another state’s territory. Anti-invasion is aimed at preventing or hindering enemy forces from successfully entering the state’s land territory (whether from the sea, air, or bordering land). Coastal control, meanwhile, is “the inshore/coastal waters equivalent of sea control” and is primarily directed at the “protection of inshore/coastal sea communications” – i.e. ensuring the secure movement and

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<sup>157</sup> Børreson, “Seapower of the Coastal State”, 149. This binary approach to the concept of sea control will be addressed more critically and challenged in the next chapter.

<sup>158</sup> Børreson, “Seapower of the Coastal State”, 151-152.

<sup>159</sup> Børreson, “Seapower of the Coastal State”, 164.



transport of personnel and equipment along the coast.<sup>160</sup> These two tasks share many of the same tactical elements, though the relative emphasis may change depending on the country's geostrategic situation. For example, Norway's long and mountainous coastal territory with only a sliver of land bordering its Soviet Cold War opponent requires a greater anti-invasion role for its navy than Denmark, whose relatively flat land border with Germany offers a far more attractive avenue of approach for an invasion force such as the Red Army than an amphibious landing on the Baltic coast.<sup>161</sup>

Regardless of the specific wartime defensive task, coastal navies would have to leverage their comparative advantage versus the invaders' naval forces. Such advantages include short supply lines to bases, shore-based artillery, small fast attack craft that can strike from the cover provided by coastal terrain, and ports or prime landing spots for enemy forces that have been pre-identified and blocked off using minelayers.<sup>162</sup> More importantly, while the defenders are likely to have spent the majority of sea time becoming familiar with the many fjords, islands, and rocks that dominate the coastline, the attackers on the invading fleet would not. In a potentially information-limited environment (such as if satellite navigation systems are unavailable or if radar emissions are not permitted to avoid giving one's position), such familiarity gained through the navigator's own experience with their "eyes, ears, and 'spine'" will prove key to maximizing the coastal navy's success against the invading navy.<sup>163</sup> Operations against the invading fleet need not be limited to the immediate coastal area, with submarines in a coastal navy being the primary naval weapon to "bring the war" to the invasion fleet in international waters long before they are in a position to land troops.<sup>164</sup>

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<sup>160</sup> Børreson, "Seapower of the Coastal State", 164.

<sup>161</sup> Børreson, "Seapower of the Coastal State", 156.

<sup>162</sup> Børreson, "Seapower of the Coastal State", 165-166.

<sup>163</sup> Børreson, "Seapower of the Coastal State", 166-167.

<sup>164</sup> Børreson, "Seapower of the Coastal State", 165.

But coastal navies function in crisis and peacetime operations as well. Børreson has separate sections for these, but some of their associated missions fall under both crisis and peacetime categories, such as the maintenance of jurisdiction and sovereignty in coastal and offshore waters.<sup>165</sup> In contrast to those who use Booth's trinity of naval roles, Børreson does not distinguish crisis and peacetime operations into military, diplomatic, and constabulary. While the aforementioned discussion of wartime tasks fall neatly into the military role, Børreson's discussion of crisis and peacetime tasks mix all three Booth roles. These include maintaining reliable surveillance of the maritime domain, reinforcing threatened areas, participating in out-of-area alliance operations to help "contain" crises before they can "upset the stability in its own region", and having the ability to repel illegal fishing activity.<sup>166</sup> The latter two of these, are respectively identifiable as diplomatic and constabulary tasks, and will be discussed in detail in the following sections on naval diplomacy and constabulary functions.

To sum up the military roles of coastal navies, two functions can be identified. Firstly, they should use the comparative advantages provided by deep familiarity with home terrain to deter or prevent an invasion force from reaching land. Secondly, they should maintain control of the coastal sea to ensure secure lanes of communications to allow for army and civilian maneuver during times of war and crisis. While Børreson argues that smaller coastal navies cannot seek to pursue some of the strategies identified by Mahan and Corbett for large navies, such as total nullification of the enemy fleet to establish command of the seas or an offensive amphibious assault against the opponent's homeland, the essence of controlling waters and focusing one's targeting on invasion troops are similar. As the strategic studies literature is fond of repeating, there is an enduring nature and changing character to conflict, and this applies at sea as much as it does to war writ large. In terms of the seapower inputs required for such military roles, a combination of fast attack craft, sea mines, and submarines supported

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<sup>165</sup> Børreson, "Seapower of the Coastal State", 168-169.

<sup>166</sup> Børreson, "Seapower of the Coastal State", 168-169.

by coastal artillery and aircraft are seen to be the optimal use of the limited financial and personnel resources available to the coastal navy. How this dissertation's three case studies balance Børreson's observations/recommendations on the exact features of these inputs will be discussed in much greater detail in the later empirical chapters, but for now, the diplomatic function of navies will be discussed.

### 3.2.2 The Diplomatic Role

"100,000 tons of diplomacy" is an oft-repeated phrase to describe the United States' fleet of nuclear-powered aircraft carriers.<sup>167</sup> Certainly, the passage of a carrier near the coasts of friend or foe almost always guarantees local media attention and the occasional local government press release either praising or damning its presence.<sup>168</sup> But what is naval diplomacy? Is it merely sailing a grey-painted hull near another country with some vague hope that its presence would change the opponent's behaviour?

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<sup>167</sup> The phrase and its variations appear in news media, defence industry public relations, and US Navy public relations. Examples include the following: Matthew Bodner, "US rolls '100K tons of international diplomacy' into the Med. Will Russia get the message?" *Defense News*, April 26, 2019, <https://www.defensenews.com/digital-show-dailies/navy-league/2019/04/26/us-rolls-100k-tons-of-international-diplomacy-into-the-med-will-russia-get-the-message/>; Huntington Ingalls Industries, "This is what 100,000 tons of diplomacy looks like. LIKE if you're excited about America's next-generation aircraft carrier USS Gerald R. Ford – CVN 78!" Facebook, April 18, 2014, <https://www.facebook.com/HuntingtonIngallsIndustries/posts/this-is-what-100000-tons-of-diplomacy-looks-like-like-if-youre-excited-about-ame/735898336454981/>; Victor Chen, "3 Reasons to Like the New Way to Launch Stuff Off 100,000 Tons of Diplomacy," *Naval History and Heritage Command*, July 12, 2015, <https://usnhistory.navylive.dodlive.mil/2015/07/12/3-reasons-to-like-the-new-way-to-launch-stuff-off-100000-tons-of-diplomacy/>;

<sup>168</sup> Elizabeth Shim, "China issues warning following U.S. aircraft carrier drills," *UPI*, July 6, 2020, [https://www.upi.com/Top\\_News/World-News/2020/07/06/China-issues-warning-following-US-aircraft-carrier-drills/9421594040684/](https://www.upi.com/Top_News/World-News/2020/07/06/China-issues-warning-following-US-aircraft-carrier-drills/9421594040684/); Michael MacDonald, "Massive U.S. aircraft carrier arrives in Halifax for Canada Day celebration," *CTV News*, June 28, 2017, <https://atlantic.ctvnews.ca/massive-u-s-aircraft-carrier-arrives-in-halifax-for-canada-day-celebration-1.3480050>; Brett Ruskin, "British aircraft carrier to visit port of Halifax this month," *CBC News*, September 4, 2019, <https://www.cbc.ca/news/canada/nova-scotia/aircraft-carrier-port-halifax-hms-queen-elizabeth-1.5269584>; Gunnar R. Larsen, "Nato sender to hangarskip til kysten av Nord-Norge," *ABC Nyheter*, January 13, 2022, <https://www.abcnyheter.no/nyheter/norge/2022/01/13/195817149/nato-sender-to-hangarskip-til-kysten-av-nord-norge>; Sunniva Berggreen Kaalaas, "Amerikansk gigantskip til Tromsø," *Forsvaretsforum*, April 11, 2022, <https://forsvaretsforum.no/amfibiekrigsskip-hangarskip-nord-norge/amerikansk-gigantskip-til-tromso/260376>; Per Erlien Dalløkken, "Britisk hangarskip til Norge for første gang – mens amerikanerne og deres norske eskorte holdes nærmere krigen," *Teknisk Ukeblad*, March 10, 2022, <https://www.tu.no/artikler/britisk-hangarskip-til-norge-for-forste-gang-mens-amerikanerne-og-deres-norske-eskorte-holdes-naermere-krigen/517946>; Philippe Rater and Shaun Tandon, "Arab leaders voice alarm at tensions between Iran and US" in *The Australian*, September 24, 2020, <https://www.theaustralian.com.au/world/arab-leaders-voice-alarm-at-tensions-between-iran-and-us/news-story/9eea7a0f5c32ce49e4f66c110afa3081>.

Or does it require some tangible, physical action, aimed at attaining a clearly-defined objective and outcome? Or is it about sending messages, where each communique is expressed in the language of naval force but read by audiences with their own unique subjective interpretations? This section addresses each of these questions starting with Booth's notion of naval diplomacy as articulated in both *Navies and Foreign Policy* and his 1985 *Law, Force, and Diplomacy at Sea*, followed by three other key authors' works to provide more detailed perspectives: James Cable's classic 1971 *Gunboat Diplomacy*, Edward Luttwak's 1975 *The Political Uses of Sea Power*, and Kevin Rowlands' 2019 *Naval Diplomacy in the 21<sup>st</sup> Century*.<sup>169</sup>

In Booth's trinity of naval functions, diplomacy is distinguished from the military function by virtue of its non-use of force. In his own words, the "diplomatic role of navies is concerned with the management of foreign policy short of the actual employment of force."<sup>170</sup> Force may be implied or threatened, but it is never actually employed if an action or operation is to remain one of diplomacy.<sup>171</sup> As noted by Eric Grove, this contrasts with James Cable's construction of the naval diplomacy concept, where the use of force (violence) is actually central to at least two of his four forms of naval diplomacy.<sup>172</sup> Booth's contemporary, Edward Luttwak, similarly acknowledges the role of limited violent force in the political uses of naval power.<sup>173</sup> Nonetheless, limiting his analysis to purely non-violent measures, Booth's naval diplomacy is thus divided into the following framework of three primary aims: Negotiation from Strength, Manipulation, and Prestige.

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<sup>169</sup> James Cable, *Gunboat Diplomacy: Political Applications of Limited Naval Force* (London: Macmillan Press, 1971); Edward Luttwak, *The Political Uses of Sea Power* (Baltimore: The Johns Hopkins University Press, 1974); Kevin Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century: A Model for the Post-Cold War Global Order* (London: Routledge, 2019).

<sup>170</sup> Booth, *Navies and Foreign Policy*, 16.

<sup>171</sup> Booth, *Navies and Foreign Policy*, 28.

<sup>172</sup> Eric Grove, *The Future of Sea Power*, 194.

<sup>173</sup> Luttwak, *The Political Uses of Sea Power*, 8.

In regards to Negotiation from Strength, Booth's predominant interest here is in the support role. Although naval diplomacy can "threaten force from the sea to support policy", six of its nine different forms are to "reassure and strengthen" allies and friendly governments.<sup>174</sup> This is not to say that most instances of naval diplomacy are benign operations intended to give allies confidence, but only that in Booth's view, there are many more variations of naval diplomatic activities which are supportive of international partners than activities aimed at coercing an opponent. This form of naval diplomacy emphasizes actions "with a degree of implicit or explicit coercion" in support of friendly governments or to threaten opponents.<sup>175</sup> Booth is unclear, however, as to how the "Negotiation from Strength" aim of naval diplomacy differs from his "Manipulation" aim. For example, the subsidiary policy objective of "manipulate bargaining positions within an alliance" that Booth puts under the Manipulation aim appears at best a specific form of the "Improve bargaining strength" objective that was under "Negotiation from Strength". This seems to reflect the challenges in categorizing different forms of naval diplomacy at the policy level. Booth's own dedicated chapter on Naval Diplomacy actually avoids engaging with the very framework of diplomatic "aims and subsidiary policy objectives" he laid out above.<sup>176</sup> Rather, after discussing the challenges in defining "power" and "influence" and the characteristics of naval forces as diplomatic instruments, he goes into the "tactical" manifestations of naval diplomacy. These are five in number, as follows:

"Standing demonstrations of naval power": "threatening ultimately" the use of naval force at or from the sea on a relatively chronic basis;

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<sup>174</sup> Booth, *Navies and Foreign Policy*, 18-19.

<sup>175</sup> Booth, *Navies and Foreign Policy*, 19.

<sup>176</sup> Booth, *Navies and Foreign Policy*, 26-47.

“Specific operational deployments”: similar to previous, but on a more situationally-specific and acute basis in response to or to initiate specific engagements; it is “deliberate, determined, and active”;

“Naval aid”: the sale or gift of warships as well as provisions of supporting activities such as naval advisers, mine-clearing, or salvage work;

“Operational calls”: rest and replenishment port visits by a warship on its way to or as part of general operations in an area – influencing the country in which the visit takes place is not the primary purpose of the ship’s mission in the region, but the opportunity will nonetheless be taken to maximize that influence through such activities as entertaining politicians;

“Specific goodwill visits”: similar to operational calls, but the choice of port and the subsequent activities are selected to prioritize political objectives, rather than operational ones.<sup>177</sup>

These five tactics are interrelated, but can be generally split into two overall variants: the first two are what Booth calls “naval power politics”, while the latter three are “naval influence politics”.<sup>178</sup> The difference between these two is that “power politics” involve a coercive element (threat of deprivation), whereas “influence politics” operate through more benign “promises or grants of benefits.”<sup>179</sup> This borrows from the ideas that Edward Luttwak outlined in his 1974 *The Political Uses of Sea Power*, particularly the notion of that naval diplomacy (or what he calls “naval suasion”) operates in two dimensions. The first ranges from latent to active, which characterizes the extent to which an act of suasion is “routine and/or undirected” versus “deliberate”. The second dimension, called “mode”,

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<sup>177</sup> Booth, *Navies and Foreign Policy*, 41-44.

<sup>178</sup> Booth, *Navies and Foreign Policy*, 27, 40

<sup>179</sup> Booth, *Navies and Foreign Policy*, 27, 40.

describes whether the act of suasion is being used to support or coerce the target.<sup>180</sup> Booth's "influence politics" correlates with Luttwak's support, while "power politics" takes the place of coercion. Booth's "Standing demonstrations", meanwhile, match nicely with Luttwak's "latent" naval suasion, while "Specific operational deployments" is consistent with Luttwak's "active" naval suasion.<sup>181</sup> Booth's novelty lies in, then, the inclusion of port visits as a significant tactical component of naval diplomacy. Seapower is not just about what ships do at sea, but also how they engage with the terrestrial realm. In wartime, that includes land-attack missiles or naval gunfire bombardment, but in peacetime contests for influence, it takes place in the pomp and ceremony of an intimate wardroom dinner or bustling gala on a helicopter deck.

But Luttwak's two dimensions are each described in binary terms: latent/active, and support/coerce. There is no conceptual room for the range of activities that may fall under those terms. For instance, both of the following scenarios would fall comfortably under the "active support" quadrant of Luttwak's naval diplomacy: Denmark deploying a frigate with a US aircraft carrier strike group in order to secure goodwill from the Americans in the event of future need, and Denmark sending that same frigate to Syria to help remove that country's stockpile of chemical weapons under United Nations authority in order to bolster Denmark's status in the international community.<sup>182</sup> Despite being both active and supportive, it is clear these two examples of naval diplomacy manifest have widely different characteristics. The former involves augmenting the combat power of an ally's military to the extent that use of extreme force may be required, while the latter is a leadership role supporting an

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<sup>180</sup> Luttwak, *The Political Uses of Sea Power*, 7

<sup>181</sup> Luttwak, *The Political Uses of Sea Power*, 7.

<sup>182</sup> Forsvarsministeriet, "Danish frigate Peter Willemoes deployed to US Carrier Strike Group," *Danish Ministry of Defence*, February 13, 2017, <https://fmn.dk/en/news/engelsk---migreret/danish-frigate-peter-willemoes-deployed-to-us-carrier-strike-group/>; Forsvarsministeriet, "Denmark and Norway offer to transport chemical weapons out of Syria," *Danish Ministry of Defence*, December 6, 2013, <https://fmn.dk/en/news/english/denmark-and-norway-offer-to-transport-chemical-weapons-out-of-syria/>.

acquiescent state's willingness to be disarmed through an international organization's framework and where naval combat is not expected.<sup>183</sup>

One way to help understand the spectrum of naval diplomatic actions beyond merely the binary is to employ James Cable's four categories of naval diplomacy, which he defines as "the use or threat of limited naval force...in the furtherance of an international dispute or else against foreign nationals within the territory or the jurisdiction of their own state".<sup>184</sup> Cable confines his discussion of naval diplomacy only to those actions taken under the authority of a state against "foreigners." The use of naval forces for domestic repression or by non-state groups are outside the scope of his case studies, though this does not necessarily mean the theoretic conclusions he derives from those case studies are inapplicable to domestic or non-state uses of naval force.<sup>185</sup> For consistency of language, Cable uses the term "assailant" for the user of limited naval force, and "victim" for those on the receiving end. Based on his historical studies, Cable identified four categories for naval diplomacy, which can be distinguished from each other by how directly they relate to addressing a dispute. In descending order, they are as follows:

Definitive Force: the use of limited naval force to remove the cause of dispute, creating a *fait accompli* that the victim cannot directly reverse;<sup>186</sup>

Purposive Force: the use or threat of limited naval force to induce the victim to *choose* to behave in a way desired by the assailant;<sup>187</sup>

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<sup>183</sup> The Syrian Arab Republic's willingness to have its chemical weapons removed is demonstrated by its accession to the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction on September 14, 2013. This was followed by Syria's invitation to receive technicians from the Organization for the Prohibitions of Chemical Weapons. United Nations Security Council, "Resolution 2118 (2013)," *United Nations*, September 27, 2013, 5-6.

<sup>184</sup> Cable, *Gunboat Diplomacy*, 21.

<sup>185</sup> Cable, *Gunboat Diplomacy*, 15-16.

<sup>186</sup> Cable, *Gunboat Diplomacy*, 39-40.

<sup>187</sup> Cable, *Gunboat Diplomacy*, 40.



Catalytic Force: the deployment of limited naval force in preparation for or expectation of opportunities to achieve as-yet unspecified (or underspecified) objectives;<sup>188</sup>

Expressive Force: the deployment of limited naval force to “emphasize attitudes, to lend verisimilitude to otherwise unconvincing statements or to provide an outlet for emotion.”<sup>189</sup>

Cable’s four forms of naval force have an understated hierarchical nature to them. As one goes down the four forms, the role of naval forces becomes less clear in terms of their ability to achieve specified objectives. By the level of “expressive force”, “[a]mbiguity is a recurrent feature”<sup>190</sup>, which is perhaps one of the greatest strengths of navies in their diplomatic role. The presence of warships can be, as Luttwak laid out, switched from latent to active modes of suasion with minimal effort. It is this ease which then allows the four forms of naval diplomacy to operate in relation to each other. A deployment of ships in accordance with the catalytic mode may then be used in purposive or definitive ways to fully capitalize upon a suitable moment.

The efficacy of such naval diplomatic actions is highly dependent on how they are perceived, however. Although Cable’s work acknowledged the importance of perception (a victim’s perception of an act of naval diplomacy determines whether they choose to interpret it as an act of war), Edward Luttwak goes into further detail and treats it as a dedicated topic. Luttwak’s theory was thus innovative in explicitly incorporating perception, echoing the increasing awareness within conventional and nuclear deterrence literature at the time on the importance of psychology.<sup>191</sup> He recognizes that the ability to influence behaviour and events only works to the extent that the opponent perceives themselves to be vulnerable to that influence attempt. As such, the efficacy of every act of maritime suasion depends on

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<sup>188</sup> Cable, *Gunboat Diplomacy*, 49-63.

<sup>189</sup> Cable, *Gunboat Diplomacy*, 63.

<sup>190</sup> Cable, *Gunboat Diplomacy*, 63.

<sup>191</sup> One of the most famous and enduring works reflecting this recognition was and continues to be Robert Jervis, *Perception and Misperception in International Politics* (Princeton: Princeton University Press, 1976).

the particular context in which it takes place. There can be no universally-applicable theory of seapower that can wholly determine the constituents of successful influence. The deployment of equivalently-strengthened naval forces (seapower inputs) in a show of naval diplomacy in two separate scenarios may not result in the same outcome, as the opponent may not perceive as credible the wielder's willingness to follow through with a firm commitment.

The point can be illustrated using a large navy for the sake of obvious comprehension. Luttwak highlights the successful deployment of the battleship USS *Missouri* and the USS *Franklin D. Roosevelt* carrier group in 1946 to Turkey during a time when the Soviet Union was pressuring the Turkish government to renegotiate the status of the Turkish Straits set out in the 1936 Montreux Convention.<sup>192</sup> Following these two high-profile naval visits (*Missouri* was the ship on which the Japanese surrender had been signed and was tasked with carrying the deceased body of the Turkish ambassador to the United States to Istanbul on this trip), the Soviet efforts "petered out".<sup>193</sup> Luttwak argues this was due to the Soviets' perception that the Americans saw the legal regime governing the Turkish Straits as a core national interest and that the naval deployments symbolized President Truman's willingness to commit further forces should that arrangement be violated. He notes that although these naval forces on their own contributed negligibly to balance of forces in the region, they nonetheless symbolized the promise of further American military forces that would drastically alter that balance.<sup>194</sup> The two naval deployments, to use Luttwak's naval diplomacy framework, operated as active suasion that sought to both support a friendly government (Turkey) and deter an opponent (the Soviets). Tactically, they were what Booth considers "Specific operational deployments" and "Specific goodwill visits" (the latter being particularly embodied in *Missouri's* visit to Istanbul). Counterfactually, Luttwak notes the deployment of

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<sup>192</sup> Luttwak, *The Political Uses of Sea Power*, 31-34.

<sup>193</sup> Luttwak, *The Political Uses of Sea Power*, 31-34.

<sup>194</sup> Luttwak, *The Political Uses of Sea Power*, 31-34.

these same ships to Seoul in 1949 would have been unlikely to deter the North Korean invasion the following year. This is because the general perception at the time was that if the United States did not see the communist takeover of China as being worth fighting against, it seemed unlikely they would come to the aid of South Korea.<sup>195</sup>

The reliance on perception creates a methodological challenge in determining whether an outcome associated with an act of naval diplomacy was truly causal. Short of a key decision maker specifying a particular naval diplomatic action as the reason for their change (or continuation) of policy, it is not easy to employ naval diplomacy as part of a hypothesis in a research design. The greatest complication in this respect is arguably Booth's notion that "the promotion of a country's prestige" is one final major diplomatic aim of naval forces. But what makes a naval force prestigious is unspecified: what elements of a naval ship(s) contributes to or detracts from that prestige? Recently, much attention has been given to the high levels of visible wear and tear on the US Navy's warships, with some claiming they are to the detriment of the USN's diplomatic objectives.<sup>196</sup> Does a sharp coat of paint have greater prestige, and by extension diplomatic influence, than the dozens of missiles and gun ammunition on board one of these ships? Luttwak noted the potential for capability misperception in a comparison of Soviet versus American warships. The former had more visible weaponry than the latter and thus appear more impressive to the nonexpert audience.<sup>197</sup> This, arguably, makes basic aesthetics like absence of rust even more important, since a nonexpert may lack the knowledge to judge a vessel's worth by any

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<sup>195</sup> Luttwak, *The Political Uses of Sea Power*, 34-35.

<sup>196</sup> Christopher P. Cavas, "The Rust Dialogues Part III: The Drift, Vol. XXXIV," *Defense News*, July 6, 2019, <https://www.defensenews.com/naval/the-drift/2019/07/06/the-rust-dialogues-part-iii-the-drift-vol-xxxiv/>; David B. Larter, "A top US Navy engineer says the fleet needs to get out and bust the rust," *Defense News*, June 30, 2019, <https://www.defensenews.com/naval/2019/06/30/a-top-us-navy-engineer-says-the-fleet-needs-to-get-out-and-bust-the-rust/>; Kyle Mizokami, "Rust: The U.S. Navy's \$3 Billion-a-Year Oxidation Problem," *Popular Mechanics*, January 15, 2020, <https://www.popularmechanics.com/military/navy-ships/a30522792/navy-fighting-rust/>.

<sup>197</sup> Luttwak, *The Political Uses of Sea Power*, 42-43. See also page 47 for a discussion on why modern complex warships may be less useful than older vessels with less advanced, but more visible, armaments for diplomatic efforts aimed at lesser developed countries.

other measure. From a policy perspective, one might surmise that there is no harm to ensuring one's ships are maintained at as high a level of aesthetic maintenance as possible, but it does come at a cost whether in terms of time from sailors or significant investments in new rust-monitoring technologies.<sup>198</sup> Nonetheless, depending on the audience that one wishes to influence, appearances may well have greater impact than the technical specifications of a ship's fighting capability.

In influencing an audience, communication is key. Indeed, communicating a message is "always" the reason behind naval diplomacy, argues Kevin Rowlands' 2019 *Naval Diplomacy in the 21<sup>st</sup> Century*.<sup>199</sup> Arguing that the "'assailant-victim' models of naval diplomacy are simply not appropriate in the 21<sup>st</sup> century"<sup>200</sup>, Rowlands leverages the works of communications scholars to propose a three-part "foundational model" for understanding the purpose of any naval diplomatic scenario. These three parts, which can also be conceived of as dimensions, are understood in three simple words: What, How, and Who. The "What?" refers to "what message is being communicated". Any given incident of naval diplomacy has a message that falls into either or both of two broad categories, enmity and amity. These two categories then comprise of a number of effects, such as coercion and deterrence under the enmity category, and reassurance and assistance under amity. This notion that naval diplomacy can take on both hostile and friendly forms is similar to Luttwak's own contribution to the literature in his day with his introduction of the support versus coerce dimension. In regards to the "How", Rowlands is referring the tactics by which the "What" message is delivered and are borrowed from Joseph Nye's spectrum of soft and hard power.<sup>201</sup> They range from the occupation of territory on the hard end to the paying of goodwill visits on the soft. In some ways, the "How" is similar to James Cable's conception of naval diplomacy in that Cable's categories also spanned a spectrum that described the degree of force

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<sup>198</sup> Patrick Tucker, "US Navy Turns to Drones, AI to Monitor Rust," *Defense One*, August 27, 2020, <https://www.defenseone.com/technology/2020/08/us-navy-turns-drones-ai-monitor-rust/168036/>.

<sup>199</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 96.

<sup>200</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 123.

<sup>201</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 107.

employed, though Rowland argues his conception avoids Cable's emphasis on "assailant's intent as the referent object."<sup>202</sup> For Rowland, perhaps the most interesting "referent object" in naval diplomacy is the audience, or the "Who". Rather than merely a matter between the assailant and the victim, naval diplomacy may well involve a multitude of observers beyond the immediate user and recipient of the naval diplomacy tactic. Informed by the development of stakeholder theory from the business world, Rowlands establishes three tiers of audiences for naval diplomacy: Primary, Secondary, and Tertiary. Which actors fall within these tiers tend to be difficult to identify and "is always a subjective and inaccurate science".<sup>203</sup> For any given naval diplomatic incident, different actors need to be considered in order to assess the primary purpose behind it. While states are a traditional audience, international organizations like the United Nations or domestic populaces and even non-governmental organizations can often fall in one or more of these audience tiers. This broadened conception of who may be audiences in naval diplomacy opens up increased possibilities for involving smaller navies and even non-governmental maritime organizations such as Greenpeace. As Rowland puts it, "Naval diplomacy is not the sole preserve of the blue-water military navy."<sup>204</sup>

With the majority of the world's oceans remaining a commons as far as military transit is concerned, navies have long been noted by seapower scholars for their ability to enter and withdraw from an area of interest without having to worry about jurisdictional limitations by other countries. This allows navies to send messages by making their presence known, though this always requires the intended observers to take notice. Such naval diplomacy have been conducted to convey vastly different messages, in widely different ways, and to a kaleidoscopic array of audiences. Whether those messages are interpreted accurately by the audience can never be guaranteed, but establishing scholarly

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<sup>202</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 108.

<sup>203</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 104.

<sup>204</sup> Rowlands, *Naval Diplomacy in the 21<sup>st</sup> Century*, 104, 106.

frameworks for considering what, how, and to whom those messages may be sent can help consider possible outcomes.

But while all navies can carry out naval diplomacy, they cannot all conduct them to the full extent of those three elements. Not all navies can carry out territorial occupation or the destruction of targets deep inland, for example, which are options that are generally taken for granted by larger, more well-funded navies. Smaller states may also lack the ambition and interest to convey certain naval diplomatic messages, such as assuring another state of its military support because it may have an isolationist foreign policy. Meanwhile, being able to identify and account for potential interpretations by the whole array of audiences would also likely require a high level of professional military education and bureaucratic support that might be found in only larger and better funded countries. Thus, much as with the constraints faced by smaller navies compared to their larger counterparts when it comes to their military function, smaller navies are also restricted in the scope and types of naval diplomacy they may be able to pursue and achieve. The military and diplomatic roles are closely related in this sense. For example, large countries can use individual warships as symbols for commitment of overall national power. Luttwak's case of the *Missouri's* 1946 visit to Istanbul showed this well, where although the battleship did not seriously alter the local balance of power, it symbolized the might of the entire United States and thus a firm message of commitment and support to Turkey and against the Soviet Union.<sup>205</sup> But smaller powers lack that aggregate national power, so the symbolic power of their ships are dramatically less. In a more technical example, smaller navies may also lack the hardware capabilities to figure out the "truth" of an opponent's military capabilities (such as via advance electronic support measures), which complicates balance of power calculus that is so essential to certain diplomatic scenarios. Those calculations become dependent on what the smaller country's Great Power partners

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<sup>205</sup> Luttwak, *The Political Uses of Sea Power*, 31-33.

are willing to divulge.<sup>206</sup> A possible outcome of such a relationship is a military dependence by the smaller state on the larger, which then shapes their bilateral political relationship. However, as will be seen in Chapter 6 on Norway's naval role on the NATO frontlines, geography can turn this relationship to the benefit of the smaller state. Norway's position adjacent to the Soviet Union's Northern Fleet made it a valuable contributor to NATO's intelligence needs while its geography provided unique opportunities for hosting NATO naval forces. Despite their small sizes, both Norway and Denmark have also been successful in developing a boutique military industrial complex that has seen recent successes in arms sales to NATO allies, echoing Booth's observation that naval aid is one manifestation of naval diplomacy. For now, however, the discussion will turn to that third leg of Booth's trinity: the constabulary role of navies.

### *3.2.3 The Constabulary Role*

Coming to the last side of Booth's trinity, this review of naval roles arrives at the constabulary function. Perhaps ironically, this will be the shortest section of the three functions despite the constabulary function being the most obviously salient one to the issue of seapower in the Exclusive Economic Zone. This is due to the limited literature on the topic, which never acquired the in-depth interest received by the other two roles even during the Cold War height of naval study. With this in mind, the following works will be the focus of this section, as they directly speak to the potential influence of the Exclusive Economic Zone on the naval activities of coastal states: Ken Booth's 1985 *Law, Force and Diplomacy at Sea*, and the earlier discussed *Expansion of Third World Navies* by Michael Morris and Jacob Børreson's "Sea Power of the Coastal State". But to introduce the topic of constabulary naval roles, Booth's notion of it in his 1977 *Navies and Foreign Policy* will provide the starting point.

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<sup>206</sup> Luttwak, *The Political Uses of Sea Power*, 42.

Booth's 1977 conception of the constabulary role saw it as consisting of two main aims: "Coastguard responsibilities" and "Nation-building".<sup>207</sup> The former, which Booth saw as "by far the most important" of the two, included the objectives of "Sovereignty", "Resource enjoyment", and "Maintenance of good order".<sup>208</sup> Meanwhile, nation-building meant "Contribut[ing] to internal stability" and "Contribut[ing] to internal development."<sup>209</sup> At this time, Booth considered the constabulary role as mainly taking place in territorial waters, with only limited "external implications" and can be carried out by a navy, a separate maritime service, or jointly.<sup>210</sup> That said, he recognized the increased acceptance by scholars that the growing importance of coastal zones and the "the expanding definition" thereof have resulted in a "reorientation" of certain countries' navies, including Canada's. This had been accompanied by "relevant planning and training for low-level confrontation."<sup>211</sup> Smaller navies receive some attention here, with Booth noting that "the newest of countries" in possession of a coastline "are especially sensitive about their sovereignty, and they will provide themselves with at least a few patrol boats."<sup>212</sup> But the bulk of Booth's attention on the constabulary role is on that second main aim of nation-building. He notes how even navies, despite their influence being limited to the shoreline, still frequently contribute to the internal security of the state, otherwise known as "aid to the civil power." This can manifest in such forms as patrolling rivers for guerillas or enforcing a coastal blockade during crises or civil wars. But "nation-building" can also operate at a more benign level, with warships serving to "symbolise national identity and independence" and armed forces serving a "socialising" role to "foster national rather than regional or sub-national consciousness."<sup>213</sup> Booth admits, however, that navies are at a relative disadvantage in this regard for most countries compared to their army or air

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<sup>207</sup> Booth, *Navies and Foreign Policy*, 17.

<sup>208</sup> Booth, *Navies and Foreign Policy*, 17.

<sup>209</sup> Booth, *Navies and Foreign Policy*, 17.

<sup>210</sup> Booth, *Navies and Foreign Policy*, 17.

<sup>211</sup> Booth, *Navies and Foreign Policy*, 265.

<sup>212</sup> Booth, *Navies and Foreign Policy*, 266.

<sup>213</sup> Booth, *Navies and Foreign Policy*, 267.



force brethren, seeing as warships cannot “parade through or fly over the national capital”. That being said, this dynamic may change for countries with large numbers of communities accessible only by water where the navy can play a much greater daily role.<sup>214</sup> Booth highlights the Philippines, where their Naval Construction Force helps build schools, bridges, and roads. And in both developing and developed countries, navies assist in disaster relief.<sup>215</sup> But while Booth discusses smaller navies and their constabulary roles, the emphasis is on those of the developing world and even there they receive a smattering of sentences out of the entire book, which focused more on foreign relations and the role of naval diplomacy.

Such constabulary concerns, especially those coastguard aims of “Sovereignty”, “Resource enjoyment”, and “Maintenance of good order”, gain greater attention in Booth’s 1985 *Law, Force, and Diplomacy at Sea*. This volume emphasizes the interrelationship between naval strategy and the implications of the 1982 United Nations Convention on the Law of the Sea (UNCLOS III).<sup>216</sup> But by his own admission, the book is concerned primarily with “the problems and prospects for the major naval powers”, with naval powers being those interested in sending warships “some distance from their own coastlines, and not simply in contiguous waters.”<sup>217</sup> Somewhat curiously, Booth does not discuss the role of navies in the UNCLOS III context via the terms “policing” or “constabulary”, preferring instead to refer to naval activities by the terms describing those other two sides of his trinity, military and diplomatic.<sup>218</sup> This appears to reflect his concern with “major naval powers” and the military and diplomatic functions innate to warships on long-range deployments, the mobility of which Booth expects to be threatened due to the “creeping jurisdiction” over or “territorialization” of the oceans by coastal states as enshrined

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<sup>214</sup> Booth, *Navies and Foreign Policy*, 267.

<sup>215</sup> Booth, *Navies and Foreign Policy*, 268.

<sup>216</sup> Booth, *Law, Force, and Diplomacy*, 7.

<sup>217</sup> Booth, *Law, Force, and Diplomacy*, 9.

<sup>218</sup> Booth does reference his previous *Navies and Foreign Policy* volume, and now uses “constabulary” rather than “policing” for that term. Booth, *Law, Force, and Diplomacy*, 45.

by UNCLOS III.<sup>219</sup> Booth sees little reason to expect this extension of state sovereign rights into the high seas to stop either in geographic extent or types of rights, citing an argument made by Lewis Alexander that pollution-prevention regulations may eventually result in the prohibition of nuclear-powered vessels in a country's EEZ.<sup>220</sup> Although UNCLOS separately safeguards the navigational freedom of warships in zones of national jurisdiction, these measures "appear less than impressive when measured against the exclusive rights accorded to the coastal State."<sup>221</sup> In other words, writing in 1985, it was not clear to Booth and other scholars as to which would win should they clash: measures taken by coastal states to enforce their exclusive right to managing and exploiting their maritime resources out to 200 NM, or a warship's right to transit freely in those waters. But even if state practice and international customary law eventually fell on the side of the former, the coastal state would still need some ability to enforce their jurisdiction over those intruding warships. Booth stops short of exploring the coastal state's strategic and tactical options in this regard except to provide occasional examples where coastal states (e.g. Norway and Sweden) attempted to eject warships (e.g. Soviet submarines) intruding in their territorial waters. Instead, the focus of discussion was on why major naval powers would carry out such incursions.<sup>222</sup> He does briefly mention fisheries and seabed oil as then-current and future sources of maritime conflict in which coastal states would work to expel intruders in the 200 NM zone, but again as vignettes rather than sources for naval constabulary theory.<sup>223</sup> This being said, Booth does argue that navies will take on greater constabulary tasks as a matter of course even had UNCLOS III failed, citing "pollution, economic exploitation and increased traffic" as ongoing drivers of increased naval emphasis on constabulary missions. He even suggests that were it not for UNCLOS III, navies might have even devoted *more* resources to constabulary duties as they would be "in an unregulated situation marked by

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<sup>219</sup> Booth, *Law, Force, and Diplomacy*, 39-40, 45.

<sup>220</sup> Booth, *Law, Force, and Diplomacy*, 44.

<sup>221</sup> Booth, *Law, Force, and Diplomacy*, 44.

<sup>222</sup> Booth, *Law, Force, and Diplomacy*, 131-133.

<sup>223</sup> Booth, *Law, Force, and Diplomacy*, 174.

determined unilateral claims.”<sup>224</sup> Still, the arrival of UNCLOS III to “a greater or lesser degree...affected naval requirements” which may be met by either reallocating existing resources or acquiring new ones.<sup>225</sup> As the empirical chapters of this dissertation will demonstrate, such acquisition of new or reallocation of existing resources certainly did occur for the Norwegian, Danish, and Canadian naval forces, though to differing extents and in different forms.

With his emphasis on “Third World navies”, Michael Morris’s *Expansion of Third World Navies* is a logical next piece of literature for examining how smaller states may have responded to the conclusion of UNCLOS III, particularly from the perspective of the coastal state. Indeed, Morris argues that “Third-world navies are often much more involved in constabulary/regulatory duties than are the navies of developed countries.”<sup>226</sup> By “more involved”, it does not appear that he was referring to proportion of time spent on constabulary versus military and diplomatic duties, but rather that a greater variety and depth of duties that fall under the constabulary umbrella. These include communications, security, policing, and development support along coastlines, rivers, and other internal waterways.<sup>227</sup> This comfortably echoes Booth’s “nation-building” under constabulary naval aims. Of greater interest to this dissertation, Morris highlights the offshore constabulary tasks of Third World navies, especially how they have expanded due to the introduction of the 200 NM EEZ. In order to regulate the “new resource and resource-related rights”, surveillance and enforcement activities will need to be conducted for fisheries, seabed oil, and pollution control. But not all EEZs require the ability to control activities to the full 200 NM extent along the entire coast. Since fisheries and seabed resources are not uniformly distributed throughout, a navy only needs to be present where those resources are concentrated enough to elicit economic activity.<sup>228</sup> In other words, a navy does not need to control their state’s EEZ, only the relevant

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<sup>224</sup> Booth, *Law, Force, and Diplomacy*, 192.

<sup>225</sup> Booth, *Law, Force, and Diplomacy*, 193.

<sup>226</sup> Morris, *Expansion of Third World Navies*, 17.

<sup>227</sup> Morris, *Expansion of Third World Navies*, 17.

<sup>228</sup> Morris, *Expansion of Third World Navies*, 17.

resources within it. The point of a EEZ is, in this conception, not the bounded space on a map, but the resources within that boundary. Enforcing regulations in this context is further aided by the legal element such that strict application of violent force by armed patrols are not always necessary.<sup>229</sup> In reference to the seapower discussion in Chapter 2, this suggests that compulsive measures like patrol vessels carrying out armed actions against illegal fishers can be made less necessary thanks to institutional measures enacted by third parties.

But Morris notes how the constabulary tasks of Third World navies “often overlap” with the “inshore/offshore territorial defence” role that falls on the military side of Booth’s trinity.<sup>230</sup> Part of this is due to the possibility that the “relatively limited coercive capabilities” of “light constabulary forces” may be insufficient to repel repeat offenders into the new 200 NM EEZ. Conventional defensive naval forces may be required to help provide support in such instances.<sup>231</sup> The implication here would appear to be that at such distances from the shoreline, weaker maritime forces would have to operate on their own without support from army and air forces that may otherwise contribute in the traditional 3 NM territorial sea. Morris adds that although legally speaking UNCLOS only accords coastal states with resources control rights in the EEZ, “Third-World nationalism” has called for greater coastal state control over the entire EEZ as part of “national enclosure movements.” Such movements may result in those states attempting to control more than just the resources themselves and treating the EEZ as they would land territory.<sup>232</sup> Contrary to the previous paragraph, then, some Third-World navies may not limit their activities to merely the constabulary protection of resources within the EEZ, which may be quite minor and require low levels of seapower inputs. Instead, they may have the ambition to monitor and carry out defensive tasks throughout the entirety of the EEZ with its greater demands for long

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<sup>229</sup> Morris, *Expansion of Third World Navies*, 17.

<sup>230</sup> Morris, *Expansion of Third World Navies*, 17.

<sup>231</sup> Morris, *Expansion of Third World Navies*, 17.

<sup>232</sup> Morris, *Expansion of Third World Navies*, 18.

endurance vessels and more potent weaponry. Under this line of argument, the introduction and legitimization of the EEZ may result in naval forces reorienting for conventional warfighting missions just as likely as they would for constabulary ones. This may result in seapower inputs that are split into warfighting and constabulary roles, or combine both functions with a greater emphasis on warfighting than might be expected of a smaller navy. What may appear to be an irrational prioritization of warfighting capabilities in response to the EEZ may in fact be a logical response to the navy's assessment of what needs to be accomplished within the EEZ. Whether such behaviour is exclusive to "Third-World navies" is uncertain. As mentioned in the opening to this dissertation and will be detailed in Chapter 5, Norway's Nansen-class frigates have substantial full-spectrum warfighting capabilities despite being conceived with EEZ patrol duties in mind. This would seem to be consistent with Morris' concern that coastal states may seek to defend EEZs as a whole and not just the resources within them. One would hardly expect the need for anti-air or anti-submarine capabilities to prevent illegal fishing activities, for instance.

But what are some of the tactical concerns for carrying out constabulary missions, assuming a navy is indeed primarily interested in only the constabulary element of operating in the EEZ (either to the exclusion of all military concerns or as a distinct task complementing the navy's other functions)? Jacob Børreson's coastal power offers some insights on this. Although this section's previous discussion of Børreson's work focused on the military functions, it will now emphasize his contributions regarding the constabulary role. Morris had mentioned that the legal nature of the EEZ provides opportunities for additional institutional measures that augment states' compulsive efforts at controlling their resources. To ensure this, however, appropriate monitoring measures are necessary. Børreson notes in particular that constabulary vessels need to have appropriate equipment to help accurately identify other ships in poor visibility. Additionally, they "should be equipped with navigational aids that are accurate enough, and where the position may be recorded accurately enough, so that an observed violation may be

sufficiently documented and proved in court.”<sup>233</sup> As will be seen in the HDMS *Niels Ebbesen* versus *Red Crusader* incident discussed in Chapter 6, such capabilities have a contestation element. The one with the more accurate equipment and experienced crew can not only win their case in court, but also have the confidence to carry out their at-sea duties knowing they are in the right. In terms of enforcing regulations prior to reaching the stage of courts, coastal navies should have vessels with the “seaworthiness and speed” to intercept and board civilian ships that are suspected of transgressing the EEZ.<sup>234</sup> Børreson does not mention helicopters or fast boats that can be carried on larger ships, but presumably they could augment or substitute for the mother vessel’s potentially slower speed. Such ships will also need to have some gun armament appropriate for the constabulary task. The weapon needs to have “the range, accuracy and calibre” sufficient to serve as a warning function (calibre is important here due to the need for a loud enough noise and visible enough splash to get the other vessel’s attention). But this weapon cannot be too powerful. It cannot “caus[e] so much damage that the seaworthiness of that ship is endangered”, and this requires it to be accurate enough so that specific parts of the vessel above the waterline (and areas where casualties will be minimized) can be targeted.<sup>235</sup>

The requirement for such accurate surveillance and gunnery capabilities highlights how constabulary duties have their own demands in terms of not just monetary cost, but personnel experience. To accurately collect positioning data of EEZ violations or to accurately aim a gun in just the right spot on a disobeying vessel requires extensive training and experience. Even though constabulary duties might be seen as less important or easier than warfighting, they require dedicated investment in their own special skills and equipment. In comparison with the equipment or training required for a

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<sup>233</sup> Børreson, “The Seapower of the Coastal State”, 168.

<sup>234</sup> Børreson, “The Seapower of the Coastal State”, 168.

<sup>235</sup> Børreson, “The Seapower of the Coastal State”, 168.

warship dedicated to the warfighting role, however, such investments should require relatively fewer resources. This suggests that any change in force structure from a warfighting-centric navy to one that is paying greater attention to constabulary missions in the EEZ should still be noticeable, despite the aforementioned concern that some navies may include warfighting capabilities in constabulary hulls. Discerning such changes and overlapping capabilities will be a key objective of the empirical chapters in this dissertation.

### **3.3 Conclusion**

This chapter sought to identify the state of the art on the issue of categorizing navies, as well as what navies – especially smaller ones – do and how they do it. Navies have been categorized relative to each other by both scholars and navies themselves, often with widely varying criteria. Some typologies are based on what the navy is capable of across an absolute spectrum of naval warfare tasks, others are based on a combination of qualitative and quantitative measures of the navy's inputs, yet others take simple binary approaches that use a single criterion (such as the possession of nuclear weapons) to separate navies into have and have-nots. Meanwhile, navies have a self-interest in choosing categorization criteria that put them higher up on an hierarchy. All this is to say that no single objective measure of naval rankings or categorizations exists which is suitable for all purposes. Embracing the subjectivity inherent in the typology exercise is perhaps the only universalist approach.

That being said, a sensible case can be made that some navies can perform a greater variety of the naval functions and subsidiary tasks discussed in the second half of this chapter, as well as do them to a greater extent, than another. By this, one navy can be said to be “smaller” than another, without specifying whether they meet some threshold of small, medium, or large. To use Booth's trinity of naval functions, a larger navy would occupy more of the surface of that triangle than a smaller one.

However, while the wartime military function of navies is quite distinct, the peacetime military, diplomatic, and constabulary functions can often merge into each other. This will be seen in the case of the Canadian Turbot Wars in Chapter 7, where effective constabulary practices, backed up by military escalation superiority, helped ensure diplomatic success. With UNCLOS being accepted as the baseline for maritime disputes, the rights to maritime resources controlled through constabulary actions are continuing to shape the seascape in which diplomatic efforts take place. Thus, while Booth conceptualized his trinity as a triangle with each side representing the military, diplomatic, and constabulary roles of navies, the boundaries between these three roles are becoming blurrier. To use the geometric metaphor, instead of a triangle with sharp corners separating the sides, it appears more accurate to describe it as one with rounded corners where there is no clear boundary for where one role ends and the other begins. The three dimensions of naval functions that serve as the *raison d'être* for any navy are not as clearly separated as the literature may suggest. It is with this observation that the dissertation proceeds to the next chapter on sea control. A concept traditionally reserved for discussions as part of navies' wartime military function, the blurred boundaries between the trinity provides room for reconceptualizing sea control as a basic naval concept that underpins all three naval functions.



## **Chapter 4: Bringing the Sea Control Concept into Peacetime**

### **4.0 Introduction**

Chapters two and three have set out what seapower is and how smaller navies contribute to it based on some of the more well-known extant literature. Using Booth's trinity of naval functions, they highlighted how smaller navies can only really focus on sea denial in wartime, have limited effects in their diplomatic role, but have a very flexible notion of where constabulary missions blend in with the military function. Jacob Børreson's argument that smaller navies can never independently hope to defeat an enemy fleet was the impetus for his suggestion that small navies can only hope to have a strategy of sea denial, rather than control.<sup>236</sup> However, this chapter argues that sea control can include not just wartime ways of exercising that control, but peacetime as well. With the widespread legitimization of the Exclusive Economic Zone, maritime forces have taken on an expanded responsibility to control what happens in these offshore areas. Despite 200 NM away from shore being far from where coastal defence navies may sail under the protection of their land and aerial cover, the ability to control what occurs in such relatively distant waters has nonetheless become a core constant function for even smaller navies.<sup>237</sup> To understanding how this control has developed and manifested, a framework for analysis is required. Although such control may only be exercised for peacetime economic and scientific objectives, it is nonetheless control against potential adversaries (mainly civilians, but sometimes with competing state military support) in open waters, where the traditional notion of sea control would seem to be an apt starting point. It is this presumption that drives this dissertation's hypothesis that the

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<sup>236</sup> Jacob Børreson, "The Seapower of the Coastal State," in *Seapower: Theory and Practice*, ed. Geoffrey Till (Portland: Frank Cass, 1994), 151-152.

<sup>237</sup> Vietnam and the Philippines are examples of small navies that have recently expanded their ability to operate far from shore. Felix K. Chang, "Resist and Reward: Vietnam's Naval Expansion," *Foreign Policy Research Institute*, November 6, 2019, <https://www.fpri.org/article/2019/11/resist-and-reward-vietnams-naval-expansion/>; Renato Cruz de Castro, "Is the Philippine Navy About to Leapfrog into the Twenty-First Century?" *Asia Maritime Transparency Initiative*, September 11, 2018, <https://amti.csis.org/philippine-navy-leapfrog-twenty-first-century/>.

influence of the EEZ legitimizations can be observed in the shift in sea control operations from wartime defensive preparations to peacetime constabulary tasks. Having a clear conceptualization of sea control is key to operationalizing it as a variable in the form of sea control operations.

To ensure the adequacy of sea control as a framework for analyzing peacetime EEZ maritime operations, this chapter critically reassesses the concept of sea control, long taken for granted amongst naval strategists. Defined by maritime strategic scholars such as Geoffrey Till and Milan Vego as the ability to deny and/or enable the use of the seas for one's own purposes, the concept of sea control has traditionally been used only in the context of violent conflict between opposing state actors.<sup>238</sup> From its popular origins in Corbett's 1911 *Some Principles of Maritime Strategy* as "command of the seas", the general concept of sea control has rarely been analyzed from a critical perspective.<sup>239</sup> This is despite its use as a universalist concept that is applied in different temporal and spatial contexts.<sup>240</sup> Furthermore, such traditional uses of the term exclude the long history of naval forces being used for activities other than war, such as fisheries protection. In recent years, navies and coast guards (the divide between which is often fuzzy<sup>241</sup>) have been increasingly employed for the purposes of enforcing fishing regulations within their countries' Exclusive Economic Zones. These have occasionally resulted in the use of violent force between both state and non-state actors.<sup>242</sup> As growing economies result in increased demands for saltwater protein,<sup>243</sup> it becomes increasingly important to understand if, and how, traditional naval strategic concepts like sea control can be employed in situations short of war.

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<sup>238</sup> Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 1<sup>st</sup> ed. (London: Frank Cass, 2003), 149-150.

<sup>239</sup> Robert C. Rubel, "Command of the Sea: An Old Concept Resurfaces in a New Form," *Naval War College Review* 65, no. 4: 22-23.

<sup>240</sup> Milan Vego, *Naval Strategy and Operations in Narrow Seas* (London: Frank Cass, 2003), 111.

<sup>241</sup> Till, *Seapower*, 1<sup>st</sup> ed., 342-344. See also the discussions in Chapter 3 on categorizing navies and their roles.

<sup>242</sup> See, for example, "Argentina coast guard sinks Chinese trawler fishing illegally," *Reuters*, March 15, 2016, <https://www.reuters.com/article/us-argentina-defense-china/argentina-coast-guard-sinks-chinese-trawler-fishing-illegally-idUSKCN0WH2QL>.

<sup>243</sup> Karim Zarrouki, "Sector Trend Analysis: Fish trends in China," *Global Analysis Report*, Agriculture and Agri-Food Canada, October 2017, [http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/sta\\_fish\\_trends\\_china\\_ats\\_tendances\\_poisson\\_chine\\_2017a-eng.pdf](http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/sta_fish_trends_china_ats_tendances_poisson_chine_2017a-eng.pdf).

The chapter begins by identifying peacetime dynamics of sea control from existing wartime literature, particularly by carrying out a deep examination of Milan Vego's work on securing and exercising sea control via blockades.<sup>244</sup> By using Vego's work on blockades to examine the dynamics of a theoretical fisheries enforcement scenario in the EEZ, this section establishes the enduring utility of sea control as a lens for examining peacetime naval activities. Next, the chapter systematically and critically reconstructs the sea control concept that the literature has often left underspecified. In so doing, a broadened concept of sea control is established, allowing it to be more clearly applicable across a wider range of maritime activities and retain relevancy in the face of rapid changes in naval technology and uses of the seas. This can comfortably incorporate traditional wartime sea control ideas while also extending their applicability into the peacetime realm. Finally, the reconceptualized version of sea control is laid out to help readers understand the three dimensions involved when using the sea control concept. It stipulates that all sea control examples must have some degree of contestation and exercise, and are aimed at four forms of sea-use. By questioning and rebuilding such an important concept, seapower scholars can be more certain as to when and how sea control can be used to analyze a range of empirical maritime phenomena, including peacetime constabulary duties in the EEZ and other maritime areas under state jurisdiction. The reconceptualization makes it clear that sea control can also be used to examine the activities of all navies, regardless of their size, and across the entirety of the range of maritime activities possible at sea. The creation of this new universal framework for sea control allows this dissertation to better understand and compare the differing experiences of the three case study countries in their peacetime naval operations.

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<sup>244</sup> The primary reference for Vego's work will be Milan N. Vego, *Naval Strategy and Operations in Narrow Seas* (London: Frank Cass, 2003).

## 4.1 Identifying Peacetime Dynamics of Sea Control from Existing Wartime

### Literature

The expansion of the sea control concept into the peacetime space may face some resistance from more conventionally-minded naval strategists. One potential criticism may be the perception that this new conceptualization of sea control leaves little room for, excludes, or ignores the extensive work done to date on wartime sea control. To address this concern, this section reviews Milan Vego's work on sea control to explore how its core ideas may find a place within a peacetime, and specifically constabulary, context. The primary reference will be Vego's 2003 *Naval Strategy and Operations in Narrow Seas*, in which five chapters are dedicated to exploring sea control and its elements. Of particular interest to this dissertation, the narrow seas focus of Vego's book means it explores sea control from the perspectives of both blue water ocean-going navies, as well as smaller coastal powers. Vego's concepts for sea control, and particularly the practice of blockades, will be examined against a theoretical example of a coastal state wishing to enforce fisheries regulations in its Exclusive Economic Zone (EEZ). The example will be generalized to inform the creation of a reconceptualized sea control framework that is suitable for application in peace and war.

To begin, Vego defines sea control as "one's ability to use a given part of the sea/ocean and associated air(space) for military and nonmilitary purposes and deny the same to the enemy in time of open hostilities", where an "area may be considered under control when one's naval/air forces can operate freely and conduct seaborne traffic while the enemy cannot do the same except at considerable risk."<sup>245</sup> Such freedom of operations and sea-use can be qualified in three ways: space, duration, and degree. In terms of space, one can have sea control at a local or general level.<sup>246</sup> For duration, control

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<sup>245</sup> Milan Vego, "On Naval Power," *Strategos* 1, no. 1 (2017), 60-61.

<sup>246</sup> Vego, *Naval Strategy*, 112-115.

can be either temporary or permanent.<sup>247</sup> Finally, the degree of control can range between disputed, limited, and absolute.<sup>248</sup> These three sea control output variables are not as standardized across time and space as they would seem by their terms. For instance, two different actors' duration, physical extent, and degree of sea control during wartime are not necessarily identical in terms of resource required. For instance, the United States' ability to ensure general, permanent, and absolute sea control off the Japanese coast in 1945 required a different level of resource spending and commitment than that same level of sea control required during Operation Desert Storm off the Iraqi coast in 1991. Both accomplished the same level of sea control output but required vastly differing amounts of blood and treasure to get to that stage.

Of note is Vego's focus on these three variables being applicable to only a "time of open hostilities," which certainly simplifies the scope of his work. However, the variables of time, space, and degree of control are also applicable in peacetime. A permanent, local, and limited degree of control could logically apply to, for example, a fisheries resource within a given area of EEZ where violators can only carry out illegal, unregulated, and unreported (IUU) fishing on a very sporadic basis. Such a degree of control is limited in the sense that not all instances of IUU fishing can be prevented, and coastal states are willing to accept a certain level of violation due to resource constraints. Because this sea control objective is limited in space and degree, it does not require the level of seapower inputs that would be necessary to contest control against all and every violator. Not every fishing vessel is inspected, nor are all violators arrested by patrol ships. At the same time, such resources are sufficient to ensure the coastal state's ability to exploit the fisheries in question to its satisfaction despite some occasional violations. As will be detailed in the empirical chapters, Norwegian, Danish, and Canadian fisheries enforcement efforts have experienced varying intensity of challenges to their degree of control in and

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<sup>247</sup> Vego, *Naval Strategy*, 116.

<sup>248</sup> Vego, *Naval Strategy*, 117.

around their EEZs. The challenges have since been resolved in the coastal states' favour, resulting in a degree of control that is closer to absolute than disputed.

To establish the enduring relevance of legacy intellectual thought about sea control in the peacetime era, however, it is necessary to dive deeper into not just how sea control can be characterized in terms of space, time, and degree, but also how that control can be attained. For Vego, wartime sea control "is generally accomplished by destroying, annihilating, or neutralizing the enemy's naval forces at sea and in their bases, and by physically seizing or destroying their basing areas and the key elements of support ashore."<sup>249</sup> This can be done via decisive and inconclusive battles at sea, as well as through attrition where enemy vessels are gradually reduced in number.<sup>250</sup> To ensure the exercise of sea control for long-term constabulary ends such as fisheries exploitation or environmental regulations adherence, however, "destroying" and "annihilating" violators as methods for securing control will likely be measures of last resort. While navies have facilitated the destruction of illegal fishing vessels in peacetime due to violations of EEZ regulations, such acts tend to take place after non-violent arrests and the destruction itself is done out of symbolic rather than tactical purposes.<sup>251</sup>

The more common method of sea control in peacetime, then, can be characterized by "neutralizing" the effects of those violators. In wartime, Vego suggests that neutralization can be accomplished via either close or distant blockades. A close blockade entails a naval force (the "blockading force") sailing within close proximity to an opponent's port in which their naval fleet is

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<sup>249</sup> Vego, *Naval Strategy*, 147.

<sup>250</sup> Vego, *Naval Strategy*, 147, 149, 155.

<sup>251</sup> Indonesia is perhaps the most well-reported of states which carry out highly-publicized sinkings of confiscated fishing craft. The Maritime Executive, "Viking Fishing Vessel Sunk by Indonesian Authorities," *The Maritime Executive*, March 14, 2016, <https://www.maritime-executive.com/article/viking-fishing-vessel-sunk-by-indonesian-authorities>; The Maritime Executive, "Indonesia Blows Up 23 Foreign Fishing Vessels," *The Maritime Executive*, April 6, 2016, <https://www.maritime-executive.com/article/indonesia-blows-up-23-foreign-fishing-vessels>; The Maritime Executive, "Indonesia Sinks 51 Confiscated Fishing Vessels," *The Maritime Executive*, May 5, 2019, <https://www.maritime-executive.com/article/indonesia-sinks-51-confiscated-fishing-vessels>.

based. The purpose of the blockading force is to ensure the opponent's fleet is unable to leave port to exercise sea control, or to force it into a decisive battle where it can be destroyed and thus nullified with certainty for the rest of the conflict.<sup>252</sup> If the enemy fleet was distributed between multiple ports, a close blockade also helps ensure those disparate elements cannot be concentrated in numbers that will pose a collectively greater threat to the navy of the blockading fleet.<sup>253</sup> While Vego assesses a successful close blockade as capable of only resulting in "local and temporary control of the sea and not permanent control,"<sup>254</sup> he does not explain why that should be so. After all, if that blockade manages to prevent the entirety of the enemy's naval forces from leaving port for the entire duration of the conflict, then it would seem logical to say that the blockading force had managed to establish general, permanent, and absolute sea control without necessarily having to engage in combat. It may be the case that for Vego, "permanent" control can only be achieved if the enemy fleet can be entirely taken out of consideration, such as through destruction in battle or capture. So long as the enemy fleet can still pose some sort of threat, whether active or latent, the blockading fleet's control of the local seas remains a temporary one subject to the enemy fleet's acquiescence to being kept in port.

To maximize the chances of success for the blockading fleet, Vego offers several conditions: numerical superiority of the blockading fleet, nearby bases to support the blockading fleet, a "steady and uninterrupted resupply of the blockading ships", and an accompanying landbased assault on the blockaded fleet's port.<sup>255</sup> Describing predominantly actions that took place during the Age of Sail by large navies, Vego makes no mention of qualitative superiority as a factor for close blockades' success. This changes when he discusses distant blockades, however, which are suggested to have resulted from the proliferation of ever-deadlier weapons technologies available to the smaller blockaded fleet.<sup>256</sup>

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<sup>252</sup> Vego, *Naval Strategy*, 157.

<sup>253</sup> Vego, *Naval Strategy*, 158.

<sup>254</sup> Vego, *Naval Strategy*, 157.

<sup>255</sup> Vego, *Naval Strategy*, 159-161.

<sup>256</sup> Vego, *Naval Strategy*, 161.

These technologies, such as mines, submarines, and aircraft, pose a sufficient threat to the larger blockading fleet to keep them at bay, allowing “a certain degree of tactical freedom of action to the weaker fleet.”<sup>257</sup> The reliance on coal and oil for fuels also shortened the available time that a blockading fleet can be on station, requiring greater demands for rotational availability even as fleets became smaller compared to the wind-powered counterparts due to cost.<sup>258</sup> These factors thus favoured distant blockades, where the blockading fleet can remain close to (even in) their homeports with correspondingly shorter supply lines. At the same time, this makes the blockading fleet more vulnerable as it potentially has to distribute its forces throughout “several widely separated areas” rather than simply concentrate those forces right off the enemy’s homeport(s), leaving them vulnerable to counter-blockade actions.<sup>259</sup> But regardless of whether one adopts a close or distant blockade, the purpose is to prevent the blockaded navy’s ability to successfully contest and exercise sea control, whether through individual or multi-vessel sorties. The wartime forms of sea-use enabled through that control include not just the conventional wartime purposes of transportation and landward influence, but also resource and information gathering. After all, a country’s need for fisheries or offshore oil and gas does not go away with the onset of war. Indeed, both may become even more important as alternate sources of those resources become cut-off. Meanwhile, accurate scientific data can be gathered on, over, and near oceans to contribute to weather reports that shape military operations. As an example, by the end of the Second World War, the United States employed a fleet of 26 patrol frigates as part of the Ocean Weather Station Network distributed along the North Atlantic air transport routes to provide weather observation and rescue services to any downed pilots.<sup>260</sup>

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<sup>257</sup> Vego, *Naval Strategy*, 163.

<sup>258</sup> Vego, *Naval Strategy*, 161.

<sup>259</sup> Vego, *Naval Strategy*, 162.

<sup>260</sup> D.O. Reed, *The Coast Guard At War: Weather Patrol VII* (Washington, D.C.: U.S. Coast Guard Headquarters Historical Section, 1949), 1.



In peacetime, however, the use of blockades to neutralize an opposing force becomes somewhat more limited. Although de facto blockades have been employed in scenarios such as the US Navy's "quarantine" of Cuba in 1961 or in the Canadian navy's post-9/11 search for potential al-Qaeda and Taliban members fleeing Afghanistan via the Arabian Sea (Operation *Apollo*), these actions rarely take on the active fleet violence that are more common to wartime blockades.<sup>261</sup> Rather, whether they were Soviet merchant ships or civilian dhows, blockading actions took the form of closely shadowing and boarding vessels that were clearly outmatched from a fighting perspective. But such blockades took place away from one's own shores and sought to confine an opponent within or without a distant ocean area. Can the concept of blockades work when one talks about one's own shores? That is, when it comes to "neutralizing" the threat of illegal fishers entering and leaving one's Exclusive Economic Zone, does it make sense to apply the blockade method of fleet neutralization without necessarily resorting to overt violence?

The answer to this lies in recognizing that the differences between peacetime and wartime blockades are a matter of degree rather than kind as they relate to the different uses of the seas. Geoffrey Till has argued that there exists four main uses of the seas: as a medium of transport, as a source of resources, as a medium for dominion, and as a medium of information.<sup>262</sup> Both peacetime and wartime situations can involve blockades to prevent an opponent exercising these four forms of sea-use, but there is a difference in the degree of emphasis on which of these four forms are of greater concern to the blockading fleet. In wartime, the primary sea-use of concern to the blockading fleet is transportation: the blockading fleet generally belongs to the stronger navy<sup>263</sup>, and thus there is little worry about the enemy using the sea for landward influence via an amphibious invasion. On the other

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<sup>261</sup> Curtis A. Utz, *Cordon of Steel: The U.S. Navy and the Cuban Missile Crisis* (Washington D.C.: Naval Historical Center, 1993), 47; Richard Gimblett, "The Transformation Era (1990-2010)," *Government of Canada*, March 26, 2018, <https://www.canada.ca/en/navy/services/history/naval-service-1910-2010/transformation-era.html>.

<sup>262</sup> Till, *Seapower*, 4<sup>th</sup> ed., 6.

<sup>263</sup> Vego, *Naval Strategy*, 159, 161-162.

hand, the transportation of goods and personnel along sea lanes of communication (SLOCs) is often of crucial importance to the nation of the blockading fleet. An enemy naval vessel that manages to successfully run the blockade poses a potential threat to the security of those SLOCs. As both World Wars showed, the Royal Navy spent much effort in successfully blockading the German surface fleets from interdicting North Atlantic transports, even if they were unable to do so with the German submarine fleets that managed to slip through to wreak havoc on those vital merchant shipping. The great effort in ensuring sufficient sea control to enable those vital trans-Atlantic links, whether through blockading the German surface fleet or carrying out convoy escort and occasional attritional battle against U-boats, emphasized the key form of sea-use in wartime for the superior navy is as a medium for transportation.

In peacetime, however, the safe transportation of goods and personnel across the oceans is generally guaranteed with the exception of non-state threats such as piracy or poor weather. Navies and states can use the sea as a medium of transportation from one port to another without concern for enforcing or facing a blockade along the way. With the aforementioned exceptions of cases like the Cuban Missile Crisis and Operation *Apollo* directed against specific actors in response to acute crises, the general state of peacetime does not see the use of blockades for contesting the use of the sea as a means of transport. Likewise, the use of the sea as a source of information and a means of (non-violent) domination generally face minimal opposition as a matter of course. Oceanographic research vessels generally conduct their activities on the high seas without being bothered, and naval ships can loiter just outside the territorial waters of a coastal state as part of a naval diplomatic attempt to influence that state's government and population. When it comes to the use of the seas as a source of resources, however, the blockade logic becomes significantly more relevant in the peacetime context.

To illustrate this, compare and contrast the close and distant blockade approaches within the context of theoretical peacetime fisheries control in a state's EEZ. Fundamentally, the coastal state is

interested in regulating where fishing vessels are operating relative to its EEZ, which fishing vessels are allowed, how they are operating in it, and when. From the perspective of that coastal state's maritime forces charged with such duties, one option would be to conduct a "close blockade": intercept fishing vessels as they leave their homeports, whether foreign or domestic. The benefits of this would be assured contact with the fishing vessels, just as a close blockade in wartime maximizes the likelihood of contact with any enemy naval vessel seeking to run the blockade.<sup>264</sup> However, this requires a tremendous amount of patrol ships to enforce. The seasonal nature of many fisheries means fishing vessels will depart for their fishing zones in a concentrated manner, creating a challenge for the patrol ships as to which fishing vessel to inspect and in which order. This is further complicated by the fact that illegal fishing cannot take place until one is actually at the fisheries location. There would be no grounds for intercepting and arresting a fishing vessel that is simply leaving port.<sup>265</sup> This means that the only benefit of a close blockade approach would be to ensure reliable tracking of fishing vessels as they leave homeports and following them to their fishing grounds to ensure the vessels do not carry out activities away from watchful eyes. Given the high likelihood of different destinations for each fishing vessel, this approach would require a prohibitively high level of patrol resources that could be better employed in alternative methods.

One such method would be to adopt the distant blockade logic that essentially rests upon placing the blockading fleet closer to the blockaded fleet's primary objective in the event of its successful breakout. The blockade, whether close or distant, must always be between the blockaded fleet and its objectives. The difference lies in whether the blockading fleet is in a position to intercept the enemy fleet's attempt to reach any objective, or only the objective that is of primary concern to the

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<sup>264</sup> Vego, *Nava Strategy*, 162.

<sup>265</sup> The operator of the patrol ships would also require the consent of the coastal state in which such ports are located before they can legally inspect such fishing vessels.

blockading fleet. For example, a theoretical close blockade of the German destroyer fleet based in Bremerhaven in the Second World War might have been able to prevent it from invading Narvik, Norway, in 1940. However, the distant blockade that was actually implemented only succeeded in keeping the German surface fleet from reaching the open North Atlantic, where commerce interdiction was of greater strategic concern to Great Britain.<sup>266</sup> Within the context of a fisheries control objective within the coastal state's EEZ, the logic of a distant blockade where the blockading fleet is located closer to the object of concern to ensure its protection from the opposing fleet makes much more sense. A fisheries patrol vessel can monitor and control the activities of fishing vessels much more efficiently by sailing in the general area of the fishing grounds of concern. The patrol vessel can keep track of those vessels while they are fishing within and around the EEZ as well as after those fishing activities are concluded and the fishing vessel is returning to port. By being situated more closely to the objective of concern (fishing grounds), a patrol vessel can more clearly locate, identify, inspect, and, if necessary, interdict vessels that actually threaten that objective. This presence in the area of concern reduces the amount of patrol vessels needed versus a close blockade logic, as all of the potential opponents are concentrated in the area of concern. Unlike wartime with naval opponents, fishing vessels generally lack the means to counter even the minimal armaments of a patrol ship. Thus, the concentration of superior force by the blockading fleet that Vego suggests for wartime scenarios would not seem to be required for enforcement purposes.<sup>267</sup> Indeed, the opposite would seem to be true. For countries with larger EEZs with widely-spread resources (whether fisheries, hydrocarbons, or minerals), a distributed fleet approach where multiple patrol vessels are each assigned to different sectors as part of the coastal

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<sup>266</sup> The invasion of Narvik and naval battles between the Royal Navy and the German Navy at the time highlight how a distant blockade allows "a certain degree of tactical freedom of action" for the blockaded fleet that Vego noted, where such freedom could nonetheless be contested by fleet units not reserved for the blockade role. Vego, *Naval Strategy*, 163.

<sup>267</sup> Vego, *Naval Strategy*, 140.

state's compulsive seapower is generally sufficient to monitor and ensure the compliance of civilian vessels using the sea's resources.

This approach is viable for even smaller navies. The current Norwegian "Inner Coast Guard" (Indre Kystvakt) is an example of this in action, where its five Nornen-class patrol ships are each assigned to seven sectors along the Norwegian coast, albeit reserved for duties within the 24 nautical mile contiguous zone.<sup>268</sup> In an additional change from Vego's recommendations for wartime blockades, "the intended sector of main effort" should not be "kept hidden from the enemy".<sup>269</sup> Not only are fishing vessels constrained to profitable fisheries that are likely already known to the coastal state (assuming the state has previously been able to successfully use the sea as a source of information), the state's own patrol fleet has an interest in letting potential illegal fishers know that they are present so as to deter illegal activity. But this logic where knowledge of presence leads to deterrence is not always implemented at all levels of operations. As will be seen in the subsequent chapters on Danish naval operations off Greenland and the Norwegian Kystvakt's activities in offshore and territorial waters, an element of stealth or ambiguity on the part of a patrol ship is occasionally desired at a tactical level. The collection of evidence of wrong-doing, whether covertly from a distance or via onboard inspections of fishing nets and equipment, is a vital part of fisheries enforcement and thus also favours the chronic presence of patrol vessels in the fisheries area.

A final element of employing the distant blockade approach to EEZ patrols is being able to observe suspicious vessels which do not necessarily have known ports where they can be interdicted.

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<sup>268</sup> While three of these ships are assigned to one zone each in the southern half of the country, the remaining two are each responsible for two sectors in the northern half of the country. For details see subsequent chapter on Norwegian force structure developments. Jon Skålheim, "Kystvakten: Kystvakten sikkerhetsbidrag på fritidsbåtflåten," *Kystvakten* (Powerpoint presentation by Jon Skålheim, captain of KV Tor, at Norwegian Maritime Authority's Pleasure Boat Conference 2018), slide 7, <https://www.sdir.no/globalassets/sjofartsdirektoratet/fartoy-og-sjofolk---dokumenter/fritidsbatkonferansen/2018/09.-presentasjon-2018---jon-skalheim---kystvakten-sitt-sikkerhetsbidrag-for-fritidsbatflaten.pdf>.

<sup>269</sup> Vego, *Naval Strategy*, 142.

This is especially so in the practice of transshipment, where fishing vessels transfer part of their cargo to refrigeration vessels (“reefers”) at sea so they can catch more fish than allotted to them by quotas in the event they are inspected.<sup>270</sup> Having a patrol vessel in the area should allow the coastal state to monitor for such transshipment activities that otherwise would be missed if they were to rely on a close blockade logic of waiting outside the ports of known fishing vessels. In sum, a distant blockade logic of putting the patrol fleet close to the objective of interest – e.g. fishing grounds – appears to be a promising approach to sea control in one’s EEZ where it is being used as a resource.

While a close blockade in peacetime is of minimal benefit if one employs patrol ships, Vego proposes an additional element to wartime close blockades that is of great relevance in peacetime: the landward control of the port out of which enemy vessels operate. Every ship that leaves port must return to one (or sink along the way). It is in this opportunity that a coastal state, in peacetime out of concern for controlling its EEZ, can greatly apply its influence on the behaviour of fishers. In both domestic and international contexts, coastal states often have the tools to control what happens to fishers and their vessels while in port. Unlike wartime, there is generally no need to struggle for control over the port.<sup>271</sup> In domestic ports (that is, ports belonging to the flag state of the fishing vessel), a returning fishing vessel can be subject to search and inspections of its catch to ensure it meets regulations regarding, for example, age, size, and species. While this would not be sufficient to stop illegal practices like transshipments, portside inspections do limit the extent to which IUU fishing can occur. In extreme circumstances, the fact that fishing vessels must return to ports allows the vessels to be confiscated by authorities if sufficient evidence exists to prove their participation in IUU activities.

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<sup>270</sup> David Kroodsma, “Transshipment Data and Report,” *Global Fishing Watch*, February 22, 2017, <https://globalfishingwatch.org/data-blog/transshipment-data-and-report/>.

<sup>271</sup> Exceptions could be made for ports under the de facto control of non-state groups such as mafias; ports in countries lacking the necessary institutions to enforce regulations might also be considered as out of the control of the governing authority.

For fishing vessels which land their catch in ports not part of the coastal state in whose EEZ they are exploiting, Port State Control measures are a form of institutional seapower that the coastal state can employ to ensure the vessels' compliance in a foreign port. Through regional fisheries management organizations (RFMOs) such as the Northwest Atlantic Fisheries Organization (NAFO), member states to the RFMO agree to carry out common conservation and enforcement measures on each other's vessels while those vessels are in a member state's port other than their flag state. Such enforcement measures include inspections of a vessel's catch in order to determine compliance or noncompliance with respect to, *inter alia*, the caught species type, the size of the individual fish, the size of the total catch, and the mesh size of the nets on board the vessel.<sup>272</sup> Member states of RFMOs may also prohibit vessels belonging to non-members that have a history of IUU from landing their catch or even stopping for replenishment in their ports.<sup>273</sup> Ports, then, serve as a key interface for controlling what can occur out at sea. Indeed, for smaller states with limited resources, carrying out shore-based enforcement either in their own ports or indirectly through other states via RFMO arrangements may well be a much more efficient way to control what happens in their EEZs than to invest in comparatively costly measure of procuring and operating patrol vessels that can operate out on the ocean. In other words, while compulsive seapower via domestic assets and institutional seapower via RFMOs complement each other and may be available to a coastal state in regulating their EEZs, smaller states and their navies with insufficient resources to operate their own constabulary vessels at sea can still have significant influence on what can occur in their EEZs thanks to the institutional seapower represented by RFMOs.

Using the distant versus close blockade approaches to thinking about peacetime fisheries enforcement activities provides insights into how one should employ one's patrol fleet and port access

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<sup>272</sup> Northwest Atlantic Fisheries Organization, *Conservation and Enforcement Measures 2020*, NAFO/COM Doc. 20-01, Serial No. N7028, 72.

<sup>273</sup> Northwest Atlantic Fisheries Organization, *Conservation and Enforcement Measures 2020*, 76-77.

to control the use of the sea's resources. For the patrol fleet, it needs to be capable of as well as regularly operate between the relevant fishing vessels and their landing sites. For domestic fishers, this is less of a challenge because the coastal state can intercept these fishing vessels at any point between the outer limits of the EEZ and their homeport, as well as in the ports themselves. This means a patrol ship does not necessarily need the ability to operate at the full extent of the EEZ and beyond, which suggests an "inshore" or "midshore" vessel designed with shorter range and less seakeeping qualities. On the other hand, if foreign fishing vessels are of concern, then significantly greater capabilities are required. This is because the intercept area between such vessels and their homeports may include the high seas beyond the 200 NM EEZ. A foreign fishing vessel operating just within the coastal state's EEZ does not need to approach any closer to the coastal state, requiring that state's patrol vessel to be able to operate along or outside the 200 NM line for extended periods in order to contest and deny the use of the sea's resources through surveillance, boarding, and potentially arresting such fishing vessels. This requires an "offshore" vessel with greater endurance and ability to sail in rougher seas, which are generally larger and more expensive. If the coastal state lacks its own resources to monitor and contest the use of the sea's resources at such distances from the shore, it would need to make greater use of international institutions like RFMOs to solicit the resources of other states to assist in controlling what occurs in its EEZ. Those other states can limit available port options or invite other states' patrol vessels to assist with resource control in the coastal state's waters. But regardless of the details of which EEZ control measures are employed, it is clear that the notion of sea control, through its blockade logic, can be used to analyze such options.

## **4.2 Towards a Universal Framework of Sea Control**

Although the above section demonstrated the utility of applying existing sea control conceptions to examine peacetime naval activities, it was conducted through a deep reading of Vego's work and



teasing out similarities in logic between his wartime scope and the peacetime EEZ scenario. There lacked a systematic framework for applying sea control to peacetime phenomena, which is essential for ensuring this dissertation and other scholarly works can have a standard frame of reference for what sea control is. There thus remains a need to more closely examine the range of activities that sea control can describe and how scholars might observe examples of sea control. The rest of this chapter focuses on redefining the concept of sea control to better reflect a wider range of phenomena involving contestation at sea. By doing this, the notion of sea control can be used to examine the wide variety of activities that smaller navies carry out in war and peace, which the previous chapter noted as differing in significant ways from those carried out by larger navies.

Paraphrasing Geoffrey Till's detailed exploration of how the concept of "command of the sea" eventually transformed into "sea control", sea control has been broadly defined as the ability to use the seas and deny an opponent the same.<sup>274</sup> Not all sea powers (actors who possess some seapower) are able to or interested in making use of the sea *per se*, however, and may just be contented with the latter half of the definition, otherwise termed *sea denial*. And so, Irish naval historian Ian Speller notes that while sea control has both positive and negative forms of applicability, sea denial describes primarily a negative function.<sup>275</sup> In other words, although sea control has both operational means and ends in its positive form, sea denial as the negative subset of sea control is primarily an end with little in the way of further operational objectives. As Milan Vego put it, sea denial "does not depend on a complementary need for sea use or control."<sup>276</sup> For example, while the Russians conducted a sea control operation in their mining of Ottoman Black Sea ports in the First World War, the Ottoman use of mines in the Dardanelles against invading British and French battleships is merely that of sea denial. The

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<sup>274</sup> Till, 149.

<sup>275</sup> Ian Speller, "Introduction," in *The Royal Navy and Maritime Power in the Twentieth Century*, ed. Ian Speller, (London: Frank Cass, 2005), 5-6.

<sup>276</sup> Milan Vego, *Naval Strategy*, 119.

difference here is that while the Russians carried out offensive mining to ensure their ability to safely use the Black Sea for operational level objectives such as amphibious landings on the Ottoman coast, the primary purpose of the Dardanelles mining was to prevent Entente naval forces from reaching Istanbul. It was not to enable further use of those waters by the Ottomans at the operational level.<sup>277</sup> In conceptualizing the phenomenon of sea control, two distinct components can thus be attributed to the positive form at the operational level – contesting and exercising sea control.<sup>278</sup> Meanwhile, the negative form, sea denial, consists only of the contestation element. This is not to say that sea denial lacks a purpose beyond the operational level, only that any such higher purpose does not involve actively using the seas that had been or were being contested. Indeed, as Vego put it, “Sea denial can be a strategic objective at any stage of the war.”<sup>279</sup> It can be seen here that an act of sea denial is not the opposite of an act of sea control. It merely means there is no further objective to be carried out by sea as it would be in the case of a sea control situation.

Yet, the conceptualization of sea control as merely one (albeit fundamental) step towards a further objective (operational and/or strategic) has not always been recognized or appreciated. As Corbett noted, the Royal Navy became a victim to Nelson’s success at Trafalgar, resulting in a “fetish of the offensive” and lack of concern by its officers over what it was that achieving and maintaining “command of the sea” granted England. At the same time, the Royal Navy’s numerical preponderance over its rivals further resulted in a lack of critical thought by its officers on how to attain sea control in

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<sup>277</sup> One could certainly suggest that mining the Dardanelles enabled Ottoman forces to carry out supply missions between the shores north of the mine belts, and thus a further use of the seas, but this was not the *primary* purpose of those mines. The argument could also be made that the mines served a strategic purpose in preventing the destruction of the capital city through preventing Entente naval access, but this is separate from the operational level objective of the mines. For more discussion on mine warfare as sea denial, see Timothy Hiu-Tung Choi, “Out of Sight, Out of Mind: The United States Navy and Mine Warfare in the 21<sup>st</sup> Century,” (MSS thesis, University of Calgary, 2013).

<sup>278</sup> Colin S. Gray and Roger W. Barnett, *Seapower and Strategy* (Annapolis: Naval Institute Press, 1989), x.

<sup>279</sup> Vego, *Naval Strategy*, 119.

the first place.<sup>280</sup> Nonetheless, despite such failures as the Dardanelles campaign, the Royal Navy performed its essential duties sufficiently well during the First World War so as to help secure Entente victory.

While these discussions of sea control are to be commended for recognizing its positive and negative aspects, they lack an explicit discussion of whether sea control is a binary concept or something that an actor can have to greater or lesser degrees. When sea control was proposed by US Navy Admiral Eccles in 1972 to replace “command of the seas”, it was due to an increasing recognition that the phrase was too all-encompassing and implied an applicability at all times and places.<sup>281</sup> This all-encompassing view was later echoed by Ronald Regan’s Secretary of the Navy John Lehman, who described sea control as being able to “operate freely in a sea area with *unquestioned* [emphasis added] ability to prevent hostile operations there.”<sup>282</sup> This implied an absolutist view of control where either one has it or one does not, rather than as something that can be had in varying degrees. It was also an interpretation that is agnostic to the purpose of that control. At a theoretical conceptual level, such an extreme interpretation can be useful for describing an ideal form of sea control at its upper limits. Here, the thesis proposes the return of the term “command of the seas” to describe that ultimate, albeit idealized, form of sea control at the far positive end of a spectrum of sea control intensity. It is the complete ability to ensure no enemy can interfere with one’s exercise of sea control in any sea. Such an ideal form will unlikely to be approached by any navy other than those of the largest and most capable order. The smaller navies of this dissertation’s interest will sit well short of that upper limit.

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<sup>280</sup> Julien S. Corbett, “The Strategical Value of Speed,” *Journal of the Royal United Services Institute*, July 1907, 824-39, republished in Andrew Lambert, ed., *21<sup>st</sup> Century Corbett: Maritime Strategy and Naval Policy for the Modern Era* (Annapolis: Naval Institute Press, 2017), 55.

<sup>281</sup> Till, 151-157. Till makes the note that Mahan rarely used “command of the sea” and also recognized the “relativities” involved in the enterprise. In his retrospective on his time as United States Secretary of the Navy, however, John Lehman emphasized Mahan’s “command of the sea” as the central principle around which American naval power was built in the first half of the 20<sup>th</sup> century. John Lehman, *Oceans Ventured: Winning the Cold War At Sea* (New York: W.W. Norton & Company, 2018), xxii.

<sup>282</sup> Lehman, *Oceans Ventured*, 136.

But what activities does sea control actually consist of, such that a scholar can identify and analyze different events in a systematic fashion? As mentioned previously, sea control has two subsidiary components: its contestation and exercise. Both of these terms are variable and can be had in greater and lesser amounts. Although maximizing one's ability to contest sea control can maximize that party's ability to exercise it, the two are not always concurrent. For example, one can think of a navy that is able to sink submarines really well but is unable to transport troops so as to accomplish the ultimate objective of liberating an occupied territory. Nonetheless, assuming both are maximized, they can be placed at the same upper bound of the sea control spectrum where "command of the seas" is located. In contrast, having no ability to contest sea control as well as no ability to exercise it puts one at the very lower bound of the spectrum: an ideal form which I refer to as "null command". In the space between these two ends are two axes perpendicular to each other, one for contestation and one for exercise to reflect how the two are not necessarily present to the same extent for a given sea control case (one can be present at a higher or lesser degree than the other). Figure 2 on page 133 illustrates this. Note that the sea control continuum is therefore conceptualized as continuous (e.g. have or not have *some* sea control), rather than dichotomous (e.g. have or not have sea control).

But under what conditions can an event be considered an act of sea control? I assert that the sea control concept *must* consist of *both* contestation and exercise characteristics. Any phenomenon which seeks to be thought of as a sea control case must have some degree of both contestation and exercise in its manifestation. Else, it would either be a mere case of sea denial (contestation without exercise) or simple usage of the seas without the need for control as in the case of a sea state mentioned in Chapter 2 (exercise without contestation).

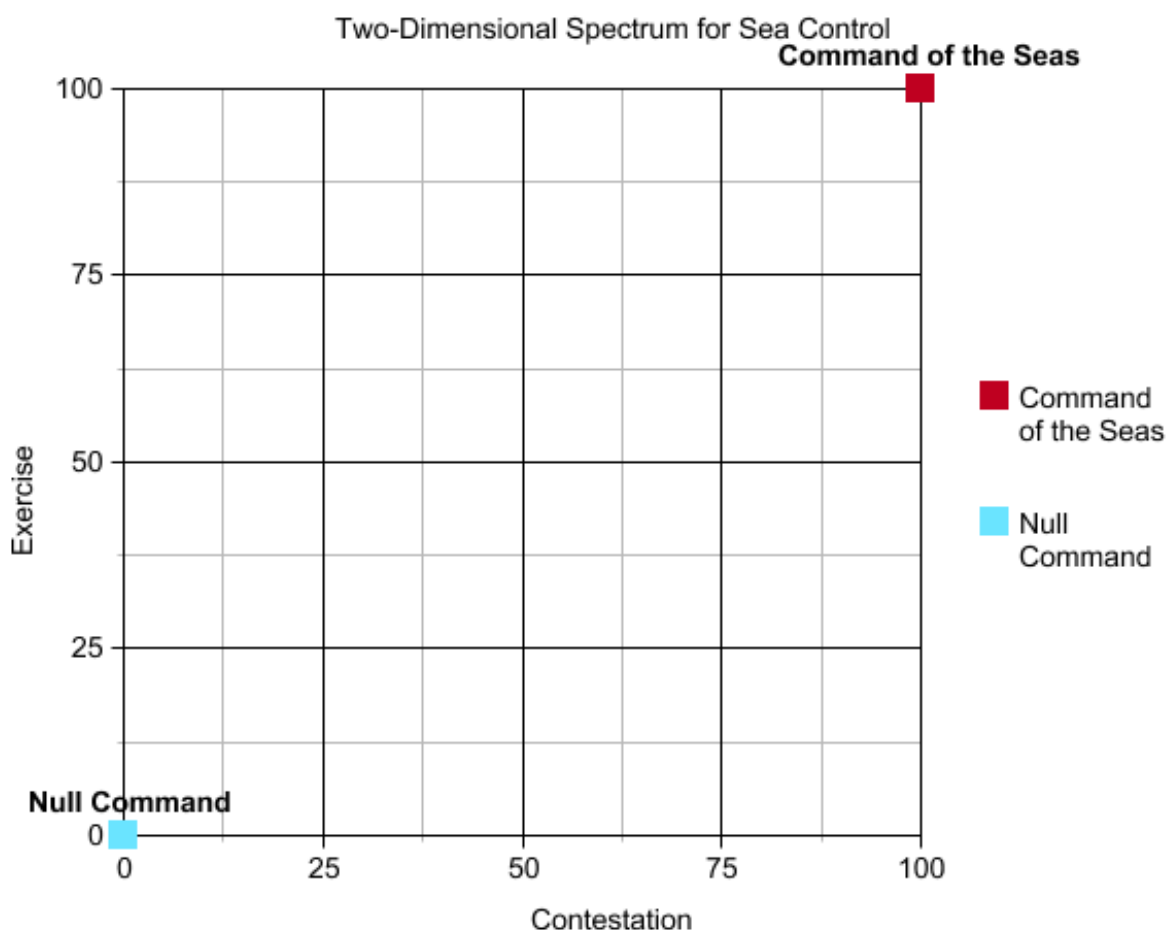
But sinking submarines and landing troops on foreign shores are not the sole *raison d'être* of navies, particularly in peacetime. For this reconceptualized sea control framework to be useful across the entire range of maritime activity, it needs to explicitly recognize the very different seapower inputs

and outputs that are required when using the seas for widely different purposes. It would make little sense, for instance, to place a sea control situation where the exercise component manifests in the form of an amphibious invasion alongside a situation where the objective is to covertly gather signals intelligence. These two require fundamentally different inputs and manifest in different outputs, which make them incomparable. They each need to be situated on their own planes, each reflecting their general category of sea-use: one for using the sea as a means of landward force projection, and the other for using the sea as a source of information. This separation of the different forms of sea-use for any instance of sea control will be illustrated in the following section.

### **4.3 A Universal Framework for Sea Control Across the Spectrum of Conflict**

The activity of denying another user's ability to operate on the seas and, if necessary, take advantage of that ability for further objectives, has substantial peacetime relevancy, especially for maritime constabulary operations. For example, the long history of the use of force to establish national control over fisheries clearly demonstrate that struggles for sea control have been, and continue to be, part and parcel of the peacetime missions of maritime forces. Yet, it is also clear that such missions, despite demonstrating the use of force, do not require the same resources as interstate great power war and its fleets of high-end warships. Clearly, contestation at sea involves varying levels of resource requirements. Reflecting this, I establish sea control as a spectrum, with "command of the seas", plural, to describe the ultimate form of sea control at the far positive end: the complete ability to exercise sea control in any sea on the globe by ensuring no enemy can contest that control and thereby interfere with its exercise. Meanwhile, an actor's complete inability to both contest and exercise sea control is characterized as "null command", situated at the zeroes of both dimensions. Both of these "points" are

ideal forms. It is highly unlikely that any actor is able to establish “command of the seas” or is so removed from maritime affairs as to have “null command”. Even the largest navy is unlikely to have global undisputed control of the world’s oceans, short of dramatic geopolitical developments that see all major sea powers allied to each other. Meanwhile, even the smallest navy is likely to have some ability to use force against another human actor, even if it is only through ramming and trying to board an opposing vessel.



*Figure 2. A two-dimensional spectrum for sea control, with the ideal forms “Command of the Seas” and “Null Command” on opposite corners. Any sea control case can have varying degrees of Contestation and Exercise, falling somewhere within this spectrum. The numbers are ordinal reference points for resource requirements. The two-dimensional spectrum should only be used with one of the four ways of making use of the seas for a given series of phenomena to avoid qualitatively different resources requirements – those four ways of sea-use form a third dimension, which is nominal and is seen in Figure 3.*

A situation's inclusion under this sea control concept requires both the following:

1) contestation, the ability to challenge another actor's use of the seas by any means (physical violence is the most obvious means, but economic incentives or coercion can be involved as well), and

2) exercise, the ability to make use of the seas, which include any of the following:

the sea as a medium of transport (i.e. transportation through, not from);

the sea as a source of resources (which includes the transportation of such resources *from* their origins in the sea);

the sea as a basis for projecting influence landwards; and

the sea as a source of information.

The contestation and exercise axes are measured in terms of the resources (seapower inputs) employed in relative, ordinal terms. An ordinal approach is employed to reflect that absolute, interval measures of resources may not be standardized through all times and spaces. For example, attempting to compare the amount of naval spending on the British fleet at Trafalgar with spending on the American nuclear-powered carrier fleet today would not reveal much in terms of their respective ability to contest and exercise sea control for the purpose of projecting influence onto land. For each case comparison, deep contextualization is required to ensure the cases involved have been carefully and critically assessed in terms of the seapower inputs that are being compared. A universalist approach to defining resources measurement is ill-advised. In this, the dissertation departs from some existing attempts at categorizing naval resource requirements, such as James Cable's simple/superior and ship/fleet descriptors or Joseph Morgan's dependence on aircraft carriers or nuclear power for

describing large navies as noted in Chapter 3.<sup>283</sup> In terms of actors, it is not necessary for the same actor to be responsible for both the contestation and the exercise components. For instance, a country's navy may be responsible for contesting another country's illegal fishing vessels, but it would be civilian fishers who exercise the control attained by the navy in order to make use of the sea's resources. In such a case, it is the country that has sea control, rather than its navy or fishing fleet.

The four uses of the sea listed above are adapted from Till's discussion on the historical uses of the sea, with two major changes being as follows.<sup>284</sup> First, his "The Sea as a Medium for Dominion" referred to the establishment of maritime empires, which I have changed to "projecting influence landwards" in order to include a wider range of naval activities aimed towards land beyond just the creation and sustainment of direct imperial control. Secondly, his "The Sea as a Medium for Information" is replaced by "source of information" to reflect the shift over the last two centuries from using the sea as a means for discovering new land resources, people, and territories to using the sea as a space from which information can be gathered. Attempts to compare two or more sea control phenomena on the same spectrum where each example involves different uses of the sea should be avoided due to qualitatively incomparable resource requirements. For example, attempting to compare two sea control phenomena where one seeks to use the sea as a resource and the other uses the sea as a base for projecting landward power may result in trying to compare ten oil rigs with ten amphibious assault ships. This would be likely inappropriate due to the vastly different functions of these seapower inputs.

To address this incompatibility where different forms of sea use cannot be compared directly with each other, a third dimension must be introduced to the concept, illustrated in Figure 2. This third

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<sup>283</sup> James Cable, *Gunboat Diplomacy: Political Applications of Limited Naval Force* (New York: Praeger Publishers, 1971), 99; Joseph R. Morgan, "Small Navies," in *Ocean Yearbook* 6 (1986), 362.

<sup>284</sup> Till, *Seapower*, 4<sup>th</sup> ed., 6-17.



dimension consists of nominal indicators for each of the four forms of sea use listed above to ensure a separation between qualitatively incompatible cases. In so doing, one can situate any given sea control event by first identifying the form of exercise (the Z axis), and then identifying whether and to what extent that phenomenon involves contestation (the X axis), and then the extent of that particular form of exercise (the Y axis). The X and Y axis determinations need not be done in that order. There may also be cases where an instance or situation of sea control involves more than one of the four forms of exercise. An armed coast guard vessel in the EEZ, for instance, could be using the seas as a source of information in order to identify especially rich fisheries that may result in that area of ocean being transformed into a source of resources in the future (or even to support that resource use on a concurrent basis). In such a case, those two forms of exercise – the sea as a source of information and the sea as a resource – are closely intertwined and share the same seapower input (an armed coast guard ship) for their contestation.

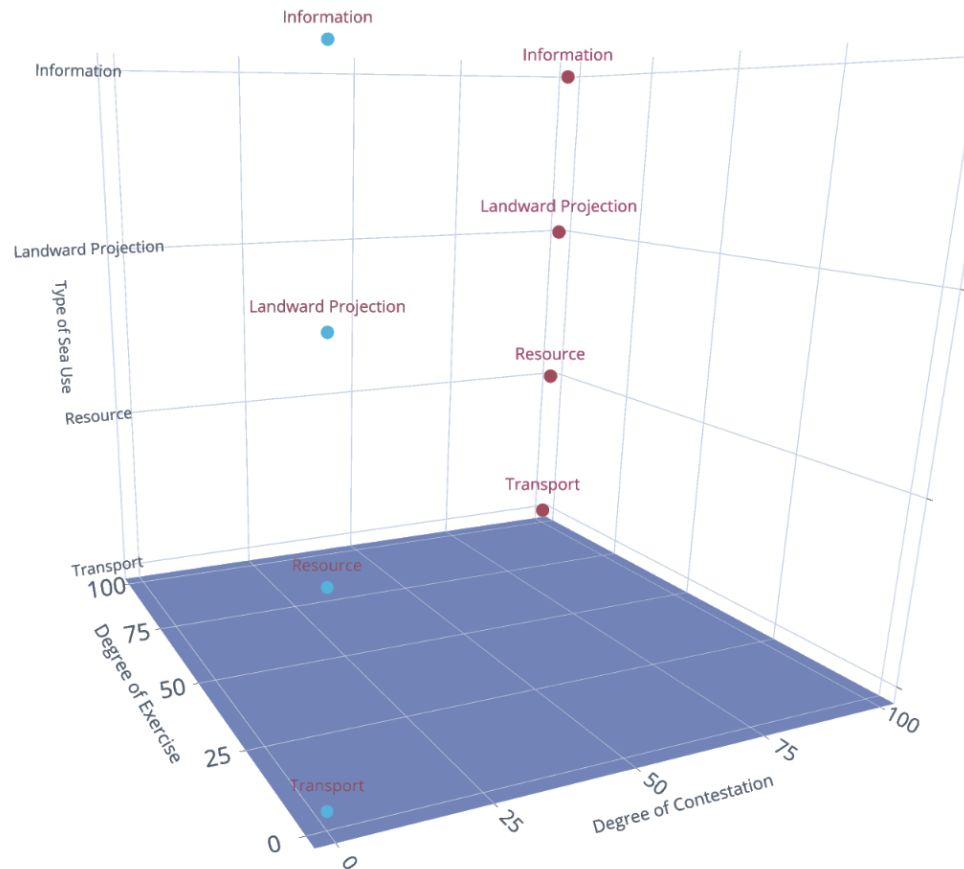
It is also important to note that the exercising of sea control (in whatever form of sea-use) requires seapower inputs in order to turn that exercise into a seapower output. In other words, while the use of the sea is the output desired, it requires sufficient resources along the exercise axis to ensure its successful attainment and maintenance (if applicable). As an example, a small country that has its limited coast guard forces employ force to successfully contest a competing actor for enduring access to a fishery resource must also have the domestic fishing fleet necessary to actually exploit that fishery. Only with this fishing fleet can the country be said to have attained the seapower output of using the seas as a resource. The coast guard fleet's ability to contest challengers is, on its own, insufficient to establish control over that resource.<sup>285</sup> Should this be the case, this would be a situation that takes place

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<sup>285</sup> If exploiting that fishery is the objective, of course – it may be the case that the coast guard fleet in question is simply being used to preserve the fisheries and prevent its exploitation by others for environmental sustainability reasons. In such a case, no national fishing fleet would be required.

on the Resources plane of the spectrum, with a low/moderate degree of contestation and high degree of exercise.

### Universalist Three-Dimensional Framework for Sea Control



*Figure 3. The third dimension, “Type of Sea Use”, is on the Z axis. The two ideal forms of “Null Command” and “Command of the Seas” are now extended along this Z axis for each of four types of sea use. Given the challenges in visually displaying a 3D object on a 2D medium such as this dissertation, the communicative utility of this three-dimensional spectrum for sea control will likely be limited, though it remains useful for mental visualization.*

With this three-dimensional framework for sea control, we arrive at a conception where the fundamentals of sea control – its contestation and exercise – form the core of any research program involving maritime power. Around this core are the four major forms of sea-use, all of which can involve some degree of contestation. This reflects the fundamentally power-based nature of activities at sea, no

matter whether it is centered around the acquisition of scientific data (which can be contested, such as the interception of USNS *Impeccable's* towed sonar array by China's Maritime Militia in 2009<sup>286</sup>), disputes over migratory fish stocks, or the more traditional naval contests over sea lanes of communication and amphibious operations during times of war. Such uses of the sea may change in its forms over time and reflect sea control's changing character, which helps deflect criticisms of the continued relevancy of the sea control concept. The constant nature of the concept lies in how various uses of the seas involve an element of contestation for control and differing degrees of resource requirements for both that contestation and the subsequent exercise of control.

#### 4.4 Conclusion

To summarize, this chapter began with an exploration of how Milan Vego's in-depth discussion on wartime blockades might inform an analysis on a coastal state's sea control options for fisheries enforcement in the Exclusive Economic Zone. It suggested a distant blockade logic makes the most sense, especially when compulsive seapower is employed against foreign fishers, while small states can leverage Regional Fisheries Management Organizations as indirect institutional seapower tools to conduct port-side inspections across international lines. Recognizing the utility of sea control logics for such peacetime constabulary functions, the chapter then develops a universal sea control concept. The concept consists of a three-dimensional grid, with axes for type of sea-use, level of contestation, and level of exercise. The first of these is nominal, while the latter two are ordinal. Four ideal types are therefore possible for each use of the sea: no contestation with no exercise, full contestation with no exercise, full contestation with full exercise, and full exercise with no contestation. As these are merely ideal types, a prospective sea control action will unlikely fit perfectly at the far corners of the grid.

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<sup>286</sup> Michael Green, Kathleen Hicks, Zack Cooper, John Schaus, and Jake Douglas, "Counter-Coercion Series: Harassment of the USNS *Impeccable*," *Asia Maritime Transparency Initiative*, May 9, 2017, <https://amti.csis.org/counter-co-harassment-usns-impeccable/>.

Rather, they would likely fall somewhere closer to the centre, i.e. some contestation with some exercise, to greater or lesser degree. To assess where a prospective sea control case falls along this conceptual grid, the case will require at least a challenge component or an exercise component aimed at the aforementioned four uses of the sea. However, for a case to be considered an actual example of sea control, it must have *both* contestation and exercise components to some degree. Otherwise, contestation without exercise is termed sea denial, and exercise without contestation describes situations with either no interaction between actors or such purely cooperative interactions. The explicit elucidation and establishment of such a concept of sea control allows for the systematic comparison of seemingly disparate uses or threat of use of force at sea and from the sea, sensitive to time, actor type, and purpose of action.

The benefit of such a universalist three-dimensional approach to sea control is that it can then be applied for the entire range of naval functions from military through diplomatic and to constabulary. It can be used to compare events and cases without being restricted to any particular time, place, or actor type. The inclusion of the Z axis of sea-use allows for future developments or modifications by other scholars as to what constitutes a use of the sea, ensuring the relevancy of sea control well into the future. In the following Part 2 of the dissertation, the empirical chapters will reference this universalist sea control concept, alongside the seapower definition and roles of naval forces developed in Chapters 2 and 3. This will help understand how the Exclusive Economic Zone affected the development of the Norwegian, Danish, and Canadian navies, and how these three countries have responded differently or similarly.

## **Part 2: The Empirical Case Studies**

## **Chapter 5: Norway: Developing Offshore Capability in a Coastal Defence**

### **Strategy**

#### **5.0 Introduction**

Despite the collapse of the Soviet Union after the Cold War, the Royal Norwegian Navy (RNN, or Sjøforsvaret) has experienced relatively minimal changes to the fundamental composition of its fleet force structure through to the present day. This reflects a consistent understanding of the military dimension of its compulsive seapower that focuses on defending its home waters and coastal regions from conventional military threats, namely Russia. This focus on a regional-centric force structure is in contrast to the wholesale transformation experienced by the Royal Danish Navy detailed in Chapter 6, even though both countries would eventually deploy their respective warfighting forces on expeditionary operations. Although the Nansen-class guided missile frigates mentioned in this dissertation's introduction are an improvement over their Oslo-class predecessors by nearly any metric, the difference is arguably one of degree rather than type. Similarly, the Skjold-class "corvettes", despite their stealthy and innovative hullform, are but a development of the classic coastal fast attack missile boat that has formed a significant component of many smaller navies throughout the 20<sup>th</sup> century. However, the Norwegian Coast Guard (Kystvakten), which falls under the Sjøforsvaret structure, has undergone significant changes in its own force structure.<sup>287</sup> The post-Cold War expansion and modernization of its fleet incorporated not just new purpose-built offshore patrol vessels for its "Ytre Kystvakt" or "outer coast guard", but inshore patrol ships for its "Indre Kystvakt", or "inner coast guard", as well. These replaced a mixed fleet of purpose-built and leased civilian vessels with ships that were standardized to the Kystvakt's requirements which gave them greater multimission capabilities in

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<sup>287</sup> "Kystvakten" means "the Coast Guard", while "Kystvakt" is "Coast Guard" without the definite article. The two will be used as appropriate in this dissertation depending on whether "the" is used in the overall English sentence.

peacetime, though not without some sacrifices in capacity. As this chapter will demonstrate, all of these developments point to a growing recognition of the need to put more resources towards a greater ability to contest sea control for constabulary purposes in Norway's 200 NM offshore zones while still maintaining its Cold War-era focus on sea denial against a military threat. Despite developing robust institutional seapower measures that help address major concerns of illegal, unreported, and unregulated (IUU) fishing, there remains a clear need to enhance compulsive seapower measures in the post-Cold War era.

These force structure developments did not take place in a political and strategic vacuum. This chapter traces the development of the RNN's force structure and organization from the interwar period to the present day against the general backdrop of the country's defence priorities. To answer the dissertation's first research question of how maritime forces and their operations responded to the implementation of the Exclusive Economic Zone, a particular emphasis will be placed on the details and operations of the RNN's constabulary forces operating within and outside Norwegian waters as the boundaries of those waters changed over time. Despite this emphasis on the constabulary component, the chapter will also analyze the development of Norway's warfighting forces in order to provide the data necessary to understand the degree to which the EEZ may have shifted the RNN's overall force structure and operational priorities. As the section "A Special Note on the Nansen Class" will elucidate, it becomes clear that the EEZ has direct consequences for the design and development of even warfighting forces. As with the other empirical chapters, the long study period between the 1930s and 2022 is necessary in order to identify any changes in force structure that resulted from the EEZ establishment specifically versus those caused by other strategic or military factors, such as the country joining NATO and the end of the Cold War.

This chapter consists of two main halves, one each for the warfighting and the constabulary roles of the RNN due to the high level of delineation between them throughout the period of study. Part

I will deal with the force structure developments and operational concerns of the warfighting fleet, which is referred to as “Marinen.”<sup>288</sup> It begins with a brief overview of Norway’s Second World War experience to set the stage for the RNN’s somewhat rocky reconstruction in the postwar period, followed by the 1960 Fleet Plan that established the basic structure of the RNN’s warfighting fleet up to the present day. It concludes with an analysis of the post-Cold War fleet and its relationship with the establishment of the Exclusive Economic Zone. Part II of the chapter will discuss in detail the forces and sea control operations of the constabulary-centric elements of the RNN, which was known under various names and titles until its centralization and formalization under the Kystvakt in 1977. It begins with the interwar fisheries surveillance service before tracing the gradual development of the Kystvakt’s offshore units and activities during and after the Cold War. To connect the Norway’s seapower inputs with its actual employment, the case studies of the Svalbard Fisheries Protection Zone and the Barents Sea “Grey Zone” will be analyzed to cover both compulsive and institutional seapower. Part II then examines how even Kystvakt units operating closer to shore have had to change due to new obligations and maritime boundaries, which provides a useful comparison to the characteristics and activities of their offshore brethren. Finally, Part II concludes with some observations regarding the latest developments that are ongoing in the Kystvakt’s fleet. Although the warfighting and constabulary halves of the Royal Norwegian Navy served clearly distinct purposes and had access to widely varying tools, there are

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<sup>288</sup> While today Sjøforsvaret (the sea-going branch of the Norwegian armed forces) is clearly split between Kystvakten (the Coast Guard) and Marinen, the latter had previously existed under various names, such as Kysteskadren (the Coastal Squadron) or Marineinspektoratet. For simplicity’s sake, Marinen is used throughout this dissertation for the combat arm of Norway’s naval forces. To avoid confusion with the English word “Marine”, “Marinen” will be used throughout even when preceded by the redundant definite article, “the”. Jacob Børreson, “Kysteskadren,” *Store Norske Leksikon*, October 28, 2020, <https://snl.no/Kysteskadren>. The term “Sjøforsvaret” can be roughly translated as “Maritime Defence”, and was created in 1933 when the Coastal Artillery (Kystartilleriet) was brought under Marinen control. It was temporarily disused when Kystartilleriet was transferred to Army control between 1953 and 1961, after which Kystartilleriet transferred back under Marinen control and Sjøforsvaret was brought back to refer to these combined maritime defence forces. Nils Handal, “St. prp. nr. 3 (1960-61). Kystartilleriets innpassing i Marinen,” *Stortinget*, August 5, 1960, 7.



notable overlaps that will be raised throughout to demonstrate how seapower inputs originally designed for constabulary or military purposes can carry out both functions.

Ultimately, this chapter argues that the Norwegian naval institutions took distinct and clearly-identifiable steps in terms of both its constabulary force structure and their operations at sea in response to the establishment of the 200 NM limit. Such steps did not, however, come at the expense of its warfighting capabilities, which in fact would be enhanced as a result of considerations for defending natural resources within the 200 NM limit. Despite the small size of the RNN, it has been able to meet increased demands for both its constabulary and military contributions without major sacrifices in either role. However, the RNN's relatively small size has also meant a degree of reliance on institutional forms of seapower to ensure its limited numbers of hulls could operate more efficiently in the wide expanses of the 200 NM zones. Just as the RNN acquired different compulsive seapower inputs to address diverse wartime and constabulary problems, so did it embrace institutional seapower measures ranging from virtual chokepoints that optimize at-sea inspections to practical bilateral agreements with neighbouring powers to indirectly maximize Norway's seapower.

## **5.1 Part I: Marinen - From “Unmitigated Catastrophe” to NATO’s Frontline in the North**

### *5.1.1 The Wartime Experience*

As this chapter will demonstrate, Norway's position within the North Atlantic Treaty Organization (NATO) has been fundamental to the composition and role of its maritime forces. However, Norway being a member of this military alliance was not inevitable. In the aftermath of the Second World War, Norway was forced to reconsider the policy of neutrality that had been the cornerstone of its

international relations since its independence from Sweden in 1905 and which had carried it through the First World War.<sup>289</sup> This section briefly covers Norway's Second World War seapower experience to set the stage for the postwar discussion.

By the late 1930s, Norway's neutrality policy at sea was enabled by a fleet of submarines and small torpedo boats, supported by armoured coastal defence ships and destroyers.<sup>290</sup> Of these, the vast majority were obsolete remnants built prior to or shortly after the First World War, with many of the torpedo boats artifacts of the late 1800s and serving as little more than basic inshore patrol vessels.<sup>291</sup> Only the six B-class submarines (built between 1923 and 1930), six Sleipner-class destroyers (built between 1936-1940), and two Nordkapp-class fisheries patrol ships (launched 1937) remotely approached contemporary naval standards for their functions.<sup>292</sup> The condition of Norway's naval defence forces was in such a poor state at the outbreak of the Second World War that it resorted to requisitioning a motely collection of forty-nine civilian vessels (whaling, fishing, and general steamboats) as neutrality patrol craft.<sup>293</sup> Collectively, the fleet's ability to repel the German invasion in April 1940 has been described by Norwegian naval historian Jacob Børresen as an "unmitigated catastrophe."<sup>294</sup> Crewed by conscripts with limited training, lacking the necessary communications equipment for coordinated actions, and facing an opponent with overwhelming technological and numerical superiority and air dominance, Norwegian naval forces could only put up a sporadic defensive effort before being destroyed, surrendering to the Germans, or attempting to escape to Great Britain.<sup>295</sup>

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<sup>289</sup> Geir Lundestad, "The Evolution of Norwegian Security Policy: Alliance with the West and Reassurance in the East," *Scandinavian Journal of History* 17, no.2-3: 228-229.

<sup>290</sup> Sverre Mo, *Norske Marinefartøy Samtlige norske marinefartøy 1814-2008 og Marinens Flygevåpen 1912-1944* (Bergen: Bodoni Forlag, 2008), 54-117.

<sup>291</sup> Mo, *Norske Marinefartøy*, 85-103.

<sup>292</sup> Mo, *Norske Marinefartøy*, 66-67, 80-82.

<sup>293</sup> Mo, *Norske Marinefartøy*, 197-198.

<sup>294</sup> Jacob Børresen, *The Norwegian Navy – A Brief History: Translated and adapted from a work by Bjørn Terjesen, Tom Kristiansen and Roald Gjesten* (Bergen: John Grieg, 2012), 107.

<sup>295</sup> Børresen, *The Norwegian Navy*, 107.

Despite the occasional tactical successes, such as the destroyer *Sleipner's* downing of multiple German aircraft through two weeks of air attacks and the sinking of the German heavy cruiser *Blücher* by Norwegian Coastal Artillery (Kystartilleri) outside Oslo, the overall performance left much to be desired and it was a “battered and dishonoured” Norwegian navy that sought refuge in the United Kingdom in summer 1940.<sup>296</sup> Although British forces engaged in substantial battles with the German military during and after the invasion, this all came too late for Norway. Norway’s policy of neutrality forbade any coordinated assistance with the United Kingdom (to the extent of protesting British minelaying off the Norwegian coast right up until the eve of the invasion<sup>297</sup>) that might have prevented a successful invasion. This allowed the Germans to carry out a *fait accompli* occupation that the UK could not undo given other wartime constraints. Thus, although prewar expectations that the UK would come to Norway’s aid out of self-interest despite Norway’s neutrality policy were proved correct, such assistance came too late. For instance, the Royal Navy’s destruction of all ten German destroyers in Ototfjorden only came after they had already landed their occupation troops in Narvik.<sup>298</sup>

Throughout the Norwegian navy’s exile during the Second World War, it managed to redeem itself through participating in operations enabled by a fleet that initially numbered little more than a dozen that grew to over fifty commissioned vessels.<sup>299</sup> Based primarily out of the UK, some Norwegian naval assets were also based in Iceland and eastern Canada.<sup>300</sup> Although only a very few ships managed to escape the Norwegian mainland (for example, only the lead ship of the six modern *Sleipner*-class destroyers reached the UK; the others were sunk, captured, or scuttled<sup>301</sup>), the RNN was augmented throughout the war with a steady flow of wartime transfers offered by the Royal Navy and, to a lesser

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<sup>296</sup> Børresen, *The Norwegian Navy*, 94-95, 100-102.

<sup>297</sup> Bjørn Terjesen, Tom Kristiansen and Roald Gjelsten, *Sjøforsvaret i krig og fred: Langs kysten og på havet gjennom 200 år* (Bergen: Fagbokforlaget, 2010), 300.

<sup>298</sup> Børresen, *The Norwegian Navy*, 105-107; Lundestad, “The Evolution of Norwegian Security Policy,” 228-229.

<sup>299</sup> Børresen, *The Norwegian Navy*, 114.

<sup>300</sup> Mo, *Norske Marinefartøy*, 111-112; Børresen, *The Norwegian Navy*, 113-114.

<sup>301</sup> Mo, *Norske Marinefartøy*, 80-82.

extent, the United States. These ranged from First World War-vintage US-built Town-class “four-piper” destroyers starting in December 1940 and the humble Flower-class corvettes in late summer 1941 to state-of-the-art fleet destroyers like the *Stord* in mid-1943 and the newly-built submarines *Uredd*, *Ula*, and *Utsira* between 1941 to 1944.<sup>302</sup> These and other transferred vessels, numbering 78 from the Royal Navy and eight from the US Navy by war’s end, were put under Royal Navy operational command and were frequently employed where their crews had comparative advantage over other Allied sailors: the Norwegian coast.<sup>303</sup> The destroyer *Stord*, for instance, made its way into the annals of Norwegian naval history as part of the successful British-led effort to sink the German capital ship *Scharnhorst* during the Battle of North Cape in northern Norway in December 1943. Charging in alongside its three S-class sisterships, *Stord* faced a hail of gunfire from the much larger enemy ship as they made one of the “most effective open-ocean torpedo attack in the history of naval warfare”, successfully hitting *Scharnhorst* and contributing to its destruction.<sup>304</sup> Later in the war, the new submarines were used to patrol throughout the Norwegian coast, sinking nine vessels including a German U-boat through twenty-six patrols.<sup>305</sup> Such operations were not limited to these long-range warships, however. Even the short-legged motor torpedo boats (MTBs) were employed for operations across the North Sea. In October 1941, the 30-tonne Thornycroft-built MTB 56 was towed to Norway by the destroyer *Draug* where it sank the tanker *Borgny* south of Bergen. Similar deployments along the Norwegian coast followed, culminating in the larger 100-tonne Fairmile Ds for the last three years of the war that could self-deploy across the North Sea on their own.<sup>306</sup> These all took place alongside the chronic missions of convoy

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<sup>302</sup> Mo, *Norske Marinefartøy*, 124-128, 140-143, 145-147; Børresen, *The Norwegian Navy*, 114-117.

<sup>303</sup> Børresen, *The Norwegian Navy*, 109-110.

<sup>304</sup> Børresen, *The Norwegian Navy*, 123-127.

<sup>305</sup> Børresen, *The Norwegian Navy*, 121.

<sup>306</sup> Børresen, *The Norwegian Navy*, 119-120; Mo, *Norske Marinefartøy*, 152-155.

escort along the English coast (including the Channel during Operation Overlord), in the Atlantic, and to Murmansk.<sup>307</sup>

But arranging for transferring all these ships that would enable such operations would take time, though certainly very little time by today's peacetime standards. In the immediate months after their escape from Norway in April-June 1940, the Norwegian government sought other ways to contribute to the naval effort in a more immediate fashion. Leveraging its significant global maritime seafaring community, the Norwegian government had requisitioned 19 Norwegian-owned whaling vessels that had been laid up in South Africa following the Antarctic whaling season. Brought to Halifax for conversion to patrol and minesweeping duties, they were accompanied by the establishment of "Camp Norway" in Lunenburg, Nova Scotia, where Norwegian sailors, ex-pats, and mainland refugees could be trained as crews and gunners for the converted whalers, the rest of the Norwegian navy, and the armed merchant fleet.<sup>308</sup>

All of these Norwegian naval forces and their extensive efforts at contesting the German Kriegsmarine for the North Atlantic and northern European waters paled in comparison, however, to the Norwegian merchant navy, which carried over 40% of Great Britain's oil imports in 1942.<sup>309</sup> In contrast to the obsolete navy at the war's outset, the Norwegian merchant fleet was fairly modern with a great number built during the interwar period. The majority of them were driven by modern motors rather than conventional steam engines, giving them the higher speeds and load capacities so crucial to countering German U-boats.<sup>310</sup> Despite being a small naval power, Norway nonetheless had an extensive capacity to use the seas as a medium of transportation, provided other countries played the dominant role in successfully contesting any opposition to such use – i.e. the Allied naval forces and their battle

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<sup>307</sup> Børresen, *The Norwegian Navy*, 121-123.

<sup>308</sup> Børresen, *The Norwegian Navy*, 110, 113-114.

<sup>309</sup> Børresen, *The Norwegian Navy*, 110, 127; Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 310.

<sup>310</sup> Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 310.

against the Kriegsmarine and Luftwaffe. Thus, Norway made significant contributions to the Allied cause as a sea power. It did so initially by primarily exercising sea control through its merchant navy, then gradually when it came to contesting it as Norway's navy grew in size and capabilities during the war.

### *5.1.2 Getting to NATO and the Postwar Period: 1945-1957*

But the uses of the sea and how Norway would ensure such uses through its naval forces faced an uncertain future in the postwar period. Its duties and force structure may well be expected to change depending on how the country's foreign and security policy would evolve. From 1945 to 1948, Norway's public-facing foreign policy was characterized by a "bridge-building" stance between West and East.<sup>311</sup> Despite the label suggesting active diplomatic mediation, however, Norwegian historian Geir Lundestad suggested that Norway's "real policy was much more limited: to avoid antagonizing either of the" Soviet Union and Western sides.<sup>312</sup> In a sense, this was a legacy of the prewar neutrality attitude that "Scandinavia, a peninsula remote from the Continent, could be isolated from events in other parts of Europe."<sup>313</sup> The German invasion did go some way to disabusing Norwegian decision makers of that notion, however, perhaps best characterized by the country's defence spending being three to four times higher than prewar levels.<sup>314</sup> Such spending was manifest at sea by Norway's acquisition of multiple British warships, some of which were veterans of the Second World War flying under the Norwegian flag while others were newly available or recently operated by the Royal Navy. Illustrating the obsolescence of the prewar Royal Norwegian Navy, only two out of twenty-two Norwegian-built

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<sup>311</sup> Helge Ø. Pharo, "Bridgebuilding and Reconstruction: Norway faces the Marshall plan," *Scandinavian Journal of History* 1, no. 1-4: 128.

<sup>312</sup> Lundestad, "The Evolution of Norwegian Security Policy," 228.

<sup>313</sup> Lundestad, "The Evolution of Norwegian Security Policy," 228.

<sup>314</sup> Lundestad, "The Evolution of Norwegian Security Policy," 228.

naval vessels were kept after the war: the destroyer *Sleipner* and the fisheries protection ship (oppsynsskip) *Nordkapp*. Thus, of the fifty-seven total ships under Norwegian command at war's end, the remaining thirty-five were wartime transfers from Britain and the United States.<sup>315</sup> In 1946, the RNN added four British-built Oslo/C-class fleet destroyers and three Ulstein/V-class submarines to its inventory, as well as formalizing the purchase of vessels that had been wartime leases, such as the Hunt-class escort destroyers and Flower-class corvettes.<sup>316</sup> In 1948, two British landing craft were purchased and rebuilt as minelayers.<sup>317</sup> This dependency on British hardware reflected the close ties that two countries developed during the war, which continued postwar with the training of Norwegian officers by the Royal Navy and Norway's participation in the military occupation of the British zone in Germany.<sup>318</sup>

Although Norwegian defence would be operating without a defence White Paper until its presentation by the Defence Commission (established in 1946) in 1949, the assumption in the intervening "three year plan" was to prepare for an attack from the sea much as in 1940. Such a defence had its goal as "to hold on alone until effective assistance can be provided by those who may become our allies."<sup>319</sup> Although the "bridge-building" policy meant such allies could not be determined beforehand, it was clear from military-level activities that the United Kingdom was expected to be foremost among them and would play a major role no matter the extent to which Norway moved towards or away from formal military alliances. During the 1946 Defence Commission's assessments, the Navy had expressed its desire for a surface strike group centered on a cruiser and several destroyers. The cruiser was expected to be one of the British *Arethusa* class (if not *Arethusa* itself), and the strike group was expected to be able to confront an enemy naval force long before reaching Norwegian

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<sup>315</sup> Børresen, *The Norwegian Navy*, 131-132.

<sup>316</sup> Mo, *Norske Marinefartøy*, 132-135, 140-143, 147-148.

<sup>317</sup> Børresen, *The Norwegian Navy*, 132.

<sup>318</sup> Lundestad, "The Evolution of Norwegian Security Policy," 229.

<sup>319</sup> Lundestad, "The Evolution of Norwegian Security Policy," 229.

shores. Limited financial resources, as well as the high crewing demands, prevented the cruiser from becoming reality.<sup>320</sup>

But as the lines between Soviet and Western blocs became more apparent through 1948, Norway realized it had to make a choice. The American Marshall Plan meant European states were either part of Western Europe or “in the same category as the East Europeans.”<sup>321</sup> Thus, despite skepticism from Norwegian Prime Minister Einar Gerhardsen, a member of the Labour party, “the choice was simple.” Neutrality would have meant Norway would basically become part of the Eastern bloc since the rest of Western Europe would be part of the Marshall Plan. Neutral Norway would also not receive much-needed American dollars to help fund its reconstruction goals.<sup>322</sup> If Norway could not see itself as being under the Soviet sphere of control, then it might as well accept the economic assistance that came with siding with the West and taking part of the Marshall Plan. While Britain was the preferred alliance partner on a bilateral basis due to existing “strong military, political, economic and historical ties”, its “limited resources” meant the Americans would hold “the key to Norway’s defense problems” and the British Foreign Secretary Bevin said as much to Norwegian Prime Minister Halvard Lange in March 1948.<sup>323</sup>

Still, despite the desire to take advantage of the Marshall Plan and benefit from being *politically* Western-aligned, there was still reluctance to become involved in any formal *military* alliance with the West.<sup>324</sup> The first preference until February 1949 was to have a Scandinavian Defence Union (SDU) with Denmark and Sweden that was Western-oriented. However, Sweden opposed any overt Western ties in this regard, concerned about it leading to the Soviet Union establishing military bases in neighbouring

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<sup>320</sup> Thorleif Pettersen, *Flåteplanen av 1960* (Bergen: Sjøforsvarets Forsyningskommando, 1993), 8, 10; Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 346.

<sup>321</sup> Lundestad, “The Evolution of Norwegian Security Policy,” 229.

<sup>322</sup> Pharo, “Bridgebuilding and Reconstruction,” 142.

<sup>323</sup> Lundestad, “The Evolution of Norwegian Security Policy,” 229.

<sup>324</sup> Lundestad, “The Evolution of Norwegian Security Policy,” 229.



Finland as part of the 1948 Finnish-Soviet Friendship, Cooperation and Mutual Assistance Treaty.<sup>325</sup> Norway's inability to convince Sweden to accept a Western orientation led to it falling back on its second preference, the Atlantic Pact that would become NATO.<sup>326</sup> But Norway's accession to NATO was not without reservations. Conscious still of Soviet perceptions and concerns, Norway made clear that foreign military bases (i.e. the long-term locating of non-Norwegian forces) would not be permitted in Norwegian territory during peacetime unless Norway was threatened with attack.<sup>327</sup> It also forbade the storage of nuclear weapons on Norwegian territory, as well as restricted NATO military exercises to west and south of northern Norway and its offshore territories.<sup>328</sup> This desire to reassure the Soviet Union by *screening* potentially provocative or destabilizing NATO military activities while also encouraging NATO *integration* and competence in being prepared to defend Norway would be a continual theme throughout Norwegian security policy during and after the Cold War.<sup>329</sup>

Norway's accession to NATO as a founding member in 1949 and the co-release of the 1946 Defence Commission's recommendations led to turmoil on the part of its naval leadership, however. From its pride of place amongst the Norwegian defence forces during the war, the navy would now be relegated to being the smallest and least-funded. This was due in part to NATO's requirement that member states contribute its own defence efforts across all domains (air, land, and sea) while leveraging NATO's collective naval superiority to come to allies' aid.<sup>330</sup> This meant that the Norwegian military was

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<sup>325</sup> It is also worth noting Sweden had the world's fourth largest air force and considerable maritime and land forces at this time, which would have been a major source of confidence should it become necessary to enforce its neutrality. Magnus Peterrson, "Sweden and the Scandinavian Defence Dilemma," *Scandinavian Journal of History* 37, no.2: 222-223.

<sup>326</sup> Nikolaj Petersen, "Danish and Norwegian Alliance Policies 1948-49: A Comparative Analysis," *Cooperation and Conflict* (1979) 14: 196.

<sup>327</sup> Mats Berdal, *The United States, Norway and the Cold War, 1954-60* (London: Macmillan Press, 1997), 6-9; Lundestad, "The Evolution of Norwegian Security Policy," 230.

<sup>328</sup> Magnus Petersson and Håkon Lunde Saxi, "Shifted Roles: Explaining Danish and Norwegian Alliance Strategy 1949-2009," *Journal of Strategic Studies* 36, no. 6, 765; Berdal, *The United States, Norway and the Cold War*, xiii.

<sup>329</sup> Lundestad, "The Evolution of Norwegian Security Policy," 229-230; Petersson and Saxi, "Shifted Roles," 764.

<sup>330</sup> Børresen, *The Norwegian Navy*, 133; Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 351.

to focus on delaying Soviet invasion forces on land, while leaving the defence of its seaward approaches to NATO larger naval powers.<sup>331</sup> While the broad stroke of this approach is similar to the defence strategy that would eventually be adopted for the rest of the Cold War and afterwards, the main difference is the degree to which Norwegian naval forces were deemphasized and minimally-funded between Norway's accession to NATO and its Fleet Plan of 1960. The perceived inadequacy of the new defence funding and arrangement was expressed strongly by Admiral Edward Danielsen, head of the Norwegian navy, and his chief of staff, Commander Gunnar Hovdenak, who circulated a strongly-worded letter of protest to the government and questioned Defence Minister Hauge's competence.<sup>332</sup> The two officers were not at all confident in the larger NATO navies' ability to come to Norway's assistance in time and believed Norway's coastal defence should remain firmly the task of its own navy without expectations of outside assistance.<sup>333</sup> Their arguments were made all the more salient given Norway's basing policy. Since NATO vessels may not be based in Norway, it would be entirely up to the Norwegian navy to defend its coasts and to prevent Soviet forces from exploiting the long NATO reaction time for a *fait accompli*, much as the Germans did in 1940.<sup>334</sup> Although Danielsen and Hovdenak had to resign in 1951 as a result of their protest, the re-evaluations taken by the navy and accepted by the government later in the decade were in favour of their conclusions. In the meanwhile, Norwegian naval historians have called this period between 1949 and the mid-1950s the navy's "darkest hour" or "svarte år" to describe the relative stagnation in the growth of the fleet's force structure.<sup>335</sup>

Throughout the 1950s, Norway grappled with two questions that stemmed from its NATO membership. What could it expect in terms of NATO support in peacetime and reinforcements in the event of attack, and how did NATO conceive of Norway's role in the alliance in peacetime and wartime?

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<sup>331</sup> Børresen, *The Norwegian Navy*, 133.

<sup>332</sup> Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 351.

<sup>333</sup> Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 351.

<sup>334</sup> Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 351-352.

<sup>335</sup> Børresen, *The Norwegian Navy*, 133; Terjesen, Kristiansen and Gjelsten, *Sjøforsvaret i krig og fred*, 350.

In answering the first, the relative roles of the United Kingdom and the United States in the northern European theatre is crucial. As noted above, the UK has long had an enduring interest in the maritime security and naval balance of the North Sea, and the Norwegian government and navy's exile to Great Britain during the Second world war only served to emphasize that relationship. The Royal Navy's "Home Fleet", after all, was in charge of protecting the convoys sailing through the area to Murmansk.<sup>336</sup> Although this interest in the region continued postwar to some extent, the dire financial circumstances London faced meant its naval presence and military commitments in northern Europe had to be sacrificed to pursue imperial interests in the Middle East and in the Mediterranean.<sup>337</sup> This contributed to the concerns that Danielsen and Hovdenak expressed in their letter to the Storting regarding their lack of confidence in the timely arrival of NATO naval forces. The limited numbers of NATO naval forces available for Norwegian defence was also worsened by the need to support NATO land forces in their battle for central Europe from the Mediterranean.<sup>338</sup> NATO also expected any Soviet invasion of Norway would be from the south as part of their Baltic Fleet's effort to break out into the North Sea. This favoured a Norwegian fleet that specialized in fast coastal attack craft and submarines that could operate in and around the Skagerrak, rather than large ocean-going surface ships that could duel with Soviet forces in open waters as was envisioned with the cruiser surface strike group.<sup>339</sup> However, the mid-1950s saw the Americans, led by General Eisenhower as Supreme Allied Commander, place a greater emphasis on the northern flank of Europe and dedicating accordingly greater resources there.<sup>340</sup> This helped reassure the Norwegians even as the UK's interest in the north waned and "the centre of gravity of future [British] naval deployments would move significantly eastward" after 1957.<sup>341</sup>

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<sup>336</sup> Berdal, *The United States, Norway and the Cold War*, 96.

<sup>337</sup> Berdal, *The United States, Norway and the Cold War*, 9-11.

<sup>338</sup> Berdal, *The United States, Norway and the Cold War*, 75.

<sup>339</sup> Berdal, *The United States, Norway and the Cold War*, 47-48.

<sup>340</sup> Berdal, *The United States, Norway and the Cold War*, 23.

<sup>341</sup> Berdal, *The United States, Norway and the Cold War*, 86.

The American-led interest in the north was manifest in a number of major NATO exercises, such as *Mainbrace* and *Mariner*, where American and British aircraft carriers practiced the delivery of conventional and nuclear weapons onto Soviet military targets on the Kola peninsula.<sup>342</sup> The importance placed on destroying the Soviet northern naval forces stemmed from it being home to a rapidly increasing fleet of modern long-range submarines that could threaten transatlantic supply routes.<sup>343</sup> Given the vulnerability of Norwegian land bases to a Soviet surprise attack due to their proximity, Eisenhower came to believe that only naval aviation, equipped with nuclear weapons and naval mines, could accomplish the task of destroying and slowing Soviet naval forces “at source”.<sup>344</sup> Such carriers required a relatively secure Norwegian mainland to provide a buffer against Soviet air forces, however, which required a robust Norwegian military on land. In particular, the poor radio conditions of the Arctic meant the SACLANT Strike Fleet and its carriers relied upon land-based communication sites to receive early warning of incoming Soviet bombers and to relay information to their own outbound tactical aircraft. Additionally, LORAN (Long-Range Aid to Navigation) sites were also established on Norwegian soil to enable reliable fleet navigation and positioning in all weather conditions.<sup>345</sup>

These political and organizational developments throughout the immediate post-Second World War period helped Norway to redefine the role and limits of its seapower. As will be seen below, they provided the overarching rationales for refining how Norway’s naval forces would be employed in a wartime scenario for military purposes. Specifically, the Norwegian navy gradually rebuilt its forces using second-hand American and Commonwealth vessels during the initial years before transitioning to a new purpose-built fleet aimed at controlling its coastal waters. Such sea control was aimed at local

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<sup>342</sup> Berdal, *The United States, Norway and the Cold War*, 19-21

<sup>343</sup> Between October 1953 and February 1956, the number of long-range submarines assigned to the Soviet Northern Fleet grew from 26 to 79, or 33.8% to 38% of the Soviet navy’s total; by January 1960, this grew to 132 out of the entire Soviet navy’s 280 long-range submarines, or 47.1%. Berdal, *The United States, Norway and the Cold War*, 64.

<sup>344</sup> Berdal, *The United States, Norway and the Cold War*, 73, 76, 93.

<sup>345</sup> Berdal, *The United States, Norway and the Cold War*, 82-83.

transportation of supplies and personnel, while ensuring Soviet naval forces could not easily interrupt NATO reinforcements once they have reached Norwegian waters. Norwegian military seapower would no longer be aimed at only ensuring the country's neutrality during wartime.

While the Americans' plan to leverage the Norwegian mainland for supporting naval airstrikes on the Kola Peninsula emphasized the importance of the Norwegian army and air force keeping Soviet forces at bay from the east, Norway's navy nonetheless experienced some tangible benefits that provide insights on its expected role during this period. Despite the "dark years" of the early 1950s and the associated reduced Norwegian government spending on its navy, the fleet did nonetheless grow thanks to the 1949 American Mutual Defense Assistance Act.<sup>346</sup> This saw the United States providing the RNN with some low-cost wartime surplus vessels: ten Elco PT torpedo boats in 1951, a pair of mechanized landing ships (LSMs) converted to minelayers in 1952, and a landing craft utility (LCU).<sup>347</sup> Non-combat vessels included a repair ship converted to a submarine tender in 1952, a seaplane tender converted to a school ship in 1958, a pair of Adjutant-class coastal minesweepers in 1953 and 1955, and two Aggressive-class ocean minesweepers in 1955.<sup>348</sup>

Such products of the weapons assistance program were not particularly ambitious (none of them were advanced frontline combatants like destroyers or frigates), but they did fill the gap until the first postwar comprehensive fleet renewal in the 1960 Fleet Plan, or Flåteplanen.<sup>349</sup> The fleet of the 1950s was further augmented by six Rapp-class motor torpedo boats and five Adjutant-class coastal minesweepers built domestically between 1952 and 1955, three Type VIIC submarines taken as war prizes from Germany commissioned between 1949 and 1952, a pair of Hunt-class destroyer escorts leased from Britain in 1954, and three modernized River-class frigates (dubbed Prestonian class) leased

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<sup>346</sup> U.S. Congress, *Mutual Defense Assistance Act of 1949*, HR 5895, 81<sup>st</sup> Cong., 1<sup>st</sup> Sess, 1949, Title 1.

<sup>347</sup> Mo, *Norske Marinefartøy*, 167-169, 176-177, 211.

<sup>348</sup> Mo, *Norske Marinefartøy*, 189, 190-192, 205, 209.

<sup>349</sup> Pettersen, *Flåteplanen av 1960*, 14-19.

from Canada in 1956.<sup>350</sup> In short, the Norwegian naval forces of the first half of the 1950s saw the majority of its growth in its submarines and small coastal combatants thanks to American assistance, while the middle and second half of the decade saw additional major warships with some offshore antisubmarine capability provided by other NATO allies. This change from coastal surface warfare to offshore antisubmarine capabilities arguably reflected Norway and NATO's recognition of the shift in Soviet naval threat from the Baltic to the Northern Fleet. The submarine build-up in the latter could not be addressed using small coastal attack craft unlike the surface warships pushing through the Danish Straits. However, as will be seen shortly, Norway would come to view both anti-submarine warfare involving large surface ships and anti-surface warfare via fast attack craft as equally important missions for its navy. Consistent with the literature's expectations for smaller navies, Norwegian seapower in wartime during this period was geographically confined to Norway's coastal and near-coastal waters rather than the offshore blue water regions. They would not be suitable for patrols in the country's future 200 NM offshore zones and, as will be elaborated upon in Part II of this chapter, it would be the Coast Guard that would bear Norwegian seapower in its offshore waters.

### *5.1.3 Marinen's Cold War Role and Force Structure: the 1960 Fleet Plan*

While the addition of some new second-hand vessels helped boost the Navy's fleet numbers, they were still Second World War vintage despite recent refits and functioned only to replace even more obsolete wartime ships like the Flower-class corvettes.<sup>351</sup> As will be discussed in Part II on fisheries control operations before 1976, some of these "new" ships struggled to play an appropriate role

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<sup>350</sup> Mo, *Norske Marinefartøy*, 136-139, 149, 170-171, 191-192. The Prestonians/Rivers would be fully transferred by 1959.

<sup>351</sup> Mo, *Norske Marinefartøy*, 140-141, 143. Three Flower-class corvettes were purchased from Great Britain in 1946 and served as frigates until 1956: HMS Acanthus (KNM Andenes F 307), HMS Eglantine (KNM Sørøy F 308), and HMS Buttercup (KNM Nordkyn F 309/306).

between peacetime coastguard functions and wartime preparation. The early products of the NATO weapons assistance program were insufficient to replace the rest of the Second World War-era fleet, which were having to cannibalize from each other for spare parts while reaching the limits of their operational lives and combat relevancy.<sup>352</sup>

Following the Norwegian military Central Command's formulation of the Marinen's tasks in 1957, the Marinen worked towards a suitable force structure that would replace the existing second-hand ships with new vessels that have been deliberately chosen for their role in defending the Norwegian coast.<sup>353</sup> Thus, the 1960 Fleet Plan was established to renew the entire Norwegian navy fleet with new construction to better fit Norway's role on NATO's northern flank, which required the country to defend itself and NATO reinforcements against Soviet forces coming from the Murmansk peninsula. This shift in the RNN's main line of effort away from the Skagerrak and towards northern Norway was enabled by the re-establishment of the West German navy, which, along with the Royal Danish Navy, took on much of the burden of tackling the Soviet Baltic Fleet.<sup>354</sup> Supporting the fleet's greater role along the western and northern coasts of the country, the navy moved its main base from Horten near Oslo to the newly-built facility at Haakonsvern outside Bergen, which opened in 1963.<sup>355</sup> Whereas the historic Horten base provided the fleet with immediate access to the Skagerrak, Haakonsvern and Bergen were adjacent to the North Sea, shortening times needed to reach the northern parts of the country. More importantly, Haakonsvern's location farther west made it more difficult to be reached by Soviet aircraft.<sup>356</sup>

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<sup>352</sup> Mo, *Norske Marinefartøy*, 214; Pettersen, *Flåteplanen av 1960*, 15; Nils Handal, "St. Prp. Nr. 23 (1957). Om hovedretningslinjer for Forsvaret i årene framover," *Stortinget*, 11; Nils Handal, "St. Prp. Nr. 130 (1958). Utrangering av marinefartøyer samt nedlegging av del kystartillerianlegg," in *Stortingforhandlingene 1958 Vol. 102 Nr. 2a* [Norwegian Parliament Negotiations 1958, Vol. 102 Nr. 2a] (Oslo: Forvaltningstjenestene, 1958).

<sup>353</sup> Pettersen, *Flåteplanen av 1960*, 20.

<sup>354</sup> Mo, *Norske Marinefartøy*, 214.

<sup>355</sup> Mo, *Norske Marinefartøy*, 214.

<sup>356</sup> Børresen, *The Norwegian Navy*, 139; Pettersen, *Flåteplanen av 1960*, 13.

In determining the vessels that would comprise the Fleet Plan's new ships, maximizing the Marinen's ability to play a major role in anti-invasion defence was the dominant requirement. The detailed rationales behind each type of new warfighting vessel in the Fleet Plan is beyond the scope of this dissertation given the dissertation's primary interest in the constabulary functions of naval forces. However, the general characteristics of the force structure procured for the Marinen's wartime military role will still be discussed below to understand the different requirements between them and those forces dedicated to constabulary duties.

There was a long-standing debate within the navy since the 1920s as to whether Norway's naval forces should be a seagoing or coastal fleet.<sup>357</sup> In the context of the 1950s, this meant deciding between engaging the Soviet surface fleet far out to sea with limited numbers of major surface warships, or attacking Soviet forces once they were in Norwegian coastal waters with larger numbers of smaller warships.<sup>358</sup> The first option would have been underpinned by the American offer of two second-hand Second World War-era Fletcher-class destroyers, but this was rejected as being poor value for money. Not only would the ships be just as old and difficult to maintain as the Norwegian ships they were supposed to replace, but their much higher crewing requirements meant other ships could not be crewed.<sup>359</sup> The Americans accepted this rationale, and offered to help pay for new construction, which further encouraged the Norwegians to pursue a total fleet reconstruction.<sup>360</sup> The decision was made by the Marinen's regulatory council to focus on a coastal navy force structure that was more suitable for Norway's limited financial and personnel resources.<sup>361</sup> Such a force would conduct hit-and-run attacks

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<sup>357</sup> Pettersen, *Flåteplanen av 1960*, 17-18.

<sup>358</sup> Pettersen, *Flåteplanen av 1960*, 17-18.

<sup>359</sup> Pettersen, *Flåteplanen av 1960*, 17-18.

<sup>360</sup> Nils Handal, "St. Prp. Nr. 25 (1960-61). Om et nybyggingsprogram for Marinen," *Stortinget*, October 28, 1960, 3.

<sup>361</sup> Pettersen, *Flåteplanen av 1960*, 19, 30. The regulatory council was convened whenever the navy faced "difficult decisions" that would have far-reaching consequences for the future; it was comprised of five high-ranking officers (such as the head of navy command for east and west Norway), as well as two lower-ranked members (one commander, one lieutenant-commander or lower).



primarily by smaller coastal vessels such as motor torpedo and gun boats (MTBs and MGBs), as well as a large force of coastal diesel electric submarines. To help escort Norwegian and allied convoys on longer journeys along the Norwegian coast, corvettes and frigates would be employed. Supporting these mobile units would be minelayers and the coastal artillery batteries comprised of large-calibre guns and torpedoes. Ensuring the integrity of Norwegian land territory thus became the focus of the navy's defensive efforts, rather than any concerns over interdicting Soviet naval traffic heading elsewhere. The limited scope of the Marinen's new forces was consistent with the coastal defence role that later seapower theorists like Eric Grove would ascribe to small navies, as discussed in Chapter 3 of this dissertation.

In accordance with this coastal defence focus, the 1960 Fleet Plan called for the following fifty-six new vessels: five destroyer escorts, five patrol vessels (later known as corvettes), fifteen submarines, and thirty-one motor torpedo and gunboats.<sup>362</sup> Of the total budgeted amount of 840 million Norwegian Kroner, the United States would pay up to half with any cost overruns covered by Norway.<sup>363</sup> The vast majority of these would end up being built, with only three of the corvettes and three of the motor gunboats being cancelled in 1963. This was due to higher than expected costs, which stemmed from a clearer idea of how much each vessel would cost as well as unfavourable exchange rates with West German and Dutch currencies (the former built the submarines, while the latter provided fire control equipment).<sup>364</sup> Other measures to keep the costs within a reasonable budget included procuring cheaper surplus American fire control systems for the two corvettes versus the more expensive modern equipment being built by Holland Signaal. Similarly, excess American 3" guns were used for the main

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<sup>362</sup> Handal, "St. Prp. Nr. 25 (1960-61)," 5.

<sup>363</sup> Pettersen, *Flåteplanen av 1960*, 21; Handal, "St. Prp. Nr. 25 (1960-61)," 5-6.

<sup>364</sup> Pettersen, *Flåteplanen av 1960*, 32. Had the full fleet of 56 ships been built, it was estimated to cost 1050 million NOK; cutting the six ships lowered it down to 950 million NOK, which the Storting was willing to provide.

gun armament of many of the new ships, which can then benefit from the vast supply of shared ammunition common between the allies.<sup>365</sup>

The 1960 Fleet Plan ultimately resulted in fifty-one combat vessels, which sticks close to the original goal of fifty-six. The largest of these were the five 1745t Oslo-class frigates/destroyer escorts. Based on the American Dealey class, these served as the navy's only major surface combatants and had a crew of 150. Built domestically at the Horten naval shipyard, they were propelled by two steam turbines, which allowed for 27 knots on its single shaft and were designed for operations in most weather conditions and sea states. They were initially equipped with four 3"/50 guns in dual turrets for anti-surface and anti-air warfare, as well as two triple Mk. 32 torpedo tubes for Mk. 44 guided anti-submarine torpedoes, and one Terne III anti-submarine rocket-propelled depth charge launcher. Space was reserved for potential helicopter operations on the aft superstructure. The Dealey class was chosen as the base design over the cheaper Claud Jones class due to its greater number of weapons, higher turbine-driven speed, lower noise signature compared to the Jones' diesels for ASW, and larger size for accommodating future systems.<sup>366</sup> Generally, the size and capabilities meant the *Oslos* were built mainly for antisubmarine warfare (ASW) in both coastal and offshore waters as part of the RNN's sea denial strategy. Rounding out the larger surface combatants were the two 780t Sleipner-class patrol ships/corvettes. Equipped with the same ASW weapons and equipment as the *Oslos*, these differed in having only a single US 3" gun and one 40mm Bofors anti-air cannon, the cheaper American electronics

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<sup>365</sup> Pettersen, *Flåteplanen av 1960*, 38-39.

<sup>366</sup> Pettersen, *Flåteplanen av 1960*, 41, 45-47; Hans Christian Smith-Sivertsen, *Norsk Sjømakt – Materiellutvikling og Forvaltning: Historien om Sjøforsvarets Forsyningskommando* (Hundvåg: Utgitt av Norsk Tidsskrift for Sjøvesen, 2004), 47-48, 69-70. The downsides of the *Dealey* design were its 10% greater cost and that the nature of steam powerplants mean they could take two hours to be ready for sailing if they were completely shut off, compared to the minutes it would take for the diesel engines on the Jones class. The advantages were deemed sufficient to overcome these drawbacks. While literary sources are unclear about the number of shafts/propellers, the remaining member of the class survives as a museum, and photos of it in dry dock confirm the single shaft arrangement: see Museumsskipet KNM Narvik, "Skipet i dokk 2016," *Facebook*, November 25, 2016, <https://www.facebook.com/media/set/?vanity=839526092856419&set=a.844293205713041>.

noted above, a much lower diesel-powered top speed of 20 knots, and a smaller crew of 63. These were meant primarily for escorting shipping along the Norwegian coast and their size and seaworthiness were limited to coastal conditions.<sup>367</sup> In this way, the *Sleipners* played the only notable wartime sea control role of the RNN and is consistent with Jacob Borreson's characterization of coastal navies' ability to exercise sea control only in a very limited fashion within coastal waters.<sup>368</sup>

The bulk of the Fleet Plan's surface combat power was provided by twenty-one 145t Storm-class motor gunboats (MGBs). The first-of-class was a prototype and only served for several years as a test vessel before being decommissioned. Capable of 36 knots, these small gunboats were built with a 76mm cannon based on the Bofors 75mm weapon used by Sweden's coastal artillery; their barrels were converted to 76mm to ensure compatibility with the rest of Norway's 76mm ammunition. A 40mm Bofors cannon was equipped on the stern to provide a modest anti-aircraft capability against low flying targets. Each boat required a crew of 19.<sup>369</sup> Augmenting these gunboats were eight 82t Tjeld/"Nasty"-class motor torpedo boats (MTBs). These wooden-hulled vessels are in addition to the twelve that were ordered in 1958 preceding the 1960 Fleet Plan, bringing them to a total of twenty. They carried four 533mm torpedo tubes, one 40mm Bofors cannon, and one 20mm Oerlikon cannon. Domestically designed and built, they featured diesel motors rather than traditional high-octane gasoline engines, allowing them to refuel from any typical civilian fishing port along the coast. They were very well-received both domestically and abroad, the latter symbolized by the purchase of 14 units by the United States, 2 by West Germany, and 6 by Greece. Each required a crew of 18.<sup>370</sup>

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<sup>367</sup> Pettersen, *Flåteplanen av 1960*, 48-50; Smith-Sivertsen, *Norsk Sjømakt*, 48-49.

<sup>368</sup> For more discussion on Børreson's concept of coastal power, see Chapter 3, pages 86-88.

<sup>369</sup> Pettersen, *Flåteplanen av 1960*, 51-54; Smith-Sivertsen, *Norsk Sjømakt*, 49-50; Mo, *Norske Marinefortøy*, 233-238.

<sup>370</sup> Pettersen, *Flåteplanen av 1960*, 55-56; Smith-Sivertsen, *Norsk Sjømakt*, 50; Mo, *Norske Marinefortøy*, 229.

Finally, the 1960 Fleet Plan produced fifteen 435t Kobben/Type 207-class diesel-electric submarines (SSKs). Built in West Germany, these were based on the Type 201 in German operation. Amongst other modifications, one of the most significant was the choice of American HY-80 steel for the hull, giving them greater diving depths compared to their German predecessors to account for the deeper waters of the Norwegian navy's operational areas.<sup>371</sup> Their eight torpedo tubes carried no reloads.<sup>372</sup> Similar to the rest of the fleet, they had a small crew of under 20, which made the cramped conditions on these small submarines somewhat more bearable. Though meant for operations in coastal waters, they also frequently deployed off the Russian coast in the Barents Sea on three-week-long patrols to help collect intelligence.<sup>373</sup>

Remarkably, the entire Fleet Plan construction program was completed within schedule, with the final vessel, the Oslo-class frigate *Stavanger*, being delivered on the 7-year anniversary of the program's approval in the Storting, December 8, 1967.<sup>374</sup> To support the operations of these new warships, improvements to the educational institution that provided the sailors to crew them were also required. Along with the main naval base's move to Haakonsværn, a new Naval Academy (Sjøkrigsskolen) for officer training was also established in the Laksevåg district, twenty-minutes away from Bergen city centre by public bus.<sup>375</sup> Co-located at Haakonsværn was Tordenskjold, the navy's technical and tactical education centre. Tordenskjold concentrated the training and education for all the different weapons and equipment systems into a single central location, versus the previous arrangement of scattered schools around the country. This reflected the increased integration of weapons and sensors in modern naval warfare.<sup>376</sup>

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<sup>371</sup> Smith-Sivertsen, *Norsk Sjømakt*, 51-52.

<sup>372</sup> Børresen, *The Norwegian Navy*, 188.

<sup>373</sup> Smith-Sivertsen, *Norsk Sjømakt*, 53.

<sup>374</sup> Pettersen, *Flåteplanen av 1960*, 47; Smith-Sivertsen, *Norsk Sjømakt*, 48.

<sup>375</sup> Author's own experience taking Route 17 in January 2018.

<sup>376</sup> Børresen, *The Norwegian Navy*, 140.

Such tremendous changes to Norway's naval forces were the results of the country's accession to NATO and the subsequent provision of American military aid in terms of both second-hand ships and funding for new ships. The strategic impetus for this was both the Soviet threat from the Northern Fleet and Norway's position as NATO's northern flank. In this situation, Norwegian military seapower was focused firstly on the mission of preventing a successful Soviet invasion from the sea and secondly on ensuring internal sea lanes of communications could continue to be exploited by Allied forces. Norway's naval acquisitions, composed of coastal antisubmarine and antishipping forces with limited endurance and range, fit well the sea denial role that Norwegian planners had envisioned for anti-invasion defence. At the same time, they also provided some ability to secure and exploit sea control within internal waters. This role and level of military investment was in turn accepted by Norway's new American ally and funder, which would provide (alongside other NATO sea powers) the forces necessary to reinforce Norway in wartime.

This confined coastal defence role for the Marinen, which would last until after the Cold War's conclusion, also fit well with Norway's overall security and foreign policy. This policy aimed to both reassure and deter the Soviet Union. In practice, this meant that Norway would not allow the peacetime basing of NATO forces on Norwegian territory, would limit Allied exercises to south of Finnmark province, and prohibit the storage or deployment of nuclear weapons in Norway.<sup>377</sup> At the same time, Norway had to demonstrate a realistic ability to fend off a Soviet attack long enough for NATO reinforcements to arrive. A naval force that was focused on coastal defence therefore fit perfectly. Such a force could not project power onto Soviet territory, while the limited focus of this force allowed it to

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<sup>377</sup> Lundestad, "The Evolution of Norwegian Security Policy," 242; John Jørgen Holst, "Norwegian Security Policy for the 1980s," *Cooperation and Conflict* 17, no. 3: 217-220; Jacob Børresen, "Alliance Naval Strategies and Norway in the Final Years of the Cold War," *Naval War College Review* 64, no.2: 102-103

concentrate limited resources on the core task of delaying a potential Soviet attack long enough for NATO assistance.<sup>378</sup>

### “The little Norwegian ‘Military Industrial Complex’”: Norwegian Domestic Weapons Development

Within the general implementation of the 1960 Fleet Plan, Norway committed to not only building its new ships domestically, but also the weapons and sensor systems that would go on them. Two new weapons systems stand out that perhaps best illustrate what smaller navies in the Western world could achieve in maximizing their seapower inputs to contest other navies within local waters. The first was the indigenously designed, produced, and operated Terne antisubmarine rocket-propelled depth charge and the second was the Penguin anti-ship missile. Both were products of the “little Norwegian ‘Military Industrial Complex’” comprising the Defence Research Institute (Forsvarets Forskningsinstitutt, or FFI), the Navy (Sjøforsvaret), and the private defence firm Kongsberg.<sup>379</sup> Both weapons were designed by FFI to fit Norway’s unique geostrategic situation and the warfighting navy’s relatively narrow mission of coastal defence, while Kongsberg was able to take advantage of their production role to modernize themselves into an advanced weapons systems manufacturer.<sup>380</sup> In contrast to the major NATO sea powers’ continual efforts at developing longer-ranged anti-ship and anti-submarine weapons, Norway’s many islands, fjords, and bays meant shorter-ranged weapons would be more useful in a greater number of situations within the general strategy of coastal invasion

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<sup>378</sup> For more in-depth discussions of the reassurance and deterrence dynamics of Norwegian security and foreign policy, see Magnus Petersson and Håkon Lunde Saxi, “Shifted Roles: Explaining Danish and Norwegian Alliance Strategy, 1949-2009,” *Journal of Strategic Studies* 36, no. 6: 761-788; Lundestad, “The Evolution of Norwegian Security Policy”; Johan Jørgen Holst, “Norwegian Security Policy: The Strategic Context,” *Cooperation and Conflict* 1, no. 4 (1966): 64-79.

<sup>379</sup> Smith-Sivertsen, *Norsk Sjømakt*, 72, 80.

<sup>380</sup> Erling Skogen, ed., *Fra Forsvarets Forskningsinstituttets Historie: Terne – et anti ubåtvåpen* (PDC Tangen: Oslo, 2003), 4-7, 11-12, 14.

defence.<sup>381</sup> While long-range weaponry could be used in short range situations, they would cost too much for unnecessary capabilities and some, like the British Squid mortar, may not physically fit on board the many smaller surface combatants that formed the bulk of Norway's fleet.<sup>382</sup>

Specifically, the Terne weapon had a range of only 1600 metres. This reflected the expectation that the Norwegian frigates and corvettes which equipped it were unlikely to detect Soviet submarines (and vice-versa) at longer distances due to the myriad islands, fjords, and diverse underwater conditions along the Norwegian coast.<sup>383</sup> Terne was the first domestically designed and produced naval weapon in postwar Norway and included the integration of search and attack sonars into the Terne's control system.<sup>384</sup> Equipped with contact, timed, and proximity fuzes, the Terne projectiles were not guided, unlike the American Mk. 44 torpedoes that the ships also carried. FFI's rationale was that given the uncertainty intrinsic to anti-submarine warfare in coastal waters, a system like Terne that fired a pattern of six projectiles into an estimated area was likely to be more successful than a single torpedo that would work only if it managed to acquire a consistent acoustic fix on the enemy submarine. Also unlike torpedoes, Terne could be rapidly reloaded. Each salvo of six projectiles were pre-loaded as magazines, and a trained crew could load each magazine into the launcher in forty seconds.<sup>385</sup> Testing of this weapon required resources beyond that of Norway as a small power, however. The United States, which helped fund Terne's development, stepped in and provided its infrastructure and logistical support, including the use of the world's first nuclear-powered submarine, USS *Nautilus*, as a target. Though the system met with American approval (including tests of Terne on destroyer escorts USS *Charles Berry* and

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<sup>381</sup> Smith-Sivertsen, *Norsk Sjømakt*, 73. Examples of longer-ranged weapons then being developed by larger NATO navies include the American ASROC (a torpedo delivered to the target area via rocket), helicopter-borne ASW torpedoes, and American Harpoon, Italian OTOMAT, and French Exocet antiship cruise missiles.

<sup>382</sup> Smith-Sivertsen, *Norsk Sjømakt*, 69-70; Skogen, *Fra Forsvarets Forskningsinstituttts Historie: Terne*, 12.

<sup>383</sup> Smith-Sivertsen, *Norsk Sjømakt*, 70.

<sup>384</sup> Smith-Sivertsen, *Norsk Sjømakt*, 69-70. The sonars themselves were not necessarily Norwegian-built.

<sup>385</sup> Smith-Sivertsen, *Norsk Sjømakt*, 69-70; Pettersen, *Flåteplanen av 1960*, 39.

USS *McMorris*), the system was never implemented outside the Norwegian navy possibly due to the unique environment it was designed to operate in.<sup>386</sup>

Norway's domestic ability to produce advanced bespoke weapons systems despite its status as a small state is also reflected in the Penguin anti-ship missile. A mere 2.5m long, these were developed first and foremost to increase the combat power of Norway's large fleet of motor torpedo/gun boats.<sup>387</sup> These relatively small missiles were guided by passive infra-red (IR) sensors after initial cuing to the target by the launch vessel's radar.<sup>388</sup> The decision to use IR guidance instead of radar made Penguin stand out from its larger NATO navies' peers, such as the American Tartar, and was met with some initial concerns given the poor weather conditions that permeated its likely operational area in North Norway.<sup>389</sup> To examine the extent and potential impacts of such concerns, a study was carried by researcher Nils Skrieien, which found that the cloud cover was rarely lower than 200m, and that the weather would not negatively affect the IR seeker's effectiveness in most situations.<sup>390</sup> This affirmed the choice of IR seeker, as well as informed the flight path and altitude of the missile. A further benefit of using an IR seeker versus radar guidance is lower detectability and accordingly reduced chance of interception. Estimates of a prospective Soviet Skory-class destroyer being able to intercept one missile was in the 30% range, while the probability of intercepting both missiles in a two-missile salvo was estimated to be nearly 0%.<sup>391</sup> In contrast to the Terne's final development stages, the Penguin was

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<sup>386</sup> Smith-Sivertsen, *Norsk Sjømakt*, 71-72; American Bosch Arma Corporation, *Final Report Terne: Contract N140(122)69961B* (Alexandria, VA: Defense Documentation Center for Scientific and Technical Information, 1963), 1-4.

<sup>387</sup> Hans Christian Erlandsen, *Flygende Pingviner: Historien om Sjømålsraketten Penguin* (Kongsberg, Norway: Kongsberg Defence & Aerospace, 2003), 40.

<sup>388</sup> Erlandsen, *Flygende Pingviner*, 40-41.

<sup>389</sup> Erlandsen, *Flygende Pingviner*, 120, 122. The Penguin was seen as a competitor to the Tartar for the West German navy, even though Tartar was much more complex and required converting an anti-air weapon for anti-ship use.

<sup>390</sup> Erlandsen, *Flygende Pingviner*, 42-43. Erlandsen provides a "5 percent" figure for when the seeker would not be effective but does not specify the metric or criteria.

<sup>391</sup> Erlandsen, *Flygende Pingviner*, 41.



tested in Norwegian territory. As a small power with limited experience and resources (a mere 95 personnel in total were involved in the first phase to develop a demonstration model), the early development process led to a number of risky incidents in populated areas and a reliance on suboptimal ad hoc targets (including an aluminium raft lit by torches that melted before it could be used).<sup>392</sup> Nonetheless, the Penguin was deemed a success.<sup>393</sup> Unlike the Terne, the Penguin saw much greater export interest, with its small size being suitable for use in not just other countries' small surface vessels, but eventual conversion for air-to-surface use by helicopters and fighter aircraft.<sup>394</sup> Norway's successful development of the Penguin was partly enabled by American and West German financial assistance. Perhaps more importantly, there were key project leaders like FFI's Karl Holberg who were willing to understate the costs, time, and personnel required in order to gain and maintain government and Navy approval to sustain the decade-long development period.<sup>395</sup>

For the rest of the Cold War, the coastal defence force structure established by the 1960 Fleet Plan remained essentially the same, which reflects the consistency of Norwegian security policy and strategy during the period. Some new additions replaced the last remnants of the legacy fleet, such as the six Snøgg-class MTBs in 1970/71 to replace the six early '50s Rapp-class MTBs. In the late '70s and early '80s, fourteen 150t steel-hulled Hauk-class MTBs replaced the twenty Tjeld class.<sup>396</sup> Other vessels, such as minelayers and landing craft, were also recapitalized in the late-'60s and early '70s. As guided missiles became more mature, these were fitted onto the entire surface combatant fleet, no matter the size. By the early 1970s, all of the steel-hulled MGBs and MTBs had four to six Penguin missiles refitted on their decks to give them a "decisive" combat weapon, while all post-Fleet Plan builds, such as the

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<sup>392</sup> Erlandsen, *Flygende Pingviner*, 59-72.

<sup>393</sup> Smith-Sivertsen, *Norsk Sjømakt*, 89.

<sup>394</sup> Erlandsen, *Flygende Pingviner*, 191-192; Smith-Sivertsen, *Norsk Sjømakt*, 86-89.

<sup>395</sup> Erlandsen, *Flygende Pingviner*, 44-45, 48, 111-121.

<sup>396</sup> Mo, *Norske Marinefortøy*, 241-244.

Snøgg- and Hauk-class MTBs, were being delivered with Penguins.<sup>397</sup> Later in the decade, the five Oslo-class frigates received comprehensive rebuilds to add Penguins and Sea Sparrow anti-aircraft missiles and variable-depth towed sonars, while still keeping the venerable Terne ASW system that was purpose built for the Norwegian coastline. Both Terne and Penguin proved to be fundamentally sound systems for further improvements, with updated variants added to the fleet as they became available such that both weapons remained in service well into the new millennium.<sup>398</sup> For its part, the “little Norwegian Military Industrial Complex” benefited greatly, with Kongsberg becoming a major international defence and aerospace firm. Of particular note, they became the go-to firm when Penguin’s replacement was being considered in the form of the larger, much longer ranged, “Nytt Sjømåls Missil” (NSM), which has since been translated and referred to as the more well-known “Naval Strike Missile.”<sup>399</sup>

To relate this section’s exposé on the development of Norway’s Cold War warfighting fleet to the dissertation’s main research question concerning Norwegian naval responses to the establishment of the Exclusive Economic Zone, it is evident that the 1976 promulgation of the Norwegian EEZ (the details of which will be discussed in Part II of this chapter on the Coast Guard/Kystvakt) did not result in any changes to its force structure. Once the Norwegian Navy accepted its role within national defence as a coastal sea denial force, it developed and acquired the fleet to support such a strategic orientation. This fitted comfortably within Norway’s overall security and foreign policy, which sought to reassure the Soviets through not adopting a threatening defence posture while also deterring the Soviets by maintaining a credible defensive capability. This meant very few vessels that would be suitable for operating in and beyond the outermost boundaries of the 200 NM EEZ. This stands in contrast to the

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<sup>397</sup> Pettersen, *Flåteplanen av 1960*, 39, 53, 57; Mo, *Norske Marinefartøy*, 233, 241. “Decisive”, or “utslagsgivende”, is used by Pettersen to describe a weapon capable of sinking large sea-going warships, which only torpedoes could do prior to the Penguin’s induction and thus spurred the latter’s development.

<sup>398</sup> Smith-Sivertsen, *Norsk Sjømakt*, 86-90.

<sup>399</sup> Smith-Sivertsen, *Norsk Sjømakt*, 90-91; Forsvarsdepartement, “Prop. 62 S (2019-2020): Proposisjon til Stortinget (forslag til stortingsvedtak): Vilje til beredskap – evne til forsvar Langtidsplan for forsvarssektoren,” *Forsvarsdepartement*, April 17, 2020, 88-89.

Danish and Canadian navies in the following chapters, both of which had some degree of dedicated ocean-going naval vessels that were suitable for the expanded 200 NM zones. Given the existence of a separate Coast Guard/fisheries inspection fleet, the lack of warfighting vessels capable of EEZ duties did not mean a lack of ability to establish peacetime constabulary sea control across all of Norway's maritime domain during the Cold War. However, this sharp distinction between the warfighting coastal fleet versus constabulary offshore fleet would see some erosion, with the Marinen's post-Cold War modernization offering an opportunity for the warfighting Marinen to contribute to EEZ operations.

#### *5.1.4 Marinen's Post-Cold War Modernization: Force Structure and Operations*

Even as the Soviet Union splintered and the Cold War came to an end, the force structure of Norway's warfighting fleet did not pivot towards NATO's new interest in expeditionary missions. This was consistent with Nordic scholars' observations that Norway's strategic culture was reluctant to move away from the institutions and practices that served the invasion defence posture despite a number of peacekeeping deployments during the 1990s.<sup>400</sup> This reluctance was partly driven by the regional political need to maintain the vast array of infrastructure throughout the country that provided economic livelihoods to surrounding civilian communities.<sup>401</sup> As this section lays out, the lack of direction for transforming the Norwegian military into a force better suited for expeditionary operations would mean the Marinen warfighting fleet closely resembles its Cold War predecessor. Nonetheless, this would not prevent the fleet from participating in overseas missions, thanks to the technical

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<sup>400</sup> Nina Græger and Halvard Leira, "Norwegian Strategic Culture after World War II: From a Local to a Global Perspective," *Cooperation and Conflict* 40, no.1: 57-58

<sup>401</sup> Græger and Leira, "Norwegian Strategic Culture after World War II," 53.

characteristics of newer vessels that were built in response to the implementation of the Exclusive Economic Zone.

In contrast to the transformation experienced by Denmark as discussed in the next chapter, the Norwegian combat fleet's general composition has remained much the same through to the early 2020s, albeit trading sheer numbers for increased capability per ship. The greatest change occurred with the frigate fleet, where the five 1970t Oslo class were replaced one-for-one in the late 2000s with five 5300t Fridtjof Nansen-class Aegis frigates. The new Nansen class are equipped with SPY-1F phased array radars to provide long-range aerial surveillance and tracking. Aerial targets can be engaged with Evolved Sea Sparrow Missiles quad-packed into eight Mk. 41 Vertical Launch System (VLS) cells for a total of 32 ready-to-fire rounds (one ship of the class, *Thor Heyerdahl*, has sixteen Mk. 41 cells). These contrast with the eight shorter-ranged legacy Sea Sparrow missiles that the *Oslos* had in their reloadable rotating launcher. For anti-surface warfare, they are equipped with eight of the new stealthy 100 NM-range Naval Strike Missiles instead of the *Oslos*' final fit of four 15 NM-range Penguins.<sup>402</sup> Despite these dramatic increases in anti-air and anti-surface capabilities, the *Oslos*' original anti-submarine mission was also maintained on the *Nansens* through a combination of fixed anti-submarine torpedo tubes and bow-mounted and towed-array sonars. Their ASW capability is also dramatically improved over the *Oslos*' via the provision of a helicopter hangar and deck, which the *Oslos* did not have. The helicopter intended for the ships have been the NH-90, though this would no longer be the case from 2022 onwards as will be noted later in this section. Notably, the Nansen class are designed to operate with only a crew of 120 despite all these capabilities, an admirable reduction from the *Oslos*' 150.<sup>403</sup> As mentioned in the introduction to this dissertation, the original five ships are now reduced to four

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<sup>402</sup> Smith-Sivertsen, *Norsk Sjømakt*, 86, 91.

<sup>403</sup> Mo, *Norske Marinefartøy*, 220.

following the collision and sinking of *Helge Ingstad*. As for the two Sleipner-class corvettes, they were not replaced.

The mainstay of the surface fleet's high-intensity sea control contestation fleet, the motor torpedo and gun boats, were all decommissioned without replacement in the 1990s due to the decreased invasion threat.<sup>404</sup> The exceptions to this were the fourteen 150t Hauk-class missile torpedo boats which underwent extensive mid-life modernization in 2000 before being decommissioned between 2006-2008. These were replaced by six fibreglass-hulled 270t Skjold-class stealthy air-cushioned missile boats.<sup>405</sup> The primary armaments of the Skjold class are one 76mm Oto Melara Super Rapide cannon and eight Naval Strike Missiles in retractable launchers, which are envisioned for use not just in anti-ship missions, but also for attacking land targets in support of the army.<sup>406</sup> During testing, they have demonstrated an ability to sail in ice up to 15cm thick, allowing for increased tactical possibilities during winter in northern Norway.<sup>407</sup> The *Skjolds* are officially referred to as corvettes.<sup>408</sup> Their high speed of 60 knots allow them to rapidly reposition amongst the fjords of Norway, from which they can attack enemy forces with greater reliability than the obsolete and vulnerable Cold War-era crafts.<sup>409</sup> In one NATO exercise, a single Skjold was allegedly able to sink a NATO surface fleet using only its 76mm gun via such surprise tactics.<sup>410</sup>

Four of the Kobben-class submarines were sold to Denmark and replaced with six much larger 1150t Ula-class SSKs at the end of the 1980s and beginning of the 1990s. For a time, both classes

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<sup>404</sup> Børresen, *The Norwegian Navy*, 155.

<sup>405</sup> Smith-Sivertsen, *Norsk Sjømakt*, 166-167; *Norske Marinefartøy*, 241-246.

<sup>406</sup> Børresen, *The Norwegian Navy*, 155; Ole Kåre Eide and Gro Anita Furrevik, "På jakt etter volum – Det vi har, er bra, Men vi trenger mer, sier kontreadmiral Nils Andreas Stensønes," *Forsvarets Forum*, October 4, 2017, <https://forsvaretsforum.no/innenriks-reportasje-sjo/pa-jakt-etter-volum/115416>.

<sup>407</sup> Smith-Sivertsen, *Norsk Sjømakt*, 170.

<sup>408</sup> Børresen, *The Norwegian Navy*, 155.

<sup>409</sup> Børresen, *The Norwegian Navy*, 155.

<sup>410</sup> Interview with crew on KV *Tor*, January 2018.

operated together until the remaining *Kobbens'* were scrapped, transferred to Poland, or turned into museums in the 2000s. The six *Ulas* are the only submarines remaining in the fleet.<sup>411</sup>

Norway's post-Cold War fleet included four fibreglass-hulled Oksøy-class minehunters and five Alta-class minesweepers, both 367t. They were commissioned in the mid-1990s with project conception in the late 1980s and six remain in service.<sup>412</sup> Their air-cushioned catamaran hulls provided the basis for the *Skjolds'* design, though with much slower diesel engines rather than the high-speed gas turbines on the *Skjolds'*.<sup>413</sup> The nine ships replaced the ten 1950s-era Sauda-class minesweepers.<sup>414</sup> As for the corollary minelayers, Norway decided mines were no longer necessary with the demise of the Soviet threat and the last minelayers, *Vale* and *Vidar*, were respectively transferred to Latvia in 2003 and Lithuania in 2006.<sup>415</sup>

Completing the transformation of the RNN is the Multirole Logistics and Support Ship (AOR). One ship, KNM *Maud*, was ordered from and built in South Korea to provide underway replenishment for Norwegian and allied warships. It arrived in Norway on March 29, 2019.<sup>416</sup> It is also expected to act as a command vessel to lead naval operations, as well as provide humanitarian assistance/disaster relief if needed.<sup>417</sup> Perhaps more than any other vessel procured in this post-Cold War period, *Maud* is the most obvious material manifestation of the slow tilt towards greater international and expeditionary operations for the Royal Norwegian Navy.

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<sup>411</sup> Børresen, *The Norwegian Navy*, 154; Mo, *Norske Marinefartøy*, 227.

<sup>412</sup> Børresen, *The Norwegian Navy*, 155.

<sup>413</sup> Smith-Sivertsen, *Norsk Sjømakt*, 145, 161.

<sup>414</sup> Smith-Sivertsen, *Norsk Sjømakt*, 145; Mo, *Norske Marinefartøy*, 190-192.

<sup>415</sup> Børresen, *The Norwegian Navy*, 157.

<sup>416</sup> Forsvaret, "KNM Maud kommer hjem," *Forsvaret*, July 1, 2020, <https://www.forsvaret.no/aktuelt-og-presse/arkiv/pressemeldinger/knm-maud-kommer-hjem>.

<sup>417</sup> Forsvaret, "Viktig pilepæl for KNM Maud," *Forsvaret*, February 22, 2021, <https://www.forsvaret.no/aktuelt-og-presse/presse/pressemeldinger/pressemelding-viktig-milepael-for-knm-maud>.

It is evident from these changes that throughout the post-Cold War period, the Marinen's force structure experienced changes that could be described as more in degree than in kind. It remained a coastal-focused navy with limited independent ability to operate for long durations away from home, and this was reflected in the fact that it was still formally named the Coastal Squadron (Kysteskadren) until eventually reverting to the older Marinen name in 2016 to reflect its greater international involvement.<sup>418</sup> But with the exception of the *Maud* that would provide the RNN with its first dedicated naval replenishment vessel, the rest of the force would seem to merely be improvements on their Cold War predecessors. For all their advanced sensors, weapons, and stealth technology, the two high-profile post-Cold War acquisitions of Nansen-class frigates and the Skjold-class corvettes are clearly replacements for predecessors, rather than offering any dramatically new reconceptualizations of how the Marinen should use the seas and the level of contestation that it would be prepared to ensure such use. More on the Nansen class rationale and how their design came to be will be discussed in the following section, "A Special Note on the Nansen class".

Still, the Royal Norwegian Navy did send its myriad units away from home waters during the 1990s despite having mostly legacy units. The Hauk-class missile torpedo boats, for example, participated in several Mediterranean operations, such as NATO's Operation *Active Endeavour* in 2003 and in support of the United Nations Interim Force in Lebanon from 2006 to 2007. Illustrating the challenges of using short-ranged coastal defence vessels for overseas expeditionary operations, the MTBs were carried to the Mediterranean on board heavy-lift ships.<sup>419</sup> Both the Oslo-class frigates and the relatively new Ula-class submarines have similarly been deployed to the Mediterranean during the 1990s and 2000s, demonstrating the flexibility of larger vessels.<sup>420</sup> These deployments clearly show the

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<sup>418</sup> Forsvarsdepartement, "Prop. 151 S (2015-2016): Proposisjon til Stortinget (forslag til stortingsvedtak: Kamkraft og bærekraft: Langtidsplan for forsvarssektoren," *Forsvarsdepartement*, June 17, 2016, 59.

<sup>419</sup> Børresen, *The Norwegian Navy*, 166.

<sup>420</sup> Børresen, *The Norwegian Navy*, 164, 166.

RNN's commitment to the Norwegian government's desire to increase its participation in international military operations despite the government's delay in investing in the optimal seapower inputs for such objectives.

When the much larger and long-endurance Nansen class finally entered service in the late 2000s, they immediately saw several long-range deployments consistent with the Norwegian Foreign Affairs and Defence Ministries' desire to participate more in US, NATO, and international organizations' missions outside of northern Europe.<sup>421</sup> The very first deployment of the brand-new KNM *Fridtjof Nansen* took the ship off the Horn of Africa for counter-piracy patrols in 2009, while 2014 saw KNM *Helge Ingstad* help ensure the secure use of the seas for transportation by escorting ships involved in the Removal of Chemical Agents from Syria (RECSYR) operation.<sup>422</sup> That summer, KNM *Fridtjof Nansen* made its way to the other side of the world to participate in the American-led *Rim of the Pacific* (RIMPAC) naval exercises off Hawaii.<sup>423</sup> But as then-Defence Minister Ine Eriksen Søreide wrote, participations such as RIMPAC were aimed at ensuring continued American support for Norwegian and European security through the "nourishment" of the transatlantic relationship: naval diplomacy between friendly states, in other words. The RIMPAC deployment also served as a showcase for the Norwegian arms industry through the firing of the new Naval Strike Missile and Sea Protector remote naval machine gun system.<sup>424</sup> This commercial aspect of the deployment was apparently successful, as the United States has since selected and purchased the NSM to equip its fleet of Littoral Combat Ships

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<sup>421</sup> Ståle Ulriksen, *Balancing Act – Norwegian Security Policy, Strategy and Military Posture* (Stockholm: Frivärld Stockholm Free World Forum, May 2013), 4-5.

<sup>422</sup> Asbjørg Giske, "KNM Fridtjof Nansen til Somalia," *Maritimt Magasin*, August 12, 2009, <https://maritimt.com/nb/maritimt-magasin/knm-fridtjof-nansen-til-somalia>; Rune Thomas Ege, "VG Eksklusivt: På innsiden av Norges Syria-Oppdrag," *VG*, December 9, 2015, <https://www.vg.no/nyheter/utenriks/i/MQQBr/vg-eksklusivt-paa-innsiden-av-norges-syria-oppdrag>.

<sup>423</sup> Forsvarsdepartement, "Prop. 1 S (2015-2016): Proposisjon til Stortinget (forslag til stortingsvedtak): For budsjettåret 2016," *Forsvarsdepartement*, September 18, 2015, 49.

<sup>424</sup> Ine Eriksen Søreide, "Speech at RIMPAC 2014 Seminar in Oslo May 12, 2014," *Government.no*, May 12, 2014, <https://www.regjeringen.no/en/aktuelt/Speech-at-RIMPAC-2014-Seminar-in-Oslo-May-12-2014/id759104/>.



and future Constellation-class frigates.<sup>425</sup> As the Nansen class entered service, they also carried out integration exercises with American carrier strike groups, such as *Roald Amundsen* with USS *Harry S. Truman* in 2009 and *Fridtjof Nansen* with USS *Enterprise* in 2010.<sup>426</sup>

At the same time as all of these global operations, the Nansen class also operated close to home “to safeguard sovereignty” in response to “more international tensions” in the Arctic.<sup>427</sup> This has seen annual visits by the frigates to Svalbard despite Russian protests, with the most recent 2021 visit by *Thor Heyerdahl*, which is the only one of the class with the increased number of sixteen VLS missile cells rather than the eight of its sisterships.<sup>428</sup> Whether the decision to employ the most heavily-armed unit of the Norwegian Navy for the Svalbard visit was due to a conscious decision to send a more robust message to Russia or if it was just the ship that was available due to other operational concerns is unknown. Regardless, the deployment of the *Nansens* on both global and local operations shows how Norwegian military seapower has taken on a much greater geographical scope than traditional seapower literature would expect for smaller navies. In contrast to Ken Booth’s conceptualization of navies as being defined by how far they can operate from their coastlines, Norway has demonstrated that it has become an “ocean-going”, if not global, navy despite maintaining a strong coastal defence capability. While the seapower inputs of the post-Cold War Marinen may differ only in degree from its

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<sup>425</sup> Xavier Vavasseur, “USS Gabrielle Giffords Test-Launches NSM for the Second Time,” *Naval News*, March 31, 2021, <https://www.navalnews.com/naval-news/2021/03/uss-gabrielle-giffords-test-launches-nsm-for-the-second-time/>. Further highlighting the NSM’s popularity, Poland, Malaysia, and Germany have also selected the NSM for their militaries. As Smith-Sivertsen noted, the conception of the NSM with its greater range and other technical characteristics was driven partly by the desire to make it more attractive to international customers, which would help bring down production costs thanks to economies of scale: Smith-Sivertsen, *Norsk Sjømakt*, 91.

<sup>426</sup> Børresen, *The Norwegian Navy*, 169; Øyvind Bergstrøm, “2.2 Sjøstyrker,” in *Innblikk I Fellesoperasjoner: synergier gjennom felles innsats*, ed. Eldar Berli (Lillehammer: Forsvarets høgskole, 2012), 50; Justin Smelley, “USS Harry S. Truman in action [Image 4 of 5],” *Defense Visual Information Distribution Service*, May 7, 2009, <https://www.dvidshub.net/image/171411/uss-harry-s-truman-action>.

<sup>427</sup> Thomas, Nilsen, “KNM Thor Heyerdahl makes port call in Svalbard,” *The Barents Observer*, October 24, 2021.

<sup>428</sup> Thomas Nilsen, “Moscow dissatisfied with Norwegian navy visit to Arctic archipelago,” *The Barents Observer*, November 12, 2021, <https://thebarentsobserver.com/en/security/2021/11/moscow-dissatisfied-norwegian-navy-visit-norwegian-arctic-archipelago>; Børresen, *The Norwegian Navy*, 163.

Cold War counterpart, it is clear that its outputs have now expanded to include operations far abroad and for purposes other than strictly countering a potential Soviet/Russian invasion of Norway.

### A Special Note on the Nansen Class

Of these new post-Cold War acquisitions, the Nansen class stand out for not just being the most expensive government project in Norwegian history, but for demonstrating a desire to take on a “blue water” ocean-going capability for the Norwegian navy.<sup>429</sup> Given that changes in a navy’s offshore capability is one of the dependent variables for this dissertation’s first research question on the influence of the 200 NM Exclusive Economic Zone on naval development and operations, the Nansen class thus deserves special attention in this section. The ocean-going capability, best illustrated by the ships being two and a half times larger than their predecessors with accordingly better range and seakeeping, was sought for not just wartime reasons such as stability to conduct ASW in all weather, but also peacetime requirements. This meant the ability to solve future unforeseen problems within and ensure Norwegian sovereignty over its new 200 NM Exclusive Economic Zone, and the desire to participate in multinational NATO operations in line with its 1990 New Strategic Concept.<sup>430</sup>

When the project envisioning replacements for the Oslo class was first conceived in the early 1990s, there was significant debate within and between the navy, the Defence Department, and government as to what their purposes and capabilities should be. With an initial budget of only 6.6 billion NOK, the Chief of Defence and FFI recommended six direct replacements for the *Oslos* and *Sleipners* with similar coastal anti-submarine escort duties as their primary mission.<sup>431</sup> The admirals in

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<sup>429</sup> Jacob Børreson, *Det store fregattekjøpet: Historien om anskaffelsen av Fridtjof Nansen-klasse fregatter til Sjøforsvaret* (Oslo: Vidarforlaget, 2015), 17

<sup>430</sup> Børreson, *Det store fregattekjøpet*, 18, 52-53, 55, 59, 84-85. The decision to send the 3000t Kystvakt patrol ship *Andenes* as the Norwegian naval contribution to the first Gulf War instead of an Oslo-class frigate helped drive home the need for a bigger ship.

<sup>431</sup> Børreson, *Det store fregattekjøpet*, 18.

the navy disagreed, however, desiring “full-blown ocean-going, helicopter capable frigates” despite such vessels requiring far more than what was budgeted in order for them to operate at the full extent of the 200 NM EEZ and in NATO operations.<sup>432</sup> Ironically, the Chief of Defence that called for the more conservative approach was an admiral, while the Chief of Defence that approved a doubling of the budget to 11.5b NOK in August 1995 to support the more ambitious direction was army general Arne Solli. Solli had been impressed by arguments put forth by Admiral Kjell Prytz, commander of the navy, during a discussion in 1992 when Prytz noted that Norway’s future tasks will lie on the open oceans where the new large economic zones will provide an increased challenge.<sup>433</sup> Solli’s decision to approve precious procurement dollars on the navy rather than the air force, which also needed new aircraft, was due to the latter’s lack of sufficient pilots to crew any new acquisitions in addition to the recent upgrades the existing fleet of F-16s had received.<sup>434</sup> Solli’s perception that the navy was in greater need of new ships was also shaped by his time as battalion commander in the Northern Norway brigade, when he was briefed on a major fire on the Oslo class KNM *Narvik* in 1982; later in 1994, as commander in chief of Northern Norway’s forces, he was also acutely affected by the grounding and loss of KNM *Oslo* and the associated death of a sailor.<sup>435</sup>

Even with the blue water approach approved, another question was whether to go with a new design or an “off the shelf” option such as the Dutch Karel Doorman class. While members of the staff who devised the ship’s criteria would have been satisfied with the latter option, Navy Material Command (NAVMATCOM), which fell directly under the Defence Department rather than the navy and was in charge of the actual procurement process, decided that all options should be considered based

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<sup>432</sup> Børreson, *Det store fregattekjøpet*, 18.

<sup>433</sup> Børreson, *Det store fregattekjøpet*, 84-85.

<sup>434</sup> Børreson, *Det store fregattekjøpet*, 83.

<sup>435</sup> Børreson, *Det store fregattekjøpet*, 83-84.

on national criteria and requirements.<sup>436</sup> As to whether the ships should be built domestically or abroad, project manager Captain Bjørn Krohn thought the former option would be possible, but the rest of NAVMATCOM was dubious due to the thirty year gap since the *Oslos'* construction. In fall 1996, Defence Minister Jørgen Kosmo settled the debate by opening the project to an international competition, though NAVMATCOM established an integrated project office with Norwegian industry to maximize domestic chances of submitting a winning bid. During the first round of responses to the Request for Proposals (RfPs), five foreign candidates plus the Norwegians submitted bids – none of which met the budget limit of 12.24b NOK (the increase from 11.5b NOK was to account for inflation). In response the RfP was revised to contain fewer functional requirements, and three bidders resubmitted: Spain, Germany, and the Norwegian consortium. The Spanish submission with Lockheed Martin's Aegis and SPY-1F won as it offered, on paper, the most capabilities within the project budget. The Germans were surprised at the inclusion of such robust anti-air capabilities, given the project and RfP's emphasis on ASW capabilities, and offered some alternatives of their own such as the Dutch APAR and British SAMPSON.<sup>437</sup> The Norwegians responsible for assessing the weapons systems, led by Nils Andreas Stensønes, saw the heightened air defence capabilities of the Spanish option as a way of providing greater freedom of action when carrying out the core ASW mission.<sup>438</sup> The German proposals were retained as backups in case contract negotiations ran into issues, which did not materialize. The contract was finalized and signed on June 23, 2000, after the Storting approved an enlarged budget of 14.066 billion NOK.<sup>439</sup>

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<sup>436</sup> Børreson, *Det store fregattekjøpet*, 19, 77. For a brief time in 1997, Defence Minister Dag Jostein Fjærvoll was tempted to simply buy second-hand Perry-class frigates that the United States was offering, but this was soon rejected for many of the same rationales as the Fletcher class rejection in the late 1950s, such as high crewing requirements and dubious long-term relevance.

<sup>437</sup> Børreson, *Det store fregattekjøpet*, 21.

<sup>438</sup> Børreson, *Det store fregattekjøpet*, 240.

<sup>439</sup> Børreson, *Det store fregattekjøpet*, 22.

In the course of construction, even this increased budget proved to be barely sufficient, with it becoming clear that the Spanish offer had been underpriced.<sup>440</sup> As well, additional capabilities were deemed necessary for incorporation even after the contract was signed, such as LINK 16, ESSM acquisition, satellite communications, and an upgraded AEGIS baseline program, which added a further 1.7 billion NOK.<sup>441</sup> Compounding the issue were different expectations regarding “the main contract’s requirement for standards, configuration management and quality assurance.” Illustrating the challenges of buying advanced warships from foreign shipyards, “cultural differences and language problems” added to the already difficult task of designing and building ships to the exacting process and material requirements of a fellow NATO member.<sup>442</sup> Unlike perhaps other smaller powers that have been clients of the Spanish shipbuilding industry, Norway had the experience and expertise to closely inspect and judge the quality and progress of work throughout the shipbuilding process. English, the common language used by both in the process, was also neither party’s first language and was a particular challenge given the high level of technical vocabulary involved.<sup>443</sup> Initial Norwegian disapproval of the work quality resulted in the withholding of payment, leading to ill-will and significant losses on the part of the Spanish. Eventually, however, such issues were resolved, and further disagreements regarding contract requirements were addressed through additional value-equivalent work instead of liquidated damages.<sup>444</sup> As far as Norway was concerned, they received five highly-advanced multimission warships within the budget set in 2000 (if one excludes additional requirements added on subsequently) and only a year late, with the final ship delivered in 2013.<sup>445</sup> For the shipyard,

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<sup>440</sup> Børreson, *Det store fregattekjøpet*, 24. “Spanish” is used here instead of the shipyard/bidder’s actual name due to the company encountering bankruptcy and restructuring under different names (initially Bazan, then Izar) until eventually becoming Navantia.

<sup>441</sup> Forsvarsdepartement, “Prop. 1 S (2015-2016)”, 111.

<sup>442</sup> Børreson, *Det store fregattekjøpet*, 24-25.

<sup>443</sup> Børreson, *Det store fregattekjøpet*, 25.

<sup>444</sup> Børreson, *Det store fregattekjøpet*, 25.

<sup>445</sup> Børreson, *Det store fregattekjøpet*, 26.

whatever economic losses they suffered could arguably be justified by the Nansen class project as its debut in the international naval shipbuilding arena, with further international orders stemming from it since.<sup>446</sup>

But while Norway managed to acquire the ships more or less on time and on budget, this came at an increased operating cost. As part of the contract negotiations, the number of spare parts that were to be included were reduced. Instead of purchasing a large number alongside the build to maximize efficiency, Norway elected to wait until logistics support studies could be conducted regarding which spare parts were most likely to be needed. By the time such reports were ready, many of the parts producers were no longer available or the parts now cost five times as much to procure.<sup>447</sup> Additionally, while the Nansen class was built to operate with only a crew of 120, even this proved too much to pay for crewing all five ships at once. As a result, as early as 2005, the Navy expected to crew only three frigates at any given time.<sup>448</sup> In recent defence budget increases, however, this has since been increased up to four, which, in addition to the sinking of *Helge Ingstad* due to a nighttime collision with an oil tanker, means the whole Nansen fleet are now crewed.<sup>449</sup>

The Nansen class improved upon their Oslo-class predecessors' ability to contest sea control in wartime and peacetime. From an operational standpoint, this improvement is characterized less by the new weapons and sensors than by the ships' enlarged hull and its associated endurance and seakeeping. The fact that *Nansens* were conceived to operate in the 200 NM EEZ and FPZ (the Svalbard Fisheries Protection Zone) means a dramatic extension of Norway's ability to control waters under its jurisdiction

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<sup>446</sup> Børreson, *Det store fregattekjøpet*, 27. Examples of other exports include the Australian Hobart-class destroyer and Canberra-class amphibious assault ship.

<sup>447</sup> Børreson, *Det store fregattekjøpet*, 26-27.

<sup>448</sup> Børreson, *Det store fregattekjøpet*, 26.

<sup>449</sup> Eide and Furrevik, "På jakt etter volum." Rear Admiral Stensønes, head of the Norwegian navy, would rather see more than just one crew per ship, as that would allow each ship to be deployed longer without waiting for the crew to rest.

during times of crisis and conflict. This blue water capability has, in turn, allowed Norway to send combat vessels abroad as part of alliance, United Nations, and partner operations. Ironically, the ships' original purpose as an antisubmarine warfare-centric vessel would be the least well-developed by 2022. This is because the shipborne helicopter intended for it, the Airbus NH-90, has failed to meet its availability requirements, and the Norwegian defence establishment and government have agreed that no amount of time, spare parts, or money would suffice to fix them. As a result, on June 10, 2022, Norway announced that it would return all of its NH-90s to the manufacturer along with a demand for refund.<sup>450</sup> This means the Nansen class, which was to dramatically increase Norway's ASW capability through the use of its own helicopter, will not be able to make use of that vital capability for years to come. This setback in Norway's ability to contest sea control against submarines at home and abroad certainly has tactical consequences in times of crisis and war. However, it does not appear to have had a negative impact on Norway's peacetime objective of more closely working with allies like the United States. Specifically, the 2021-2022 Cooperative Deployment of *Fridtjof Nansen* with the USS *Harry S. Truman* Carrier Strike Group was carried out despite the lack of a helicopter on the *Nansen*. That the Americans were more than willing to tolerate the lack of this fundamental capability was demonstrated by requesting the Norwegians extend their contribution to the Strike Group by another month.<sup>451</sup> Regardless of the *Nansens'* lack of shipboard helicopter, they have successfully demonstrated the ability of Norway's warfighting fleet to operate for extended periods of time well beyond the country's littoral zones. Although developed as replacements for the Oslo class's wartime ASW capability, the *Nansens* have shown their utility as military, diplomatic, and constabulary assets. The early requirement for the

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<sup>450</sup> Regjeringen, "Norge leverer tilbake NH90-helikopteret," *Regjeringen*, June 10, 2022, <https://www.regjeringen.no/no/aktuelt/norge-leverer-tilbake-nh90-helikopteret/id2918079/>.

<sup>451</sup> Forsvaret, " Presseinvitasjon: KNM Fridtjof Nansen tilbake til Norge etter avsluttet oppdrag i Carrier Strike Group 8," *Forsvaret*, May 6, 2022, <https://www.forsvaret.no/aktuelt-og-presse/presse/pressemeldinger/presseinvitasjon-knm-fridtjof-nansen-tilbake-til-norge-etter-avsluttet-oppdrag-i-carrier-strike-group-8>.

Nansen class to be capable of operating to the full extent of the EEZ and participate in post-Cold War NATO operations has clearly been met in a clear sign of the country's ability to match seapower inputs to seapower ends.

### *5.1.5 Concluding remarks on the Marinen*

Ultimately, the Cold War Norwegian warfighting navy played a predominantly sea denial role, rather than one of sea control. The main objective of its wartime seapower was to prevent the Soviets from using the seas as a source of landward power projection (in the form of invasion) and as a means of transportation aimed at carrying that power projection. The Marinen developed under the general umbrella of Norway's security and foreign policy, which trod a fine line between reassuring and deterring the Soviets. This meant a military that had to be limited in its ability to pose a threat to the Soviet Union while still maintaining a credible ability to hold off invasion forces in time to receive NATO reinforcements. Striking such a balance was perhaps easier for a smaller navy like Norway's, as there would be fewer resources and expectations for it to engage in more ambitious uses of the seas. The majority of the fleet's resources were thus spent on contesting the Soviet naval threat at a high level in coastal waters, rather than exploiting sea control for some further uses of the seas. There were some minor exceptions to this, as embodied by the two Sleipner-class corvettes, where escorting coastal convoys meant a limited degree of contestation was envisioned to enable that equally limited degree of exercising sea control to use the sea as a medium of transportation. Much as in the Second World War, the exercise of sea control was, for the most part, to be played by the larger allies in NATO in the form of projecting their own forces onto Norwegian territory to help fight the Soviets on Norwegian territory, and/or to project naval airpower into Soviet land and maritime spaces from the relative perceived safety of Norwegian coastal waters.



However, despite being a small state, Norway was able to have an outsized influence on the composition and capabilities of its fleet through leveraging a well-educated populace and public-private partnerships to develop bespoke weapons systems designed specifically for the coastal defence strategy its navy adopted. In the post-Cold War period with its even smaller domestic requirements, however, export customers were required to help amortize development and production costs of new weapons systems, which led to designs for high-end weaponry like the Naval Strike Missile that are arguably beyond the need of Norway's traditional security requirements. This, in turn, have led to acts of naval diplomacy such as participating in RIMPAC and deploying with American aircraft carriers, which served to both advertise advanced Norwegian weapons as well as enhance traditional alliance-building objectives. Changes to Norway's maritime boundaries appeared to have had only a belated effect on the force structure of the Marinen, and such effects are not entirely clear as being the outcome of such boundary expansions: the fleet remained relatively static in composition during and after the 1970s, with the exception being the Nansen-class frigates delivered in the new millennium. Although the post-Cold War Marinen engaged in a much wider variety of seapower outputs (e.g. counterpiracy off Somalia, escorting the removal of chemical weapons from Syrian under United Nations auspices), this was accomplished using a seapower input (the Nansen class) that remained focused on contesting sea control at a high level against military targets. Such was not the case, however, for the constabulary half of the Royal Norwegian Navy, as Part II will detail.

## 5.2 Part II: The Norwegian Coast Guard and the Path Towards It

### 5.2.1 Oppsynstjeneste and Det sjømilitære fiskerioppsyn: Fisheries Control

#### *Operations before 1976*

The 1960 Fleet Plan discussed in the previous section set out the path forward for the Norwegian combat fleet, but it did not deal with modernizing the fisheries inspection service that the navy was in charge of carrying out. Nonetheless, its discussions and implementation coincided with an increasing institutionalization of the Norwegian navy's fisheries supervision/protection service, or oppsynstjeneste. Formally established in 1961 as Det sjømilitære fiskerioppsyn (SFO), or literally The Naval Fisheries Surveillance/Supervision, it is also translated by Norwegian naval historian Jacob Børreson as Fishery Protection Organization.<sup>452</sup> Consisting of six major vessels by the mid-1960s, the SFO served as the basis for what would become the Kystvakt, or Coast Guard, in 1977. As this would be the organization that becomes responsible for contesting sea control in Norway's 200 NM offshore zones, it is important to cover here its predecessor's force structure and operations in order to understand how the new 200 NM obligations changed existing arrangements.

From Norwegian independence in 1905 until 1961, the Norwegian navy had already been responsible for duties related to fisheries inspection and assistance to mariners in both domestic waters and, to a lesser extent, high seas. Though there was no separate command structure for such duties and services, a limited number of dedicated "oppsynsskipe", or surveillance/supervision ships, were

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<sup>452</sup> Børresen, *The Norwegian Navy*, 142; Jan Ingar Hansen, "Det sjømilitære fiskerioppsyn (1961)," *Forsvarets museer*, December 5, 2014, <http://forsvaretsmuseer.no/nor/Marinemuseet/Sjoeforsvaret-organisasjon-avdelinger-og-drift-1814-2016/Kystvakten/Det-sjoemilitaere-fiskerioppsyn-1961>; Jan Ingar Hansen, "Oppsynstjeneste fra 1906," *Forsvarets museer*, December 5, 2014, <http://forsvaretsmuseer.no/nor/Marinemuseet/Sjoeforsvaret-organisasjon-avdelinger-og-drift-1814-2016/Kystvakten/Oppsynstjeneste-fra-1906>; Jan P. Jansen and Per Christian Blichfeldt, *Havets Voktere: Historien om Kystvakten* (Oslo: Schibsted, 1998), 68, 92.

involved.<sup>453</sup> Many of these ships were requisitioned or converted from existing civilian vessels. The 38.5m 226-tonne former research vessel *Michael Sars*, for instance, assisted some 100 Norwegian fishers off Iceland in 1929 with such things as telegram messaging, medical assistance, and radio repairs, which helped enable Norwegian civilians to use the seas as a resource.<sup>454</sup> But perhaps the most notable of these was the *Fridtjof Nansen*, which served as a dedicated Arctic/ice-capable offshore patrol and expedition vessel and would set a precedence for future Norwegian Arctic patrol ships.<sup>455</sup> Built at the Horten navy yard and commissioned 1931, *Nansen* displaced 1700 tonnes, had a range of 7-8000 nautical miles, was armed with two 100mm and two 47mm cannons, and served as post-independence Norway's first dedicated purpose-built fisheries surveillance vessel. Unusually for the time and ship of her size, *Nansen* was even designed to carry a floatplane for reconnaissance purposes.<sup>456</sup> Although she performed well when available, a severe grounding in 1933 took her out of service for much of the mid-1930s for repairs. She later grounded again and sunk on the Jan Mayen Islands while on the way to supporting Allied operations in Iceland in November 1940, after having helped evacuate key Norwegian military and government officials to Great Britain earlier that year.<sup>457</sup> *Nansen's* range and capabilities allowed her to support and assist Norwegian fishers on the high seas in areas such as the Vesteis, or Western Ice, which were international ice-infested waters lying between Greenland, Iceland, and Jan

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<sup>453</sup> While this dissertation will use the Norwegian "oppsynsskipe" where possible, such vessels may also be referred to as "fisheries patrol ships" or "fisheries surveillance ships".

<sup>454</sup> Mo, *Norske Marinefartøy*, 110; Jansen and Blichfeldt, *Havets Voktere*, 43.

<sup>455</sup> Jansen and Blichfeldt, *Havets Voktere*, 44-45.

<sup>456</sup> It is not certain one was actually carried during any deployments. Jansen and Blichfeldt, *Havets Voktere*, 44-45; Marinemuseet, "Fridtjof Nansen," *Forsvaretsmuseer*, <http://forsvaretsmuseer.no/fartoybasen/Fartoeysbasen/Fridtjof-Nansen>; Marinens Hovedverft, "Skala 1/100. Opsyns- og ekspedisjonsskib. Byggenr 118." *Marinens Hovedverft*. ("1/100 scale. [Drawing of] Surveillance and expedition ship, build number 118.) February 23, 1929. U-649. Marinemuseet. <http://forsvaretsmuseer.no/fartoybasen/content/download/22295/138705/version/1/file/MMU.990122+Fridtjof+Nansen.jpg>. The drawing indicates the aircraft to be a monoplane with a wingspan of 15.7m, which matches the only monoplane in service with the Norwegian naval service at the time, the Hansa Brandenburg W.33, of which 29 were in Norwegian service: Mo, *Norske Marinefartøy*, 306-307.

<sup>457</sup> Mo, *Norske Marinefartøy*, 111; Marinemuseet, "Fridtjof Nansen," *Forsvaretsmuseer*, <http://forsvaretsmuseer.no/fartoybasen/Fartoeysbasen/Fridtjof-Nansen>;

Mayan and were plentiful sealing grounds. Her size, capabilities, and mission were the exception rather than the rule for the interwar period, and the other oppsynsskipe, such as the two Nordkapp class and a number of requisitioned *skøyte* or smacks, serving with her at the time were roughly one-sixth of the displacement. They were much slower and older which reflected the limited seakeeping and endurance required to patrol the 4 NM extent of the country's territorial waters at this time.<sup>458</sup>

In the post-Second World War period, Flower-class corvettes took over the *Nansen's* distant water fishing support role. They operated out of newly-independent Iceland to both ensure Norwegian fishing vessels (numbering some 250 in 1950) did not violate Icelandic territorial waters, as well as assist those fishers with everyday needs such as medical aid, long range telegraphing, and hull/mechanical repairs.<sup>459</sup> Ironically, then, military assets that are usually used for enforcing their operating state's sovereignty were being used to ensure the sovereignty of another state. It can be further stated that this meant a very low level of sea control contestation was being employed against a navy's own civilians while also exercising control of the sea to support those same civilians' resource exploitation activities. Despite being a fairly small navy, the Norwegians were still substantially more capable than the Icelanders and such uses of naval vessels also illustrate a form of power projection, albeit limited to distant waters rather than any land-based objectives.

The rapid technological developments of the Second World War also resulted in closer ties between the civilian fishing industry, the government Fisheries Directorate, and the navy. Not only did the fisheries protection and support duties continue to be carried out by the Norwegian navy using

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<sup>458</sup> Norway's claim to a 4 NM territorial sea as measured from straight baselines around its myriad islands, fjords, and bays was formalized in 1935 through Norwegian royal resolution. The British opposed using straight baselines, but the Second World War interrupted attempts at challenging the Norwegian position. Post-war, the matter was submitted to the International Court of Justice at the Hague, and in December 1951, the ICJ agreed with Norway's position of straight baselines based on its claim as historic waters. Mo, *Norske Marinefartøy*, 112-113; Jansen and Blichfeldt, *Havets Voktere*, 50-51, 65-67, 77; Donat Pharand, "Historic Waters in International Law with Special Reference to the Arctic," *The University of Toronto Journal of Law* 21, no. 1 (1971): 5, 14.

<sup>459</sup> Jansen and Blichfeldt, *Havets Voktere*, 79-81.

relatively new wartime vessels, there were also opportunities to exploit the commercial and research potential of wartime military technologies. The Flower-class corvette KNM *Eglantine*, for instance, was employed in 1946 to test its submarine-hunting ASDIC capabilities as a tool for locating herring stocks. Another Flower class, the *Andenes* K 01, was used to showcase ASDIC, echo sounder, and radar capabilities to the trainees at the Fishery Directorate's National Fisheries School in Aukra, which helps certify students for fishing operations on Norwegian vessels.<sup>460</sup> In 1951, another Navy vessel used these technologies to assist Norwegian fishers in locating herring shoals off Iceland.<sup>461</sup> Norwegian maritime historians Jan Jansen and Per Blichfeldt attribute Norway's subsequent rise as a centre of expertise in electro-acoustics and underwater fisheries identification and location to be results of these early efforts at incorporating wartime technologies into civilian use.<sup>462</sup> This "civilianization" of military technology demonstrated the close ties between wartime and peacetime seapower. Seapower inputs that were once used to contest control of the seas for transporting wartime materiel and personnel across the North Atlantic had become the seeds for technological developments that would help Norway exercise peacetime sea control to use the seas as both sources of information and resources.

The three Flowers and the prewar Nordkapp-class oppsysnsskipe were replaced in 1956 by the three River/Prestonian-class frigates mentioned in the previous section on the Marinen. Newly upgraded by their former Canadian masters, these ships were faster, larger, and better equipped than their predecessors. They would seem to be everything a small navy could want in the fisheries patrol and support role.<sup>463</sup> They even had three different sonars and modern Squid anti-submarine mortars in

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<sup>460</sup> Jansen and Blichfeldt, *Havets Voktere*, 76-77; Fiskeridirekør, "Plan for Statens Fiskarfagskular," *Fiskeridirektoratets Småskrifter* No. 6, (Bergen: A/S John Griegs Boktrykkeri, 1955), 3-5.

<sup>461</sup> Jansen and Blichfeldt, *Havets Voktere*, 77.

<sup>462</sup> Jansen and Blichfeldt, *Havets Voktere*, 77.

<sup>463</sup> Jansen and Blichfeldt, *Havets Voktere*, 61.

the event of war, allowing them to carry out tasks as part of the combat fleet.<sup>464</sup> Yet, it was this very advantage that rendered them less than optimal for the peacetime constabulary role they predominantly played. All these advanced warfighting equipment were unnecessary for ensuring fishing captains' compliance, yet still required dozens of crewmembers to maintain and operate. Those same crewmembers also had to be rotated out on a frequent basis in accordance with the need to train the navy's sailors on warfighting equipment and tactics.<sup>465</sup> At the same time, fisheries patrol made for limited tactical warfighting training opportunities, though sufficient for basic seamanship.<sup>466</sup> Further, the ships had to split their time between the fisheries patrol duties and the operations of the warfighting fleet. Together, this meant that despite all their technical advantages, the *Prestonians* proved unaffordable and less than optimally available for their core fisheries patrol mission. Thus, despite only serving for a few years, a new dedicated oppsynsskipe fleet was already being considered in the late 1950s as part of a broader debate in the government as to which department the fisheries patrol and maritime border surveillance mission should fall under.<sup>467</sup>

On July 31, 1958, the Fisheries Department appointed a committee headed by Commander E. Stokstad to examine this issue. With the above issues concerning the drawbacks of using warfighting vessels and sailors already well-established by this time, the committee moved quickly. They recommended on August 18 that although the navy should retain ownership of the fisheries patrol and maritime border missions, such missions should fall under a new distinct and formalized chain of

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<sup>464</sup> Sandy McClearn, "Prestonian-class (FF) Ocean Escort," *Hazegray.org*, <http://www.hazegray.org/navhist/canada/postwar/preston/>; Sandy McClearn, "Canadian Navy SONAR Systems," *Hazegray.org*, <http://www.hazegray.org/navhist/canada/systems/sonar/>.

<sup>465</sup> Jansen and Blichfeldt, *Havets Voktere*, 68.

<sup>466</sup> Jansen and Blichfeldt, *Havets Voktere*, 68.

<sup>467</sup> Jansen and Blichfeldt, *Havets Voktere*, 60-61, 68.

command that focused on such peacetime constabulary missions.<sup>468</sup> This was accepted by the government just one week later.<sup>469</sup>

Having decided *who* would be in control of the new constabulary fleet, the issue then turned to *what* would comprise the new fleet. Given this dissertation's interest in force structures as a dependent variable of the potential influence of changes in maritime boundary limits, it is important to detail here the vessels that were acquired to meet the constabulary mission before the implementation of the 200 NM Exclusive Economic Zone so that they can be compared with vessels acquired after the EEZ implementation.

To meet the requirements for the then-4 nautical mile territorial waters, a fleet of six ships was deemed necessary in addition to the 155t M/S *Nordsysse* already under the Governor of Svalbard's control. Should the maritime border be extended out to 12 nautical miles, as was being considered at the time, then two further ships would be required.<sup>470</sup> At the top end of the new surveillance fleet was the *Nornen*, a ~1000t vessel purpose-built to fulfill the long-range patrol and support duties that had similarly been carried out by the *Fridtjof Nansen* during the interwar period. The *Nornen's* four diesel engines provided redundancy for long endurance patrols out to Iceland and gave her a maximum speed of 17 knots, deemed to be the minimal to catch up with the fastest trawlers of the time.<sup>471</sup> However, these advantages came at significant cost. This led to the Fisheries Department, which funded the oppsynsskipe acquisition despite their being operated by the navy, to acquire the two 500t Farm class instead of more *Nornens*. These smaller vessels received criticisms from the Navy for their inferior characteristics compared to the *Nornen*, much as the Nordkapp class did compared to the *Nansen*

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<sup>468</sup> Jansen and Blichfeldt, *Havets Voktere*, 68.

<sup>469</sup> Jansen and Blichfeldt, *Havets Voktere*, 68.

<sup>470</sup> Jansen and Blichfeldt, *Havets Voktere*, 68-69.

<sup>471</sup> Mo, *Norske Marinefartøy*, 268.

during the interwar period.<sup>472</sup> For instance, the low buoyancy of the Farm class's narrower bows meant they would dig into the waves, resulting in much slower top speeds despite being only one knot slower on paper than *Nornen*. Their generally lower seaworthiness also meant they could not lower and retrieve the ship's boats in even moderate seas, which are vital for delivering boarding parties when inspecting other vessels.<sup>473</sup> The head of the Fisheries Committee that called for the *Farms* fought back against these criticisms, claiming that these oppsysnskibe should not be thought of as "floating nursing homes" (flytende hvilehjem) and that a 500t vessel should be more than sufficient for any competent sailor, especially given the deployment cycle of three weeks at sea and two weeks on land.<sup>474</sup>

Regardless, the *Farms* did find a place within the Norwegian maritime constabulary structure and served for several decades before finally retiring in the mid-1990s.<sup>475</sup> Although slower with poorer seakeeping, the limited extent of Norwegian territorial waters at this time meant they could still provide useful service in more sheltered coastal waters. At the same time, some presence in such waters would still be required even after the extension of the Norwegian maritime boundaries. At the very least and in accordance with the close blockade logic discussed in Chapter 4, they could remain useful for inspecting Norwegian vessels on their way back to their homeports or fishing in sheltered fjords.

To augment this fleet of three new-builds, three additional leased vessels of the Andenes class were acquired and put into service following refits. Built in 1957 in the Netherlands, these 750t ships were built as civilian whalers and, despite being specifically chosen for their size to address the criticisms of the two purpose-built Farm class, proved less suitable for the task and were the first to leave service in the late 1970s. In sum, this new mid-1960s fleet was similar in overall composition to the prewar oppsynstjeneste fleet. Their characteristics clearly illustrate the much narrower purpose for which they

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<sup>472</sup> Jansen and Blichfeldt, *Havets Voktere*, 72.

<sup>473</sup> Jansen and Blichfeldt, *Havets Voktere*, 72.

<sup>474</sup> Jansen and Blichfeldt, *Havets Voktere*, 73.

<sup>475</sup> Mo, *Norske Marinefartøy*, 269.



were acquired in comparison with the warfighting ships they replaced, moving the oppsynstjeneste fleet's sea control contestation capabilities to a lower level in line with the constabulary purposes of that control. In contrast to the *Prestonians'* crew of 140, each of the six ships carried only 29 to 32 crewmembers.<sup>476</sup> They were also armed with just a single 40 or 57mm cannon, instead of the multiple 102mm and 40mm guns and anti-submarine mortars on the *Prestonians*. This meant dramatically reduced operating costs, and, as a rough illustration of how much less crewing intensive the new patrol ships were, the number of sailors required to operate all six of the new fisheries patrol vessels would have been enough to operate only a single *Prestonian*.

When persistent surveillance across the entire Norwegian coast is needed against minimal resistance, it made sense to distribute a much greater number of vessels of limited sea control contestation capability across a greater area rather than concentrating greater combat capability into a single hull that could only be in one place at a time. At the same time, the limited extent of Norwegian territorial waters at the time also meant most of these patrol ships could be fairly small with limited seakeeping capabilities, with the exception of the single *Nornen* to support distant fishing efforts off Iceland and Greenland.

This force structure of six patrol ships remained constant throughout the 1960s and 1970s despite the establishment of a new exclusive fisheries zone out to 12 NM in 1961.<sup>477</sup> The two additional vessels that the late 1950s commission called for in the event of such expansion were not procured, though the six patrol ships were supported by 19 small hired smacks of limited capability.<sup>478</sup> One

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<sup>476</sup> Mo, *Norske Marinefartøy*, 137, 268-270; "Nordsyssel," *Ishavsmuseet Aarvak*, <https://www.ishavsmuseet.no/skutekatalog/nordsyssel/>.

<sup>477</sup> Jansen and Blichfeldt, *Havets Voktere*, 84-85. The 12 NM limit was not applied to the coastline east of the Lindesnes lighthouse guarding the western entrance to the Skagerrak in the southernmost tip of Norway to allow time to negotiate additional arrangements with Denmark and Sweden. In 1967, the 12 NM was extended along the rest of the Skagerrak coast.

<sup>478</sup> Jansen and Blichfeldt, *Havets Voktere*, 89.

possible explanation for the lack of urgency in seeking an expanded oppsysnskipe fleet may be due to the graduated imposition of the 12 NM zone. Although put into effect in 1961, the following ten years served as a grace period for traditional foreign users (often British) of the waters between the 4 NM territorial sea limit and the new 12 NM fisheries zone limit.<sup>479</sup> This reduced potential incidents of conflict between foreign fishers and Norwegian enforcement officials, requiring fewer surveillance and patrol vessels necessary to monitor and, if necessary, contest control of that area of water. Even after the grace period ended, violations of the 12 NM limit appeared to have been minimal: 1971, for instance, saw the arrest of only a single British trawler that had entered the zone. Indeed, Norwegian fishers appeared to have been a greater problem, with three of them arrested that same year for trawling within the 4 NM zone, where trawler fishing was forbidden.<sup>480</sup>

The distant water fishing support duties of the *Nornen* also coincided with Norway's increasing interest in using the sea's resources up in the high Arctic. By 1966, the herring fisheries off Iceland had become so overfished and depleted that there was no longer a need for a support ship, and that was the final year that *Nornen* carried out its role in those waters.<sup>481</sup> At the same time, however, the capelin fisheries off Jan Mayen, Svalbard, and Novaya Zemlya became more attractive to Norwegian fishers.<sup>482</sup> As a result, rather than being able to bring *Nornen* closer to Norwegian territorial waters on the continent, demand for its offshore capabilities remained, albeit shifted north and east. Unlike the close proximity of Icelandic ports to the herring fisheries outside its territorial waters, similar facilities on land were not available in these areas of the Arctic and often times the capelin fishing fleet operated 200 nautical miles away from the nearest port. This posed additional challenges to the *Nornen*, especially when towing disabled ships or employing its embarked divers to repair tangled propellers.<sup>483</sup> The

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<sup>479</sup> Jansen and Blichfeldt, *Havets Voktere*, 84-85.

<sup>480</sup> Jansen and Blichfeldt, *Havets Voktere*, 91.

<sup>481</sup> Jansen and Blichfeldt, *Havets Voktere*, 83.

<sup>482</sup> Jansen and Blichfeldt, *Havets Voktere*, 82

<sup>483</sup> Jansen and Blichfeldt, *Havets Voktere*, 83.

willingness to employ *Nornen* helps illustrate the importance of distant waters fishing to the Norwegian economy, highlighting the relationship between constabulary naval forces and their support for the state's civilian use of the seas as a resource. Norwegian constabulary fleet assets were therefore far from being limited to coastal waters, which was the case with the Marinen's warfighting forces discussed in the previous section.

Even as the fleet of oppsysnskipe was fully occupied by their tasks in Norwegian waters, 1970 brought about yet another development that would serve as a prelude of tasks to come: the entry into force of the North-East Atlantic Fisheries Commission, or NEAFC. As a regional fisheries management organization, its state members, including Norway, collectively agree to common practices to ensure the long term sustainability of fishstocks through surveillance and enforcement activities on the high seas. For Norway, this meant using its already stretched fleet of fisheries patrol ships to go beyond the 12 NM limit to help inspect fixed fishing gear and trawlers. Though the fleet made an admirable effort to take up inspections when their regular domestic missions allowed, it was clear the existing force would not suffice, especially with the ongoing discussions for a potential 200 NM exclusive economic zone.<sup>484</sup> In terms of resource allocation by the Royal Norwegian Navy for Det sjømiljære fiskerioppsyn, it was clearly a low priority compared to the warfighting forces established by the 1960 Fleet Plan and modernized since. Fisheries control, even with the 12 NM limit in place, did not appear to require much in the way of compulsive actions on the part of the navy, with few instances requiring contestation at sea. Ultimately, Norway's constabulary seapower was focused more on ensuring its own citizens could use the ocean's resources wherever they may roam, and much less emphasis was placed on duties that served international cooperative interests via institutions like NEAFC. Indeed, the 1960s-1970s period is a poor demonstration of "seapower" as defined in this dissertation given that neither compulsive measures nor

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<sup>484</sup> Jansen and Blichfeldt, *Havets Vokterne*, 87-90.

institutional measures were employed or cultivated to any substantial degree by Det sjømiljøfiskerioppsyn. Rather than denying the use of Norwegian ocean resources to any opponent, the SFO was more involved in assisting Norwegian mariners as they exercised control over those resources. In the subsequent decades following the establishment of the 200 NM zone, however, this would change.

### *5.2.2 Establishing the Exclusive Economic Zones and Creation of the Kystvakt (Norwegian Coast Guard)*

In 1976, the Norwegian Coast Guard was formally established as a separate agency under the Navy (Sjøforsvaret) as separate from the warfighting Marinen. The roles assigned to it have increased gradually in the following decades as Norway's relationship with its European neighbours also developed. For example, the Schengen Zone's introduction in 2001 saw the Coast Guard adopt new responsibilities for ensuring Schengen immigration procedures are adhered to on Norway's maritime frontier. This, in turn, was made legally possible at the domestic level by the 1997 Coast Guard Act (Kystvaktloven), which brought together pre-existing statutes regulating the Coast Guard's activities under a single legal framework as well as expand its ability to support customs and immigration requirements at sea.<sup>485</sup> In this sense, the Kystvakt has increasingly taken on more vital roles in asserting state authority at sea. The political distinction between land and sea and the roles played by government agencies on both has thereby converged.

However, the 1976 creation of the Kystvakt coincided with something even more consequential for both seapower theory and the Kystvakt's role in Norwegian security and society. Certainly, there were the ongoing negotiations at the third United Nations Conference on the Law of the Sea, which

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<sup>485</sup> Forsvarsdepartementet, "§10. Tolloppsyn" and " §12. G", *Lov om Kystvakten (Kystvaktloven)*. From lovdata.no, <https://lovdata.no/dokument/NL/lov/1997-06-13-42>; Forsvarsdepartementet, "Ot.prp. nr. 41 (1996-1997): Om love om Kystvakten (Kystvaktloven). 1 Proposisjonens hovedinnhold," *Regjeringen.no*, <https://www.regjeringen.no/no/dokumenter/otprp-nr-41-1996-97-/id158561/sec1>.

produced the 1982 UNCLOS. But perhaps more importantly, December 17, 1976, saw the Norwegian parliament (Storting) pass “Act No. 91 of 17 December 1976 Relating to the Economic Zone of Norway”, or “Soneloven”.<sup>486</sup> The Sonelov declared a 200 nautical mile economic zone off the Norwegian mainland, effective January 1 the following year. Subsequent amendments added equally expansive fisheries zones to Norway’s outlying territories: Svalbard on June 3, 1977, and Jan Mayen on May 29, 1980.<sup>487</sup> The addition of the Svalbard zone will be a particularly challenging issue for constabulary naval duties due to differences of interpretation regarding a previous treaty governing the islands and their surrounding waters, which will be discussed further below.

These expansions of Norway’s maritime territorial rights (both in geographical breadth and enforcement) were implemented with the caveat that they remain consistent with international law.<sup>488</sup> Consistent with the discussions then taking place at the UN Conference on the Law of the Sea, the 200 NM limit reflects similar actions taken by other countries around the world at the time. Some twenty-five countries had claimed exclusive fishing or economic zones beyond twelve nautical miles by 1976, and many of them used the 200 NM figure. These are in addition to states that had also claimed even more restrictive territorial seas beyond the 12 NM that UNCLOS eventually granted.<sup>489</sup> As the Australian Ambassador to the third UNCLOS, Keith G. Brennan, noted, pressure by coastal states for greater powers in their adjacent waters had been growing substantially throughout the 1970s. While “the pressure was

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<sup>486</sup> Office of the Special Representative of the Secretary-General for the Law of the Sea, “Norway,” in *The Law of the Sea: National Legislation on the Exclusive Economic Zone, the Economic Zone and the Exclusive Fishery Zone* (New York: United Nations, 1986), 229-232; Forsvarsdepartementet, “Ot.prp. nr. 41 (1996-1997): Om love om Kystvakten (Kystvaktloven). 3 Generelle merknader,” *Regjeringen.no*, <https://www.regjeringen.no/no/dokumenter/otprp-nr-41-1996-97/id158561/sec3>.

<sup>487</sup> Forsvarsdepartementet, “3 Generelle merknader”.

<sup>488</sup> For the 1976 Act Relating to the Economic Zone, see paragraph 7, “Norway,” 231; for the Kystvaktlov, see “§4. Folkerettslig begrensning.”

<sup>489</sup> Winston C. Extavour, *The Exclusive Economic Zone: A Study of the Evolution and Progressive Development of the International Law of the Sea* (Geneva: Institut universitaire de hautes études internationales, 1979), 165-167.

strongest in relation to resources”, it also included matters of pollution control and scientific research.<sup>490</sup> Rights to carry out the latter could ensure the former could be effectively and/or sustainably exploited. That the Sonelov’s writers felt comfortable with declaring a 200 nautical mile economic zone reflects the key position held by the Norwegian representative at the UNCLOS proceedings. Ambassador Vindenes, alongside Mexico’s Ambassador Castaneda, was the draftsman of the section in UNCLOS that dealt with the Exclusive Economic Zone (EEZ).<sup>491</sup> Although Vindenes did not take on this intimate role until mid-1977 (and thus after the Sonelov was passed), it is likely that Vindenes already had a good idea of what distance representatives at the conference would settle on establishing in the final copy of the Convention. Certainly, by this point the conference was already in its sixth session, and approximately two-thirds of the UNCLOS III attendees had already spoken in favour of a 200 NM EEZ at the first substantive session in Caracas, June 1974.<sup>492</sup> It appears the major issue concerning the EEZ throughout the negotiations was not so much its geographical breadth, but what rights states would have within it. It was this jurisdictional status that concerned the negotiators, and upon which Vindenes and Castaneda focused their efforts. In the end, UNCLOS III agreed that the EEZ was to be a zone in which the coastal state would have full and exclusive rights to exploit and regulate natural resources both in the water column (e.g. fish) and on/under the seabed (e.g. hydrocarbons). It would not, however, have the right to exclude military activities or other shipping in the area, except as allowed in the broader body of international maritime law, such as pollution control in specific instances.<sup>493</sup>

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<sup>490</sup> Keith G. Brennan, “Keynote Speech: The Evolution of the Sui generis Concept of the Exclusive Economic Zone,” in *Exclusive Economic Zone 1982: Proceedings of the 7<sup>th</sup> International Ocean Symposium* (Tokyo: The Ocean Association of Japan, 1983), 8.

<sup>491</sup> Brennan, “Keynote Speech”, 9.

<sup>492</sup> David Joseph Attard, *The Exclusive Economic Zone in International Law* (Oxford: Clarendon Press, 1987), 28-29; Brennan, “Keynote Speech”, 8-10.

<sup>493</sup> Aldo Chircop, “Ships in Distress, Environmental Threats to Coastal States, and Places of Refuge: New Direction for an Ancien Regime?” *Ocean Development & International Law* 33, no. 2 (2002): 218.

In terms of seapower, this means coastal states may increase the area over which they can legally contest control against other actors wishing to use the waters within the EEZ as a resource. The outputs of such seapower would be to ensure that all resources within the EEZ could only be exploited in accordance with the domestic laws of the coastal state. States that accede to UNCLOS have essentially added an institutional form of seapower to their toolbox which allows them to leverage the full range of the state's legal options to influence acceptable behaviour at sea. As will be seen in the below case studies, however, UNCLOS and the domestic laws it permits within the EEZ will not suffice on its own to deter or prevent all forms of activities that seek contest the coastal state's ability to use their sea's resources.

The EEZ is novel for being an area that had no formal historical legal basis. Its creation, therefore, was considered by some scholars and negotiators as *sui generis*.<sup>494</sup> In the two decades between the 1958 iteration of the UN Conference on the Law of the Sea and UNCLOS III, international maritime law recognized only two types of zones at sea so far as resources were concerned: high seas in which no country had any jurisdiction, and territorial seas, which were subject to national sovereignty excepting the right to innocent passage.<sup>495</sup> Since the new EEZ is considered to be a legal extension of neither of these, anything not explicitly included in the Convention text cannot be assumed to automatically fall under either high or territorial sea rules. Instead, they must be resolved on a case-by-case basis by the conflicting states.<sup>496</sup> This would become problematic in the context of the waters around Svalbard, which will be covered further below.

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<sup>494</sup> Brennan, "Keynote Speech", 10.

<sup>495</sup> United Nations, "Part I, Section III. Right of Innocent Passage," in *Convention on the Territorial Sea and Contiguous Zone* (Geneva: United Nations, 1958), <https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280033c69>. Two other zones also existed since codified in the 1930 Hague Codification Conference: internal waters subject to the coastal state's full sovereign power, and the contiguous zone between territorial and high seas. The contiguous zone appeared to have served more as a concept for considering gradations of state jurisdiction at sea rather than a hard legal boundary enshrining specific rights. Extavour, *The Exclusive Economic Zone*, 11-12, 19.

<sup>496</sup> Extavour, *The Exclusive Economic Zone*, 11.

The creation of the Norwegian EEZ therefore greatly expanded Norway's ability to not only exploit its surrounding waters, but to prevent non-Norwegian actors from exploiting them. This institutional seapower meant Norway could now pass a wide range of domestic laws to control permissible activity in its EEZ, backed up by the full range of law enforcement measures ranging from armed patrol vessels to land-based licensing and inspections. Norway's control over the 200 NM zones was enabled by compulsive measures where the use or threat of violent force helped ensure UNCLOS's institutionalized agreement between states pertaining to the 200 NM zones would be respected by their civilian users of the seas. At the same time, the Norwegian navy could more effectively carry out their fisheries inspection tasks thanks to the indirect seapower of the UNCLOS institution. In the years that followed, both the fisheries and seabed oil would only become more vital to Norwegian interests, requiring greater compulsive and institutional measures for maritime monitoring and enforcement.

The consequence of this change is significant for scholars of maritime strategy. Sea control was no longer restricted to the activities of navies in wartime, or even of constabulary vessels operating within sight of shore for sovereignty protection missions like customs and health inspections. To the extent that a state was interested and had the requisite capabilities, sea control now included activities to control the passage of vessels threatening to cause environmental damage to or illegally exploit resources in a state's EEZ, territorial waters, and shoreline. While the right of a coastal state to perform such a function is not supposed to infringe upon the basic principle of Freedom of Navigation, it nevertheless establishes a precedent in which coastal states have an "exceptional right" in a region of the world that is otherwise free from most forms of state jurisdiction.<sup>497</sup>

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<sup>497</sup> Chircop, "Ships in Distress," 217-218.



## Kystvakten Offshore Force Structure 1976-2020

Such legal developments required new physical means for enforcing those rights. The six 1960s Sjømilitære fiskerioppsyn's oppsynsskipe had served well in the fisheries inspection and some environmental protection missions in the preceding years, but while they could be stretched to fulfill tasks along the 12 NM territorial sea, the new 200 NM limit was clearly more expansive and required a review of the institutional arrangement and force structure's adequacy. To prepare for the prospective creation of the EEZ, an interdepartmental Fisheries and Shelf Committee was established in 1974 to examine how best to proceed in asserting control over the expanded waters. In June the following year, the committee released their recommendation to establish a Coast Guard (Kystvakt) under the general umbrella of the Armed Forces (Forsvaret). The discussions running up to the Kystvakt's establishment in 1976 came to the conclusion that allocating additional naval vessels for such relatively mundane tasks was an inefficient use of resources.<sup>498</sup> As well, this would require diverting more naval personnel who were simply not well-suited for the tasks required of fishery and resource monitoring, nevermind their adequacy for how to deal with violators. Of particular importance in this Cold War context, using naval resources for peacetime offshore constabulary activities would hamper the navy's ability to prepare for traditional wartime concerns given the latter's focus on coastal sea denial.<sup>499</sup> This was especially significant given that only the Marinen's five 1760t Oslo-class frigates had close to the necessary seakeeping, endurance, and size to operate in the demanding environment of the 200 NM EEZ.<sup>500</sup> At the same time, existing agencies that could have had the training and authority to carry out EEZ duties did not have the requisite material capabilities. The police, for instance, were hardly equipped to go

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<sup>498</sup> Forsvarsdepartementet, "Ot.prp. nr. 41 (1996-1997): Om love om Kystvakten (Kystvaktloven). 2 Bakgrunnen for og arbeidet med departementets lovutkast," *Regjeringen.no*, <https://www.regjeringen.no/no/dokumenter/otprp-nr-41-1996-97-/id158561/sec2>.

<sup>499</sup> Forsvarsdepartementet, "Ot.prp. nr. 41 (1996-1997): Om love om Kystvakten (Kystvaktloven). 2 Bakgrunnen for og arbeidet med departementets lovutkast."

<sup>500</sup> Mo, *Norske Marinefartøy*, 216.

offshore. Meanwhile, the rest of navy's ships lacked the endurance for patrolling large offshore areas, concerned as they were with the primary coastal defence mission of interdicting the Soviet Northern Fleet within the Norwegian fjords as noted in the first part of this chapter.

As a result, the new Kystvakt was established alongside an initial procurement plan for seven new offshore patrol vessels in the 3,000 ton range. Three of these were to be ice-capable.<sup>501</sup> The tenders for these were put out in November 1976, coinciding perfectly with the expansion of the Norwegian EEZ. However, the November 1977 budget for the still-nascent Kystvakt was cut in order to help balance a 200 million Kroner shortfall in the overall defence budget.<sup>502</sup> The shortfall meant that the procurement had to be drastically reduced, and only three ships of this class were eventually procured.<sup>503</sup> Certainly, interest remained in the Norwegian parliament for greater Kystvakt involvement, and March 1977 and January 1980 both saw new legislation relating to the expansion of coast guard organization and powers.<sup>504</sup> The new Nordkapp class were commissioned between March 1981 and March 1982, providing Norway with a dedicated long-range armed maritime enforcement capability for the first time just in time for the conclusion of the UNCLOS negotiations. They were also the first ships in Norwegian military service to be equipped with a helicopter hangar, significantly increasing the country's ability to monitor its maritime domain. The *Nordkapps* also played a dual-role in being fitted for, but not with, heavy weapons such as Penguin anti-ship missiles and torpedoes to serve as escort ships in wartime.<sup>505</sup> While the *Nordkapps* were being built and for some years afterwards, leased civilian vessels were also procured on a rotating basis from private companies or individuals to help carry out the Kystvakt's

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<sup>501</sup> Robert Gardiner, ed., *Conway's All the World's Fighting Ships 1947-1982 Part I: The Western Powers* (London: Conway Maritime Press, 1983), 100.

<sup>502</sup> John Moore, ed., *Jane's Fighting Ships, 1980-81* (London: Jane's Publishing Company, 1980), 349; Jan P. Jansen and Per Christian Blichfeldt, *Havets voktere: Historien om Kystvakten* (Oslo: Schibsted, 1998), 100.

<sup>503</sup> Gardiner, *Conway's*, 100.

<sup>504</sup> Forsvarsdepartementet, "2 Bakgrunnen for og arbeidet med departementets lovutkast."

<sup>505</sup> Richard Sharpe, ed., *Jane's Fighting Ships, 1988-89* (London: Jane's Publishing Company, 1988), 400; Marinemuseet, *Sjøforsvaret 1814-2014: Et hefte fra Marinemuseet i anledning Sjøforsvarets 200 års jubileum* (Horten: Marinemuseet, 2014), 40; Jacob Børresen, *The Norwegian Navy: A Brief History* (Bergen: John Grieg, 2012), 157.

duties in the offshore spaces.<sup>506</sup> Initially, four ships on five-year contracts and three ships on three-year contracts were hired.<sup>507</sup> Although the parliament had assumed the leasing scheme would end once the *Nordkapps* all entered service, the reality was that not only was the *Nordkapp* procurement halved in numbers, but that the addition of the Jan Mayen EEZ also increased the need for more offshore capacity.

As a result, the leasing of civilian vessels became a permanent arrangement.<sup>508</sup> Many of these, like the 917-tonne KV *Laffjord*, were armed with a 40mm Bofors cannon.<sup>509</sup> In one particularly dramatic 1981 incident, *Laffjord* had to fire sixteen shots from its 40mm towards a particularly disobedient British vessel (with, ironically, a Norwegian captain) before it stopped. The vessel, *Borgøygutt*, was using a suction pump to fish for mackerel before the season began.<sup>510</sup> Illustrating the need for well-trained and accurate gunners even in a constabulary context, the sixteen shots were carefully aimed to bring them increasingly closer to the target to give the captain a chance to stop, before finally shots 15 and 16 were aimed to actually hit specific parts of the ship to force it to stop without causing a maritime disaster.<sup>511</sup> Despite being a civilian vessel, *Laffjord* proved the process and criteria for selecting which vessels to lease worked well to procure an adequate vessel, and *Laffjord* served under renewed contracts well into the new millennium.<sup>512</sup> The incident also highlights why it remained appropriate to put the Kystvakt under the overall structure of the Royal Norwegian Navy, given the incident's requirement for gunnery competency. So long as the Kystvakt employed compulsive seapower against opponents at sea, it needed to have both the equipment and training to use lethal force. It further demonstrated the

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<sup>506</sup> Mo, *Norske Marinefartøy*, 276-284

<sup>507</sup> Jansen and Blichfeldt, *Havets Voktere*, 134.

<sup>508</sup> Jansen and Blichfeldt, *Havets Voktere*, 135.

<sup>509</sup> Mo, *Norske Marinefartøy*, 282.

<sup>510</sup> Jansen and Blichfeldt, *Havets Voktere*, 205.

<sup>511</sup> Jansen and Blichfeldt, *Havets Voktere*, 205.

<sup>512</sup> Mo, *Norske Marinefartøy*, 282.

wisdom of procuring the Nordkapp class with a similar level of armament so they can contest sea control against similar opponents in the future.

In the aftermath of the Cold War and in contrast to the Marinen, the Kystvakt's fleet was expanded to include an ever-greater variety of purpose-built vessels. The most well-known of these may be the KV *Svalbard*, a 6,000-ton armed icebreaker commissioned in 2002 which plays the long-endurance distant waters support role reminiscent of the 1930s *Fridtjof Nansen* and 1960s *Nornen*. However, the bulk of the Kystvakt's modernization took the form of several smaller vessels which represent a recognition by the Norwegians of the importance of international maritime law beyond UNCLOS and resource rights *per se*. Chief among these were a number of vessels equipped with towing and environmental protection capabilities, such as the 1,300-ton *Ålesund* (commissioned 1996), the 3100-ton *Harstad* (built 2005), the five 800-ton *Nornen* class (laid down mid-2000s), and the three-ship Barentshav class of 4,000-tons, which entered service in 2010. However, the *Nornens* were only meant to fulfill the tasks assigned to the so-called "inner" Coast Guard responsible for maritime security in the territorial and contiguous zones (up to 24 nautical miles from the baseline), and are thus of little relevance to concerns in the EEZ except in emergencies.<sup>513</sup> Offshore duties, then, fall under the remaining vessels. All these newer vessels entered service as leased vessels, though their construction were contracted by the Kystvakt and designed from the ground up for Kystvakt service.<sup>514</sup> *Ålesund*, in particular, was the first of these new purpose-built leased vessels which fell under 10-year leasing contracts to incentivize the civilian shipowner to build and own a ship that is optimized for Kystvakt needs.<sup>515</sup> The effectiveness of these fourteen vessels are enhanced by a two-crew system, which enable each ship to be at sea for up to 330 days a year. This was first trialed with KV *Senja* in 1994 and gradually

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<sup>513</sup> Stephen Saunders, ed., *Jane's Fighting Ships 2011-2012* (Coulson: Jane's, 2011), 578-579; Kystvakten, "KV Harstad," *Forsvaret*, March 7, 2017, <https://forsvaret.no/fakta/utstyr/Sjoe/KV-Harstad>; interviews with crew on KV *Tor*, January 2018.

<sup>514</sup> Jansen and Blichfeldt, *Havets Voktere*, 136-

<sup>515</sup> Jansen and Blichfeldt, *Havets Voktere*, 136-137.

expanded to the rest of the fleet afterwards. For the Nordkapp class at least, it was found that somewhat counterintuitively, the annual operating costs were essentially identical to if the ships were pierside for half the year on a single-crew arrangement. Part of this was due to the recognition that equipment that are constantly in use require less maintenance than equipment that are left static for long periods of time.<sup>516</sup>

The Kystvakt's offshore vessels appear, for the most part, to have been built specifically for broadened maritime security concerns. While fishery monitoring and enforcement continue to be a role for which they are responsible, the capabilities of most new vessels in the last two decades illustrate a recognition of the need to acquire the tactical means to enable environmental security ends. Gone from the new ships are the helicopter hangars featured on the *Nordkapps* which made them such capable surveillance assets. Instead, the new ships feature expanded low-freeboard stern decks that accommodate equipment dedicated to oil pollution control and vessel towing. Also gone are any indications that the new ships can be fitted with more robust weaponry in the event of wartime emergencies.

The Norwegian Coast Guard has thus shifted from being a dual-purpose force with both peacetime and wartime capabilities to one that is primarily dedicated to the former. The Kystvakt's sea control role has therefore shifted from partly enabling and denying naval communications in wartime to doing so with regards to civilian vessels when they pose a threat to the state's oceanic resources in the EEZ/EFZ. Compliance and control are enabled by most Kystvakt vessels being armed with a light-to-medium calibre deck gun, as well as inspection parties legally equipped with powers of arrest.<sup>517</sup> In reference to the sea control spectrum in Chapter 4, this means the Kystvakt has surrendered its potential ability to play a moderately high role along the contestation axis when preventing Soviet uses

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<sup>516</sup> Jansen and Blichfeldt, *Havets Vokterne*, 241.

<sup>517</sup> Børresen, *The Norwegian Navy*, 170, 191.

of the seas a medium of transportation and power projection. Instead, it has maintained a relatively robust ability to contest sea control against civilian users when they are attempting to use the seas as a resource. However, as will be seen below, this limited ability to contest sea control against civilian opponents would not always be employed even in scenarios where its use would appear to be appropriate. Norwegian constabulary seapower would not take the form of just the unilateral application of compulsive power, but also in the institutional power that resides in Norway's political relations with the flag states of suspected vessels.

### *5.2.3 Constabulary Sea Control in the Offshore: Combining Compulsive and Institutional Seapower*

#### The Svalbard Fisheries Protection Zone: Compulsive Seapower in Action

Throughout the 1990s and 2000s, there have been repeated examples of constabulary sea control activity in the Kystvakt's encounters with foreign fishing vessels. In 1993, force was used when Icelandic and Faroese vessels carried out unlicensed fishing activities off Svalbard.<sup>518</sup> Unlike the Norwegian mainland, Svalbard does not have a EEZ *per se*. Due to the Spitsbergen Treaty of 1920, Norway is at odds with other treaty signatories as to whether Svalbard may have an EEZ. As noted above, the EEZ is *sui generis* and therefore cannot be automatically grandfathered into pre-existing treaties that distinguish between only "high seas" and "territorial waters". Thus, Svalbard has a modified form of EEZ that was added six months after the Sonelov was passed in 1976. The Svalbard Fisheries Protection Zone (FPZ) therefore regulates only fisheries and does not apply to seabed resources such as oil. However, even the fisheries aspect is contested. The Spitsbergen Treaty gave Norway partial

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<sup>518</sup> Leif Christian Jensen, *International Relationships in the Arctic: Norway and the Struggle for Power in the New North* (London: I.B. Tauris, 2016), 41.

sovereignty over only the land and territorial waters, and thus there is no basis from which, the other signatories argue, to create a full EEZ or otherwise regulate the resources within it.<sup>519</sup> The creation of the FPZ was therefore a compromise on the part of Norway. By focusing on fish quota itself and not restricting those limits to any one country, the FPZ abides by the non-discriminatory spirit of the Spitsbergen Treaty regardless of whether the treaty applies to waters beyond the territorial boundaries. Norway's enforcement of fishery laws in the FPZ had also tended on the lenient side.<sup>520</sup> This was due to a need to align its practices with the "assurance" half of the overall Norwegian security policy during and immediately after the Cold War, which sought to avoid "escalat[ion] to a military confrontation with Russia."<sup>521</sup> Much more could be written here about the legal and political elements of the Svalbard situation. However, this issue is covered extensively in existing literature.<sup>522</sup> For the purposes of this dissertation, it suffices to note that the contested interpretation over Norwegian rights within the 200 NM zone around Svalbard has been the cause of a number of illegal fishing activities that the Kystvakt has had to interdict, as will be detailed below.

Certainly, Norway increased its willingness to employ compulsive seapower in order to enforce fisheries in the FPZ after the USSR's collapse, though such measures were still less severe than those employed in mainland Norway's EEZ due to the disputed status of the FPZ.<sup>523</sup> The aforementioned use of force against Icelandic and Faeroese trawlers involved the Kystvakt firing warning shots, which

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<sup>519</sup> Norwegian Ministry of Foreign Affairs, *Report No. 30 (2004-2005) to the Storting: Opportunities and Challenges in the North*, 25. Available at [https://www.regjeringen.no/globalassets/upload/kilde/ud/stm/20042005/0001/ddd/pdts/stm200420050001ud\\_d ddpdts.pdf](https://www.regjeringen.no/globalassets/upload/kilde/ud/stm/20042005/0001/ddd/pdts/stm200420050001ud_d ddpdts.pdf); Jensen, *International Relationships in the Arctic*, 41.

<sup>520</sup> Jensen, *International Relationships in the Arctic*, 41; Børresen, *The Norwegian Navy*, 191.

<sup>521</sup> Magnus Petersson and Hakon Lunde Saxi, "Shifted Roles: Explaining Danish and Norwegian Strategy 1949-2009," *Journal of Strategic Studies* 36, no. 6 (2013); ; Torbjørn Pedersen, "The constrained politics of the Svalbard offshore area," *Marine Policy* 32 (2008): 917.

<sup>522</sup> For examples, see the following: Pedersen, "The constrained politics of the Svalbard offshore area," 913-919; Rachel Tiller and Elizabeth Nyman, "Having the cake and eating it too: To manage or own the Svalbard Fisheries Protection Zone," *Marine Policy* 60 (2015): 141-148; Rachel Tiller and Elizabeth Nyman, "The clear and present danger to the Norwegian sovereignty of the Svalbard Fisheries Protection Zone: Enter the snow crab," *Ocean and Coastal Management* 137 (2017): 24-33.

<sup>523</sup> Pedersen, "The constrained politics of the Svalbard offshore area," 916-917.

successfully chased off the violators. The following year saw the arrest of an Icelandic fishing vessel. In the meanwhile, despite underreporting their catches, a fairly cordial relationship developed between Russian fishermen and Norway, with peaceful cooperation between both countries' coast guards in what has been termed a "gentlemen's agreement."<sup>524</sup> Such arrangements demonstrate an institutional form of seapower in that it reduced the need for Norway to carry out their own compulsive means of enforcement against illegal fishers by offloading some of that task to their Russian counterparts. Towards the start of the new millennium, however, Russia's gradual retreat from cooperating with Norwegian fishery regulations resulted in a drastic increase in underreporting.<sup>525</sup> This decline in the reliability of institutional seapower in turn appeared to spur Norway's increased willingness to resort to compulsive seapower through contesting sea control, as will be shown below.

The first arrest of a Russian trawler occurred in April 2001, when the KV *Nordkapp* caught the *Chernigov* (also spelled *Tsjernikov* in some Norwegian transliterations<sup>526</sup>) "violat[ing] several fishing regulations" on the continental shelf edge west of Bjørnøya, the southernmost island of the Svalbard archipelago.<sup>527</sup> Specifically, the *Chernigov* was found to be using undersized nets during a routine, though eventful, inspection. Illustrating the utility of equipping offshore patrol ships with organic aviation, *Nordkapp's* captain, Erik Blom, had sent the ship's helicopter to patrol the area based on previous incidents of undersized fishing. As the Lynx helicopter overflew the area, the fishery inspector onboard selected the *Chernigov*, whose crew proved less than cooperative, requiring the helicopter to lower its rescuer onto the deck to help control the lines. As inspectors Frode Paulsen and Jarl Inge

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<sup>524</sup> Jensen, *International Relationships in the Arctic*, 41.

<sup>525</sup> Jensen, *International Relationships in the Arctic*, 41; Kristian Åtland and Kristin ven Bruusgaard, "When Security Speech Acts Misfire: Russia and the *Elektron* Incident," *Security Dialogue* 40, no. 3 (2009): 334.

<sup>526</sup> Jørgen Berggrav, "Forsvarsperspektiver I nord," *Sikkerhetspolitisk Bibliotek* 4 (2004), 8.

<sup>527</sup> Bjørnøya translates to Bear Island in English; Jensen, *International Relations in the Arctic*, 42; Terje Thorsnes et. al., "Chapter 7: Mid-Norwegian Continental Shelf and Slope," in *The Norwegian Sea Floor: New Knowledge from MAREANO for Ecosystem-Based Management*, ed. Lene Buhl-Mortensen, Hanne Hodnesdal and Terje Thorsnes (MAREANO 2015), 94; Arild-Inge Skram, *Alltid til Stede – Kystvakten 1997-2017* (Bergen: Fagbokforlaget, 2017), 158.



Nielsen prepared to hoist down, the *Chernigov* began dumping an estimated 400-500 kg of small fish before cutting its trawls, acts which were recorded and ordered to stop by the helicopter's pilot and rescuer, to no effect. When the inspectors conducted their inspection of the *Chernigov*, they found over forty-six percent of the ship's fish to be undersized – well above the permitted amount of fifteen percent. When the *Chernigov*'s captain was asked as to why he cut his trawls, he claimed it was because they had caught on something. Not confident in the veracity of this response, *Nordkapp*'s captain and the inspectors agreed to attempt retrieving the cut trawl. Through a process known as “socking”, a hook was dragged from the *Chernigov* (under the direct control of the Norwegian inspectors rather than wholly voluntarily by the ship's crew) back over the area where the helicopter noticed it had been first cut. The trawl net was successfully retrieved some sixteen hours after the inspection first began, whereupon it was discovered fifty-seven percent of the three-tonne catch was undersized and the mesh size was under half the permissible width. With such clear evidence of grave violations, Blom ordered the *Chernigov*'s arrest, sending further Kystvakt personnel on the trawler to bring it in to Tromsø. Although the *Chernigov*'s crew failed to cooperate, they did not actively resist and the inspectors did not feel they were in danger.<sup>528</sup> Still, the arrest sparked strong reactions from the Russian government, who claimed Norway was acting outside of the agreement that existed between the two countries.<sup>529</sup> Indeed, the chairman of the Russian State Fisheries Committee threatened that any Kystvakt ship acting the same way again would be shot at and sunk. Putting actions behind these fiery words, the Russian Northern Fleet deployed the Udaloy-class destroyer *Severomorsk* to the FPZ for ten days as a show of force to “protect Russian fishing vessels from the Norwegian coast guard.”<sup>530</sup> Despite heavily outgunning the Kystvakt ships, the *Severomorsk* was not able to permanently affect Norwegian resolve on the matter.

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<sup>528</sup> Skram, *Alltid til Stede*, 158-159

<sup>529</sup> Jensen, *International Relations in the Arctic*, 42;

<sup>530</sup> Åtland and Ven Bruusgaard, “When Security Speech Acts Misfire”, 334.

In October 2005, an even more dramatic showdown occurred, but with a less acrimonious conclusion. When KV *Tromsø*'s inspectors found the Russian trawler *Elektron* with unreported fishing catches and illegal fishing gear that would entrap juvenile fish stocks, *Tromsø*'s captain decided to place the *Elektron* and her captain under arrest and bring her into Tromsø, much as was done with the *Chernigov*. Demonstrating the creative tactics required to catch illegal fishing in the act, the inspection had taken place around midnight when the trawler crew would be least alert. Furthermore, instead of waiting until the large hulk of the *Tromsø* was in sight, the Norwegian ship sent its inspectors over on one of its small high-speed boats from some fifteen nautical miles away, ensuring that the *Elektron* would not be able to run away or dispose of its evidence as had previously been the case.<sup>531</sup> Although the initial inspection met without resistance and the *Elektron*'s captain initially agreed to following KV *Tromsø*'s orders, the situation rapidly deteriorated. After consulting with the ship's owner in Murmansk, the *Elektron* broke away from KV *Tromsø*.<sup>532</sup> At this time, there were two Norwegian inspectors still onboard to help monitor the situation. Effectively kidnapping the latter, the *Elektron* made its way towards Russian territorial waters, where the Udaloy-class destroyer *Admiral Levchenko* was waiting to ensure the Norwegians would not continue the chase.<sup>533</sup> Throughout the five-day chase through 30-foot seas, numerous Norwegian assets attempted to stop the *Elektron* before it reached Murmansk: four coast guard cutters and a P-3 Orion maritime patrol aircraft were involved. Once more illustrating the wisdom in procuring larger helicopter-equipped vessels for offshore duties, two of the three other cutters that came to K/V *Tromsø*'s assistance - *Svalbard* and *Nordkapp* – were equipped with their own helicopters, which were also deployed on the chase. In the end, however, the Kystvakt ships took no action to force *Elektron* to stop, and a plan to land Marinejeger special forces troops via helicopter on the *Elektron* remained unenacted due to the poor weather conditions and long distances involved.

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<sup>531</sup> Skram, *Alltid til Stede*, 166-167.

<sup>532</sup> Åtland and Ven Bruusgaard, "When Security Speech Acts Misfire," 339-340.

<sup>533</sup> Åtland and Ven Bruusgaard, "When Security Speech Acts Misfire," 342.

However, the P-3 aircraft did apparently drop a net in a last-ditch attempt to foul the quarry's propeller, but this also failed and initial reports claimed the net fouled another nearby trawler's propeller instead, which was disavowed by Norwegian authorities.<sup>534</sup> No shots were fired by the Kystvakt vessels. Officially, the reason given was the stormy conditions at sea,<sup>535</sup> but it may well have been the risk of injuring the Norwegian officials on the *Elektron*. Understandably, the Kystvakt would not be likely to cite that as a reason for the non-use of violent force, lest it encourage similar behaviour in the future. In the end, the *Elektron's* captain was charged and found guilty by Russian authorities, and despite the movie-like drama of the whole affair and attempts by some Russians to escalate the issue, state-to-state relations remained cordial.<sup>536</sup> Indeed, even the inspectors and crew of KV *Tromsø* felt the whole situation was rather tame as they remained in constant contact throughout the chase. *Tromsø's* captain had felt confident in the cooperative spirit that characterized Russo-Norwegian coast guard and navy relations at the time, and was only made aware of how much attention the events were receiving in the outside world when he received a call from the BBC news network.<sup>537</sup>

These incidents demonstrate some of the unique dynamics of peacetime sea control in the constabulary context and the mixed success of compulsive seapower. Unlike wartime military uses of the seas, these instances showed how outcomes do not necessarily favour those with superior combat capability. *Severomorsk's* presence in the FPZ in 2001 did not change Kystvakt behaviour despite being a much more powerful vessel, while the presence of three Kystvakt armed cutters failed to stop the unarmed trawler *Elektron* in 2005. It would seem that Russia's use of the *Severomorsk* in 2001 was little more than what James Cable would categorize as "expressive force", which is the deployment of

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<sup>534</sup> Åtland and Ven Bruusgaard, "When Security Speech Acts Misfire," 341; Skram, *Alltid til Stede*, 168.

<sup>535</sup> Skram, *Alltid til Stede*, 168; Alexander Nurnberg, "An Arctic Circle Chase Pits Norway and Russia," *The New York Times*, October 21, 2005, <http://www.nytimes.com/2005/10/21/international/europe/an-arctic-circle-chase-pits-norway-and-russia.html?mcubz=1>.

<sup>536</sup> Åtland and Ven Bruusgaard, "When Security Speech Acts Misfire".

<sup>537</sup> Skram, *Alltid til Stede*, 167-168.

warships as a show of emotions or sentiment without any specific premeditated outcome. *Severomorsk* was unable to change Norwegian behaviour at sea, and 2005 saw Norway's attempt to use its coast guard for sea control against Russian civilian vessels. These incidents show how in peacetime, legal constraints actually allow smaller powers to engage and assert power on equal footing with an opponent many times more powerful in a material sense. What otherwise may have been an act of purposive force (i.e. *Severomorsk's* presence and Russian rhetoric aimed at ending Norwegian coast guard activity) was reduced to one of mere expressive force. Ultimately, Norway's use or attempted use of compulsive seapower was only successful at the immediate expulsion of offending fishing vessels from the FPZ. It would depend on institutional arrangements to secure all of its objectives, such as the punishment of the *Elektron's* captain and the return of the Norwegian inspectors that were kidnapped. In turn, such reliance on institutional measures would likely have been much less feasible during the Cold War period when relations between the two countries were less amicable.

Although the 2005 incident showcased the limitations of Norway's power at sea, it nonetheless establishes certain similarities with traditional discussions of wartime seapower in terms of controlling the seas for specific periods and specific purposes. While the Kystvakt's tactical inability to halt and retrieve their inspectors from the *Elektron* may seem to showcase a lack of sea control, it can also be argued that the Kystvakt succeeded in their operational objective: to stop illegal fishing in waters under their jurisdiction. Certainly, *Elektron* was forced to flee and was temporarily *denied* its ability to use the seas for fishing in that moment, which is an example of successful contestation by Norway's Coast Guard so that sustainable exploitation of the fisheries can be exercised in the long term. Much as with the *Chernigov* incident, this success required the use of creative tactics to counter attempts at hiding illegal activities from the Norwegian authorities. Another example can be seen in 2009/10, when Norway arrested a number of Russian fishing vessels in the FPZ, which appeared to have been accepted with

reticence by the Russians who filed no formal complaint.<sup>538</sup> Most recently, the summer of 2017 saw the environmentalist group Greenpeace occupy waters around the Statoil oil rig *Songa Enabler* in the Barents Sea. The Greenpeace ship *Arctic Sunrise* was successfully removed from the scene when the KV *Nordkapp* sent a crew on board to secure the vessel before bringing it under tow to Tromsø. This illustrates not only the Kystvakt's role in peacetime sea control, but also the role it plays within the greater Norwegian state apparatus. It was the Norwegian police which, having no capability itself, requested the Coast Guard to deal with the protesters.<sup>539</sup>

These incidents have been the exceptions rather than the rule. As will be seen below, the vast majority of foreign fishers abide by Norwegian fishing regulations and comply with inspections. From an enforcement perspective, this has been further enhanced through a checkpoint system that was established in 1994. Prior to this, the Kystvakt's relatively small offshore fleet could only realistically inspect at most five percent of all foreign fishing vessels that operated in the Norwegian EEZ.<sup>540</sup> While these ships had to inform Norway about the quantity of caught fish upon departure, there was no way to confirm those figures. Some of these fishing vessels would sell their catch in the United Kingdom, where Norwegian informants noted a disparity between the amount of fish sold and what was actually reported. With the implementation of the checkpoint system, all foreign fishing vessels had to leave the northern Norwegian EEZ through seven designated positions. Twenty-four hours before departing the EEZ, fishing vessels must inform Norwegian authorities as to when and which checkpoint they will be passing through, allowing enough time for a Kystvakt inspection ship to be in place. Non-compliance via running away would be met by arrest the next time the vessel enters the EEZ. This system worked well in the years following its implementation, especially after the first several inspections found catches that

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<sup>538</sup> Jensen, *International Relations in the Arctic*, 43.

<sup>539</sup> Thomas Nielsen, "Norwegian Coast Guard tows <<Arctic Sunrise>> to Tromsø," *The Independent Barents Observer*, August 18, 2017, <https://thebarentsobserver.com/en/ecology/2017/08/norwegian-coast-guard-tows-arctic-sunrise-tromso>.

<sup>540</sup> Jansen and Blichfeldt, *Havets Vokterne*, 242.

exceeded quota and were given large fines. This has led to nearly complete compliance, confirmed by informants in the UK fish markets.<sup>541</sup> Norwegian seapower's ability to influence and control the behaviour of fishers at sea thus comprised of not only the compulsive measure of armed patrol vessels carrying out inspections, but the institutional measure of the checkpoint system supported by land-based informants in foreign ports. These latter measures were especially important for a smaller navy like Norway's, whose resources would otherwise be insufficient to inspect enough foreign fishers to deter illegal fishing. This issue is especially acute in the massive areas bounded by the 200 NM EEZ, and the checkpoint system provided a creative solution that effectively creates chokepoints in the open ocean to allow fewer patrol ships to inspect more vessels. To relate back to Chapter 4's discussion of sea control's qualities, it is clear that while compulsive seapower has the ability to establish temporary sea control against violators, it is institutional seapower that establishes longer-term (if not permanent) sea control.

### The Barents Sea "Grey Zone": Institutional Seapower Against a Superpower

The above discussion focused on the Norwegian EEZ and the Svalbard EFZ. There is, however, another maritime area where the legitimacy of Norwegian fisheries jurisdiction had been disputed as a result of the 200 NM's promulgation: the Barents Sea "Grey Zone". In contrast to the FPZ examples detailed above, Norwegian seapower in the "Grey Zone" was dominated by institutional measures rather than compulsive ones when it came to fisheries enforcement against foreign fishers. It thus provides a useful example of an alternative approach to constabulary control of the seas where coast guard forces play a lesser role against unauthorized fishing activity. As will be detailed here, it also

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<sup>541</sup> Jansen and Blichfeldt, *Havets Vokterne*, 243.

highlights how a much smaller power can successfully ensure healthy fisheries and defend core security interests against a neighbouring superpower.

The “Grey Zone” was a term coined by Norwegian Minister of Law of the Sea Jens Evensen in March 1976 to describe an undelineated maritime area on the border between Norway and Russia.<sup>542</sup> This lack of delineation stemmed from the two countries’ competing principles for determining the maritime boundary where their borders met in the Barents Sea, which originated with delineating their respective continental shelves in the pre-EEZ era.<sup>543</sup> While Norway argued for a “median line” principle that sought a boundary equidistant to the two countries’ baselines, Russia took the position that the boundary should follow the “sector” principle stretching towards the North Pole. With the creation of the EEZs, the 60,700 square kilometre overlapping area created by the two competing principles extended to the living resources of the water column, not just the continental shelf.<sup>544</sup> Unable to reach a negotiated agreement on the boundary at the time of EEZ creation but still concerned about overfishing in the area, the Norwegian government in December 1976 proposed a “provisional, practical solution” to managing fisheries in the disputed region.

This solution was a set of negotiations which produced the Grey Zone Agreement of 1978, which would be renewed annually until such time that the delimitation issue was resolved.<sup>545</sup> These negotiations focused primarily on the geographic arrangement of the area it addressed, rather than what each country could do within it. While the Soviets readily accepted Norway’s proposal that both countries would restrict fisheries inspections in the area to just ships flying their own flag or operating under their own respective licenses, the Soviets would not agree to Norway’s preference for a roughly

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<sup>542</sup> Kristoffer Stabrun, *The Grey Zone Agreement of 1978: Fishery Concerns, Security Challenges and Territorial Interests* (Lysaker: Fridtjof Nansen Institute, 2009), 1.

<sup>543</sup> Stabrun, *The Grey Zone Agreement of 1978*, 1-3.

<sup>544</sup> Stabrun, *The Grey Zone Agreement of 1978*, 2.

<sup>545</sup> Stabrun, *The Grey Zone Agreement of 1978*, 24.

equal split of the area.<sup>546</sup> The final outcome was an area that sacrificed a substantial amount of Norwegian EEZ to Soviet control when it came to the latter's own vessels. Of the 67,500 km<sup>2</sup> covered by the agreement, 23,000 of it laid to the west of the Soviet's sector line. In contrast, only 9,000 km<sup>2</sup> of the area was east of the Norwegian median line.<sup>547</sup> Norwegian historians have debated as to why the Norwegian government of the time accepted what appeared to be a massive failure in negotiations for the Norwegian position.<sup>548</sup> Defenders of the agreement like chief negotiator Norwegian Minister of Law of the Sea Evensen argued that its text explicitly noted the agreement was not prejudicial to the final resolution of the Grey Zone delimitation, while critics from the Ministries of Defence and Foreign Affairs argued the *de facto* outcome would in fact be prejudicial in that Soviet military forces would increase their presence westwards and that the Soviets would find the agreement's terms too favourable to be worth reaching a final delimitation.<sup>549</sup>

The prejudicial arguments may have been valid, but they were considered a long-term concern.<sup>550</sup> What the negotiators and the Norwegian government were most concerned about during the 1977 negotiations were neither fish stocks themselves nor the future delimitation of the Grey Zone. Rather, Norwegian researcher Kristoffer Stabrun argues, it was ensuring the safety of Norwegian fishers from Soviet inspections and, by extension, preventing confrontations that may escalate into the realm of military conflict between Norway and the Soviet Union.<sup>551</sup> During the course of the negotiations, the Soviets boarded foreign and Norwegian fishing vessels within the area of concern, carried out missile tests and seismic surveys in the disputed area, and had one of its spies in Norway caught which led to mutual expulsions of diplomats.<sup>552</sup> These all put additional pressure on Evensen to come to an

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<sup>546</sup> Stabrun, *The Grey Zone Agreement of 1978*, 17, 24.

<sup>547</sup> Stabrun, *The Grey Zone Agreement of 1978*, 22.

<sup>548</sup> Stabrun, *The Grey Zone Agreement of 1978*, 7-9.

<sup>549</sup> Stabrun, *The Grey Zone Agreement of 1978*, 24.

<sup>550</sup> Stabrun, *The Grey Zone Agreement of 1978*, 30.

<sup>551</sup> Stabrun, *The Grey Zone Agreement of 1978*, 11.

<sup>552</sup> Stabrun, *The Grey Zone Agreement of 1978*, 17-18.



agreement that would put a stop to such inspections before the bilateral relationship further deteriorated.<sup>553</sup> “Peace and stability in the High North” was the “centrepiece of Norwegian foreign policy,” making a quick agreement that would end further Soviet threats of force against Norwegian fishers a paramount priority even if a longer series of negotiations may have resulted in an agreement area geography more favourable to Norway.<sup>554</sup>

As an instrument of institutional seapower, the 1978 Grey Zone Agreement demonstrated a unique and effective way of reducing the need to resort to compulsive seapower for a smaller power in a disputed region. Although surrendering Norway’s ability to inspect Soviet fishers, the vice-versa was also true, while Norway could carry out inspections of its own ships within a 9,000 km<sup>2</sup> region of the Soviet EEZ. Norway’s fishers could use the seas’ resources without worrying about having to contest Soviet patrol forces, while Norway’s patrol forces could similarly take a more relaxed approach by limiting its inspections to vessels under its own flag and licenses. The Agreement also demonstrates the closely overlapping nature of constabulary and military uses of the seas. While healthy fish stocks and enforcing quotas fall squarely within constabulary duties, the risk of escalation to military conflict resulting from disagreements over who may or may not board another country’s fishing vessel in a disputed area is a military concern. While Norway could not inspect Soviet fishing vessels for violations and there may thus be a risk of Soviet non-enforcement of their own vessels, the “world class” and “currently robust” status of the fisheries in the Barents Sea region appear to show the Agreement’s effectiveness despite some variation in post-Soviet Russia’s willingness to cooperate on data sharing.<sup>555</sup> Finally, those who argued that the Agreement was “non-prejudicial” to the outcome of a future finalized

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<sup>553</sup> Stabrun, *The Grey Zone Agreement of 1978*, 21, 23, 31.

<sup>554</sup> Stabrun, *The Grey Zone Agreement of 1978*, 32.

<sup>555</sup> Alexander N. Vylegzhanin, Oran R. Young, and Paul Arthur Berkman, “Governing the Barents Sea Region: Current Status, Emerging Issues, and Future Options,” *Ocean Development & International Law* 49, no.1: 61; Geir Hønneland, “Compliance and Postagreement Bargaining in the Barents Sea Fisheries,” *Ocean Development & International Law* 45, no. 2: 191-194.

border appear to have been proved correct. The 2010 *Treaty between the Kingdom of Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean* finalized a delimitation that essentially split the area between the Norwegian median line and the Russian sector line into two equal shares, which was ratified in 2013.<sup>556</sup> Without firing a single shot from the Norwegian navy, Norway was able to use institutional seapower to ensure its fishing industry could continue to fish throughout the disputed area without interruption from Soviet/Russian authorities and thus pre-empt any resulting risks to the region's peace and stability.

#### *5.2.4 The 1997 Kystvaktlov and the Indre Kystvakt: Expanded Inshore Roles*

Although this dissertation is focused on the offshore 200 NM zones and how constabulary forces have reacted to their creation, this can only be accomplished by comparing and contrasting them with changes to naval forces charged with military missions closer to shore in order to understand the extent to which the two types of forces differ. Indeed, with UNCLOS permitting states to expand their territorial waters out to twelve nautical miles with an additional contiguous zone at 24 NM, the challenges for coastal constabulary assets may face similar problems and solutions as their offshore counterparts. This section addresses how the Norwegian coast guard reacted to both the increased extent of territorial waters and the greater variety of tasks to which they have been assigned. It leverages field research conducted January 2018 on KV *Tor*, one of the Kystvakt's inshore patrol vessels.

The Kystvakt's supporting role to other Norwegian government agencies was formalized in the 1997 Kystvaktlov, or Coast Guard Law. But unlike the case of the Canadian Coast Guard and Royal Canadian Navy that will be discussed in Chapter 7, the Kystvaktlov has also granted the Kystvakt certain

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<sup>556</sup> Vylegzhnin, Young, and Berkman, "Governing the Barents Sea Region," 57; Yearn Hong Choi, "The Barents Sea: Equal Division of the Disputed Sea between Russia and Norway," *The Journal of East Asian Affairs* 28, no. 2: 62, 64.

law enforcement authorities that it may exercise as part of an expanded set of tasks.<sup>557</sup> While fisheries inspection is a classic role that it has long been authorized to conduct, the Kystvaktlov also allowed the Kystvakt to carry out tasks such as border control, customs collection, oil spill control, and towing under the authorities of partner agencies that otherwise lack the seapower inputs necessary for those tasks.<sup>558</sup> In a sense, however, the Kystvaktlov was a post-hoc legal authorization for a new subset of the Kystvakt: the Indre Kystvakt, or Inner Coast Guard. The Indre Kystvakt was the product of a 1992 parliament-appointed committee's examination of how to rationalize and coordinate the disparate resources of Norway's 10 ministries and 25 directorates dealing with maritime issues. Ultimately, one of the major recommendations was to establish increased coordination between those various governmental entities and to establish a inner coastal supervisory/surveillance service to ensure monitoring and control functions along the coast, as well as provide oil spill emergency response.<sup>559</sup> By July 1995, the responsibility for carrying these recommendations had been delegated to the navy, which set out to establish what would soon be named the Indre Kystvakt (IKV) as well as a common database for messaging and information exchange between the various Norwegian maritime agencies.<sup>560</sup> The Indre Kystvakt was established in 1996, and had to operate on a register and report, rather than action, capacity until the Kystvaktlov could come into force with clear legal authorities.<sup>561</sup>

Much as with the offshore "outer" Kystvakt fleet throughout its history and demonstrating one method of quickly acquiring necessary seapower inputs, an initial fleet of seven small ships were leased from private companies, individuals, other government departments, or transferred from the Marinen.<sup>562</sup> Each were assigned to seven zones split roughly equally along the Norwegian coast.<sup>563</sup> The

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<sup>557</sup> Skram, *Alltid til Stede*, 86-87.

<sup>558</sup> Skram, *Alltid til Stede*, 85.

<sup>559</sup> Jansen and Blichfeldt, *Havets Voktere*, 232-233

<sup>560</sup> Jansen and Blichfeldt, *Havets Voktere*, 233.

<sup>561</sup> Jansen and Blichfeldt, *Havets Voktere*, 234.

<sup>562</sup> Mo, *Norske Marinefartøy*, 288-289.

<sup>563</sup> Jansen and Blichfeldt, *Havets Voktere*, 234; Skram, *Alltid til Stede*, 123.

zone system allows the assigned vessel and their crews to gain deeper familiarity with the local environment, actors, and authorities.<sup>564</sup> While some previously served as dedicated coast guard ships like the 294t KV *Ice Lady* transferred from the Finnish Coast Guard, others were more *ad hoc* like the 145t KV *Åhav* which was a former passenger boat.<sup>565</sup> Even the 195t KV *Titran* and *Garsøy* transferred from the navy were previously high speed (28 knot) passenger transports.<sup>566</sup>

But even with the authorities and tasks given by the Kystvaktlov, what did these small ships and their crews do? The classic coast guard mission of fisheries patrol is certainly a core activity, although the stakes tend to be much lower within territorial and internal waters. Fish farms often become the subject of patrol, especially in the summer. The threat comes, however, not from fishing ship captains looking to bring home hundreds of thousands of dollars of fish, but from tourists who have spent large sums of money to book a fishing trip to Norway but are struggling to catch anything. There is occasionally a temptation for these tourists to get close enough to a fish farm for some easy bites, and IKV patrols often have such characters in mind, which only require the implicit threat of force to establish control over their behaviour.<sup>567</sup> But there are many other missions, and KV *Titran*, as one of the first Indre Kystvakt ships to enter service, illustrates one from its time in Zone 6 between Stadt and Egersund. Within Norwegian coastal waters, sand freighters would often sail with their hatches open in order to overload their cargo, which causes safety and regulatory issues. In the case of one such ship in Hardangerfjord, a stiff gale was blowing and KV *Titran* had reported the situation to the Norwegian Maritime Directorate (Sjøfartsdirektoratet). *Titran* was requested to order the sand freighter to shut its hatches and to “control” the freighter on behalf of Sjøfartsdirektoratet. Taking evidence with cameras, *Titran* followed the freighter to the unloading site, whereupon an inspection of the interior took place.

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<sup>564</sup> Skram, *Alltid til Stede*, 123.

<sup>565</sup> Jansen and Blichfeldt, *Havets Voktere*, 234; Skram, *Alltid til Stede*, 123.

<sup>566</sup> Jansen and Blichfeldt, *Havets Voktere*, 234; Skram, *Alltid til Stede*, 123; Mo, *Norske Marinefartøy*, 162.

<sup>567</sup> Interviews with crew on KV *Tor*, January 2018.

This found that a crucial bulkhead separating the engine room from the main cargo hold had been removed, eliminating the ship's watertight integrity. After this incident was shared amongst industry, the practice of open-topped overloaded sand freighters came to an end.<sup>568</sup>

The Indre Kystvakt's tasks, then, is not just about fisheries control or providing emergency services. They operate as the seaborne leg of many regulatory and enforcement agencies in Norway. On behalf of the police, they often provide security at major waterfront festivals and watch for speeding boats and ensuring mariner safety. They can also assist with prisoner transfers and transport police forces. The latter has become more of a priority after the Utøya mass shooting in 2011, when police forces were forced to borrow civilian craft after their inflatable dinghy overloaded and broke down while crossing to the island where the shooter was located.<sup>569</sup> That same incident has also spurred the Kystvakt to implement a minimum level of small arms training for their members.<sup>570</sup> Customs also took to deepened cooperation and use of IKV assets, though this required significant training for the coast guard members to learn what ships were worthy of inspection and how inspections should proceed. As the Schengen Agreement was implemented in 2001, the IKV became the new border guards for not just Norway, but the entire Schengen Zone as well. This has become a routine part of the Kystvakt's day to day operations when inspecting foreign vessels. The IKV also plays an environmental role, assisting the Environmental Protection Agency with taking note of seabird types and populations.<sup>571</sup> They have also helped pull beached whales back into the sea or rescue stray sheep and returning them to their owners.<sup>572</sup>

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<sup>568</sup> Skram, *Alltid til Stede*, 124-125.

<sup>569</sup> Interview with crew on KV *Tor*, January 2018. "Oslo attack could have been prevented: report," *The Local.no*, August 13, 2012, <https://www.thelocal.no/20120813/oslo-attack-could-have-been-prevented-report/>.

<sup>570</sup> Interview with crew on KV *Tor*, January 2018.

<sup>571</sup> Skram, *Alltid til Stede*, 124-127.

<sup>572</sup> Interview with crew on KV *Tor*, January 2018.

## Indre Kystvakt Modernization: Nornen Class and Tasks<sup>573</sup>

Towards the mid-2000s, the Indre Kystvakt had a better idea of how it integrated and ensured cooperation between the various Norwegian agencies involved with coastal maritime governance. It also had a better idea of what its tasks were and what might be needed to maximize their efficiency. Recognizing this, the Indre Kystvakt's fleet was modernized with the introduction of the six Nornen-class patrol vessels (by the late 2010s, one of them would be transferred to the Marinen as an auxiliary/patrol ship). Displacing some 760t, these 47.2m long ships were purpose-built and designed for coastal operations across the entire range of duties that the IKV expected and had learned to perform.<sup>574</sup> Overall, the Nornen class is much more capable than the ad hoc collection of vessels that inaugurated the IKV. With azipod propulsion and a bow thruster, they can easily maintain position within the narrow waters of the Norwegian coast. Their size is at least twice as large as the largest of the former fleet, giving them increased seakeeping and endurance to handle the expanded 12 NM territorial waters and even the 24 NM contiguous zone. Large panoramic windows provide a 360-degree view from the combined bridge and operations room. Equipped with a low freeboard stern deck, they are permanently equipped with dedicated towing equipment and oil spill collection and containment equipment. Their armament remains conservative and consistent with the ships they replaced: a single .50 calibre machine gun, which is usually stowed away in a locker next to the permanent pintle mounting on the deck ahead of the bridge. For the crew, there is a high level of comfort by naval standards: the standard crew of 11 stay in quarters that hold no more than two persons per room (asides from the captain, two of the officers have single-occupancy rooms). For the officers, each room has its own bathroom, while the enlisted/conscripted crew share one bathroom between two rooms. On a usual basis, there is room for an additional eight personnel. Such a small crew comes with drawbacks, however. The class is not

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<sup>573</sup> This section incorporates observations from my field research on board KV *Tor* in January 2018.

<sup>574</sup> Mo, *Norske Marinefartøy*, 291.

generally capable of continuous 24-hour operations and must anchor at night for the crew to rest with only two sailors to stand watch in the meanwhile.

In terms of equipment, of particular note are their two rigid-hull inflatable boats (RHIBs). One is the conventional open-topped multipurpose type that has become ubiquitous on many naval and coast guard ships (although this one is painted bright orange-red), while the other is a High Speed Patrol Boat, or HPB.<sup>575</sup> Built with an enclosed cabin for all-weather operations, the HPB also has its own radar, multiple spotlights, and radio communications. These features have resulted in Nornen class crews refer to it as their “helicopter”. Certainly, the HPB is used similarly to how the large offshore patrol ships use their helicopters. They serve as extended eyes, ears, and in some cases, hands for the mothership. HPBs allow a single Nornen class to monitor and cover much more territory than the previous fleet. Their enclosed cabin provides much greater comfort for any rescued seafarer (or graduate student doing their fieldwork), while the smaller size offers some concealment when a measure of covert surveillance is desired. In some ways, the relationship between the HPB and the Nornen is different from that of a helicopter and a Nordkapp only in degree, rather than in kind.

Meanwhile, the open-topped RHIB is used for more general purpose tasks, especially where easy payload access is desired. When picking up supplies on our way past Haakonsværn Naval Base, for example, it was the RHIB that was sent out where its open-top can easily transfer cargo.<sup>576</sup> This feature also makes it more suitable for boarding ships for inspections, which is the IKV’s main task in the winter season. Which ship to inspect is the individual IKV ship’s decision, based on Kystverket’s SafeSeaNet database where all ships in Norwegian waters have to self-report their status.<sup>577</sup> Once a vessel has been

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<sup>575</sup> Skram, *Alltid til Stede*, 127.

<sup>576</sup> Observations from fieldwork on KV *Tor*, January 2018.

<sup>577</sup> Established in 2005, SafeSeaNet is an internet-based single-point reporting system for ships arriving in Norwegian ports or otherwise entering Norwegian waters. Various mandatory notifications may be submitted through it, which are then accessible by the entire range of relevant Norwegian government organizations,

identified for inspection, a davit lowers the RHIB from its cradle to deckheight, at which point two of the enlisted sailors embark with one of them as the pilot. It then lowers fully into the water, where it moves into position for the inspection/boarding crew to climb in. Sailing over to the target vessel, the three inspectors climb up the pilot ladder that is set up for them by the target vessel's crew. During the inspection, multiple things are checked: papers, passports, logbooks, the material condition of the ship, potential safety hazards, and the cargo, depending on its type. An inspection where everything is in order can be completed within just over one hour for an 83m long coastal cargo/tanker barge. As informed to me by the inspection crew, there is an interest on the part of the target ship's crew to make sure everything is in order to make the process as quick as possible. In the case I observed, the ship in question, a Norwegian-flagged vessel named *Fri Star*, was at the end of its crew's rotational period. However, it was operating in northern Norway, where flights for flying the crew in and out are more expensive, and so the ship's owners decided to have the crew spend extra days sailing it to the south where it would cost less to change the crew. Anxious to leave the ship and return home, the crew likely did their best to make the Kystvakt inspection as easy and painless as possible.

Equipped with S and X band navigation radars, the Nornen class has sufficient radar resolution to detect potential oil spills. As *Tor's* crew informed me, oil slicks tend to reduce the wave heights and ripples on the ocean surface, and a sufficiently sensitive radar can detect such flat spots on the ocean. With its own oil containment booms, Nornen class can not just locate oil spills, but act as a first responder as well.

But all these multimission capabilities came at a cost: fewer overall hulls and a slower speed. In contrast to the 20-28 knots of the converted passenger transports that made up half the original IKV

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including the Kystvakt. "SafeSeaNet Norway," *Kystverket*, June 1, 2020, [https://www.kystverket.no/en/EN\\_Maritime-Services/Reporting-and-Information-Services/SafeSeaNet-Norway/](https://www.kystverket.no/en/EN_Maritime-Services/Reporting-and-Information-Services/SafeSeaNet-Norway/).



fleet, the Nornen class have an official maximum speed of only 16 knots.<sup>578</sup> As one of the longer-serving members of KV *Tor* noted, this can be a significant drawback especially when having to conduct search-and-rescue operations. The Nornen class approach also means identical ships are used along the entire Norwegian coast regardless of the local situation. This can lead to a poor distribution of resources and duplication of effort, especially in southern Norway where many of the multimission capabilities could potentially be done better by other government entities or the private sector. In contrast, a multimission vessel like the Nornen class can be much more suitable in northern Norway where there is much less infrastructure and alternative sources of assistance. As with other naval assets, there will always be a trade-off between competing desirable characteristics, and different ways to minimize such trade-offs.

In this third decade of the IKV's existence, new technologies have offered additional possibilities for its domestic sea control tasks. Between 2016 and 2018, the IKV carried out experiments with aerial drone technology. During my stay on board KV *Tor*, the ship had just finished conducting final tests with a Lockheed Martin *Indago* quadcopter remotely-piloted vehicle. With collapsible rotors, it can be packed into a backpack for greater deployment options. In one experiment, the ship's crew used their HPB to conduct an amphibious landing on a shoreline some distance away from a terminal, where they then launched the quadcopter to covertly surveil loading and unloading operations using the drone's 30x optical zoom camera. The drone's camera also had infra-red capabilities, which can also be used to help locate and identify oil spills on the water due to their different temperature. Furthermore, the payload can be swapped out for other equipment, such as sulfur "sniffers" to detect sulphur content in ship exhaust by simply flying the drone through it (Norway has strict limits on the amount of sulfur that can be present in ship exhaust due especially to fjords' tendency to trap such gases between mountains). KV

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<sup>578</sup> Mo, *Norske Marinefartøy*, 291.

*Tor's* crew were also responsible for testing a new antenna developed by Kongsberg to ensure data and commands can be transferred between the drone, the ship, and shore facilities. Such experiments were apparently successful, as five similar Skyranger R70 drones built by Aeryon Solutions in Canada were purchased in fall 2018. In addition to optical and infra-red cameras, they are also being bought with sulfur sniffers and radiation detectors.<sup>579</sup>

In sum, the Nornen class has greatly increased the IKV's ability to carry out an ever-increasing portfolio of tasks. As has been the trend with regular warships, they represent the tendency to build larger vessels in order to carry more equipment and be more future-proof for additional developments. While alternative force structures may be possible to reflect the different social and natural operating environments throughout the Norwegian coast, it seems the single-class multimission approach has worked well for the IKV. They have a wide variety of means for surveilling and building awareness of the country's littoral domain, and the authority to contest control of the sea at a very low level against civilian actors. Their ability to exercise control of the sea in a domestic context has ranged from projecting force landwards via HPB, to ensuring Norwegian fish farm owners can use their local waters as a resource, to using the sea as a source of information for environmental protection, to ensuring local seafarers can use the seas for transporting sand without capsizing in poor weather.

### *5.2.5 Latest Developments in Kystvakten Force Structure and Sea Control*

#### *Implications*

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<sup>579</sup> Tore Stensvold, "Samarbeider om overvåking av kysten: Fyller fem droner med avanserte sensorer," *Teknisk Ukeblad*, October 8, 2018, <https://www.tu.no/artikler/samarbeider-om-overvaking-av-kysten-fyller-fem-droner-med-avanserte-sensorer/447935>.

The Norwegian Coast Guard's three 7.2 billion NOK Project 6615 Jan Mayen-class offshore patrol ships are scheduled to be delivered starting in 2022. A result of a five-year long process (including a two-year delay due to a defence investment review) approved by the Storting in 2013, these 136m-long 9,800t vessels are three times larger than the early 1980s-era Nordkapp-class vessels they will replace.<sup>580</sup> Originally intended to be only a single ship, Project 6615 was expanded to three vessels in place of two additional Project 3049 helicopter-carrying vessels that were the original replacements for the Nordkapps.<sup>581</sup> This decision to merge the two projects appeared to have been due to the delayed implementation of Project 6615, which meant its entry into service would be much closer to the retirement dates for the Nordkapps.<sup>582</sup> Not much is available about the scope of Project 3049 as it did not appear to have progressed very far, but the decision to cancel it and expand Project 6615 certainly sped up the replacement schedule for the old Nordkapps which were already losing their ice capability due to age.<sup>583</sup>

In terms of capability, both the *Jan Mayen* and their predecessors share ice-strengthened hulls enabling operations in the waters around Svalbard. However, the Jan Mayen class's dramatically increased size enables them to house two of the new NH-90 helicopters in its hangar, doubling their predecessor's capacity.<sup>584</sup> Although the 2022 announcement of the cancellation of the NH-90s will delay the utility of such a capability, the ship's design nonetheless highlights an increased recognition of the importance of organic helicopter capabilities in the Arctic offshore role where assistance can be difficult

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<sup>580</sup> Forsvarsdepartement, *Prop. 1 S (2014–2015) Proposisjon til Stortinget (forslag til stortingsvedtak)* (Oslo: Stortinget, 2014), 100; Odd Magne Nilsen, "Coast Guard Program New Vessels Status and Plans," Powerpoint presentation, *Norwegian Defence Logistics Organisation Naval Systems*, August 27, 2014, 16.

<sup>581</sup> Nilsen, "Coast Guard Program New Vessels Status and Plans," 6; Forsvarsdepartementet, *Framtidige anskaffelser til Forsvaret (FAF) 2015–2023* (Oslo: Forsvarsdepartementet, 2015), 34.

<sup>582</sup> Forsvarsdepartement, *Prop. 1 S (2016–2017) Proposisjon til Stortinget (forslag til stortingsvedtak)* (Oslo: Stortinget, 2016), 73.

<sup>583</sup> Endre Barane, "Kystvaktens nye havgående fartøy," *Den norske Atlanterhavskomiteé*, February 11, 2021, <https://www.atlanterhavskomiteen.no/ukens-analyse/kystvaktens-nye-havgående-fartoy>.

<sup>584</sup> Per Erlien Dalløkken, "De nye kystvaktskipene blir mer effektive ubåtjegere," *TU.no*, August 19, 2020, <https://www.tu.no/artikler/de-nye-kystvaktskipene-blir-mer-effektive-ubatjegere/497731>.

to come by.<sup>585</sup> By increasing the aviation capability on hand, a *Jan Mayen* vessel can potentially assist multiple emergency and/or enforcement missions at the same time, or concentrate its helicopters, small boats, and the ship itself on a single major casualty event. Furthermore, having two helicopters on board will reduce the chances of a helicopter being unavailable due to maintenance. Given the increased traffic that the Svalbard area will see in terms of both destination cruise ships, fishing vessels, and transit traffic through the Russian Northern Sea Route, the *Jan Mayen*'s doubled fast-response capacity will play a crucial role in the decades to come.

Unlike the Nordkapp class, the *Jan Mayens* do not appear to be fitted with provisions for a wartime armament configuration, reflecting a mission set that is focused on peacetime maritime security. A single 57mm gun on the bow will be the ship's main armament, though the ship's design includes magazine space for torpedoes that the helicopters might need to carry.<sup>586</sup> Otherwise, these new ships do not appear to be designed for a high-end warfare role which might see it equipped with anti-ship missiles or torpedoes of their own as was the case with their Cold War-era predecessors. To contextualize this within the Sea Control Spectrum of Chapter 4, it would seem to suggest a fleet that is more concerned with contesting potential opposition to Norway's use of the sea as a resource (whether fisheries, oil, or as a tourism draw) in peacetime, rather than potentially to support the main Marinen combat fleet against an opposing force that seeks to use the seas for transportation or invasion. In Chapter 6: Denmark, this dissertation notes the challenges with matching seapower inputs to expected outputs given the long lead times required for naval fleet modernization. In the context of Russia's 2022 full-scale invasion of Ukraine, there will likely be renewed questions over whether Norway's decision to double-down on maintaining a strictly constabulary focus on its new *Jan Mayen*-class was a wise decision. But similar to the Cold War Danish OPV experience, the *Jan Mayen* are being equipped with a

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<sup>585</sup> Regjeringen, "Norge leverer tilbake NH90-helikopteret."

<sup>586</sup> Nilsen, "Coast Guard Program New Vessels Status and Plans," 11.

retractable hull-mounted sonar that has been advertised by its Kongsberg manufacturer as being capable of coastal anti-submarine warfare duties.<sup>587</sup> While a coastal ASW sensor capability is consistent with the Cold War ASW focus of the Marinen's frigates and corvettes, the *Jan Mayens'* lack of weapons that could damage or sink a detected submarine limits its sea control contestation ability to merely that of sovereignty assertion rather than defence. This concept of detection without prosecution will be discussed in more detail in Chapter 6's coverage of the Danish patrol ships operating off Greenland.

### 5.3 Conclusion

The establishment of the 200 NM EEZ and EFZ led to two short term changes to the seapower inputs of the Royal Norwegian Navy. Firstly, it led to the creation of the Kystvakt, a dedicated coast guard that formalized constabulary practices and authorities under a single organization. Secondly, it led to the procurement of larger vessels both for constabulary and military roles. These were first embodied by the 1980s Nordkapp-class offshore patrol ships for the Kystvakt and various large civilian leased vessels. Reflecting the Cold War concerns of the time, the Nordkapp class carried provisions for contesting sea control against not only civilians during constabulary missions, but also higher-end weaponry against Soviet naval forces in the event of war. After the Cold War, the EEZ's influence was seen in the Marinen's procurement of the ocean-going Nansen-class frigates while the Kystvakt's sundry purpose-built offshore patrol vessels lacked the provisions for high-end sea control contestation against military targets that the Cold War-era *Nordkapps* had. Over the longer term, the larger Nordkapp and Nansen-class vessels whose designs were driven by the need to operate throughout the 200 NM zones provided Norway with the seapower inputs needed to carry out new post-Cold War expeditionary

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<sup>587</sup> Dalløkken, "De nye kystvaktskipene blir mer effektive ubåtjegere"; Gunvor Hatling Midtbø, "Kongsberg to supply Norwegian Coastguard vessels with sonars for multiple operations," *Kongsberg*, August 19, 2020, <https://www.kongsberg.com/maritime/about-us/news-and-media/news-archive/2020/coastguard-sonars/>.

missions. Such uses of these vessels were not part of their original design requirements and demonstrated the flexibility inherent in vessels with longer endurance and seakeeping characteristics. However, despite the ocean-going capabilities of each individual vessel, the relatively small number of ships compared to the high level of traffic and large EEZ/EFZ areas meant Norway had to rely on additional institutional seapower measures. This included the checkpoint system for foreign fishing vessels and building cooperative relations with other countries' enforcement agencies, which helped ensure that the compulsive seapower of its limited numbers of patrol ships could be used in the most optimal fashion.

It is important to note that these responses to the establishment of the 200 NM zones and their longer-term consequences took place within broader security and foreign policy contexts. In general, Norwegian security and foreign policy have remained fairly consistent since their becoming a founding member of NATO in 1949. Striking a balance between the need to encourage NATO interest in the "northern flank" and to reassure the Soviet Union/Russia about its (and NATO allies') nonaggressive intentions, Norway trod a tenuous line between steadfast ally and critic of the Western alliance. In a broad sense, this was reflected in the naval forces dedicating to the warfighting role, which were limited in their ability to project power at long distances from home waters and were instead focused on ensuring Norway's ability to receive NATO reinforcements in wartime. With the agreement and implementation of the 1960 Fleet Plan, this meant a warfighting navy that was primarily concerned with preventing the Soviet enemy's use of the seas in wartime as a medium of transportation and source of landward influence (specifically, via amphibious invasion) along the Norwegian coast. In reference to the sea control framework discussed in Chapter 4, the resources Norway allocated to this task were relatively high along the sea control contestation axis but relatively low along its exercise axis. Norway's status as a small state within the alliance meant that the ability to exercise control of the sea for transporting reinforcements would fall to the larger NATO allies rather than Norway itself, though its

fairly large merchant fleet has the potential to play a role in that as well. As an advanced small state, however, Norway has also had the opportunity to build up its own small domestic military industrial complex to help build bespoke weapons systems like the Terne and Penguins missiles that are tailored towards its own naval strategy and maritime environment.

Taken as a whole, the Royal Norwegian Navy has been an organization that has been able to maintain clearly delineated roles for its two branches. There was the warfighting-focused “Marinen” that changed little despite the Cold War’s end, versus the Kystvakt that was created to first address the creation of the 200 NM zone and then adapt to new peacetime constabulary sea control tasks in the post-Cold War environment. In this context, the most significant change in the RNN’s force structure came in the late 1970s and early 1980s with the creation of the Kystvakt and its new Nordkapp-class offshore patrol ships in response to the creation of the 200 nautical mile maritime zones, which had clear consequences for the composition and tasks of the country’s maritime forces. Even though the 200 NM zones’ status were enshrined in the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and thus its rules and regulations could be enforced by judicial means, this adoption of institutional seapower as international maritime law became more and more favourable towards smaller coastal states was nonetheless complemented and supported by the compulsive seapower of naval and maritime forces. During the Cold War, the poor relations between the two countries and fears of military escalation constrained the use of compulsive power by the Kystvakt, resulting in a heavy reliance on institutional seapower to address disagreements like the Barents Sea Grey Zone. In the first two decades after the Cold War, however, compulsive power manifest in the Kystvakt’s forces was more free to play an increasingly significant role in enabling the exercise of the rights enshrined in UNCLOS as relations with Russia took on a more cooperative turn.

This required the occasional contestation operation by Kystvakten and supporting forces against those who would violate Norwegian maritime regulations so that Norwegian (and other licensed)

civilians may exercise that control for offshore fishing and seabed resources extraction. But while such contestation actions were necessary to establish temporary sea control during acute incidents, long-term sea control was only possible thanks to institutional measures that reduced the enforcement requirements of patrol ships. As discussed in Chapter 4, most fishing vessels must eventually land their catch ashore, and it is there that international coordination can help catch fishers who violate Norwegian regulations and reduce the need for Norwegian at-sea interdiction.

Closer to shore, the expanded territorial sea out to 12 NM miles led to a need for more robust maritime forces that could address the wide variety of government agency needs on the oceans. This led to the creation of the Indre Kystvakt and its fleet of dedicated inshore patrol vessels with capabilities similar to their offshore brethren, albeit scaled-down. But at the same time that such constabulary enforcement of legal rights in peacetime became increasingly important, the RNN did not shy away from its Cold War mindset of assuming a Russian wartime enemy. This earned it a somewhat dubious reputation within the NATO allies until Russia was once again recognized as a major adversary by the alliance's members in the second decade of the 21<sup>st</sup> century.<sup>588</sup> As the third decade of the century begins, the Royal Norwegian Navy force structure and operations can be expected to share more similarities than differences from its Cold War predecessor, operating within the NATO deterrence framework while also maintaining its broadened constabulary role at sea during peacetime.

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<sup>588</sup> Petersson and Saxi, "Shifted Roles," 782.



## **Chapter 6: Denmark: An Overseas Fleet for a Blue Water Era**

### **6.0 Introduction**

The military dimension of Danish seapower has shifted dramatically in the aftermath of the Cold War. Its warfighting fleet has undergone a major transformation from local sea denial against the Soviet Baltic fleet to both contesting and exercising sea control in overseas operations. At the same time, the Danish navy's constabulary concerns in the territories of Greenland and Faroe Islands have remained a top priority, with the establishment of the 200 NM Exclusive Economic Zone (EEZ) leading to intensified levels of investment in constabulary seapower inputs. To align with these operational priorities, there have been major changes to the force structure of the Søværnet/Royal Danish Navy (RDN). From the Absalon-class "combat support ships" capable of carrying Leopard 2 main battle tanks to the Knud Rasmussen-class ice-capable multirole patrol ships, the RDN's assets are comprised entirely of vessels commissioned after the Cold War, making it one of the most modern navies in Europe. These changes have captured the attention of foreign observers, who have highlighted the unusual character of these seapower inputs given Denmark's status as a small state with a small navy.<sup>589</sup>

Unlike the Norwegian modernization discussed in the previous chapter, Denmark's acquisitions of these new vessels are a radical departure from the Cold War fleet, which was comprised predominantly of fast attack craft and mine warfare vessels. This chapter examines these changes in close detail, explaining the decisions behind this change by contextualizing them within Denmark's overall changes in its security policies to identify the degree to which changes are reactions to the

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<sup>589</sup> Examples include the following: Rob Huebert, "Cooperation or Conflict in the Arctic?" in *Changes in the Arctic Environment and the Law of the Sea*, eds. Myron H. Nordquist, Tomas H. Heidar, and John Norton Moore (Boston: Martinus Nijhoff Publishers, 2010), 53; Robert Smol, "Understanding the Delusion and the Reality behind Canada's Offshore Patrol Ships," *Canadian Naval Review* 14, No. 2 (2018): 26; Frederic Lasserre, Jérôme Le Roy, Richard Garon, "Is there an arms race in the Arctic?" *Journal of Military and Strategic Studies* 14, No. 3&4 (2012): 1-2; Bob Weber, "Denmark joins Arctic arms race," *The Star*, July 26, 2009; Doug Thomas, "Warship Developments: Those Innovative Danes!" *Canadian Naval Review* 4, no. 1 (2008): 40-41; Commodore Mike Cooper (Ret'd), "Comment about 'Those Innovative Danes'," *Canadian Naval Review* 4, no. 2 (2008): 34.

establishment of the 200 NM EEZs. Two main empirical phenomena are thus compared: the RDN's force structure and activities on the one hand, and Denmark's overall security policies on the other. A long-term examination of the RDN's force structure and its role since the Second World War needs to be undertaken to determine whether and how Danish military and constabulary seapower deviate from the historical norm. This is especially important given both the decade-long process that culminated in the 200 NM EEZ and the even lengthier processes required for naval force structure acquisition. As with the other two case studies in this dissertation, both the warfighting and constabulary components of the RDN will be examined in order to properly contextualize the impacts of changes to the RDN's constabulary force structure and operations to the navy as a whole.

This chapter argues that even though the establishment of the 200 NM EEZ would seem to require drastically new seapower inputs, the pre-existing requirements for deploying and sustaining constabulary vessels at long distances from continental Denmark meant relatively few changes had to be implemented in the short term. The changes that did occur took place over three decades and were more a matter of increasing existing constabulary capabilities rather than developing new ones. Nonetheless, the constabulary mission was clearly a priority in the post-Cold War era, with the constabulary fleet retaining its size while increasing its capabilities. In contrast, the warfighting fleet closer to home was forced to divest of major capabilities like submarines in order to fund a smaller number of more capable vessels. With increasing geopolitical interests in the Arctic, however, Danish seapower in the region will likely shift towards greater military capabilities in the near future.

This chapter is laid out in three parts. Unlike the previous Norwegian chapter, they are not purely chronological due to the fact that the RDN has operated distinctly separate military/warfighting and constabulary forces in different areas of the Danish Kingdom throughout the period of this study. Thus, while the first two parts cover the same Cold War period, they each focus on the very different seapower inputs and outputs that separate continental Denmark versus its overseas territories.

Following this, the third part of the chapter examines how the post-Cold War turn in Danish uses of its compulsive seapower has been both enabled by and affected the hitherto distinct separation between warfighting and constabulary forces.

Part I of this chapter examines the warfighting naval forces centered on the Baltic entrance/exit and how they related to the security and defence policies of Denmark during the Cold War period. Such an approach is required due to Denmark experiencing several shifts in its security policy approaches throughout the entire period in contrast to the Norwegians' consistent policy on being a "loyal" NATO member that emphasized simultaneously deterring and reassuring the Soviet Union. As well, even though Denmark's 1960 Defence Agreement (Lov nr. 137 of March 31, 1960) included a comprehensive fleet replacement plan like the Norwegians' 1960 Fleet Plan, the Agreement's legally binding requirement that the plan was contingent on soon-to-be-reduced American arms assistance resulted in a much more *ad hoc* series of fleet updates.<sup>590</sup> This requires an approach that examines fleet development on a decade-by-decade basis. Given this dissertation's research focus on constabulary operations before and after EEZ promulgation, it is not within the scope of this section to identify the rationales for each and every warfighting vessel class that was procured. Rather, the emphasis is on their collective contributions to Danish seapower and to set a basis for contrasting with the constabulary forces discussed in Part II. The end of the Second World War is chosen for the starting point due to that conflict having been pivotal in altering Denmark's traditional approach to international affairs, when the Nazi occupation highlighted the fact that "nonaligned neutrality", which had marked Danish foreign policy since 1864, was no longer a guarantee against intrusion on Danish territory.<sup>591</sup> It concludes in

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<sup>590</sup> Gunnar Olsen and Svenn Storgaard, *Flådens Skibe Og Fartøjer 1945–1995* (Copenhagen: Marinehistoriske Skrifter, 1998), 16-17.

<sup>591</sup> Eric S. Einhorn, "The Reluctant Ally: Danish Security Policy 1945-49," *Journal of Contemporary History* 10, no. 3 (1975): 493.

1990 to reflect the transition towards overseas expeditionary operations that has occurred during the post-Cold War period and which will be elaborated upon in Part III of this chapter.

Part II of this chapter traces the development of the Danish naval force as it pertains to peacetime operations in its Arctic territories and offshore waters of Greenland and the Faroe Islands. Much as the Norwegian navy in the previous chapter could clearly be identified as comprising of distinct warfighting versus constabulary services, so, too, can the Royal Danish Navy. This section explores some of the constabulary sea control operations that took place between 1945 and 2020, with a high degree of focus on key developments in the constabulary force structure of the RDN as they pertained to the Arctic region in order to discern the drivers and characteristics of patrol vessels built in the aftermath of the 200 NM EEZ promulgation. Given this dissertation's interest in the constabulary mission associated with the EEZ, this section will form the bulk of this chapter.

Finally, Part III of this chapter addresses the post-Cold War period for the RDN, highlighting a gradual conjunction of the seemingly disparate force structures and missions of Part I and Part II. It picks up where Part I ended in 1990, and argues that by 2020, Denmark has seen a need to increase its military naval capabilities in the Arctic, a region that has traditionally only required the constabulary forces discussed in Part II. This is despite a dramatic effort at converting its Cold War Baltic-centric sea denial force into an expeditionary naval force capable of simultaneously contesting and exercising sea control in areas far away from the Danish Kingdom. Given its limited resources as a small navy, a convergence of constabulary and military roles for the RDN within the same force structure can be expected to occur, overriding the relatively less demanding characteristics required of a purely constabulary force in the Danish Kingdom's Arctic spaces.

## **6.1 Part I: Denying the Coastal Seas: the Danish Navy's Military Role, 1945-1990**

### *6.1.1 Rebuilding Compulsive Seapower: Postwar to 1970*

At the end of the Second World War, Denmark faced a fundamental problem regarding its foreign and security policies and the requisite material inputs to support them. Having been invaded and occupied for the past half-decade in spite of repeated attempts at pacifist and neutralist policies, Danish governing parties almost unanimously agreed that such an approach has proven to be a catastrophic failure and could not be repeated.<sup>592</sup> Other options now have to be debated and considered, and these options must take into account the military inputs required to fulfil them. As will be demonstrated, rebuilding Danish military seapower would be a significant component. The inputs for this seapower would be dedicated unerringly to a localized sea denial role within the Baltic Sea and the Danish Straits, with nearly no ability to carry out naval missions further abroad despite a continuous foreign policy interest in participating in United Nations operations overseas.<sup>593</sup>

Up until the establishment of the North Atlantic Treaty Organization (NATO) in April 1949, Denmark experienced three periods of foreign policy approaches. Between May 1945 and late 1947, Denmark placed its trust in the United Nations (UN) apparatus.<sup>594</sup> During this period, Danish politicians had hoped the growing rift between the Western democracies and the Soviet Union could be ameliorated, particularly through the UN. To this end, they pursued an approach that essentially treated

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<sup>592</sup> Einhorn, "Reluctant Ally," 495.

<sup>593</sup> Peter Viggo Jakobsen, "Denmark and UN peacekeeping: glorious past, dim future," *International Peacekeeping* 23, no. 5 (2016): 741.

<sup>594</sup> Einhorn, "Reluctant Ally," 495.

both sides on common ground. For example, a wartime treaty with the Americans was solidified regarding the security of Greenland while also exploring limited military collaboration with the Soviet Union.<sup>595</sup> In a September 1945 press conference, Foreign Minister Christmas Møller “stressed Denmark’s commitment to the UN” and that it would, along with the other Nordic states, “maintain good relations” between East and West and not have to choose one or the other.<sup>596</sup>

In this initial period, Denmark struggled to settle on a Western military, political, and economic alignment. Despite recognizing the infeasibility of prewar nonaligned neutrality, that decades-old approach was too ingrained to be given up in its entirety and the period between 1945 and 1947 was characterized by a refusal to recognize that the East and West were opposing blocs in conflict with each other.<sup>597</sup> Nonetheless, Denmark did not entirely succumb to its prewar pacifistic outlook. After all, neutrality and pacifism do not always go hand-in-hand and there was the fear that a defenseless Denmark would be vulnerable to a *fait accompli* invasion by a foreign power. In such an event, Denmark could expect no assistance from other powers due to their potential desire to avoid being embroiled in a conflict that did not immediately threaten them.<sup>598</sup> A healthy appreciation of the role of its armed forces occurred in this period, beginning with the mobilization of 20,000 men for six months of service in summer 1945.<sup>599</sup> This was commanded by officers made up of Resistance fighters from the war, some of whom were also assigned to the regular army and navy.<sup>600</sup> A wholesale reconsideration of the armed forces and how they would fit into Denmark’s defence and security policies was slow to take place due to not just the greater priority of postwar reconstruction and economic welfare, but to the issue of

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<sup>595</sup> Einhorn, “Reluctant Ally,” 496, 498.

<sup>596</sup> Einhorn, “Reluctant Ally,” 496-497.

<sup>597</sup> Einhorn, “Reluctant Ally,” 495.

<sup>598</sup> Peter Borgason, *Søværnet under den kolde krig – Politik, strategi og taktik* (Copenhagen: Snorres Forlag, 2016), 20.

<sup>599</sup> Einhorn, “Reluctant Ally,” 496.

<sup>600</sup> Einhorn, “Reluctant Ally,” 496.

resolving the future of Danes living in South Schleswig region of West Germany.<sup>601</sup> As political scientist Eric Einhorn noted, the “increasing confusion and emotion” of this foreign policy issue “distracted” the Danish government from considering security and defence challenges stemming from the rising tensions between East and West.<sup>602</sup>

But despite these various domestic and foreign policy concerns, new seapower inputs capable of constabulary and military sea control were acquired. The RDN was essentially “nonexistent” at war’s end due to their self-scuttling on August 29, 1943, when the occupational German forces attempted to take direct control of the fleet.<sup>603</sup> A small number of minor vessels had escaped to Sweden or were in Greenland and returned at war’s end.<sup>604</sup> In this context, the postwar reconstruction of the RDN was quite impressive. Between May 1945 and the end of 1947, the RDN commissioned the following large vessels: one ex-British Flower-class corvette, two ex-Canadian River-class frigates, and two indigenous Huitfeldt-class large torpedo boats/coastal destroyers (kystjagere) that were finished from hulls laid down in 1939.<sup>605</sup> The Flower-class (HDMS *Thetis*) and two River-class (HDMS *Holger Dansk* and HDMS *Niels Ebbesen*) were the first purchases and intended for little more than fisheries inspection off the Faroes and Greenland and training purposes due to RDN Command-in-Chief Vice Admiral Vedel’s uncertainty over the state of technological change throughout the war.<sup>606</sup>

Supplementing these five larger units were the six in-construction 400-ton Krieger-class torpedo boats built in Copenhagen (some had been laid down during the war, others after), as well as some

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<sup>601</sup> Einhorn, “Reluctant Ally,” 496-498.

<sup>602</sup> Einhorn, “Reluctant Ally,” 498.

<sup>603</sup> Søren Nørby, “Danish Navy left without any military options,” *Danish naval History*, October 20, 2002, [http://www.navalhistory.dk/English/History/1939\\_1945/August29.htm](http://www.navalhistory.dk/English/History/1939_1945/August29.htm).

<sup>604</sup> Nørby, “Danish Navy left without any military options.”

<sup>605</sup> Eric J. Grove, “The Superpowers and Secondary navies in Northern Waters during the Cold War,” in *Navies in Northern Waters: 1721-2000*, ed. Rolf Hobson and Tom Kristiansen (London: Frank Cass, 2004), 213; Johnny E. Balsved, “Fleet Listings: Frigates after 1945,” *Danish Naval History*, 2009, [http://www.navalhistory.dk/English/Naval\\_Lists/Types/Frigates.htm](http://www.navalhistory.dk/English/Naval_Lists/Types/Frigates.htm) (May 13, 2021); Borgason, *Søværnet under den kolde krig*, 62.

<sup>606</sup> Borgason, *Søværnet under den kolde krig*, 24.

forty-six minesweepers that were either lent by the British or ex-German Kriegsmarine.<sup>607</sup> Denmark's compulsive seapower in home waters was further strengthened by acquiring three ex-British U and V-class submarines on top of three wartime-commissioned minelayers, substantially boosting their anti-shipping capabilities.<sup>608</sup> These fourteen surface and three subsurface combatants were not, despite being a drastic improvement over not having any ships at all, likely to have sufficed for the independent territorial defence of Denmark in the event a Great Power decided to violate Danish sovereignty. To increase their ability to hold off an invasion until United Nations forces could come to their aid, the RDN repeatedly expressed desires for the next few years for task forces led by large fleet destroyers that could carry and integrate modern all-weather radar, sonar, and command and control systems in a single operations room. These task forces would engage invasion forces before they could reach Danish waters. Meanwhile, mines and coastal fortresses would attempt to deny the enemy a successful landing on Danish territory.<sup>609</sup> With the limited postwar budget, however, such an ambitious two-tier approach to naval defence was beyond the government's appetite at the time.<sup>610</sup> A Danish sovereign capability for conducting high-intensity sea denial against an enemy aiming to use the seas as a medium for landward power projection against Denmark (i.e. invasion) would seem to be impossible.

Between early 1948 and January 1949, Denmark began to realize the futility of expecting the Western democracies and the Soviet sphere to achieve cordial relations by virtue of the UN's existence alone. It became increasingly obvious that neutrality would be an insufficient policy for preventing

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<sup>607</sup> Johnny E. Balsved, "Fleet Listings: Torpedo boats 1879-2000," *Danish Naval History*, 2007, [http://www.navalhistory.dk/English/Naval\\_Lists/Types/TorpedoBoats.htm](http://www.navalhistory.dk/English/Naval_Lists/Types/TorpedoBoats.htm) (May 30, 2014); Johnny E. Balsved, "Fleet Listings: Mine Vessels since 1886," *Danish Naval History*, 2008, [http://www.navalhistory.dk/English/Naval\\_Lists/Types/MineShips.htm](http://www.navalhistory.dk/English/Naval_Lists/Types/MineShips.htm) (May 30, 2014); Borgason, *Søværnet under den kolde krig*, 29. Most of the minesweepers would be decommissioned by 1950. These *Krieger* torpedo boats are of the larger more seaworthy variants and should not be confused with *motor* torpedo boats (MTBs), which were much smaller and faster.

<sup>608</sup> Borgason, *Søværnet under den kolde krig*, 32-33; Olsen and Storgaard, *Flådens Skibe Og Fartøjer 1945-1995*, 109-111.

<sup>609</sup> Borgason, *Søværnet under den kolde krig*, 37-44.

<sup>610</sup> Borgason, *Søværnet under den kolde krig*, 37-44.



Denmark from becoming a geopolitical pawn for either the West or East should violent conflict break out.<sup>611</sup> The other two Scandinavian states, Norway and Sweden, began to take the same view. Accordingly, despite official statements denouncing the formation of Great Power blocs and advocating for trust in the UN system, all three states readily embraced the idea of there being a Scandinavian military alliance to guarantee their independence from the other two blocs.<sup>612</sup>

This Scandinavian Defence Union (SDU) was initiated by the Norwegians (under Einar Gerhardsen's Labour Government) and was supported by the Swedes (under Tage Erlander's Social Democrats).<sup>613</sup> These two countries, however, had very different ideas on the external relations this Union would have. Norway advocated for, and Denmark was willing to accept, a Union that would be open to friendly ties with a Western transatlantic bloc, whereas Sweden uncategorically required it to be neutral. Denmark, meanwhile, played a mediating role between these two sides. Norway supported its position in part on the fact that even if the Union was neutral in its political relations with other countries and blocs, it would still be dependent on external parties for military equipment and support. With this the case, it only stood to reason that the Scandinavian states should prefer to acquire such equipment and support from countries that shared their democratic values.<sup>614</sup> Certainly, the lineages of the Royal Danish Navy's major surface units mentioned earlier illustrate this well, echoing those of its Norwegian neighbour. Sweden's denial of any external ties applied to not just the Union as a whole, but its individual members as well. Norway and Denmark would not be allowed to have military ties to the Western powers. Furthermore, Sweden stipulated that the Union's territorial boundaries excluded the

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<sup>611</sup> Einhorn, "Reluctant Ally," 501.

<sup>612</sup> Einhorn, "Reluctant Ally," 499-502.

<sup>613</sup> Einhorn, "Reluctant Ally," 500; Rune Gerhardsen, "Einar Gerhardsen," *Government.no*, May 30, 2011, <https://www.regjeringen.no/en/the-government/previous-governments/historiske-artikler/offices/prime-minister-since-1814/einar-henry-gerhardsen/id463396/>; "Tage Erlander," *Nationalencyklopedin*, <https://www.ne.se/uppslagsverk/encyklopedi/l%C3%A5ng/tage-erlander>.

<sup>614</sup> Einhorn, "Reluctant Ally," 503. See also previous chapter on Norwegian postwar acquisitions from the Royal Navy.

Arctic and Atlantic possessions of the other two states. This was of particular concern to Denmark. If the new SDU could not assist in securing Greenland, and Denmark was not allowed to have defence ties with the United States (the treaty with which Denmark would presumably have to abrogate should the SDU be formed under Sweden's stipulations), then how could Denmark ensure the security of Greenland?<sup>615</sup>

The chance of convincing the Swedes to include such overseas territory in the SDU was further reduced by the fact that the Swedes were somewhat reluctant to include Denmark itself in the SDU.<sup>616</sup> Denmark had few geographical features favourable to defenders and its proximity to the East German border made it a vulnerable target in the event of a land invasion. At sea, a Soviet fleet's violation of Danish sovereignty as part of their journey through the Danish Straits would contravene the SDU's overall neutrality, bringing Sweden into a war that otherwise did not threaten them.<sup>617</sup> Further, Denmark's relatively small military meant it could contribute only little materiel and personnel to defence efforts in Sweden or Norway.<sup>618</sup> But despite these drawbacks of Danish membership in the proposed SDU, Sweden conceded that the strategic deterrent value of having a trilateral SDU made Denmark an acceptable inclusion. The willingness of Sweden to include Denmark in the proposed SDU was therefore seen as a security policy success for the Danes.<sup>619</sup>

During this brief period, the Royal Danish Navy saw little change. While one may not expect there to be much of an opportunity for Denmark to undertake significant force structures changes in the timespan of only one or two years, the plethora of surplus war vessels could have offered an opportunity to quickly add to the existing units in the navy. Regardless, some of the minesweepers were decommissioned and three of the aforementioned Krieger-class torpedoboats were completed and

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<sup>615</sup> Einhorn, "Reluctant Ally," 503.

<sup>616</sup> Borgason, *Søvænet under den kolde krig*, 40-41; Einhorn, "Reluctant Ally," 504.

<sup>617</sup> Borgason, *Søvænet under den kolde krig*, 40-41.

<sup>618</sup> Einhorn, "Reluctant Ally," 504.

<sup>619</sup> Einhorn, "Reluctant Ally," 504.

brought online, but there were no new acquisitions or keel-laying in 1948.<sup>620</sup> In theory, this lack of activity might be attributed to a “wait and see” attitude on the part of the Danish government. Should the SDU pan out, the role of Denmark’s navy within that apparatus would be a subject of considerable discussion. As it was, some broad options for naval coordination were proposed as part of the SDU discussions, especially given the shared sea border between Copenhagen and the Swedish city of Malmö.<sup>621</sup> It would be only logical to wait for the conclusion of any such discussion before beginning the acquisition of new vessels.

This hesitance turned out to be a good stance to take, for the Scandinavian Defence Union never did leave the pages of committee reports. The three states did not manage to resolve the aforementioned conflicting requirements. Had they more time, Danish Foreign Minister Rasmussen was hopeful that a compromise could be struck if Western arms could be procured without committing to an alliance arrangement, though the Conservatives and Liberals were skeptical of SDU members’ ability to stay out of a great power war and the Radicals were cautious about the increased domestic defence spending required in the absence of cheap arms from Western suppliers.<sup>622</sup> The SDU’s low likelihood of success was compounded by the fact that the United States and the Western European powers were already deep in discussion over what would become NATO. The United States, in particular, was interested in extending NATO invitations to as many countries as possible, including Norway and Denmark.<sup>623</sup> A broad acceptance of the transatlantic alliance west of the Iron Curtain would increase the likelihood of it being accepted and ratified by the American populace. Thus, despite some fears by certain European countries that this would “dilute” American aid and overextend Alliance capabilities,<sup>624</sup> Denmark was offered to become a founding member of that organization. A positive answer on the part

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<sup>620</sup>Balsved, “Frigates”; Balsved, “Mine Vessels”; Balsved, “Torpedo Boats”.

<sup>621</sup> Borgason, *Søvænet under den kolde krig*, 62.

<sup>622</sup> Einhorn, “Reluctant Ally,” 505.

<sup>623</sup> Einhorn, “Reluctant Ally,” 504.

<sup>624</sup> Einhorn, “Reluctant Ally,” 504.

of the Danes had to come quickly, however, for there was the expectation that American non-military aid would favour NATO members – and the earlier that came, the better.<sup>625</sup>

Thus, this third and final period of pre-NATO Danish foreign policy concluded on March 24, 1949, with the Danish parliament, the *Folketing*, voting 119 to 23 in favour of signing on to the new North Atlantic Treaty. Despite its best efforts, Denmark's attempts at bridging the differences between Norway and Sweden failed to enable its primary preference for a Scandinavian solution.<sup>626</sup> The only options remaining were either the North Atlantic Treaty or a return to isolated neutrality. The latter having been soundly rejected by nearly all parties in the Danish parliament, the preventive deterrence offered by NATO was seen by Danish Prime Minister Hedtoft as the only remaining logical solution to Denmark's security problem.<sup>627</sup> In the weeks leading up to March 24, Hedtoft conveyed this to the Executive Committee of the Social Democratic party, which adopted the proposal.<sup>628</sup> When time came for the entire parliament to vote on accession to the North Atlantic Treaty, the Social Democrats, Conservatives, Liberals, and one Justice Party member voted in favour. Voting against it were the Radical Left (despite the name, they were closer to the centre of the political spectrum), the Communists, one Liberal, and four Justices.<sup>629</sup> With the exception of 1951-1952, the Social Democrats would remain in power until 1968 as the dominant party in a coalition government with the Conservatives and Liberals, which would be joined by the Radicals in the late 1950s.<sup>630</sup> This allowed for a fairly continuous approach to Denmark's security policy through this period, characterized by "the absence of foreign bases in Denmark proper, a ban on nuclear weapons on Danish territory, and relatively low defence budgets."<sup>631</sup>

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<sup>625</sup> Einhorn, "Reluctant Ally," 503-504.

<sup>626</sup> Nikolaj Petersen, "Danish and Norwegian Alliance Policies 1948-49: A Comparative Analysis," *Cooperation and Conflict* 14 (1979): 196.

<sup>627</sup> Einhorn, "Relucatan Ally," 506.

<sup>628</sup> Einhorn, "Relucatan Ally," 506.

<sup>629</sup> Einhorn, "Relucatan Ally," 509.

<sup>630</sup> Nikolaj Petersen, "Danish Security Policy in the Seventies: Continuity or Change," *Cooperation and Conflict* 7 (1972): 140-141.

<sup>631</sup> Petersen, "Danish Security Policy in the Seventies," 141.

Now that it was part of a greater alliance, such a “relatively low defence budget” was feasible since Denmark’s military would not have to embark upon an unattainable path towards comprehensive independent self-defence. As Prime Minister Hedtoft argued during the parliamentary debates preceding the March 24 vote, joining NATO not only meant the assistance of other members’ military forces, but more importantly the possibility that Denmark’s military may not have to be used at all thanks to the deterrence feature of the treaty.<sup>632</sup> That said, it did not mean Denmark could simply sit back and “free ride” on the military backs of larger Alliance members. As will be illustrated in the following paragraphs, Denmark was expected to fulfill duties within the greater Alliance strategic framework.

Throughout the 1950s, NATO’s greatest concern in terms of naval threats was the Soviet Baltic Fleet. The largest of the four Soviet fleets at the time, it was comprised of around sixty large surface combatants and over one hundred submarines.<sup>633</sup> By the mid-decade, the Baltic Fleet was conceded (by the Swedes at least) to have gained maritime superiority in the Baltic Sea. This position was formerly enjoyed by Sweden, which perhaps explains partly that country’s confidence in the previously proposed SDU’s ability to defend itself without outside assistance.<sup>634</sup> The fear was that the Baltic Fleet would undertake an amphibious invasion of Denmark and/or West Germany, as well as break through the Danish Straits and into the North Sea to attack NATO shipping.<sup>635</sup>

Denmark, now more-or-less integrated to the overall NATO structure, thus played an important role in denying any such attempt by the Baltic Fleet to use Danish waters either as a medium of transport or landward power projection. Too few in numbers to be of much use against the Soviet

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<sup>632</sup> Einhorn, “Reluctant Ally,” 508.

<sup>633</sup> Grove, “The Superpowers and Secondary navies in Northern Waters,” 212-213.

<sup>634</sup> Grove, “The Superpowers and Secondary navies in Northern Waters,” 212-213.

<sup>635</sup> Grove, “The Superpowers and Secondary navies in Northern Waters,” 212-213.

cruisers and destroyers, the Royal Danish Navy reoriented its major units to carry out antisubmarine warfare. The River-class frigates were retrofitted in 1953 with Hedgehog anti-submarine mortars and depth charge launchers, while the two Danish-built *Huitfeldts* were similarly upgraded to carry more depth charge mortars and launchers in 1951. The *Huitfeldts* also demonstrated a minelaying capability during the August 1952 “Copperhead” (Kobbersmed) exercise.<sup>636</sup> The one Flower-class corvette, *Thetis*, received upgraded radar, sonar, and boilers, as well as re-equipped with her Hedgehog and depth charge equipment during its 1951 refit after having had them removed in 1946. While the immediate postwar period saw little need for ASW capability when conducting sovereignty patrols and fisheries inspections off the Faroes and Greenland, the new Cold War demanded the re-equipping of ASW capability even for a ship designated for constabulary tasks.<sup>637</sup> The six Krieger-class large torpedo boats were converted to anti-submarine patrol vessels as well in 1951, with their torpedo tubes removed in exchange for depth charges and mines.<sup>638</sup>

The 1950s also saw the expansion of the RDN with three ex-British Hunt-class destroyer escorts in 1954, following failed attempts at acquiring American Benson- and Fletcher-class destroyers (which were desired for their high speeds that would allow them to keep pace with or outrun Soviet destroyers). These larger surface ships would serve to protect minelaying units, support motor torpedo boats with radar and artillery, and serve as scouting and fighting units in all weather conditions.<sup>639</sup> In the event of a successful occupation by Soviet forces, some Danish admirals also thought the greater speed and seaworthiness of large destroyers would allow the RDN to continue to play North Atlantic and North

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<sup>636</sup> Borgason, *Søvænet under den kolde krig*, 62-63.

<sup>637</sup> Arne Handberg and Tom Wismann, *Korvetten/fregatten Thetis 1945–1963* (Helsingør, Denmark: Steel & Stone Publishing, 2011), 9-13, 18.

<sup>638</sup> Grove, “The Superpowers and Secondary navies in Northern Waters,” 213; Balsved, “Johnny E. Balsved, “Krieger (1948-1959),” *Danish Naval History*, 2005, [http://www.navalhistory.dk/English/TheShips/K/Krieger\(1948\).htm](http://www.navalhistory.dk/English/TheShips/K/Krieger(1948).htm) (May 14, 2021).

<sup>639</sup> Borgason, *Søvænet under den kolde krig*, 66-67. While the Americans rejected the request for the *Bensons* and for unknown reasons did not offer the *Fletchers*, they did offer the Cannon-class destroyer escorts. The Danes rejected these as being too slow, being capable of only 21 knots. The Hunt class, while not as fast as the American destroyers, were still much faster than the *Cannons* and could make 27 knots.

Sea convoy escort roles while the government was in exile, similar to their Norwegian counterparts during the last war.<sup>640</sup> Augmenting this fleet in 1955 were four new-build Triton-class 900-ton corvettes that were the eventual outcome of the coastal destroyer replacement project.<sup>641</sup> These were perhaps the most explicit physical sign of the new Danish position within NATO and were built in Italy with funds from the American Mutual Defense Assistance Program. Much as the Norwegian decision to build their Oslo class with more modern Dutch fire control equipment instead of cheaper excess American equipment, the *Tritons* were chosen due to the Italians' inclusion of more modern electronics and weapons versus the American-built alternative.<sup>642</sup> However, the ships suffered from a serious design flaw that demonstrated the risks of buying designs from countries that do not share the same operating environment. During the first two corvettes' delivery voyage through the Bay of Biscay to Denmark, the Danes discovered that the sea chests providing seawater coolant to the engines would be exposed to the air in heavy seas due to their locations being too close to the waterline.<sup>643</sup> This meant the engines may fail when they are needed the most.<sup>644</sup> While this was fixed after the ships' arrival in Denmark, the overall construction was also deemed "light" according to initial Danish inspection reports, which meant the ships were limited in the environmental and combat conditions that they can operate in.<sup>645</sup> The light construction is especially poignant in the context of potential fisheries inspections tasks in the Arctic territories where heavy seas and extreme weather would limit their utility. This is illustrated in the fact that *Tritons* performed their last fisheries patrol around the Faroes in 1963, which was when the new dedicated Arctic patrol ships of the *Hvidbjørnen* class came into service to take over constabulary duties in the region.<sup>646</sup> Despite their drawbacks and increasing concerns over their wear and tear by the early

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<sup>640</sup> Borgason, *Søværnet under den kolde krig*, 69.

<sup>641</sup> Borgason, *Søværnet under den kolde krig*, 69.

<sup>642</sup> Tom Wismann, *Korvetterne af Triton-klassen 1954–1981* (Helsingør, Denmark: Steel & Stone Publishing, 2007), 4.

<sup>643</sup> Wismann, *Korvetterne af Triton-klassen*, 11-12.

<sup>644</sup> Wismann, *Korvetterne af Triton-klassen*, 12.

<sup>645</sup> Tom Wismann, *Korvetterne af Triton-klassen 1954–1981* (Helsingør, Denmark: Steel & Stone Publishing, 2007), 5.

<sup>646</sup> Wismann, *Korvetterne af Triton-klassen*, 34-41. See Part II of this chapter for details on the *Hvidbjørnen* class.

1970s, the ships would go on to provide valuable military service in the calmer Baltic waters until decommissioning in 1981.<sup>647</sup> The three *Hunts* and four *Tritons* were similarly equipped with anti-submarine sonars and weapons.<sup>648</sup>

Complementing this fleet of eighteen surface combatants were six new Flyvefisken-class fast torpedo boats, built in 1955 along similar lines to the ex-Kriegsmarine schnellboote that remained in service.<sup>649</sup> Their intended use, as demonstrated in 1957 Exercise Brown Jug, was to sneak towards and sink Soviet amphibious assault forces while the larger surface vessels attacked the Soviet escort screen.<sup>650</sup> These torpedo boats provided the bulk of the RDN's surface firepower against a Soviet surface fleet. Together with the Norwegian and West German navies that were being similarly built-up, they stood a fighting chance against the Baltic Fleet, possibly long enough to allow Alliance reinforcements to arrive.

But for its primary NATO duty of gatekeeper to the North Sea, the RDN further commissioned three minelayers in this period. *Langeland*, built in 1951, and two ex-American Landing Ships Medium (LSM) commissioned in 1954 were dedicated to this task alongside three existing minelayers built during the war. Eight Sund-class minesweepers were also added to help offset the decommissioning of outdated units.<sup>651</sup>

The RDN's three ex-British submarines were taken out of commission between 1957 and 1959, during which construction and trials of the indigenous Delfinen-class boats took place. The first of these modern submarines officially entered service in 1961, the costs of which was split evenly between the

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<sup>647</sup> Wismann, *Korvetterne af Triton-klassen*, 6; Søværnets Materielkommando, "Pkt. 3. Logistiske forhold. Bilag til SMK HEM skr. Nr. M/120.32/266 af 19 feb 1971." 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives].

<sup>648</sup> Balsved, "Frigates"; Wismann, *Korvetterne af Triton-klassen*, 17-19. The ships' ASW weapons were the venerable Hedgehogs and depth charge throwers/racks.

<sup>649</sup> Balsved, "Torpedo Boats".

<sup>650</sup> Borgason, *Søvænet under den kolde krig*, 134.

<sup>651</sup> Balsved, "Mine Vessels".



Danes and the Americans and demonstrates another concrete example of the expected benefits of joining NATO.<sup>652</sup>

The fleet of the 1950s, then, was one of surface and subsurface area-denial. The threat that the Soviet Baltic Fleet posed to both the Baltic NATO states and NATO shipping at large was one that, though significant, was not beyond the capabilities of a US-funded and -equipped Danish navy. The favourable geography, which sees Danish territories constricting and keeping guard over the three straits in and out of the Baltic, made it possible for Denmark to acquire a fleet force structure that had a reasonable chance of success in keeping the Baltic Fleet inside the Baltic. As Danish minelayers closed off the Straits to both surface and subsurface shipping, Danish torpedo boats and submarines could lay in wait for Soviet shipping and surface units, while Danish frigates and corvettes provided cover for those units by carrying out anti-surface and anti-submarine duties at longer distances.<sup>653</sup> In the context of such constricted waterways, a Danish fleet was acquired that sufficed to fulfill Denmark's role in NATO, and thereby at least that portion of its security and defence policy.

Throughout the 1960s, however, another challenge appeared to NATO, and by extension Danish, military planners. The rise of the Soviet Northern Fleet became an increasing concern. The Soviets, realizing the difficulty of attempting to force through the Danish Straits in wartime, decided to base more and more of its new warships in the Kola Peninsula. Such new vessels included nuclear-powered submarines.<sup>654</sup> In the Northern Fleet, there grew to be 152 submarines by 1972, only ten years since the commissioning of Denmark's first new submarine. In contrast, the Soviet Baltic Fleet's submarine strength had dropped down to a third of its 1950s figures, and none of the fleet was nuclear-powered and only two of which carried cruise missiles.<sup>655</sup> This shift in fleet importance was echoed in the

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<sup>652</sup> Ibid., 217; Johnny E. Balsved, "Delfinen (1961-1983)," *Danish Naval History*, 2003, [http://www.navalhistory.dk/English/TheShips/D/Delfinen\(1961\).htm](http://www.navalhistory.dk/English/TheShips/D/Delfinen(1961).htm) (May 30, 2014).

<sup>653</sup> Borgason, *Søvænet under den kolde krig*, 121-123; 126-132; 134-135.

<sup>654</sup> Grove, "The Superpowers and Secondary navies in Northern Waters," 216-217.

<sup>655</sup> Grove, "The Superpowers and Secondary navies in Northern Waters," 216-217.

composition of major surface warships as well, with twenty-eight in the Northern Fleet and twenty-three for the Baltic, which were significantly more outdated. This did not result in a wholesale transformation of the RDN to reorient towards the north, however, as the Baltic Fleet remained a substantial threat in its own right with forty-six missile-armed fast attack craft and over one hundred motor torpedo boats.<sup>656</sup> As well, some Danish naval officers emphasized the need to interdict Soviet commercial shipping carrying goods from the Warsaw Pact's eastern European manufacturing centers, which was consistent with the NATO's 1962 MARCON (Maritime Contingency) plan that included shadowing and interdicting Warsaw Pact merchant shipping in times of tension.<sup>657</sup> MARCON was one of the operational plans for carrying out NATO's new Flexible Response strategy aimed at countering Soviet hostilities in situations short of full nuclear war.<sup>658</sup> Accordingly, Danish MTBs and submarines were to provide forward warning in the waters around the island of Bornholm, while artillery and controlled minefields provided options for warning shots.<sup>659</sup> Missiles, automatic mines, and torpedoes would be employed only in the worst case scenario of actual hostilities.<sup>660</sup>

Danish security and defence policy in the 1960s, as manifested in the Social Democrat-led government's 1960 Defence Act, remained fairly consistent with that of the previous decade.<sup>661</sup> With the same party in power throughout most of that twenty-year period, it should come as no surprise.<sup>662</sup> NATO concerns over a Baltic engagement remained the prime concern for the Danish Navy, and the

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<sup>656</sup> Grove, "The Superpowers and Secondary navies in Northern Waters," 216-217.

<sup>657</sup> Bogason, *Søvænet under den Kolde Krig*, 159-161; NATO, "NATO releases top secret contingency plans from Berlin Crisis 1961," *Atlantic Council*, June 21, 2011, <https://www.atlanticcouncil.org/blogs/natosource/nato-releases-top-secret-contingency-plans-from-berlin-crisis-1961/>; Danish Delegation to NATO, "Comments on the note of the Legal Adviser on legal problems involved in the implementation of the MARCON and BERCON DELTA Plans (Annex to PO/62/637)," North Atlantic Treaty Organization, on-line archives, May 9, 2011, available at [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/pdf\\_archives/19621120-DP-105-ENG.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_archives/19621120-DP-105-ENG.pdf).

<sup>658</sup> Bogason, *Søvænet under den Kolde Krig*, 159-160.

<sup>659</sup> Bogason, *Søvænet under den Kolde Krig*, 162.

<sup>660</sup> Bogason, *Søvænet under den Kolde Krig*, 162.

<sup>661</sup> Nikolaj Petersen, "Danish Security Policy in the Seventies: Continuity or Change," *Cooperation and Conflict* 7 (1972): 141.

<sup>662</sup> Petersen, "Danish Security Policy in the Seventies," 141.

changing force structure of the Soviet fleet was accordingly met with changes in the RDN. Although there was no single comprehensive shipbuilding plan like the Norwegians' 1960 Fleet Plan, the 1960 Defence Agreement did set out some ambitious targets for the general structure of the fleet contingent upon continual American weapons assistance funding. The latter, however, began to wind down by 1963 and the Danes were not able to secure sufficient funding to meet the 1960 Defence Agreement targets in time.<sup>663</sup> This resulted in a more scattered and piecemeal approach to fleet replacement, though it still demonstrated a coherent match of sea control inputs with the wartime objective of contesting the Soviet Baltic Fleet in the Danish Straits and the Baltic. The old British U and V-class submarines were replaced by three domestically-built Delfinen-class submarines. The first of these was completed 1958, though lack of technical capacity at the Naval Shipyard where they were built delayed its actual entry into service until 1961.<sup>664</sup> A fourth member of the class was built under the American Cost Share program and carried wire-guided torpedoes.<sup>665</sup> The arrival of four Hvidbjørnen-class offshore patrol vessels in 1963 and the pair of 2700-ton Peder Skram-class "frigates" in 1967 replaced the eight Second World War-era Flower, River, Huitfeldt, and Hunt-class vessels. With their two dual 5"/38 cannons, gas turbine-powered 33 knot top speed, and large size, the Skram class may be more appropriately referred to as destroyers, as NATO had designated them for planning purposes during the 1970s.<sup>666</sup> The reduced number of large surface vessels can be viewed as a reaction to the Soviet turn towards a smaller Baltic Fleet that emphasized light missile craft. Certainly, the Danish acquisition of ten Falken- and Søløven-class fast torpedo boats between 1962 and 1967 fits with this trend, though this

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<sup>663</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 16-17.

<sup>664</sup> Bogason, *Søværnet under den Kolde Krig*, 135. For in-depth coverage of these submarines, see Jørn Hansen and Johan Knudsen, *Ubådene af Delfinen-klassen* (Helsingø: Steel & Stone Publishing, 2009).

<sup>665</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 102-104.

<sup>666</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 44-45; Søværnets Materielkommando, "Status Report on Material for NATO Naval Forces and Maritime Patrol Air Forces—Part 1—Initial Equipment: Form 'A': Country: Denmark" (1970 and 1971 versions), 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives]. The Peder Skram class are listed in the report as "DD" for destroyer.

should be viewed in light of the decommissioning of the ex-German schnellboote in the inventory.<sup>667</sup>

These forces were again augmented with mine warfare vessels in the form of four Falster-class minelayers in 1964. These replaced the two ex-US LSM minelayers, resulting in a net increase in mining capabilities that were aimed at shortening the time required to set up minefields in the Danish Straits.<sup>668</sup>

For anti-invasion defence closer to Danish shores, shallower draft vessels such as civilian ferries, minesweepers, and ex-American landing craft were selected to lay mines near suspected beach heads.<sup>669</sup>

The fleet of the 1960s thus experienced a change from the one in the previous decade. Though the number of units remained fairly constant, it was clear that anti-submarine warfare (ASW) was not viewed as an item worthy of greater priority. Although the new Hvidbjørnen class were termed “frigates”, they were, as will be detailed in Part II of this chapter, designed for surveillance and patrol in Denmark’s overseas territory (Greenland, Faroe Islands) rather than fighting a Baltic naval war.<sup>670</sup> Though equipped with a hull-mounted sonar, they were only armed with a minor depth charge capability. The Pedar Skram class, despite being much larger and armed with two American twin 5”/38 guns, numerous anti-aircraft guns, and heavy anti-ship torpedoes, was given essentially the same basic ASW suite.<sup>671</sup> By 1970, the only other ASW weapon available throughout the entire RDN were the Second World War-era Hedgehogs on the Triton-class corvettes.<sup>672</sup> This reflected a recognition of the reduced capabilities and importance of the Soviet Baltic submarine fleet. Indeed, during the internal

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<sup>667</sup> Balsved, “Torpedo Boats.”

<sup>668</sup> Bogason, *Søværnet under den Kolde Krig*, 122.

<sup>669</sup> Bogason, *Søværnet under den Kolde Krig*, 123.

<sup>670</sup> Captain John Moore, ed., *Jane’s Fighting Ships 1980-81* (London: Jane’s, 1980), 121.

<sup>671</sup> Moore, *Jane’s Fighting Ships 1980-81*, 121; Søværnets Materielkommando, “Fordelingsoversigt over materieltyper i forhold til skibsbasering, 9 Okt 1968: Materieltype: SONAR”, 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives]. The Peder Skram class had an additional MS 26 active sonar, though its capabilities are unknown.

<sup>672</sup> Søværnets Materielkommando, “Country: Denmark. Status Report on Material for NATO Naval Forces and Maritime Patrol Air Forces (Report’s Control Symbol: SACLANT/LOG/1-58). Part II—Operational Stocks. Form ‘C’ – Overall Status by Categories” (1970 and 1971 versions), 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives].

RDN discussions over the requirements of its larger warships, the dominant emphasis was on their antisurface capability with a clear preference for more guns and higher sailing speeds in order to help lay mines and to provide cover for dedicated minelayers.<sup>673</sup> This would be acceptable even if it meant a decreased ASW capability, as illustrated when the *Søværnetkommando* (Navy Command) expressed their preference for ex-American Fletcher-class destroyers that had retained their wartime armament of five 5" guns instead of the postwar conversions that traded some of those guns for increased ASW capabilities.<sup>674</sup> Although the Danes never received the Fletchers due in part to unfavourable assessments of their remaining lifespan, the discussion clearly demonstrated the RDN's expectation that ASW would not be a priority for them in the Straits and Baltic Sea.<sup>675</sup> A similar preference occurred during the outfitting of the Peder Skram class when initial preferences for installing Norwegian Terne anti-submarine rockets were discarded due to a tightened budget.<sup>676</sup> Instead, the emphasis of Skram-class frigates was on contesting sea control against Soviet frigates and other surface ships both directly using its 127mm guns and wire-guided 533mm torpedoes, as well as by coordinating attacks by torpedo boats and aircraft.<sup>677</sup> The armament differences also stand in contrast to the Norwegian Oslo-class contemporaries with their heavy emphasis on ASW, reflecting the different threat environments between the Baltic and Northern Norway.

This shift away from ASW also dovetailed with the Social Democratic-led government foreign policies. This has been described by Nikolaj Petersen as "internationalist and stresses the importance of the UN and cooperation with the developing countries" and, perhaps more importantly, "strongly in favour of European détente".<sup>678</sup> Much as Norway sought to "screen" NATO allies from adopting

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<sup>673</sup> Bogason, *Søværnet under den Kolde Krig*, 126.

<sup>674</sup> Bogason, *Søværnet under den Kolde Krig*, 126-127.

<sup>675</sup> Bogason, *Søværnet under den Kolde Krig*, 127-128.

<sup>676</sup> Bogason, *Søværnet under den Kolde Krig*, 189-191.

<sup>677</sup> Bogason, *Søværnet under den Kolde Krig*, 190-191.

<sup>678</sup> Petersen, "Danish Security Policy," 141.

potentially provocative practices in its territory, Denmark also wished to avoid overtly antagonizing the Soviets.<sup>679</sup> Deeply involved with all Defence Act legislations up until its 1968 split from the four-party cooperative government, it should come as no surprise that the Social Democrats' détente-oriented approach should have found its way into the Danish Navy's force structure. The shift in RDN surface capabilities from the 1950s' focus on anti-submarine warfare to one of long-range fisheries patrol and anti-surface warfare may be interpreted as being in line with a de-escalatory approach to relations with the Soviet Union. This is also reflected in Denmark's submarine fleet, where the end of the 1960s was marked by the launch of the two Narhvalen-class submarines based on the German Type 205 design.<sup>680</sup> At this point, the advances in guided torpedoes and sonars in this period could have meant the loss of surface-based ASW would be offset to some extent by these two boats. However, archival documents suggest Denmark had no homing torpedoes in its inventory even in 1983, suggesting the RDN's submarines could only target surface ships using unguided and wire-guided torpedoes.<sup>681</sup> In terms of targeting, Danish submarines were expected to prioritize invasion craft followed by major naval units while merchant shipping was not a major concern.<sup>682</sup>

However, the reduction of emphasis on ASW is more likely due to how the Danes expected the Soviets to employ their Baltic submarines than some conscious effort to not antagonize the Soviets. Given the shallow waters of the Baltic and the large dimensions of the Baltic Fleet's Whiskey- and Quebec-class submarines, Danish Navy Command deemed it unlikely that the Soviets would actually

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<sup>679</sup> See Chapter 5: Norway.

<sup>680</sup> Johnny E. Balsved, "Narhvalen-class (1970-2004)," *Danish Naval History*, 2005, [http://navalhistory.dk/English/TheShips/Classes/Narhvalen\\_Class\(1970\).htm](http://navalhistory.dk/English/TheShips/Classes/Narhvalen_Class(1970).htm) (May 30, 2014)

<sup>681</sup> Forsvarsministeren, "Pressmeddelelse. Forsvarsminister Hans Engell orienterede i dag i et samråd Folketingets Forsvarsudvalg om sin vurdering af den svenske ubådskommissions rapport om de sovjetiske ubådskrænkelser og om dens betydning for dansk forsvar." Attachment to *Billæg* [Attachment] 82, May 25, 1983, in 0028 Forsvarsministeriet Ministersekretariatet: 1976-1992 Emneordnede sager: Udvalg – Folketingets Forsvarsudvalg 1982-1983. Rigsarkivet [Danish National Archives]: 7; Forsvarskommandoen Marinestaben, "Forsvarsministerens besøg på Holmen den 6. maj 1974." In *Stabsnotat 1973-1974*, in 0008 Forsvarskommandoen Marinestaben: 1934-1990 V. Diverse sager: Forsvarets øverste stab 1972 m.m, V-65. Rigsarkivet [Danish National Archives]: 2-3.

<sup>682</sup> Bogason, *Søværnet under den Kolde Krig*, 199.

employ them within the Danish Straits and areas of the Baltic of Danish concern.<sup>683</sup> Rather, they expected Baltic Fleet submarines to sortie into the Atlantic in the run-up to the actual outbreak of war, in which case there was little that the Danish military could do unless they were willing to initiate hostilities.<sup>684</sup> Once hostilities did start and mine barriers were in place, the 1.5m clearance below their keels and above their sails meant Warsaw Pact submarine operations in the Danish area of responsibility would be “virtually impossible.”<sup>685</sup> Despite the shift towards anti-surface capabilities, the Royal Danish Navy remained small, with a dedication to sea denial against Soviet surface forces in the immediate area of Denmark. There was no indication that the RDN had any significant role in exercising sea control, such as potentially contributing to an Allied counterattack on Soviet forces in the Baltic littorals through an amphibious action. The RDN’s focus on littoral operations in the Baltic and Danish Straits also had consequences for its relevance to the Danish governments’ foreign policy preference for participating in UN peacekeeping operations.<sup>686</sup> It could not, for example, participate in operations like the 1000-soldier contingent in Cyprus starting in the 1960s.<sup>687</sup> The force structure of the RDN’s warfighting fleet confined it to home waters, limiting its relevance for operations abroad for the sake of enhancing its military relevance where the Danish homeland and NATO needed it most.

### *6.1.2 RDN enters the Missile Age: 1970-1982*

During the 1970s, the Royal Danish Navy entered the guided missile age, first with ten new Willemoes-class fast attack craft in the mid-decade and subsequently by refitting the Peder Skram class with guided missiles. Augmenting the fleet by 1980 were the three Niels Juel-class guided missile

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<sup>683</sup> Bogason, *Søvænet under den Kolde Krig*, 199.

<sup>684</sup> Bogason, *Søvænet under den Kolde Krig*, 199.

<sup>685</sup> Bogason, *Søvænet under den Kolde Krig*, 200.

<sup>686</sup> Jakobsen, “Denmark and UN peacekeeping,” 741.

<sup>687</sup> Jakobsen, “Denmark and UN peacekeeping,” 742.

corvettes, replacing the four Triton-class. All of these ships were equipped with the Harpoon anti-ship missile (ASM) for their primary anti-surface weapon, and the latter two classes with NATO Seasparrow Missiles (NSSM) that provided state-of-the-art close-range anti-air and anti-missile defence capability.<sup>688</sup> The Niels Juel class also saw the first significant increase in Danish surface-based ASW capability in many years, with their Mk.32 launchers' homing torpedoes offering the ability to attack Soviet submarines at close ranges.<sup>689</sup>

With long-range anti-ship weapons at their disposal, the small Danish fleet could finally approach the level of capability required to offer a significant challenge to the Baltic Fleet, whose guided missile destroyers doubled from seven to fourteen between 1968 and 1975.<sup>690</sup> The Harpoons were chosen from amongst six ASMs: Penguin, Otomat, Sea Killer Mk III, Robot 11, and Exocet.<sup>691</sup> These were assessed based on their individual technical performance (such as range and size) as well as their effectiveness in posited scenarios. Ultimately, the Harpoon was selected based on its much superior range over the alternatives even though the Danish navy had no ability to make use of the missiles' maximum range. The idea was that there would be future acquisitions such as helicopters that could relay over-the-horizon targeting data back to the vessel carrying Harpoons.<sup>692</sup> Their new Seasparrows, which were the product of Denmark being one of four initial signatories to the NSSM project, also ensured some ability to survive an attack from Baltic Fleet missile boats and destroyers equipped with antiship missiles.<sup>693</sup> The 1967 sinking of the Israeli destroyer *Eilat* by Egyptian missile boats firing Soviet *Styx* cruise missiles provided the real-world impetus for the NSSM project.<sup>694</sup> The relatively rapid entry

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<sup>688</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 44-45, 48.

<sup>689</sup> Moore, *Jane's Fighting Ships 1980-81*, 120-121; Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 44-45, 48.

<sup>690</sup> Erling Bjøl, "Nordic Security," *Adelphi Papers* 23, no. 181 (1983): 35.

<sup>691</sup> Bogason, *Søværnet under den Kolde Krig*, 235; I.B. Rodholm, "Sammamliggende analyse af PENGUIN og EXOCET", November 6, 1970, in 5012 Søværnets Materielkommando: 1970-1985 KC. Hemmelig kopibog (afklassificeret): 1968-1971 mm. Rigsarkivet [Danish National Archives].

<sup>692</sup> Bogason, *Søværnet under den Kolde Krig*, 236-237.

<sup>693</sup> Bogason, *Søværnet under den Kolde Krig*, 180.

<sup>694</sup> Dabrowka Smolny, "NATO SeaSparrow Program: Cooperation Based on Trust," *Connections: The Quarterly Journal* 14, no. 4 (Fall 2015): 86.



into service of the NSSM system (three years between prototype system and production model) was enabled by adapting the existing AIM-7 Sparrow used on American fighter aircraft, as well as by sharing expertise and the costs of development between the NSSM signatories.<sup>695</sup>

Yet, this favourable position was far from a bygone conclusion at the turn of the decade. During the proposals and debates leading up to the 1973 Defence Agreement, the Social Democratic-led government had proposed a further reduction of the frigate/corvette and submarine fleet, suggesting instead that they be replaced with more missile-armed fast attack craft.<sup>696</sup> This was based on the argument that large vessels tasked for “forward defence” as part of NATO’s Baltic Approaches Command (BALTAP) plans would not, in the political climate of the time, ever have the opportunity to actually carry out attacks on Soviet naval forces. A Soviet force could not be confirmed to have hostile intentions until they were well past the forward screens provided by the larger units.<sup>697</sup> Instead, the Social Democratic spokesman on defence, Poul Søgaard, argued the more likely scenario would be a surprise small-scale invasion by the Soviets at short ranges, which would be more suitably addressed by a fleet of motor torpedo boats working near Danish shores.<sup>698</sup> Critics within NATO, including the British commander of Allied Forces Northern Europe, expressed concerns that it would make it “impossible to reinforce Denmark from without.”<sup>699</sup> Danish Defence Command also put forth the criticism that the proposed coastal defence fleet would mean effectively no early warning capabilities and no defensive depth from the seaward approaches.<sup>700</sup> Furthermore, it would result in a somewhat ignominious surrender of all Baltic naval responsibility to the West Germans, who would in turn ask for greater influence NATO’s BALTAP.<sup>701</sup>

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<sup>695</sup> Smolny, “NATO SeaSparrow Program,” 86.

<sup>696</sup> Petersen, “Danish Security Policy,” 160.

<sup>697</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 18-19.

<sup>698</sup> Petersen, “Danish Security Policy,” 162.

<sup>699</sup> Petersen, “Danish Security Policy,” 158-159.

<sup>700</sup> Petersen, “Danish Security Policy,” 162.

<sup>701</sup> Petersen, “Danish Security Policy,” 162.

In the end, both the Social Democratic element of the government and their critics got what they wanted, though to a lesser extent than either preferred. The final 1973 Defence Agreement that was passed by the Social Democratic, Conservative, Liberal, and Radical parties retained five of the six large surface combatants while the overall MTB force increased from sixteen to eighteen including the new Willemoes missile boats.<sup>702</sup> This was vital to the continuation of the Triton-class corvette replacement project that began in 1972, with construction contracts concluded in December 1975 with Aalborg shipyard to build the Niel Juels class.<sup>703</sup> Quite asides from the tactical and operational military issue, the partial failure of Søggaard's suggestion also had a larger strategic and political impact. Already one of the lowest in defence spending, the proposed retreat from the BALTAP operational concept of "forward defence" in the Baltic was already seen negatively by NATO observers.<sup>704</sup> Denmark would have been viewed as further shirking its NATO obligations had the original Social Democrat proposal survived.<sup>705</sup> But despite maintaining the existing RDN force structure, the NATO Defence Planning Committee was dissatisfied with the 1973 Defence Agreement due to overall reductions in defence spending.<sup>706</sup> As will be seen shortly, NATO's increasing frustration with Denmark's attitude towards collective defence over the next decade would have significant consequences for future developments of its naval forces.

In the near term, the military benefit of maintaining some large vessel capability in the Baltic was illustrated in 1974 when the corvette *Bellona* exercised sea control to collect intelligence on Soviet *Styx* antiship missile tests.<sup>707</sup> When challenged by a Soviet Skoryi-class destroyer to leave the waters near the target area, *Bellona's* captain successfully contested control of the immediate waters by

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<sup>702</sup> Petersen, "Danish Security Policy," 167.

<sup>703</sup> Bjerg, *Flåde og Teknik 1739–1989*, 146-148

<sup>704</sup> Petersen, "Danish Security Policy," 158-159.

<sup>705</sup> Petersen, "Danish Security Policy," 158-159, 162.

<sup>706</sup> Petersen, "Danish Security Policy," 159, 167-168.

<sup>707</sup> Bogason, *Søværnet under den Kolde Krig*, 182.

outmaneuvering the larger vessel, much to the frustration of the Soviet captain and their crew.<sup>708</sup> By doing so, *Bellona* was able to remain on station in time to witness the *Styx* firing, allowing them to collect the missile's flight profile and radar signature, as well as identify how Soviet ships provided in-flight updates to their missiles.<sup>709</sup>

### 6.1.3 The Footnote Decade: 1982-1990

The final decade of the Cold War was marked by uncertainty and unpredictability. Between 1982 and 1988, the *Folketing* was effectively paralyzed in matters of foreign policy. The centre-right minority government led by Prime Minister Poul Schlüter's Conservatives was unable to garner support from the centre-left opposition (primarily Social Democrats). Meanwhile, the usual swing-vote Radical party was trapped between its refusal to support the government on military matters and refusal to support the centre-left's no-confidence declarations on defence issues due to the latter's support of the centre-right government's economic policies.<sup>710</sup> Despite multiple elections throughout the period, which failed to make any substantive adjustment to seat numbers, the situation persisted for much longer than most had expected.<sup>711</sup> As will be seen below, this led to contradictory positions coming out of the Danish parliament when it came to new NATO policies as well as efforts to rationalize seemingly-redundant units in the country's warfighting fleet using an innovative modular approach.

As a result of the centre-left opposition's ability to override the centre-right government's unreservedly pro-NATO stances, Denmark became a frequently criticized country within NATO.<sup>712</sup> This

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<sup>708</sup> Bogason, *Søværnet under den Kolde Krig*, 181.

<sup>709</sup> Bogason, *Søværnet under den Kolde Krig*, 182.

<sup>710</sup> Hans-Henrik Holm, "A Democratic Revolt? Stability and Change in Danish Security Policy 1979-1989," *Cooperation and Conflict* 24 (1989): 180; Søren Pape Poulsen, "Poul Schlüter 1929-2021," *Det Konservative Folkeparti*, 2021, <https://konservative.dk/poul-schluter-nekrolog/>.

<sup>711</sup> Holm, "A Democratic Revolt?" 180.

<sup>712</sup> This is not to say the centre-left parties like the Social Democrats were "anti-NATO" as a whole, but that they opposed "unwise decisions within NATO": Holm, "A Democratic Revolt?" 186, 190.

had resulted in the term “Denmarkization”, coined in 1980 by Western European journalists to describe the set of security policies and practices that Denmark undertook during this period and which may also be observed in other NATO states. Firstly, Denmarkization referred to a country that not only failed to spend as much as it should on defence (relative to the 3% annual increase agreed upon by all NATO members in 1978), but also a country that failed to stand by Alliance policies.<sup>713</sup> In Denmark’s case, its annual defence budget increase was a paltry 0.3% on average between 1978 and 1987.<sup>714</sup> Denmark’s repeated opposition to various NATO military policies also led to the period being dubbed “the footnote decade” because Danish representatives would insert mitigating clauses in footnotes of NATO proceedings to meet the demands of the domestic centre-left opposition.<sup>715</sup> The major issue in particular was that of the NATO “dual-track” decision regarding intermediate-range nuclear forces (INF), which called for the basing of theatre nuclear-tipped missiles (572 cruise missiles and Pershing II rockets) in the frontline countries of Western Europe while engaging the Soviets in arms control negotiations.<sup>716</sup> Denmark expressed its disagreement by calling for negotiations before missile deployment, by refusing to pay its part of the infrastructure costs for the new INF missiles, by working with the idea of a nuclear-free zone in the Nordic states, and by criticizing US and NATO negotiation positions on arms control.<sup>717</sup> Denmarkization also referred to increased neutralism, namely accepting the Alliance’s overall strategy based on nuclear deterrence while desiring no nuclear weapons on its

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<sup>713</sup> Joachim Maitre, “Battling the Denmarkization of Europe,” *Wall Street Journal*, November 20, 1980: 26; R.W. Apple Jr., “DANES, HIT BY RECESSION, CLASH ON ARMS SPENDING,” *New York Times*, Aug 29, 1980, Late Edition (East Coast): A10; Holm, “A Democratic Revolt?” 180.

<sup>714</sup> Holm, “A Democratic Revolt?” 180.

<sup>715</sup> Olav Riste, “NATO’s Northern Frontline in the 1980s,” in *Last Decade of the Cold War: From Conflict Escalation to Conflict Transformation*, ed. Olav Njolstad (London: Frank Cass, 2004), 307.

<sup>716</sup> NATO, “Special Meeting of Foreign and Defence Ministers (The “Double-Track” Decision on Theatre Nuclear Forces),” *NATO On-line Library*, July 5, 2000, <http://web.archive.org/web/20090227173641/http://www.nato.int/docu/basicxt/b791212a.htm> (Archived version by *Internet Archive Wayback Machine*; accessed May 30, 2014); Forsvarsministeren, “Bilag til forsvarsministerens skrivelse af 2021: Spørgsmål 5,” Attached reply to Folketingets Forsvarsudvalg (Defence Committee) question dated October 11, 1982, in 0028 Forsvarsministeriet Ministersekretariatet: 1976-1992 Emneordnede sager: Udvalg – Folketingets Forsvarsudvalg 1982-1983. Rigsarkivet [Danish National Archives].

<sup>717</sup> Holm, “A Democratic Revolt?” 179.

own territory, as well as decreased criticisms of Soviet actions.<sup>718</sup> Finally, the phrase was used to refer to countries that were easily swayed by public opinion, which was a position held by many Americans towards some European countries.<sup>719</sup> The archival records of the Danish Parliamentary Defence Committee of this period bear this out, with copies of letters submitted by the public including hundreds of signatures of Danish citizens opposing the basing of nuclear missiles in Denmark.<sup>720</sup> While the records themselves do not indicate the level of influence they had on the Defence Committee, the fact that the letters and signatures are included in the official records without any documents countering their position suggests the Committee was satisfied with maintaining an anti-nuclear basing position.

Despite having a governing party that wanted one thing and an opposition that desired another, it may come as some surprise that the “footnote decade” was still fairly active for Danish military acquisitions. This can be attributed to the May 1 1982 Law on the Organization of the Armed Forces, which was the legislative outcome of the August 1 1981 Defence Agreement between the major Folketing parties.<sup>721</sup> The 1982 law skipped the usual details on what the Danish Armed Forces would procure and instead delegated that authority to the Minister of Defence, who would set and achieve defence strength targets within the financial bounds set by the Folketing and after detailed negotiations with other Folketing members in the Parliamentary Defence Committee.<sup>722</sup> This arrangement enabled

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<sup>718</sup> Holm, “A Democratic Revolt?” 180.

<sup>719</sup> Holm, “A Democratic Revolt?” 180.

<sup>720</sup> Jens Christian Jacobsen, “Der er tilgået udvalget ca. 700 uderskrifter indsamlet af Randers fredscgruppe vedrørende vedlagte fredsappel.” May 10, 1983, Forsvarsudvalget: (Alm. Del – bilag 74); Johs. H. Jensen, “Til Folketingets Forsvarsudvalg. Kære Forsvarsudvalg, Kære Formand. På Rødovre for Freds vegne.” May 24, 1983, Forsvarsudvalget: (Alm. Del – bilag 80); Erik Abrahamsen, “NATO’s dobbeltbeslutning af 12. december 1979.” May 25, 1983, Forsvarsudvalget (Alm. Del – bil. 84); Bodil Bertelsen, “Ang. Positiv Fredstjeneste.” May 17, 1983, Forsvarsudvalget (B 91 – bilag 5); Pernille Jensen, “Til forsvarsudvalgets medlemmer.” May 16, 1983, Forsvarsudvalget (B 91 – bil. 6); Kirsten Larsen, “Vedr.: forslag til folketingsbeslutning om positiv fredstjeneste.” May 18, 1983, Forsvarsudvalget (B 91 – bilag 7). All six documents in 0028 Forsvarsministeriet Ministersekretariatet: 1976-1992 Emneordnede sager: Udvalg – Folketingets Forsvarsudvalg 1982-1983. Rigsarkivet [Danish National Archives]. The latter three are part of several other letters in support of allowing greater options for mandatory national service for conscientious objectors outside of military conscription.

<sup>721</sup> Forsvarsministeriet, “LOV nr 230 af 26/05/1982: Lov om forsvarets organisation m.v.,” *Retsinformation*, <https://www.retsinformation.dk/eli/lta/1982/230>.

<sup>722</sup> Bjerg, *Flåde og Teknik 1739–1989*, 151; Forsvarsministeriet, “LOV nr 230 af 26/05/1982”.

defence procurement and other lower-level defence issues to be discussed and enacted despite major disagreements at the highest political levels over the broader contours of Danish security policy vis-à-vis NATO. As will be seen below, the fact that the centre-left opposition could override the minority government's positions on NATO issues like intermediate-range missiles did not equate to a lack of activity when it came to fleet replacements. Such replacements included new ships for both the homeland defence mission in the Baltic and the constabulary fleet in the Arctic territories.

After the last Niels Juel-class missile corvette was commissioned in 1982, the next new construction was the first ship of the so-called "Standard Flex 300" or "StanFlex 300" patrol ships.<sup>723</sup> Laid down in August 1985 to replace the block obsolescence of twenty-two gun torpedo boats, patrol vessels, and minesweepers, the first-of-fourteen fiberglass-hulled *Flyvefisken* was commissioned by 1989.<sup>724</sup> These vessels were an innovative departure from traditional naval ships, pioneering the "Standard Flex" (also referred to as Flex or StanFlex) containerized modular system that allowed them to rapidly reconfigure for different missions. This consisted of four empty cube-like spaces in the ships' decks with common electronic, mechanical, and cooling connections allow surveillance suites, guided missiles, mines, and anti-submarine equipment to be inserted or removed as needed.<sup>725</sup> While in theory allowing the RDN to change from peacetime patrol to being fully outfitted for sea denial against Soviet forces within a short period of time, the specialized skills required to operate each piece of equipment meant the limited numbers of trained personnel would limit the practicality of such a quick-swap

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<sup>723</sup> Forsvarsministeriet, "Aftale om forsvarets ordning i perioden 1985-87," June 29, 1984, <http://www.marinehist.dk/orlogsbib/Forsvarsforlig/19840629-FForlig.pdf>.

<sup>724</sup> Johnny E. Balsved, "Flyvefisken-class (1989-)," *Danish Naval History*, 2010, [http://www.navalhistory.dk/English/TheShips/Classes/Flyvefisken\\_Class\(1989\).htm](http://www.navalhistory.dk/English/TheShips/Classes/Flyvefisken_Class(1989).htm) (May 30, 2014); Søren Torp Petersen, "A New Concept," in *Standard Flex 300: The True Multi-role Ship* (Frederikshavn: Danyard A/S, NobelTech Systems AB, and TERMA Elektronik AS, 1992), 3-4, 6; Bjerg, *Flåde og Teknik 1739–1989*, 153-154.

<sup>725</sup> Petersen, "A New Concept," 11-13; Borgason, *Søværnet under den kolde krig*, 239.

approach.<sup>726</sup> In a sense, these vessels reflected Danish foreign policy at the time: unpredictable and liable to change on a moment's notice.

Still, despite their innovative character, the Flyvefisken class was really the outcome of a desire to save on costs. Replacing the pre-existing twenty-two small combatants on a one-for-one basis with the latest combat equipment and electronics would have required the RDN to receive some 42% of all defence investment funds every year until 1995. The RDN deemed this highly unlikely given equally pressing high-ticket modernization requirements in the other two military branches.<sup>727</sup> The objective was to attempt to build a fleet that could have a similar capability as the old one without costing as much and the modular approach offered a way forward. Even though fewer total hulls would be procured, each of them could be fitted with the same suite of weaponry if needed, which would result in greater numbers of ships with that capability than if the old fleet had each unit type replaced one-to-one.<sup>728</sup> The goal of affordability was demonstrated in the budgeting for the 1988-1992 Defence Agreement, where the Flyvefisken class acquisition totaled 2750 million DKK compared to 2860 million DKK for the army's main battle tank replacement and 2565 million DKK for the air force's fighter-bomber replacement.<sup>729</sup>

While the Flyvefisken class thus successfully replaced the majority of the RDN's coastal warfighting fleet by meeting budget limitations, the immediate and long-range futures of other naval capabilities were not so fortunate. Denmark's submarine fleet began what would be a fifteen-year-long drawdown with the decommissioning of the first of the Delfinen class, which were replaced with three

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<sup>726</sup> Interviews with crew of HDMS *Hvidbjørnen*, May 2019.

<sup>727</sup> Bjerg, *Flåde og Teknik 1739–1989*, 153.

<sup>728</sup> Bjerg, *Flåde og Teknik 1739–1989*, 153-156.

<sup>729</sup> Forsvarsministeriet, "Håndakt: Omstridte Materielanskaffelser," April 8, 1988, in *Forsvarsforligs Forhandlinger 1988*, in Statsministeriet, Dep. chef Peter Wieses embedsarkiv: Materiale vedrørende topchefløn (1991 -1992 ) 1: m.m, Rigsarkivet [Danish National Archives].

second-hand Norwegian Kobben-class boats.<sup>730</sup> Although modernized as part of the purchase from the Norwegians, the Kobben class were built in the mid-1960s, which makes them just a few years younger than the boats they replaced.<sup>731</sup> At only 320 million DKK to both purchase and modernize all three boats (the boats themselves were only 20m DKK per hull), this illustrated the tight margins that the Danish navy had to work with within the 1988 Finance Act (Finanslov 1988).<sup>732</sup> The two large Peder Skram-class frigates were also scheduled for decommissioning in 1988 following the Social Democrat opposition's cost-savings demands in the 1984 Defence Agreement, which would save 284 million DKK over their final five years despite their relatively recent mid-life modernizations in the late 1970s.<sup>733</sup> This was met with much criticism from NATO's Defence Review Committee, which took it as a sign of "Danish enjoyment mentality [nydermentalitet]" during the "footnote decade."<sup>734</sup> As the British representative on that Committee noted, how could Denmark expect the UK to send reinforcements if they are not willing to defend the reinforcements during transport?<sup>735</sup> Illustrating how much life was likely left in their hulls and thus the prematurity of the decision to decommission them, the Peder Skram class stands

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<sup>730</sup> Forsvarsministeriet, "Kommentarer og Bevægelsesmuligheder om 2. udkast af 16. marts 1988 aftale om forsvarets ordning 1988-92," 19, in *Forsvarsforligs Forhandlinger 1988*, in Statsministeriet, Dep. chef Peter Wieses embedsarkiv: Materiale vedrørende topchefløn (1991 -1992 ) 1: m.m, Rigsarkivet [Danish National Archives].

<sup>731</sup> Olsen and Storgaard, *Flådens Skibe og Fartøjer 1945-1995*, 106.

<sup>732</sup> Olsen and Storgaard, *Flådens Skibe og Fartøjer 1945-1995*, 106; Forsvarsministeriet, "Håndakt: Omstridte Materielanskaffelser," April 8, 1988; Forsvarsministeriet, "Hovedproblemerne i forsvarsforligshandlingerne," 8, March 30, 1988, in *Forsvarsforligs Forhandlinger 1988*, in Statsministeriet, Dep. chef Peter Wieses embedsarkiv: Materiale vedrørende topchefløn (1991 -1992 ) 1: m.m, Rigsarkivet [Danish National Archives].

<sup>733</sup> Museet Skibene på Holmen, "Fregatten Peder Skram," *Museet Skibene på Holmen*, 2021, <https://skibenepaaholmen.dk/peder-skram/>; Forsvarsministeriet, "Kommentarer og Bevægelsesmuligheder om 2. udkast af 16. marts 1988 aftale om forsvarets ordning 1988-92," 19; Forsvarsministeriet, "Hovedproblemerne i forsvarsforligshandlingerne," 3, March 30, 1988, in *Forsvarsforligs Forhandlinger 1988*, in Statsministeriet, Dep. chef Peter Wieses embedsarkiv: Materiale vedrørende topchefløn (1991 -1992 ) 1: m.m, Rigsarkivet [Danish National Archives].

<sup>734</sup> Forsvarsministeriet, "Kommentarer og Bevægelsesmuligheder om 2. udkast af 16. marts 1988 aftale om forsvarets ordning 1988-92," 19.

<sup>735</sup> Forsvarsministeriet, "Kommentarer og Bevægelsesmuligheder om 2. udkast af 16. marts 1988 aftale om forsvarets ordning 1988-92," 19.



in contrast to their Norwegian Oslo class counterparts, which served well into the new millennium despite being built in the same decade.<sup>736</sup>

Ultimately, two observations can be made regarding the broader relationship between the Danish warfighting fleet and Danish seapower. Firstly, it shows that the military utility of Denmark's naval forces was of limited relevance to the country's foreign policy. Secondly, it shows that despite this, the warfighting fleet's military utility was matched closely to the *defence* policy of the country, which required an area-denial fleet operating in the Baltic and Danish Straits as part of Denmark's role in NATO during wartime. For much of Denmark's post-Second World War history, its foreign policy emphasized working through the United Nations towards goals that would not antagonize the Soviets while currying favour with its NATO allies.<sup>737</sup> To help offload some of the pressure from its great power Allies, the Danish army contributed to twelve UN peacekeeping operations with over 34,100 soldiers between 1948 and 1990 (including 1,000 at the peak of its contribution to Cyprus alone), though this was never at the expense of territorial defence.<sup>738</sup> For example, a 1951 commitment to earmark a battalion for UN operations was abandoned as it would not be available for use close to home, while a 1964 bill establishing a standby force for UN peacekeeping was contingent on its availability for homeland defence and NATO commitments.<sup>739</sup> In contrast, the Danish navy was sidelined in its entirety for UN roles due to the narrow area denial role in the Baltic forced upon it by geographic happenstance. Constantly occupied by the need to keep the Soviet Baltic Fleet within the Baltic Sea, the Royal Danish Navy could never afford to diversify or reconfigure for the missions the country's ideal UN-centric internationalist *foreign* policy would require. Here, it is clear that the Royal Danish Navy's force structure was one that has a long history of not adhering to the country's foreign policy.

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<sup>736</sup> See Chapter 5: Norway, pages 171 and 174.

<sup>737</sup> Peter Viggo Jakobsen, "Denmark and UN peacekeeping: glorious past, dim future," *International Peacekeeping* 23, no. 5 (2016): 746.

<sup>738</sup> Jakobsen, "Denmark and UN peacekeeping," 741-742, 748.

<sup>739</sup> Jakobsen, "Denmark and UN peacekeeping," 746-747.

But within the context of decades of following a *defence* policy that was centered around NATO, the opposite can be said. Being a member of NATO bound Denmark's naval options to ones the rest of the Alliance had agreed upon and assigned to it. Short of drastically increasing defence spending to build fleet dedicated to non-NATO priorities that would take the RDN farther abroad for UN peacekeeping operations, there was no room for the navy to develop in a way favourable to Denmark's other desired foreign policy outputs. Therefore, throughout the Cold War, the Danish fleet was unerringly tied to the area-denial role placed on it by NATO, and by virtue of its location astride the Danish Straits. Its fleet of fast attack craft, whether torpedo or missile, diesel-electric submarines, and minelayers was a rational and appropriate force structure for that limited objective. A limited number of larger surface combatants provided early warning, command and control, and cover fire for the smaller units. By the 1970s, however, approximately half of the RDN's large surface units were minimally-armed ships for sovereignty and fisheries protection in Greenland and the Faroes. It is to this additional fleet that this chapter will now turn.

## 6.2 Part II: The Constabulary RDN in Greenland and the Faroes, 1945-2020

The previous part of the chapter traced how Denmark's postwar navy gradually evolved into a combat fleet of coastal fast attack craft and minelayers supported by a limited number of screening larger surface ships that focused on anti-surface warfare and early warning by the mid-1970s. These were designed for the narrow wartime missions of denying the Soviet navy to the east the ability to use Danish and Baltic waters as a medium of transport and landward power projection. But as the introduction to this chapter noted, there was a dramatically different constabulary fleet operating in the opposite direction to the north and west at the same time: the centuries-old fisheries inspection service

off the Faroe Islands and Greenland, the two Arctic colonial territories of the Danish Kingdom.<sup>740</sup> With the establishment of the Danish Kingdom's Exclusive Economic Zones in the late 1970s, the inspection service would appear to have gained a significantly increased responsibility. The extent to which this responsibility required and resulted in new force structures is examined in this part via analyzing the capabilities and histories surrounding the RDN's constabulary forces.

While this service would eventually be comprised exclusively of purpose-built inspection ships by the mid-1960s, this was not the case during the first two decades after the Second World War. As events played out, it would be this inspection fleet that actually conducted kinetic engagements with opposing forces, rather than the dedicated warfighting forces. But instead of contesting the Soviet enemy as part of a wartime sea denial operation, the inspection ships would be contesting civilian fishers, including those from NATO allies, to ensure Denmark could use the seas as a resource on its own terms. This part of the chapter covers in detail the activities and force structure evolution of the RDN's constabulary fleet from 1945 to 2020. Similar to the previous chapter on Norway, the first two decades after the Second World War are included to demonstrate the challenges of using warfighting vessels for constabulary purposes in order to help explain the necessity of dedicated constabulary vessels that entered service starting in 1963. Because these dedicated vessels would form the patrol force before and after EEZ establishment, it is critical to understand how they differ from their *ad hoc* warfighting predecessors. The years after the Cold War are included here as that is when the first ships built explicitly for the EEZ entered service. The focus in this part of the chapter is on the constabulary mission in the EEZ around Greenland and the Faroes, but it should be noted that the post-Cold War fleet has also been deployed on globe-trotting mission, which will be detailed in Part III.

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<sup>740</sup> Per Herholdt Jensen, *Atlantsejlerne: Flådens Inspektionsskibe i 100 år* (Copenhagen: Aschehoug Dansk Forlag A/S, 2005), 41.

### 6.2.1 Hunting Fishermen with Warships: Danish Fisheries Inspection Before 1963

Perhaps the most poignant demonstrations of sea control contestation against civilian fishers took place in the early 1960s, which illustrated how Denmark's greatest probability of conflict at sea would not involve the new US-funded warfighting ships in the Baltic narrows against the Soviet enemy. On May 29, 1961, four Scottish fishing trawlers were spotted by the Myggenæs Coast Guard Station on the Faroe Islands entering the so-called "blue line" delineating Danish fishing boundaries. Forward stationed in the Faroes since 1959 due to Denmark's extension that year of the fishing boundary from three to twelve nautical miles, the Danish frigate HDMS *Niels Ebbesen* was dispatched to investigate.<sup>741</sup> *Niels Ebbesen* was one of the second-hand Second World War vessels, a River-class frigate which had formerly served in the Royal Canadian Navy as HMCS *Annan*. Modernized with newer radars and up-armed with ex-German 5" guns and depth charges, the *Ebbesen* might be considered a bit excessive for the relatively humble duties of fisheries inspection to which she was assigned.<sup>742</sup> But as the events of May 1961 went on, it would become a key test case for answering whether a heightened level of sea control contestation is guaranteed to change the behavior of a determined opponent—the captain of the *Red Crusader*, one of the trawlers.

With its portholes shut and lights darkened to avoid giving the trawlers enough warning time to leave Faroese waters before their positions could be determined, the *Ebbesen* approached *Red Crusader*.<sup>743</sup> She sent several signals that went unheeded, after which *Ebbesen* escalated to firing a blank

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<sup>741</sup> Søren Nørby, "'Låst inde. Trawler stikker af.' Red Crusader-affæren den 29. maj 1961." *Marinehistorisk Tidsskrift* 51, no. 4 (2018): 5; Commission of Enquiry, "Investigation of Certain Incidents Affecting the British Trawler *Red Crusader*: Report of 23 March 1962 of the Commission of Enquiry established by the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Denmark on 15 November 1961," *Reports of International Arbitral Awards* XXIX (March 23, 1962): 526. Myggenæs is the Danish spelling for this westernmost island of the Faroe Islands—in Faroese, it is Mykines.

<sup>742</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 33–34.

<sup>743</sup> Nørby, "'Låst inde. Trawler stikker af.', 4.

round from one of its 40mm guns. This sufficed to catch the trawler's attention, whereupon the Danes sent over a boarding party. The inspection team decided to arrest the *Red Crusader* and take her into Torshavn in the Faroes. The trawler captain, Wood, initially complied, but decided to run to British waters after consulting with his crew and concluding that the Faroese courts would not be fair. At this time, two of the Danish crew, fishery officer Lieutenant Hjalgrimer Bech and telegraphist Corporal Ole Kropp, were on board to ensure compliance, but were instead confined separately. Bech was in the trawler captain's cabin where he managed to radio the *Ebbesen* "'Låst inde. Trawler stikker af.'" ("Locked up. Trawler escaping"), and Kropp was escorted aft to sit amongst the trawler crew.<sup>744</sup> In response, *Ebbesen* fired two warning shots from its 5" gun from 2.1 kilometers away, but the trawler failed to stop. Pulling to within 500 meters, the Danish patrol ship proceeded to fire its 40mm and machine guns directly into the trawler's masts and hull, aiming at specific areas such as the bow, lights, and radar antenna to reduce the likelihood of injuring the crews on board.<sup>745</sup> But the marksmanship of the Danish gunners had their limits, and a ricochet from a 40mm round flew within one meter of Cpl. Kropp. This, too, was futile, and it was not until the trawler was met by Royal Navy warships, including the Type 15 frigate HMS *Troubridge*, that the pursuit came to end with the two Danish inspectors taken back to the *Ebbesen* in one of the *Troubridge's* boats.<sup>746</sup> In the international commission that followed, the question of whether the *Red Crusader* had indeed crossed into Faroese waters required comparing the data from both ships' radars and other navigational observations. While the *Red Crusader* had a more modern Marconi civilian radar and the *Ebbesen* had both a Second World War-era Type 293 and newer civilian Decca 12 system, neither ship's radars were sufficiently precise to determine whether the trawler indeed violated Faroese waters. In the end, it was the Danish naval crew's practice of taking double-angle bearings off of known landmarks that provided decisive in the legal battle. While technology could

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<sup>744</sup> Nørby, "'Låst inde. Trawler stikker af.," 7-8.

<sup>745</sup> Commission of Enquiry, "Investigation of Certain Incidents," 536-8; Nørby, "'Låst inde. Trawler stikker af.," 8.

<sup>746</sup> Commission of Enquiry, "Investigation of Certain Incidents," 538-9.

have played a decisive role in determining the legal victor, in this particular case it came down to regular navigational practices passed on through generations of sailors.<sup>747</sup> This demonstrated how sea control in peacetime required not just tactical actions to stop acts of illegal fishing, but to accurately collect evidence of violations that could be used in court to punish and deter future infractions.

The *Ebbesen* and sistership *Holger Danske* were not the only inspection ships in the RDN of the 1950s-1960s: the old Flower-class corvette *Thetis* was also a constant presence in the Arctic. Acquired right after the Second World War, *Thetis* was employed for sovereignty patrols and fisheries inspection tasks in the Faroe Islands and Greenland.<sup>748</sup> Initially stripped of any anti-submarine weapons due to their irrelevance to fisheries inspection, they were re-installed in 1951 during its refit and modernization. This reflected the ship's role in the Cold War world, where underwater violations of the Danish Kingdom could not be discounted. This ensured the Kingdom's sovereignty at sea was a mission that went hand-in-hand with the act of fisheries control. To make *Thetis* more amenable to patrol duties in the North Atlantic, its forecastle was extended aft and the area underneath converted into extra cabins for its crew. To adapt to the new world of "modern" naval operations, *Thetis* also received a dedicated operations room under the bridge. Members of the Danish admiralty had previously desired such "operations rooms" in order to better integrate the various data from radar, sonar, radio, and electronic support measures (ESMs) for naval combat, helping drive their demand for larger-sized ships.<sup>749</sup> A ship's captain could easily take in all this information at a single glance, and this benefit was not lost even for the relatively low-tempo duties of fisheries inspection with its low level of contestation. *Thetis'* operations room allowed the crew to plot the presence of fishing vessels against maritime boundaries on their maps using measured information from the ship's radar and optical observations.<sup>750</sup> Besides from

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<sup>747</sup> Commission of Enquiry, "Investigation of Certain Incidents," 527–32.

<sup>748</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 9-13.

<sup>749</sup> Borgason, *Søvænet under den kolde krig*, 37-44.

<sup>750</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 9-13, 18, 28.

fisheries inspections, *Thetis* regularly assisted fishers in distress (metal beams had been added above her aft deck to avoid tow ropes from fouling the depth charge racks), including responding to old sea mines that were caught within trawls.<sup>751</sup> Much as the Norwegian fisheries protection service had its distant-water support vessel like the oppsynsskib *Nansen*, *Thetis* was also used in September 1959 to support Faroese fishers some 250 nautical miles north of the Faroes due to concerns over Soviet interference.<sup>752</sup> *Thetis* also assisted NATO forces in maintaining maritime domain awareness in the North Atlantic. In February 1962, for example, *Thetis* was tasked to photograph a Soviet cargo ship on its way south from Murmansk, containing construction equipment and materials for the infamous missiles being established in Cuba.<sup>753</sup> *Thetis* also participated in an number of warfare exercises reflecting its dual-role in the 1950s, such as during NATO Exercises Castanets and Main Brace in 1952, as well as an antisubmarine exercise against British units in November 1953.<sup>754</sup> The crew requirements for *Thetis* varied overtime, especially due to its changing weapons configuration. At the height of its maximal weapons fit of one 4" gun, one Hedgehog, one 40mm Bofors, six 20mm Oerlikons, four depth charge throwers, and two depth charge racks, it had a crew of eighty-nine. By 1962 when its weapons fit was reduced to just a single 75mm deck gun, a crew photo taken in the Faroes shows 74 members, though it is unknown how many may be on board for training purposes.<sup>755</sup>

The above demonstrates the second main mission of the Royal Danish Navy (RDN). In addition to the military task of guarding the entrance to the Baltic, it was also charged with providing constabulary services in the Arctic territories of Greenland and the Faroe Islands. These missions often were at odds with each other, particularly when it came to issues of fleet design and the limited personnel available in a small country like Denmark. Given a limited budget, what types of vessels were capable of performing

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<sup>751</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 35.

<sup>752</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 41.

<sup>753</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 37.

<sup>754</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 41.

<sup>755</sup> Handberg and Wismann, *Korvetten/fregatten Thetis*, 44.

both missions and where should precious human resources be distributed? Was it possible to take a one-size-fits-all approach with vessels and personnel that can both defend the Danish Straits and patrol the Greenlandic coast? The remainder of this chapter examines how the RDN grappled with these problems through the rest of the Cold War and its aftermath. The immense distances involved in not only getting to Greenland, but to patrol along its extensive coastline, left the country with little choice but to maintain essentially two navies to meet both domestic sovereignty concerns and NATO's naval strategy.

## 6.2.2 *Creating and Operating a Purpose-built Arctic Patrol Force Structure*

### *Before and After Exclusive Economic Zone Establishment: 1963-2020*

#### The Hvidbjørnen-class and *Beskytteren* Inspektionsskibe: Long-Range

##### Constabulary Hulls Pre-EEZ

Responding to the possibility of an enlarged fisheries zone off Greenland and the Faroe Islands, Denmark modernized its offshore and overseas patrol capabilities with the construction of the four 1800-ton Hvidbjørnen-class ice-strengthened (up to 75cm thick ice or Finnish Ice Class Ia) surveillance frigates in the early 1960s.<sup>756</sup> Despite being earmarked for NATO's SACLANT use in wartime and equipped to deal with radioactivity via prewetting and airtight systems,<sup>757</sup> the class were armed with only a deck gun and a depth charge rack, and were thus less well-armed than the Second World War-era

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<sup>756</sup> Jensen, *Støt Kurs*, 136, 308; Tom Wismann, *Inspektionsskibene af Hvidbjørnen-klassen 1961–1992* (Helsingør, Denmark: Steel & Stone Publishing, 2015), 4, 8.

<sup>757</sup> The ships were classified as DE, or destroyer escorts, by NATO. It is worth noting that not all Danish naval ships were assigned to specific NATO combatant commands in the event of war, such as the two Narhvalen-class submarines. Søværnets Materielkommando, "Status Report on Material for NATO Naval Forces and Maritime Patrol Air Forces—Part 1—Initial Equipment: Form 'A': Country: Denmark" (1970 and 1971 versions), 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives]; Wismann, *Inspektionsskibene af Hvidbjørnen-klassen*, 8.



warships they replaced, such as the *Niels Ebbesen* and *Thetis*.<sup>758</sup> The funds for the class was spurred by the January 1959 sinking of the Royal Greenland Trade vessel *Hans Hedtoft*, which sank after striking an iceberg on its maiden return voyage off the southern tip of Greenland with the loss of 95 lives. The RDN's Greenland-based wooden coastal cutters had been ill-equipped to respond, and as a result, the Hvidbjørnen-class ships emphasized long-endurance monitoring and emergency response capabilities over armaments.<sup>759</sup> Danish naval historian Tom Wismann suggests the fact that the *Hedtoft* sinking took place shortly after the Chief of the Danish Navy proposed the new ships to the Defence Minister on October 11 1958 played a crucial part in shortening the time required for the Finance Committee to authorize funds for the first two ships on March 11 1959.<sup>760</sup> The first Danish ships to be equipped for helicopter operations, they could carry one Alouette III helicopter in a hangar, greatly increasing their coverage of the vast spaces of the North Atlantic.<sup>761</sup>

They were soon put to the test. In mid-October 1964, the year-old HDMS *Ingolf* was sailing off Greenland when its Alouette helicopter spotted the English trawler *St. Aldrin* from Hull. It was carrying out illegal trawling within the six nautical mile fishery zone off Cape Farewell, the southernmost tip of Greenland. With *Ingolf* thirty-eight nautical miles away, however, the inspection ship could not catch up to the trawler for further inspection and arrest.<sup>762</sup> However, the Alouette's observations sufficed to enable the RDN to forward the matter on to the Danish Foreign Ministry, an instance of the constabulary role of navies moving into the diplomatic role. A more dramatic incident occurred on January 3, 1967, when the Scottish trawler *Aberdeen Venturer* was spotted by HDMS *Vædderen* fishing illegally in Faroese waters. Refusing to stop and allow *Vædderen*'s inspectors to board, *Aberdeen*

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<sup>758</sup> The ships were apparently also designed for, but never fitted with, American Mk 44 anti-submarine torpedoes. Bogason, *Søværnet under den Kolde Krig*, 192; Wismann, *Inspektionsskibene af Hvidbjørnen-klassen*, 26-28.

<sup>759</sup> Jensen, *Støt Kurs*, 135, 308, 313.

<sup>760</sup> Wismann, *Inspektionsskibene af Hvidbjørnen-klassen*, 4.

<sup>761</sup> Wismann, *Inspektionsskibene af Hvidbjørnen-klassen*, 4, 29.

<sup>762</sup> Tom Wismann, "Levnedsløb for Flådens Skibe: INGOLF," *Flådens Skibe*, May 6, 2010, <http://www.flaadensskibe.dk/pdf/1%20INGOLF1961%20www.pdf>.

*Venturer* made for Scotland at its best speed. The Danes fired warning shots to no effect, and it was not until an inert/non-explosive round from *Vædderen's* 76mm bow cannon hit the trawler's mast that it stopped. After being brought into Torshavn, the ship's captain was fined 280,000 DKK.<sup>763</sup> It is worth noting here that in contrast to *Red Crusader's* captain, *Aberdeen Venturer's* skipper appeared to have had a lower tolerance for the escalation of force. This illustrates how different civilian opponents have varying degrees of willingness to contest constabulary forces' use of violence that cannot be predicted beforehand.

Such levels of resistance to enforcement were generally uncommon, and their occurrences in offshore waters belie the fact that the RDN's inspection ships mostly patrolled waters much closer to the Greenlandic coastline. A survey of the "Inspection Archives" logbooks of the inspection ships deposited with Greenland Command between 1964 and 1971 shows the vast majority of inspection tours by both the inspection ships and inspection cutters took place along the west coast of Greenland between Disko Bay in the north and Cape Farewell to the south. The most frequented inspection areas were "the Banks" (Bankerne): Fiskenæs Banke, Fyllas Banke, Torquusaq Banke, Sukkertop Banke, and Lille Hellefiskebanke.<sup>764</sup> The concentration of inspection efforts into these specific areas highlights how despite a country's authority to regulate waters out to a set distance from shore along its entire coastline, only very limited spaces within that area are of actual interest and worth regulating when it comes to using the seas as a resource. This allows countries to have reduced requirements for seapower inputs in terms of hull numbers compared to objectives that seek to prevent an opponent from using

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<sup>763</sup> Nørby, "'Låst inde. Trawler stikker af,'" 17.

<sup>764</sup> Grønlands Kommando, *Fiskeriarkiv Nr 4. 20/5 – 1964 til 28/3 – 1967*, in *V. Materiale vedr. fiskeriinspektionstjeneste (1924-1971) V-7*, Søværnets Operative Kommando, Rigsarkivet [Danish National Archives – other researchers should note this is as the box is listed via the online ordering system and except for the V-7 serial number, differs from labelling system on the physical box, which is as follows: 0370-031 Fiskeriinspektion, Restaflevering 1998, VARIA, Fiskeriarkiv, 1960-1971 Lb.nr. V7]. Other logbooks referenced from the same box are as follows: *Orlogskutterne Mallemukken og Teisten: 27-8 – 1960 til 2/6 – 1971*; *Fiskeriarkiv Nr. 2: 16/9 – 1964 til 10/12 – 1969*; *Fiskeriarkiv Nr. 3: 12/9 – 1969 til 31/3 – 1970, 12/11 – 29/11 1963*; and *Fiskeriarkiv Nr. 3: 6-14/7 – 1967, 1/2 – 1970 til 11/6 – 1971*.

the sea in different ways, such as projecting lethal force towards land from anywhere off the coast which would require much greater surveillance capacity throughout the entire area.

The result of a half-decade's exploration of the concept for a "Greenland frigate," the Hvidbjørnen-class served as a successful template for a modified fifth member of the class, *Beskytteren*, in 1976.<sup>765</sup> The long period of time between the first four ships and the fifth was due to the shifting fortunes of Denmark's naval budget as well as the growing movement towards the 200 nm EEZ during the UNCLOS III conferences. A mere four years after the *Hvidbjørnens* were built, the RDN proposed a fifth ship to help monitor the expected expansion of waters over which coastal states would have authority. However, economic constraints delayed the procurement until 1971, when the Folketing authorized 37.5 million kroners. Yet, this proved insufficient due to the increased cost of shipbuilding in the period. Therefore, the fifth ship continued to be delayed and its capabilities reduced until the mid-70s, when the navy received 50 million kroners to fund what would become *Beskytteren*.<sup>766</sup> In contrast and reflecting the RDN's primary warfighting concern with the Baltic, four fast attack boats were being constructed for completion by 1974, and two Narhvalen-class submarines had just entered service in 1970-1971.<sup>767</sup> Assigned to similar duties as her older sisters, *Beskytteren's* commissioning coincided with the expansion of Denmark's fishing zones, including those around the Faroe Islands and Greenland, from 12 to 200 nautical miles in December 1976.<sup>768</sup> *Beskytteren* thus provided Danish authorities with a 25%

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<sup>765</sup> Jensen, *Støt Kurs*, 133, 309.

<sup>766</sup> Hans Christian Bjerg, *Flåde og Teknik 1739–1989: Søværnets Tekniske Tjeneste 250 år* (Søværnets Materielkommando: 1989), 133–4; Søværnets Materielkommando, "Pkt. 3, Logistiske forhold" (February 19, 1971), in 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives].

<sup>767</sup> Søværnets Materielkommando, "Torpedobåde af Flyvefisken-klassen," and "Undervandsbåde af Narhvalen-klassen," *Oversigt over Flådens Skibe og Disses Tilstand, Billæg* [Attachement] 3b to Pkt. 3, *Logistiske forhold* (February 19, 1971), in 5012 Søværnets Materielkommando: 1970–1985 KC. Hemmelig kopibog (afklassificeret): 1968–1971 mm. Rigsarkivet [Danish National Archives].

<sup>768</sup> Kingdom of Denmark, "Act No. 597 of 17 December 1976 on the Fishing territory of the Kingdom of Denmark," United Nations Division for Ocean Affairs and the Law of the Sea, December 17, 1976, accessed December 18, 2019, [http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DNK\\_1976\\_Act.pdf](http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DNK_1976_Act.pdf). This was followed several days later by acts stipulating the exact boundaries for Greenland and Faroe Islands.

increase in hulls dedicated to offshore surveillance and fisheries inspection and was crucial to securing her drastically expanded fisheries zones. Although not particularly relevant to NATO warfighting plans, these five offshore patrol ships also allowed Denmark to directly pursue one of its long-time foreign policy objective. This was to be less dependent upon the United States for Greenland's security, which was a concern first articulated during the security posture debate of the late 1940s and one that had continued to recur in the decades since.<sup>769</sup>

But fundamentally, these five offshore patrol frigates, in addition to the three Greenland- and Faroes-based 330-ton Agdlek-class coastal inspection cutters built in the mid-70s,<sup>770</sup> granted Denmark the seapower inputs required of an age where international maritime law granted it drastically increased maritime zones. As the UNCLOS regime matured, Denmark found it relatively easy to meet the demands of the new situation. In contrast to Norway's creation of a dedicated coast guard under its navy and their procurement of the Nordkapp-class offshore patrol ships and dramatic increase in the number of large leased patrol ships,<sup>771</sup> Denmark had no need to establish significantly new seagoing capabilities from scratch. The existing long-range vessels designed for reaching far-away territories were deemed adequate for the increased maritime territory, and the duties for which these ships and their crews were initially created remained the same. It seemed the only manifestation of a recognition that the new EEZ would require greater dedicated attention by the RDN was the transfer of the *Hvidbjørnens* and *Beskytteren* from the Frigate Squadron to the new Inspection Ship Squadron on April 1 1979, which also included the Agdlek-class cutters.<sup>772</sup> It made little sense, after all, to group the constabulary-focused *Hvidbjørnens* with the Harpoon and Seasparrow missile-armed Peder Skram-class combat frigates based

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<sup>769</sup> Peterson, "Danish security policy," 152.

<sup>770</sup> Jensen, *Støt Kurs*, 313-315. These three steel-hulled cutters augmented the 142-ton wooden-hulled *Teisten* (in service from 1952 to 1981) and two 205-ton steel-hulled Maagen-class cutters (in service from 1960 to 1991).

<sup>771</sup> See Chapter 5: Norway, section 5.2.2.

<sup>772</sup> Per Herholdt Jensen, *Atlantsejlerne: Flådens Inspektionsskibe i 100 år* (Copenhagen: Aschehoug Dansk Forlag A/S, 2005), 35.

simply on the “F” designation painted on their hulls. The types of training and operational tempo for a combat squadron sailing close to Denmark differed greatly from those required for sailing thousands of kilometres away in the Danish Kingdom’s Arctic territories where the main “opponents” against whom sea control would be contested were fishers.

That being said, some changes were made to adapt to the new environment, at least in continental Denmark. A major development towards adapting its seapower inputs for the new authorities granted by domestic and international law was the digitization and centralization of Denmark’s maritime domain awareness capabilities. Naval surveillance had been based on different districts scattered throughout the country, each gathering information from various assets like radar stations, patrol craft, port authorities, and police forces.<sup>773</sup> This information would then be forwarded to the Naval Operations Command (*Søværnets Operative Kommando*), where it would be manually added to a large map on a wall using grease pencils. With some 500 vessels at any given time in Danish waters even before the creation of the EEZ, it became clear there was a need to automate the process. 1977 saw the initial stages of design for what would be called the “Flag Officer Denmark, Control and Information System,” or FOD CCIS. This system, which modernized Denmark’s numerous coastal radars to directly send their data to naval operations centers, began construction in 1981, and became operational five years later.<sup>774</sup>

The aforementioned expansion of the Greenlandic fishing zone out to 200 NM meant not just the dramatic increase in area from 18,000 to 615,000 square miles, but also additional rules and regulations regarding fisheries in those waters that required the RDN to increase its fisheries duties from “inspection” to “control”.<sup>775</sup> No longer was illegal fishing determined simply by the physical location of a

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<sup>773</sup> Bjerg, *Flåde og Teknik 1739–1989*, 149–150.

<sup>774</sup> Bjerg, *Flåde og Teknik 1739–1989*, 149–150; Henrik Elbro, “Søværnets operative Kommandos opgaver i fredstid,” *Militært tidsskrift* 115, No. 5 (May/June 1986): 165.

<sup>775</sup> Jensen, *Støt Kurs*, 247.

fishing activity relative to a maritime boundary (i.e. in or out of it) as with the *Red Crusader* case, but there was now an added need to take a more in-depth approach where specific violations of fisheries regulations would have to be examined by the boarding parties of the RDN. Such regulations included checking a fishing vessel's logbooks against the caught fish in its holds, the size of the mesh in the fishing nets, and the specific species of fish that have been caught.<sup>776</sup> The RDN crews had not been prepared for such level of detail, requiring at first the services of civilian fishing masters to provide their expertise. This soon became untenable, as such experts were not always available and their absence meant fisheries control could not be carried out. By 1979, specialized fisheries control courses had been established to help train officers and enlisted crew members to take on the added responsibilities.<sup>777</sup> This was immediately put into practice, when the inspection ship *Ingolf* checked the West German fishing vessels *Heidelberg* and *Julius Pickenpack* in eastern Greenland in February 1980. The inspection team soon found major discrepancies in the recorded weight of caught cod versus the amount extrapolated from random checks of sample cases. They found 15 tonnes recorded versus 150 tonnes actual, hidden underneath layers of the red fish that foreign trawlers were permitted to catch (cod could only be caught as part of bycatch in the course of trawling for red fish).<sup>778</sup> When ordered to follow *Ingolf* into Nuuk for prosecution, the two ships ran eastwards. Greenland Command had not authorized the use of force, but *Heidelberg* decided to comply after a thirteen hour chase while *Julius Pickenpack* continued to West Germany where it was prosecuted. Both were eventually handed fines.<sup>779</sup> *Ingolf's* experience was echoed to a less dramatic extent by *Beskytteren's* in the same period, when the West German factory trawler *Geeste* was caught by the inspection team for also trying to hide cod in boxes coded as halibut. *Geeste* was arrested and brought to Nuuk for trial without incident. Shortly after these

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<sup>776</sup> Jensen, *Støt Kurs*, 247.

<sup>777</sup> Jensen, *Støt Kurs*, 249.

<sup>778</sup> Jensen, *Støt Kurs*, 249-250.

<sup>779</sup> Jensen, *Støt Kurs*, 250.

actions, the remaining fleet of West German fishing trawlers rapidly departed Greenlandic waters without giving notice, ending Greenland's own little "Cod War".<sup>780</sup> The two Hvidbjørnen-class inspection ships had clearly shown their worth even in the new era of the 200 NM EEZ once their boarding teams had been adequately trained in the finer points of fisheries regulations. They were able to not just end specific instances of illegal fishing, but appeared to have prevented the continued and deterred future systematic unauthorized use of the sea's resources by foreign trawlers. Kinetic expressions of Danish seapower, even at the height of the Cold War, was therefore manifest more in distant waters of the Greenlandic coast against civilian fishing vessels and their crew than in the Danish Straits against the Soviet Baltic fleet.

### The Thetis-class Inspektionsskibe: Long-Endurance Hulls Post-EEZ Creation

As the Hvidbjørnen-class vessels reached the end of their service lives and decommissioned in the 1990s, they were replaced by a similar number of ships with broadly similar mission capabilities. Coming in at 3500 tons, the four new Thetis class were not only fifty percent larger than their predecessors but were also the largest ships in the RDN until the arrival of the Absalon-class support ships/frigates in the mid-2000s.<sup>781</sup> The Thetis class's large size reflected increased endurance requirements. While their *Hvidbjørnen* predecessors were designed to easily cross oceans, their main fisheries patrol operations took place in relatively sheltered waters reflecting the much smaller 6-12 nm fisheries zones pre-1977.<sup>782</sup> The Thetis class size also enabled accommodations that were "the most luxurious in navy ships anywhere" at the time, with single-berth cabins for the crew's twelve officers and

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<sup>780</sup> Jensen, *Støt Kurs*, 151-152.

<sup>781</sup> Jensen, *Støt Kurs*, 140.

<sup>782</sup> Grønlands Kommando, *Fiskeriarkiv Nr. 4. 20/5 – 1964 til 28/3 – 1967; Orlogskutterne Malle mukken og Teisten: 27-8 – 1960 til 2/6 – 1971; Fiskeriarkiv Nr. 2: 16/9 – 1964 til 10/12 – 1969; Fiskeriarkiv Nr. 3: 12/9 – 1969 til 31/3 – 1970, 12/11 – 29/11 1963; and Fiskeriarkiv Nr. 3: 6-14/7 – 1967, 1/2 – 1970 til 11/6 – 1971.*

nine petty officers, and twin-berths for the remaining forty lower enlisted ranks and conscripts.<sup>783</sup> All cabins have their own shower, sink, and toilet.<sup>784</sup> Additional single-berth rooms are available for VIP guests near the captain's quarters, and each of the twin-berth rooms have fold-down bunks to expand their capacity to four beds if necessary.<sup>785</sup> Illustrating the continued efforts since the 1950s River-class frigates to reduce the crewing requirements of the inspection ships, the Thetis class was also built with substantial automation capabilities. This allowed them to operate with a core crew of just 49, though an additional thirteen conscripts are also employed on operational deployments to the Arctic in recent years.<sup>786</sup>

Further improving upon crew comfort and to maximize the conditions for safe helicopter operations, the ships were built with active retractable fin stabilizers and roll-dampening ballast tanks to help reduce the impacts of the harsh weather and high sea states of the offshore North Atlantic waters.<sup>787</sup> An early RDN brochure praised the effectiveness of such seakeeping measures, noting that trials in the first years showed the class never rolled beyond 15 degrees.<sup>788</sup> Such a claim was perhaps premature. This researcher observed quite differently during his May 2019 cruise on (the Thetis-class) HDMS *Hvidbjørnen* as it rounded southern Greenland's Cape Farewell (Kap Farvel), where six metre waves came at the ship from the starboard quarter and beam. At times, the roll degree indicator reached past 20 degrees and even the autopilot had to give the occasional warning beep that it had difficulties keeping course! To avoid unnecessary damage to movable items (such as dishware),

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<sup>783</sup> Naval Materiel Command, *Thetis-class Patrol Frigate* (Official pamphlet produced by Aarhus, Denmark: Thorsten Overgaard Graphic Design, n.d.), 6.

<sup>784</sup> Naval Materiel Command, *Thetis-class Patrol Frigate*, 6; Jensen, *Atlantsejlerne*, 23; observations on board HDMS *Hvidbjørnen*, May 2019.

<sup>785</sup> Jensen, *Atlantsejlerne*, 23; observations on board HDMS *Hvidbjørnen*, May 2019. The bottom bed can also be folded up against the bulkhead to reveal a sofa.

<sup>786</sup> Naval Materiel Command, *Thetis-class Patrol Frigate*, 10; observations on board HDMS *Hvidbjørnen*, May 2019.

<sup>787</sup> Jensen, *Atlantsejlerne*, 19. It should be noted that as far as some helicopter pilots are concerned, the sea state matters less to safe helicopter operations than visibility. So long as the pilot can see the ship and flight deck, they can usually land: interviews with crew of HDMS *Hvidbjørnen*, May 2019.

<sup>788</sup> Naval Materiel Command, *Thetis-class Patrol Frigate*, 10.



attempts are made to maximize the amount of time the ship experiences gentler “following seas” from astern even if it means waiting longer before making course changes. The westbound turn around Cape Farewell, for instance, eventually requires facing heavy waves abeam as one turns from sailing southwest from Iceland and towards the northwest up the western Greenlandic coast. Despite being purpose-built for the North Atlantic, storms continue to be a major limiting factor on the ships. *Triton* in 1992 ran into extremely rough weather at the hands of an inexperienced captain who had previously only operated in continental Danish waters, suffering damage to its 76mm gun shield, ripping off antennas, and collapsing the mast.<sup>789</sup> Still, in lesser seas, the stabilization worked well enough for some of the crew to call it their “best friend”.<sup>790</sup> The active fins are only effective when sailing above six to eight knots, and below that, such as when sailing in ice-infested waters where the fins are retracted for protection, stabilization is enabled through passive roll-dampening water tanks, though they appeared less effective with a longer period of time until the ship returned the vertical.<sup>791</sup>

Crew comfort extends to the bridge as well. Every watch “stander” including the helmsperson has their own seat, in contrast to practices in other navies such as the United States. This dramatically reduces the strain on one’s body resulting from constantly shifting weight to compensate for the ship’s motions on the water.<sup>792</sup> Illustrating the versatility of skills required on a ship with a relatively small crew like the Thetis class, some enlisted personnel are cross-trained for different duties. The same deckhands that prepare the helicopter for takeoff and landing, for example, often take one of their four-hour shifts at the ship’s helm. Unlike many other naval ships where the rudder is controlled via a large two-handed wheel or yoke, the helm on the Thetis class is a small dial that can be placed at the end of the seat’s armrest and is easily controlled with one’s fingers. Also unlike some naval vessels, the helmsperson also

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<sup>789</sup> Jensen, *Støt Kurs*, 66-67.

<sup>790</sup> Interviews with crew on board HDMS *Hvidbjørnen*, May 2019.

<sup>791</sup> Observations on board HDMS *Hvidbjørnen*, May 2019; Jensen, *Atlantsejlerne*, 19.

<sup>792</sup> Observations and experience on board HDMS *Hvidbjørnen*, May 2019.

has an unimpeded line of sight forward, with their seat located along the centreline and at the very front of the bridge.

For propulsion, the ships are officially capable of reaching 21.5 knots on their single shaft variable-pitch propeller if all three diesel engines are engaged, though usually only one or two would be used to conserve fuel.<sup>793</sup> To make up for the lack of redundancy inherent in having only a single shaft, the ships also have a retractable azipod (can rotate 360 degrees) thruster under the hull that can drive the ship up to eight knots, allowing it to return home for repairs in emergencies.<sup>794</sup> To help it maneuver in the many small harbours in the Arctic, there is also a bow thruster to help the bow move sideways.<sup>795</sup> During port maneuvers, auxiliary control stations for the ship's propulsion and rudder are located on the starboard and port ends of the bridge, duplicating the helm controls in the centre. This allows rapid conveyance of orders between the Executive Officer conducting the docking (who may be standing outdoors on the deck aft of the bridge) and the enlisted personnel operating the actual ship controls.<sup>796</sup> Another measure implemented to maximize their utility in the Arctic was the incorporation of a substantial ability to sail in sea ice: officially built to DNV ICE-05 standard (0.5-1.0m thick first year ice), some sources state the ability to operate in as much as 1.5m of first year ice though this is unlikely to be for extended periods of time.<sup>797</sup> In terms of permanent armament, the Thetis class remained conservative. The *Hvidbjørnens'* 76mm gun was replaced with the quicker-firing longer-ranged automatic variant produced by Italy's OTO Melara, but little else was changed, including the single depth charge rack at the stern.<sup>798</sup> The ship also has a dedicated operations "room" that forms the aft half of the bridge deck, allowing quick access by the ship's commander or XO to vital situational awareness

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<sup>793</sup> Jensen, *Atlantsejlerne*, 23.

<sup>794</sup> Jensen, *Atlantsejlerne*, 23.

<sup>795</sup> Jensen, *Atlantsejlerne*, 23; observations on board HDMS *Hvidbjørnen*, May 2019.

<sup>796</sup> Observations on board HDMS *Hvidbjørnen*, May 2019.

<sup>797</sup> Jensen, *Atlantsejlerne*, 18-19; Det Norske Veritas, *Rules of-classification of Ships: Part 5 Chapter 1: Ships for Navigation in Ice, July 2016* (Det Norske Veritas, 2016), 51.

<sup>798</sup> Jensen, *Atlantsejlerne*, 245-246.

information that integrates data from the ship's navigational and air search radars as well as its infrared sensors. Closed-circuit television cameras allow the bridge crew to monitor all vital areas within the ship, as well as the helicopter deck. All of these features demonstrate the lengths to which Denmark went in order to produce a seapower input that could operate for long periods of time in the new 200 NM EEZ. In contrast to the local sea denial vessels designed primarily to contest military threats around Denmark, constabulary vessels like the Thetis class are characterized by their endurance, seakeeping, crew comfort, and general utility equipment rather than high speed or the number of missiles.

Perhaps the only thing to suggest a Danish concern with increasing its ability to contest sea control versus a military threat in the Arctic seas was the incorporation of the Standard Flex, or "STANFLEX," modular spaces on the ships.<sup>799</sup> Theoretically, these allow the ships to equip a variety of combat and non-combat equipment, including torpedoes, anti-air and anti-ship missiles, and additional sensors. Evidence is scant, however, as to what type of equipment modules the Thetis class can practically operate. Although the deck space and connections should be identical to ensure commonality, sensor inavailability, lack of integration, and lack of trained crew limit which types of weaponry may be employed.<sup>800</sup> Visual and textual sources as of April 2021 have failed to indicate any instances of the Thetis class actually carrying warfighting weaponry in their STANFLEX slots beyond the typical 76mm gun. The standard configuration appeared to have been the single OTO Melara 76mm gun in the bow STANFLEX slot and RHIB-handling utility cranes in the two STANFLEX slots on either side of the Lynx helicopter hangar.<sup>801</sup> The standard nature of this configuration would seem to be confirmed by their inclusion in the ship's interior General Arrangement drawings included in the official Danish navy pamphlet on the ships.<sup>802</sup> As of April 2021, the 2195 historical and contemporary photos on the Danish

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<sup>799</sup> Commodore Stephen Saunders, *Jane's Fighting Ships 2011–2012* (Coulson: IHS Jane's, 2011), 190.

<sup>800</sup> Interviews with officers of HDMS *Hvidbjørnen*, May 2019.

<sup>801</sup> Forsvaret, "Forsvarsgalleriet: Inspektionsskib af Thetis-klassen," *Forsvarsgalleriet*, April 14, 2021, <https://www.forsvarsgalleriet.dk/main/thumbnailview/fc=7%3A2454> (Account required).

<sup>802</sup> Naval Materiel Command, *Thetis-class Patrol Frigate*, 4–5.

military's photo gallery also show no signs of any STANFLEX configuration on the Thetis class beyond the bow 76mm and hangar-side utility cranes.<sup>803</sup> An exception can be found for HDMS *Thetis* during the mid-2000s, when the portside slot appeared to have been used for accommodations or extra scientific equipment as part of its scientific work under the KANUMAS seabed surveying project.<sup>804</sup> The convenience of the STANFLEX concept was demonstrated, however, with the reusing of the 76mm gun from a Flyvefisken-class multirole patrol ship on the lead *Thetis* ship in the early years of its life.<sup>805</sup> As will be shown below, the inclusion of the STANFLEX capability was itself a subject of substantive debate in the Danish parliamentary Defence Committee, with considerable expectations that it could be used to dramatically increase Danish compulsive seapower against military opponents in the offshore waters of Greenland and the Faroe Islands.

The Thetis class were also built with a variable-depth sonar, theoretically enhancing their underwater surveillance capability despite remaining armed with the same single depth charge rack at the stern as their predecessors.<sup>806</sup> This is consistent with the numerous reports of unidentified submarines within Greenlandic waters throughout this period and continuing well after. In July 1983 alone, there were two separate submarine sightings along the Greenlandic coast. A July 25, 1983, briefing to the Danish Parliament's Defence Committee stated that between July 11 and 13, a submarine conning tower was sighted by the sheriff of Akunnaaq and by five other Greenlandic boats in Disko Bay off western Greenland (around halfway between Nuuk and Thule). This resulted in Greenland Command sending Hvidbjørnen-class inspection ship *Ingolf* and coastal cutter *Adleq* for a two-day search with no

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<sup>803</sup> Forsvaret, "Forsvarsgalleriet: Inspektionsskib af Thetis-klassen."

<sup>804</sup> Forsvaret, "Forsvarsgalleriet: F357 THETIS ved Grønland. Inspektionsskibet var ombygget på Svendborg Værft for at kunne deltage i Kanumas projektet ved Nordøstgrønland." Filename MAB-06392.JPG. *Forsvarsgalleriet*, April 23, 2021, <https://www.forsvarsgalleriet.dk/catalog/Mediearkiv/r/182967/viewmode=infoview> (Account required).

<sup>805</sup> Forsvaret, "Forsvarsgalleriet: 76mm OTO MELARA. En 76mm OTO MELARA hejses fra borde fra en STANDARD-FLEX for efterfølgende anbringelse om bord på F357 THETIS." Filename MAB-05342.JPG. *Forsvarsgalleriet*, April 25, 2021, <https://www.forsvarsgalleriet.dk/catalog/Mediearkiv/r/181503/viewmode=infoview> (Account required).

<sup>806</sup> Jensen, *Atlantsejlerne*, 20.

further sightings.<sup>807</sup> On July 15, Nanortalik Police Command on the southern tip of Greenland also reported a submarine conning tower, which the cutter *Agpa* and a Danish fisheries inspection aircraft attended to without further apparent findings.<sup>808</sup> However, the captain of the *Agpa*, Commander Per Starlinkt, stated in a media interview many years later that he retrieved two submarine communications antenna from the water that month, presumably during *Agpa*'s search off Nanortalik between July 15 and 18.<sup>809</sup> In 1984, another communications antenna was found off Nuuk, reportedly belonging to a Soviet Victor III-class nuclear-powered attack submarine and shorn off by ice.<sup>810</sup>

Given these reports, it would seem sensible to enhance the Greenlandic patrol fleet's anti-submarine warfare capability, albeit only for the purposes of awareness and sovereignty assertion. As the March-May 1985 parliamentary discussions over a resolution to build two of what would become the Thetis class indicated, the purpose of the depth charges on inspection ships were only ever intended for warning unknown submarines and forcing them to surface, rather than cause their destruction.<sup>811</sup> This resolution that explicitly included depth charges was put forth by Socialist People's Party (Socialistisk Folkeparti) parliamentary member Pelle Voigt, which led to some teasing by their more centre and right-leaning parliamentary colleagues used to the disarmament inclinations of Voigt's party.<sup>812</sup> However, Voigt's proposal made it clear that besides from the cannon and depth charges, the

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<sup>807</sup> Forsvarsministeriet, "Redegørelse for undervandsbådsobservationer ved Grønland." *Billæg* [Attachment] 99, July 25, 1983, in 0028 Forsvarsministeriet Ministersekretariatet: 1976-1992 Emneordnede sager: Udvalg – Folketingets Forsvarsudvalg 1982-1983. Rigsarkivet [Danish National Archives].

<sup>808</sup> Forsvarsministeriet, "Redegørelse for undervandsbådsobservationer ved Grønland." *Billæg* [Attachment] 99, July 25, 1983.

<sup>809</sup> Peter Nyholm and Christian Brøndum, "De mystiske ubåde ved Grønland," *Berlingske*, October 31, 2015, <https://www.berlingske.dk/samfund/de-mystiske-ubaade-ved-groenland>. The *Berlingske* article also provides an overview of other submarine sightings from the 1980s to the present day. Submarine sightings have not been limited to the late Cold War: a 1972 unconfirmed sighting in Disko Bay is noted in Wismann, *Inspektionsskibene af Hvidbjørnen-klassen*, 28.

<sup>810</sup> Jensen, *Støt Kurs*, 243. It is possible that this incident may have been confused with the ones in July 1983.

<sup>811</sup> Folketinget, "Første behandling af beslutningsforslag nr. B 114: Forslag til folketingsbeslutning om begyndende erstatningsbyggeri af helikopterbærende fiskeriinspektionsskibe til Grønland og Færøerne: Af Pelle Voigt (SF) m. Fl. (Fremsat 26/2 85)." *Tillæg F*, 1984-1985 session of Folketinget, March 21, 1985: 7802-7803.

<sup>812</sup> Folketinget, "Første behandling af beslutningsforslag nr. B 114," 7793-7795, 7797-7798.

ships are not to be built for warlike tasks, which was also subject to expressions of amusement by some others (“peaceful cannon and peaceful depth charges!” exclaimed Thor Pedersen of the centrist Venstre party).<sup>813</sup> Voigt defended the proposal by arguing that “Everyone knows that you can not defeat submarines with depth charges, you can make them move, but...depth charges are not a real means of war.”<sup>814</sup> Within the modern context, it is certainly a sound position and consistent with the approach and findings published by the Swedes in 1983 regarding submarine incursions in their own waters that was distributed to some of the same members of the Danish Parliament involved in these discussions on the inspection ship replacement.<sup>815</sup> While there is no mention in these 1985 discussions of specific submarine sighting incidents as drivers for the various party representative’ stances, general references to the need to ensure Greenlandic and Faroese sovereignty were accepted by the other members as sufficient justification for retaining the legacy Hvidbjørnen class’s cannon and depth charge weaponry on the new ships.<sup>816</sup> The only explicit objection to the inclusion of depth charges was by the Marxist Venstresocialisterne (VS) party during the first reading of the resolution, though even they eventually accepted the depth charges by the second reading once the other parties made clear that the SF proposal would explicitly exclude any potential for future conversion of the new inspection ships into warships.<sup>817</sup> It would appear that the elusive, but frequent, sightings of submarines within the Danish Kingdom’s internal waters provided a sufficient threat to Danish sovereignty to cause the vast majority

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<sup>813</sup> Folketinget, “Første behandling af beslutningsforslag nr. B 114,” 7796.

<sup>814</sup> Folketinget, “Første behandling af beslutningsforslag nr. B 114,” 7802-7803.

<sup>815</sup> Forsvarsministeren, “Pressmeddelelse. Forsvarsminister Hans Engell orienterede i dag i et samråd Folketingets Forsvarsudvalg om sin vurdering af den svenske ubådskommissions rapport om de sovjetiske ubådskrænkelser og om dens betydning for dansk forsvar.” Attachment to *Billæg* [Attachment] 82, May 25, 1983, in 0028 Forsvarsministeriet Ministersekretariatet: 1976-1992 Emneordnede sager: Udvalg – Folketingets Forsvarsudvalg 1982-1983. Rigsarkivet [Danish National Archives].

<sup>816</sup> Folketinget, ”21) Fortsættelse af anden (sidste) behandling af beslutningsforslag nr. B 114: Forslag til folketingsbeslutning om begyndende erstatningsbyggeri af helikopterbærende fiskeriinspektionsskibe til Grønland og Færøerne. Af Pelle Voigt (SF) m. fl.” *Tillæg F*, 1984-1985 session of Folketinget, May 31, 1985: 11297.

<sup>817</sup> Folketinget, ”21) Fortsættelse af anden (sidste) behandling af beslutningsforslag nr. B 114: Forslag til folketingsbeslutning om begyndende erstatningsbyggeri af helikopterbærende fiskeriinspektionsskibe til Grønland og Færøerne,” 11297.

of Folketing parties to agree on the need for a robust underwater surveillance capability. But even this capability would eventually be removed throughout the post-Cold War period. The decline in Russian submarine activity combined with the slow speeds required when sailing in ice-infested waters made the variable depth sonar impractical, and both it and the depth charge rack were removed by the 2010s.<sup>818</sup>

Indicative of one of the challenges of a small navy within a multiparty parliamentary democracy, one of the sticking points regarding the Thetis class's capabilities was the tension between their primary civilian task of fisheries inspection, search and rescue, and transportation with the potential to convert them into large warships in the event of war. The aforementioned STANFLEX potential was brought up multiple times in the April-June 1985 discussions, with the centre-right ruling parties refusing to rule out the incorporation of potential warfighting capabilities pending the outcome of a then-ongoing Defence Department report on future requirements for fisheries inspection. Meanwhile, the leftist parties including the Socialist People's Party that proposed the ships wanted to explicitly exclude any STANFLEX warfighting potential especially given the likelihood that they would have to be funded outside the Defence Agreement.<sup>819</sup> On the part of the RDN, the head of the inspection ship squadron Ib Michelsen said to the newspaper *Information* that the new ships should be built to enable their quick conversion to "actual frigates" ("egentlige fregatter") during times of tension, which Voigt, who proposed the ships, was keen to avoid.<sup>820</sup> Thus, even though the inspection ships were traditionally and predominantly used for peacetime constabulary tasks, the very naval nature of their existence, especially as the sole seagoing presence in the remote Arctic, meant a military function could not be obviously excluded just

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<sup>818</sup> Interviews and observations on board HDMS *Hvidbjørnen*, May 2019; see interior images on Forsvaret, "Forsvarsgalleriet: Inspektionsskib af Thetis-klassen."

<sup>819</sup> Pelle Voigt (SF) et al., "Beslutningsforslag nr. B 114. Fremsat den 26. februar 1985 af Pelle Voigt (SF), Margrete Auken (SF), Leif Hermann (SF), Hanne Thanning Jacobsen (SF), Gert Petersen (SF) og Ebba Strange (SF). Forslag til folketingsbeslutning om begyndende erstatningsbyggeri af helikopterbærende fiskeriinspektionsskibe til Grønland og Færøerne." *Tillæg A*, 1984-1985 session of Folketinget, February 26, 1985: 3794.

<sup>820</sup> Folketinget, "21) Fortsættelse af anden (sidste) behandling af beslutningsforslag nr. B 114," 11296-11297.

to assuage the positions of the more pacifist elements of the Danish parliament. As the future played out, however, the STANFLEX potential to upgrade the Thetis class to warfighting vessels was never undertaken. As mentioned above, neither the two stern container slots nor the bow 76mm gun slot have ever been trialed or used for other weapons modules that would give them combat capabilities similar to “actual frigates.”

In the mid-2010s, the Thetis class underwent a midlife refit which replaced their AWS-6 air-search radars with new Scanter 4103 and NATO-compliant Identify-Friend-Or-Foe (IFF) systems.<sup>821</sup> The new Scanter radar’s weight required reducing the height of the ship’s mast through eliminating the crow’s nest that was used by the crew for spotting and navigating through sea ice, though this appears not to have hampered the ship’s ability in regards to the latter. New dedicated “ice lights” (islys) mounted on the mast just below the Scanter dome shine ahead to illuminate the ice and provide several minutes’ warning for course changes.<sup>822</sup> The refit also replaced two of their three STANFLEX slots with permanent enclosed boat hangars and utility cranes in return for being able to operate the new MH-60R Seahawk helicopter.<sup>823</sup>

The Seahawk helicopter procurement was not without controversy. In contrast to the Lynx helicopter it replaces, its lack of flotation devices meant it would capsize easily should it have to make

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<sup>821</sup> Folketinget, “Tidligere fortroligt aktstykke M af 26/5 2011 om inspektionsskibe af THETIS-klassen,” *Aktstykke nr. 9, Folketinget 2015-16, Folketingstidende E*, October 13, 2015, [https://www.folketingstidende.dk/samling/20151/aktstykke/Aktstk9/20151\\_aktstk9\\_afgjort.pdf](https://www.folketingstidende.dk/samling/20151/aktstykke/Aktstk9/20151_aktstk9_afgjort.pdf).

<sup>822</sup> Observations and interviews with crew on HDMS *Hvidbjørnen*, May 2019.

<sup>823</sup> Although details on the refits are sparse, a comparison can be made between publicly-available General Arrangement drawings of the class’s interior spaces with photos of post-refit vessels, showing the STANFLEX slots on either sides of the helicopter hangar have been rearranged. An example of the former can be found in Naval Materiel Command, *Thetis-class Patrol Frigate* (Official pamphlet produced by Aarhus, Denmark: Thorsten Overgaard Graphic Design, n.d.), 4–5. First Squadron’s official Facebook page has also posted two digital drawings highlighting this change: 1. Eskadre, “Ombygning of Thetis–klassen,” *Facebook.com*, August 13, 2015, accessed December 18, 2019, <https://www.facebook.com/1Eskadre/posts/863515320398956/>. Images of HDMS *Thetis* during its mid-2010s refit can also be found on the official Danish Defence image gallery: Nikolaj D. Jepsen, “F357 Thetis under ombygning,” *Forsvarsgalleriet*, July 31, 2017, accessed December 18, 2019, <https://www.forsvarsgalleriet.dk/catalog/Mediearkiv/r/378665/viewmode=infoview>. The scope and extent of the refit was also confirmed during observations on board HDMS *Hvidbjørnen* in May 2019.



an emergency water landing. The Lynx's flotation capability was demonstrated in August 2011, when one attached to HDMS *Hvidbjørnen* made an emergency landing in the water during its landing approach. The helicopter was able to remain afloat and all three crew members and two passengers were rescued safely.<sup>824</sup> This has resulted in what some observers have deemed to be a less-than-optimal bespoke solution of an emergency liferaft canister strapped to the side of the Seahawk that would have to be manually inflated by the helicopter's crew after a water landing.<sup>825</sup> The Seahawk's decreased "ditching" capability also postponed its use for non-emergency and non-training purposes, such as fisheries inspections and carrying civilian observers. All users of the Seahawk, including rescue personnel and the ship's doctor, had to go through a dedicated helicopter escape course before being allowed on the helicopter.<sup>826</sup> Thus, although the Seahawks began deploying with the Thetis class in 2016, they could not be used for the ever vital but non-emergency task of hoisting on and off fisheries inspection teams until special dispensation was approved in May 2019, with the first Seahawk-delivered inspection taking place early July 2019.<sup>827</sup> That Denmark decided to procure the Seahawk despite such drawbacks may be explained by the desire to curry favour with their American builders. Certainly other helicopter options were available in the same period with flotation capability, such as Canada's CH-148 Cyclone and

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<sup>824</sup> Forsvaret, "Helikopterhavari i Grønland," *Forsvaret*, August 22, 2011, <https://www2.forsvaret.dk/nyheder/intops/Pages/HelikopterhavariiGrønland.aspx>.

<sup>825</sup> Peter Ernstved Rasmussen, "Forsvarets nye maritime helikopter synker ved nødlanding på vand," *OLFI.dk*, December 11, 2016, <https://olfi.dk/2016/12/11/forsvarets-nye-maritime-helikopter-synker-ved-noedlanding-paa-vand/>; Peter Ernstved Rasmussen, "SF kalder forsvarsministeren i samråd om manglende flotation på Seahawk," *OLFI.dk*, December 16, 2016, <https://olfi.dk/2016/12/16/sf-kalder-forsvarsministeren-samraad-manglende-flotation-paa-seahawk/>; Elizabeth Hines, "Designing Sikorsky's MH-60R Life Raft Pod," *Maritime Applied Physics Corporation*, November 2017, <https://mapcorp.com/designing-sikorskys-mh-60r-life-raft-pod/>; further corroborated during interviews with officers and observations on HDMS *Hvidbjørnen*, May 2019.

<sup>826</sup> Interviews and experience on HDMS *Hvidbjørnen*, May 2019.

<sup>827</sup> Interviews and experience on HDMS *Hvidbjørnen*, May 2019; Arktisk Kommando – Joint Arctic Command, "I weekenden har inspektionsskibet Hvidbjørnen gennemført de første operative indsættelser af fiskerikontrolhold i Nordatlanten med Seahawk-helikopter." Facebook, July 8, 2019, <https://www.facebook.com/JointArcticCommand/posts/2382939388488560>.

Norway's NH-90 (both, admittedly, suffering from extensive delays in 2012 when the Seahawk decision was made).<sup>828</sup>

Regardless, it would appear that even though the Thetis class was originally designed to be upgraded in their armament, Denmark has saw little utility in maintaining a high-intensity combat potential for the Thetis class. Their main missions in the Arctic have changed little from those undertaken by their Cold War predecessors, despite dramatic structural design changes. The constabulary role as part of their primary sovereignty mission, after all, do not warrant much in the way of violent force.<sup>829</sup> Indeed, there appears to be some evidence that the Danish constabulary force has moved towards institutional seapower rather than strictly compulsive seapower in their dealings with fishing violations. Since their induction into service, the Thetis-class ships have not appeared to have fired their weapons in anger, though less-lethal methods of contesting the actions of civilian vessels have been employed in a very limited number of cases. For example, the French trawler *Bruix* was identified by Faroes Command for unlicensed fishing in the Faroes EEZ in February 2007, and the Thetis-class HDMS *Hvidbjørnen* employed aggressive sailing techniques to try to force the fishing vessel to head towards Torshavn.<sup>830</sup> This meant sailing closely to the trawler to force it to turn in the desired direction. The maneuvers failed, however, when the trawler chose to suffer the glancing collisions with the bow of the patrol ship instead of turning away and proceeded towards Scottish waters. *Hvidbjørnen* had informed Faroes Command this meant the next steps would involve using firearms and had prepared one of its .50cal heavy machine guns, though authorization was not given and *Hvidbjørnen* could only follow the trawler as it entered Scottish waters and offloaded its catch. All was not lost, however, and

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<sup>828</sup> Rasmussen, "SF kalder forsvarsministeren,"; Defense Industry Daily staff, "Canada's CH-148 Cyclones: 4<sup>th</sup> Time Lucky?" *Defense Industry Daily*, June 6, 2018, <https://www.defenseindustrydaily.com/canadas-ch-148-cyclones-better-late-than-never-05223/>.

<sup>829</sup> Jensen, *Atlantsejlerne*, 30.

<sup>830</sup> Hvidbjørnens A-besætning, "Nordlyset nr. 3 – nyhedsbrev fra HVIDBJØRNEN A-besætning", in *Rejsebreve fra Søværnets enheder. 2007.*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2007.pdf>, 129-130.

British authorities stopped the lorries carrying *Bruix's* catch on their way to France, while the 436-ton Faroese rescue/inspection ship *Tjaldrið* went to the initial fishing area to collect the fishing gear left behind by *Bruix's* for evidence.<sup>831</sup> This was sufficient to encourage *Bruix's* owner to provide a bank guarantee of 1.2 million DKK, matching the value of the confiscated cargo and served as payment for the unlicensed fishing. It would seem that institutional seapower via international cooperation and evidence collection on both land and sea proved to be an effective way of stopping and punishing illegal fishing without the use of weaponry. The rarity of such dramatic incidents illustrates the success of the inspection fleet's efforts at their long-standing goal of preventing *systematic* illegal fishing, even if the occasional daring trawler decides to make the attempt.<sup>832</sup>

Illustrating the long lead times for naval procurement and even mid-life upgrades, however, international geopolitics may well be showing the prematurity of the decision to double-down on constabulary capabilities rather than warfighting. In some of the latest Danish Arctic defence papers published after the Russian annexation of Crimea and heightened Arctic activity, there are mentions of potentially increased combat and sensor capabilities for the future replacements for the Thetis class.<sup>833</sup> A potential candidate is an ice-strengthened version of the Iver Huitfeldt-class air defence frigates currently serving in the Danish warfighting fleet that will be detailed in the third part of this chapter.<sup>834</sup> With Russia's full-scale invasion of Ukraine in February 2022 and the Danish parliament's multiparty commitment to increase defence spending, both the financial and political will appears to be in place for finally building and deploying "actual frigates" to the Danish Kingdom's Arctic waters.<sup>835</sup> And so,

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<sup>831</sup> *Tjaldrið* belongs to local Faroese Fisheries Inspection Service, now known as Vørn. Vørn, "Eindirnar," Vørn, n.d., <https://www.vorn.fo/bjarging/eindirnar/>; an English handbook containing detailed characteristics of the Faroese search and rescue and inspection assets can be found here: MRCC/Torshavnradio, *SAR – Faroe Islands: MRCC/Torshavnradio* (Torshavn: Ministry of Fisheries, 2012), <https://www.vorn.fo/media/2421/sar-handbo-k.pdf>.

<sup>832</sup> P. Busted, "Søværnets Nye Inspektionsskibe (IS 86) Thetis-Klassen," *Tidsskrift for Søværnen* 161, no. 3 (1990): 167

<sup>833</sup> Thomas Ahrenkiel, *Forsvarsministeriets fremtidige opgaveløsning i Arktis* (Copenhagen: Forsvarsministeriet, 2016), 235-6.

<sup>834</sup> Jensen, *Støt Kurs*, 140..

<sup>835</sup> Statsministeriet and Forsvarsministeriet, "Nationalt kompromis om dansk sikkerhedspolitik," *Regeringen*, March 6, 2022, <https://www.regeringen.dk/nyheder/2022/nationalt-kompromis-om-dansk-sikkerhedspolitik/>.

although the Thetis class just received their mid-life refit, the long lead times for naval procurement require that initial discussions for their replacements some fifteen to twenty years into the future begin now. Danish seapower inputs and outputs in the north will likely take on a much more military character than what the current constabulary forces are limited to.

## The Knud Rasmussen-class Inspektionsfartøjer: Arctic Coastal Constabulary

### Presence in the EEZ Era

In the post-Cold War period, the patrol fleet off Greenland and the Faroe Islands saw significant upgrades in the form of the three new Knud Rasmussen-class inspektionsfartøjer (“inspection vessels”, often referred to as the Knud class by the Danes).<sup>836</sup> Entering service between the late 2000s and mid-2010s, these 17-knot ice-capable patrol ships replaced the old 330t Agdlek-class coastal cutters and the *Beskytteren* in the coastal patrol role and are a drastic improvement over their predecessors.<sup>837</sup> In tonnage alone, they are over four times heavier at nearly 2000 tons due to their increased length and width. The 72 meters length was driven by the need to ensure adequate seakeeping in North Atlantic wavelengths, with 72 meters being sufficient to span two wavelengths while the longer Thetis class can span three. Meanwhile, the width was a spiral development where the need for a helicopter deck required a wide stern deck, which then allowed the inclusion of a fully-enclosed high-speed search-and-rescue (SAR) craft in a belowdecks stern hangar, which in turn extended the helodeck’s width down to the waterline.<sup>838</sup> All of this was to balance the need to increase the ship’s ability to operate in the greatly expanded Exclusive Economic Zone while retaining an ability to operate in shallow uncharted fjords

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<sup>836</sup> See, for example, Forsvarsministeriet, “Opgaver i Arktis og Nordatlanten,” *Forsvarsministeriet*, February 18, 2019; Jensen, *Støt Kurs*, 140.

<sup>837</sup> Per Herholdt Jensen, *Grønlandssejlerne: Flådens Inspektionskuttere og Inspektionsfartøjer* (Frederiksværk, Denmark: Nautius Forlag, 2010), 302-303.

<sup>838</sup> Jensen, *Grønlandssejlerne*, 193-194.

within internal waters using the SAR craft (the *Knud* hull itself having increased draft that makes it less optimal for sailing close to uncharted shorelines).<sup>839</sup> The fully-enclosed nature of the SAR craft, based on the Swedish CB90 coastal combat boat, makes it more comfortable for passengers and reduces the need for survival suits while in transit, which is especially important when carrying pregnant, injured, or handicapped passengers.<sup>840</sup>

Despite their smaller size, the Knud class shares some similarities with their offshore-focused Thetis class brethren. While designed to operate up to 70cm of ice, experience has shown an ability to sail in as much as 85cm with power to spare.<sup>841</sup> As with the Thetis class, both bow and stern handling decks are fully enclosed and heated to prevent icing and provide shelter for the crew when handling lines, ropes, and anchor chains.<sup>842</sup> While the Knud class lack a hangar for an organic helicopter, its helicopter deck is equipped with both refuelling equipment and the same securing system as the Thetis class with its deck grate allowing a helicopter fitted with a harpoon system to secure itself to the ship once it has landed.<sup>843</sup> The helicopter deck allows the ship to serve as “lily pads” for either land-based helicopters or ships with their own helicopters, effectively extending the operating radius and endurance of those helicopters. In addition to the helicopter deck, the Knud class was designed with four STANFLEX slots, the bow position of which, like their larger Thetis class cousins, is usually occupied by a 76mm gun.<sup>844</sup> The remaining positions on the helicopter deck can be filled, in theory, with any of the usual STANFLEX modules, including Evolved Sea Sparrow anti-air missiles, while MU90 anti-

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<sup>839</sup> Jensen, *Grønlandssejlerne*, 190-191. Each SAR craft has their own name: for instance, the one belonging to the second Knud class, *Ejnar Mikkelsen*, is named *Naja* for the marinegeologist granddaughter of the explorer Ejnar Mikkelsen: Jensen, *Grønlandssejlerne*, 198-199.

<sup>840</sup> Interviews with crew on HDMS *Hvidbjørnen*, May 2019.

<sup>841</sup> Jensen, *Støt Kurs*, 26.

<sup>842</sup> Jensen, *Støt Kurs*, 27.

<sup>843</sup> Jensen, *Støt Kurs*, 27.

<sup>844</sup> Jensen, *Støt Kurs*, 140, 193; Søværnets Materielkommando, “General Arrangement: Inspektionsfartøjet KNUD RASMUSSEN af KNUD RASMUSSEN-klassen. Konstruktionstegning.” Filename 434.101.000.001.tif.

*Forsvarsgalleriet*, April 15, 2021,

<https://www.forsvarsgalleriet.dk/catalog/Mediearkiv/r/171379/viewmode=infoview/> (Account required).

submarine torpedoes launchers and countermeasures against incoming missiles are shown in the ships' official general arrangement drawings as optional mountings elsewhere on the helicopter deck.<sup>845</sup>

However, two of the aft STANFLEX slots have not been fully fitted for STANFLEX use, which is externally evident by the lack of distinct bolted-down removable covers on the area of the helicopter deck where the slots have been reserved below, as well as through written documents by the 2008 Danish Defence Commission.<sup>846</sup> Notably absent are the depth charges that have featured for so long on the RDN's Arctic patrol ships. It would seem that submarine violations of Danish sovereignty were not a concern during the ships' design and construction period in the mid-2000s, and that should any ASW capability be required, it would be through an all-or-nothing approach via deck-mounted torpedoes. Nonetheless, from a technical standpoint, the *Knuds* can thus be viewed as long-range ice-capable developments of the "Standard Flex 300" Flyvefisken-class patrol ships despite being operational replacements for the humble Agdlek-class cutters, which were armed with no more than pair of .50 caliber machine guns and resembled small fishing trawlers.<sup>847</sup>

The range and endurance requirements for the Knud class to patrol the Greenlandic EEZ is also consistent with a subsidiary objective of making them suitable for limited command-and-control roles globally,<sup>848</sup> aligning them well with Denmark's post-Cold War shift to the more expeditionary defense and foreign policies to be detailed in Part III of this chapter. However, the Knud class typically operates with only a crew of 19, which limits multi-day offshore/continuous operations due to the need for crew

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<sup>845</sup> Bent Mikkelsen, "Fleksibel inspektionsfartøj fra Skagen," *Maritime Danmark* 18, no. 10 (2016), 51; Søværnets Materielkommando, "General Arrangement: Inspektionsfartøjet KNUD RASMUSSEN."

<sup>846</sup> Forsvarskommissionen, *Bilagsbind 1: Dansk forsvar—Globalt Engagement: Beretning fra Forsvarskommissionen af 2008* (Copenhagen: Forsvarsministeriet, 2009), 87, 100. (Appendix 1 to the 2008 Danish Defence Commission Report); Lars Bøgh Vinther, "LIVEX 2016: Havmiljøcontainere bliver læsset om bord på P571 Ejnar Mikkelsen. Foto fra den store grønlandske redningsøvelse LIVEX, hvor politi, breddskab og Søværnet samarbejder om at komme det nødstedte skib GUTE til hjælp. Øvelsen foregik i Nuukområdet 28. maj - 1. juni 2016." Filename DI1A8216.JPG. *Forsvarsgalleriet*, May 2016, <https://www.forsvarsgalleriet.dk/catalog/Mediearkiv/r/365565/viewmode=previewview> (Account required).

<sup>847</sup> Per Herholdt Jensen, *Grønlandssejlerne: Flådens Inspektionskuttere og Inspektionsfartøjer* (Frederiksværk, Denmark: Nautius Forlag, 2010), 302.

<sup>848</sup> Jensen, *Grønlandssejlerne*, 188–9.

rest overnight, much as the limited complement on the Norwegians' Inner Coast Guard fleet of Nornen-class patrol ships prevent them from being fully operation 24/7.<sup>849</sup> This is exacerbated in the case of simultaneous "rolls", where crewmembers are assigned to specific positions and equipment depending on the ship's overall task – examples include a "helicopter roll" or "fire roll", each requiring the same crewmember to fulfil potentially different positions.<sup>850</sup> As well, just like the Nornen class, the Knud class operate with only a medic on board rather than a fully trained medical doctor, which limits their ability to assist in severe medical emergencies or health-related assessments. Should the full capabilities of a qualified doctor be required, one has to be brought on board from either the larger Thetis class or a land-based hospital.<sup>851</sup> Although accommodations in each cabin can be doubled up to bring the total complement to 43 for operating specialized equipment, a command staff, or other passengers, this is the exception rather than the rule.<sup>852</sup>

Some observers have emphasized the Knud class's modular weapons potential as a sign that Denmark had taken a more dire view of the Arctic security situation in the mid-2000s and was increasing its ability to contest other militaries for control of northern waters, or that Denmark has managed to procure highly combat-capable warships for a very low cost relative to other countries' Arctic patrol ships.<sup>853</sup> However, Danish journalist Martin Breum's memoirs of his 2010 voyage on board HDMS *Ejnar*

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<sup>849</sup> Interview with officer from HDMS *Lauge Koch*, May 2019; Jensen, *Grønlandssejlerne*, 204; Jensen, *Støt Kurs*, 142; see Chapter 5: Norway, section 5.2.4 on the Nornen class.

<sup>850</sup> Jensen, *Støt Kurs*, 142; interviews and observations on HDMS *Hvidbjørnen*, May 2019. Close English analogies may be "action stations" or "general quarters" but specific to the immediate tactical situation.

<sup>851</sup> Observations and interviews on board HDMS *Hvidbjørnen*, May 2019; on the Norwegian Nornen-class KV *Tor*, the medic worked mainly as the ship's chef in the kitchen during my observations in January 2018.

<sup>852</sup> Martin Breum, *Arctic Rush: The Astonishing True Story of the New Quest for the Polar North* (Montreal: McGill–Queen's University Press, 2018), 55; Jensen, *Støt Kurs*, 24.

<sup>853</sup> Rob Huebert, "Cooperation or Conflict in the Arctic?" in *Changes in the Arctic Environment and the Law of the Sea*, eds. Myron H. Nordquist, Tomas H. Heidar, and John Norton Moore (Boston: Martinus Nijhoff Publishers, 2010), 53; Robert Smol, "Understanding the Delusion and the Reality behind Canada's Offshore Patrol Ships," *Canadian Naval Review* 14, No. 2 (2018): 26; Robert Smol, "SMOL: Naval ships all sight, no fight," *Toronto Sun*, October 15, 2018, <https://torontosun.com/news/national/smol-naval-ships-all-sight-no-fight>; Roger Cyr, "Navy bought lemons, retired commander says," *National Post*, October 28, 2020, <https://nationalpost.com/opinion/letters-to-the-editor-not-in-the-interests-of-fair-play>; Frederic Lasserre, Jérôme

*Mikkelsen*, second ship of the Knud class, indicated that it operated without a functional fire control system for even the main gun, much less any other more advanced weapons. In their 2013 request to the Danish Finance Committee for the procurement of the third Knud-class ship, the Ministry of Defense further framed the procurement of a fire control system was to strengthen the ships' range of duties "outside the Arctic."<sup>854</sup> The retrofitting of fire control systems to the first two Knud class was still an ongoing project in 2016.<sup>855</sup> By 2021, just as with the Thetis class, there remains no evidence that the Knud class can make use of any major weapon other than the 76mm gun.<sup>856</sup> Clearly, the Danish navy saw little urgency in bringing the Knud class up to their full combat potential and sea control contestation against an opponent other than non-compliant fishers would appear far down on the list of RDN priorities in the Arctic throughout the 2010s.

### *6.2.3 Supporting the Inspection Fleet: Maximizing Presence in the North Atlantic Arctic*

Unlike the spikes in activity required to train for and conduct wartime operations, peacetime constabulary missions require a steady chronic presence. For Denmark, being able to sustain a regular presence of inspection ships in the Faroe Islands and Greenland is complicated by not just the RDN's status as a resource-constrained small navy, but the vast distances between those two territories and the inspection ships' home base of Frederikshavn in northern continental Denmark. To maximize the availability of its units, three main overlapping approaches can be identified: forward stationing coastal units, the use of forward ports close to areas of operation, and multiple crews per deployed ship. These approaches are, at their core, no different from what some much larger navies do on a global scale and

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Le Roy, Richard Garon, "Is there an arms race in the Arctic?" *Journal of Military and Strategic Studies* 14, No. 3&4 (2012): 1–2; Bob Weber, "Denmark joins Arctic arms race," *The Star*, July 26, 2009.

<sup>854</sup> Forsvarsministeriet, "Forsvarsudvalget 2013–14; FOU Alm.del Bilag 27," *Folketinget*, November 29, 2013.

<sup>855</sup> Frank Trojahn, "State of the Navy," *Tidsskrift for Søværnen* 4, no. 187 (2016): 152.

<sup>856</sup> Forsvaret, "Forsvarsgalleriet: Inspektionsfartøj af Knud Rasmussenklassen," *Forsvarsgalleriet*, April 15, 2021, <https://www.forsvarsgalleriet.dk/main/thumbnailview/fc=7%3A2455> (Account required).



reflect similar relations between mobile ships, supporting land-based infrastructure, and their crews. Although the notion of enabling and sustaining forward naval presence is most frequently used in an international context, the RDN's constabulary fleet clearly demonstrates similar relationships within political units of the Danish Kingdom. To more fully illustrate the logistical and training dynamics of constabulary sea control, this section will make heavy reference to my field research on board the Thetis-class HDMS *Hvidbjørnen* from my arrival in Reykjavik to departure in Nuuk during May 2019.

Between 1932 and the 2017 decommissioning of the Agdlek-class cutter *Tulugaq*, the RDN maintained a fleet of two to five wooden and/or steel-hulled cutters forward-stationed in Greenland and the Faroes.<sup>857</sup> These vessels carried out many of the same tasks as their larger offshore cousins but confined to the territorial waters close to the shores of the two colonial holdings. Such tasks included sovereignty assertion, maritime domain awareness, fisheries inspection and control, search and rescue, assistance to mariners, community resupply, icebreaking, and science missions.<sup>858</sup> Their small size (from the 1932 *Maagen* at 110t and 21.8m long to the 330t 31.5m long *Tulugaq* commissioned in 1979) limited their ability to regularly sail to and from continental Denmark or between Greenland and the Faroes, requiring their permanent basing in those two territories. With speeds between eight and 11.8 knots, they would have been of limited use against the faster large offshore fishing vessels that became more common towards the middle of the Cold War. There were still instances, however, where such diminutive characteristics did not stop them from carrying out their sea control duties against civilian fishers. In 1984, First Lieutenant Per Starlinkt, commanding the Agdlek-class *Agpa*, was able to use the faster rigid-hull inflatable boat (RHIB) to bring weapons to an unarmed inspection team that had been kidnapped by the 2500t French trawler *Viktor Pleven*.<sup>859</sup> The limited endurance of the cutters made

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<sup>857</sup> Jensen, *Grønlandssejlerne*, 298-302.

<sup>858</sup> Jensen, *Grønlandssejlerne*, 308.

<sup>859</sup> Jensen, *Grønlandssejlerne*, 248-250.

civilian ports along the Greenlandic coast all that much more important for resupply, rest, and offloading waste.

But perhaps the most significant shorebased infrastructure was Naval Station Grønnedal (Green Valley).<sup>860</sup> Located a third of the way from Cape Farewell to Nuuk in the S-shaped Arsuk Fjord, Grønnedal was initially built by the Americans during the Second World War to protect the Ivigtut cryolite mine so vital to the production of aluminium.<sup>861</sup> Ivigtut itself was located five kilometers closer to the ocean on the southern side of the fjord, and the road connecting the naval station and the mining town remains the only paved road connecting two settlements in Greenland.<sup>862</sup> Codenamed by the Americans as “Bluie West 7”, Grønnedal was transferred to Danish custody in 1951, when it also became the headquarters of RDN’s Greenland Command.<sup>863</sup> With just a single helipad and one 95 metre-long T-shaped wharf, Grønnedal lacked the heavy maintenance infrastructure like cranes or drydocks necessary to keep large vessels in service for years on end. Nonetheless, its numerous fuel tanks and sheltered (though ice-filled) waters made it invaluable for sustaining not just the small cutters that were stationed there, but the large helicopter-carrying inspection ships as well. The Hvidbjørnen-class inspection ships would often begin and end their two-month fisheries patrols by picking up and returning their “Fisheries Archives” logbooks at Grønnedal where it could be used by the following crew or ship.<sup>864</sup> However, Grønnedal’s isolation from the other elements of Greenlandic society that Greenland Command worked with, particularly the fisheries licensing office, emergency services, and politicians, made it less than

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<sup>860</sup> Grønnedal is now officially noted on civilian maps under its Greenlandic Inuit name, Kangilinnguit, but is still referred to as Grønnedal by the RDN and thus that name will be used here.

<sup>861</sup> Ivigtut is now known as Ivittuut. Frigga Kruse, “Historical Perspectives – The European Commercial Exploitation of Arctic Mineral Resources After 1500 AD,” *Polarforschung* 86, no. 1 (2016): 19.

<sup>862</sup> Kruse, “Historical Perspectives – The European Commercial Exploitation of Arctic Mineral Resources After 1500 AD,” 19.

<sup>863</sup> Morten Scheelsbeck, “Grønlands Kommando i Grønnedal,” *Søværnet* 39, no. 2 (July 2009), 5.

<sup>864</sup> . Grønlands Kommando, *Fiskeriarkiv Nr. 4. 20/5 – 1964 til 28/3 – 1967æ Orlogskutterne Mallemukken og Teisten: 27-8 – 1960 til 2/6 – 1971; Fiskeriarkiv Nr. 2: 16/9 – 1964 til 10/12 – 1969; Fiskeriarkiv Nr. 3: 12/9 – 1969 til 31/3 – 1970, 12/11 – 29/11 1963; and Fiskeriarkiv Nr. 3: 6-14/7 – 1967, 1/2 – 1970 til 11/6 – 1971.*

optimal in terms of interagency cooperation.<sup>865</sup> Its inaccessibility, especially following the end of scheduled Air Greenland passenger helicopter service once Ivigtut closed in 1987, also resulted in high operational costs. Both these factors resulted in attempts to move Greenland Command and its services to larger cities elsewhere in Greenland from as early as 1956. Nuuk, or Godthåb as it was known by its colonial name, was frequently suggested as one alternative. Costs associated with rebuilding all of Grønnedal's facilities in the capital city, including the vast radio antenna farm and finding space for a dedicated naval pier, were often assessed against the reduced operating costs of being in a city.<sup>866</sup> There was also the issue of the 1951 military defence agreement with the Americans. If the Danes abandoned Grønnedal, it was uncertain as to whether that would mean the Americans would now resume ownership of the base.<sup>867</sup> Throughout the decades of unsuccessful attempts at relocating Greenland Command, Grønnedal's facilities expanded dramatically to improve the quality of life for those who were stationed there for their two-year commitments. In many ways, it became a town of its own, and in some periods became more populous than many civilian settlements throughout Greenland.<sup>868</sup> It would have its own bowling alley, movie theatre, kindergarten, and even a chair lift up to the nearby mountains for the recreation of both Greenland Command personnel and family as well as crews from visiting ships.<sup>869</sup> Well-stocked cabins were populated in the wilderness outside of the valley to allow Greenland Command members to enjoy the outdoors.<sup>870</sup>

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<sup>865</sup> Jensen, *Støt Kurs*, 183.

<sup>866</sup> Jensen, *Støt Kurs*, 173-178, 180-183.

<sup>867</sup> Jensen, *Støt Kurs*, 177.

<sup>868</sup> In 2009, there were 64 serving military personnel on the base, plus their families for a total of 140 persons living at Grønnedal: Scheelsbeck, "Grønlands Kommando I Grønnedal," 4-5. The population for Greenlandic towns and settlements can be found on the Statistics Greenland databank: Statistic Greenland, "StatBank Greenland: Population in Localities January 1<sup>st</sup> by locality and time," *Grønlands Statistik*, May 4, 2021, [https://bank.stat.gl/pxweb/en/Greenland/Greenland\\_BE\\_BE01\\_BE0120/BEXSTD.px/table/tableViewLayout1/](https://bank.stat.gl/pxweb/en/Greenland/Greenland_BE_BE01_BE0120/BEXSTD.px/table/tableViewLayout1/). Of the 74 communities listed, 36 had a population of 140 or fewer in 2021.

<sup>869</sup> Morten Scheelsbeck, "Grønland for familiens skyld," *Søværnet* 39, no. 2 (July 2009), 6-7; Søren Martinussen, "Boliger i Ivittuut Kommune anno 2007," *Arsuk Fjorden*, 2007, [http://www.arsukfjorden.gl/ivt\\_boliger.htm](http://www.arsukfjorden.gl/ivt_boliger.htm); interviews with members of Joint Arctic Command stationed at Grønnedal, May 2019.

<sup>870</sup> Jensen, *Støt Kurs*, 170.

But despite these amenities that have worked well to encourage some Danish defence members to live and work in the isolated settlement, the decision was made in the 2010-2014 Defence Agreement to combine Greenland Command and Faroes Command into a new Joint Arctic Command. The greatest contributor to this decision was the 2009 recognition by the parliamentary Defence Commission of increased activity in the North Atlantic and Arctic regions due to resource extraction and maritime navigation opportunities.<sup>871</sup> This was accompanied by new round of considerations as to whether the new command should be moved away from Grønnedal as part of an options analysis on where the new “Joint” command would be best located.<sup>872</sup> Unlike attempts in the previous decades, this one succeeded, and on October 31, 2012, the new Joint Arctic Command headquarters opened in Nuuk in the presence of Her Majesty Queen Margrethe II.<sup>873</sup> Painted blue just like its predecessor in Grønnedal, the four-storey building is located a ten-minute walk away from the main port in Nuuk where the inspection ships and vessels would now dock.<sup>874</sup> Illustrating one of the benefits of being located in the capital city, the Arctic Command headquarters building provided the opportunity for NAVIAIR to move into it from its former home at Kangerlussuaq International Airport. NAVIAIR operates Denmark and Greenland’s air traffic service, providing both flight information services to aircraft and coordination of aeronautical search and rescue. While Arctic Command’s Joint Rescue Coordination Centre has the maritime picture, NAVIAIR has the aerial one, and combining the two in the same building (indeed, the

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<sup>871</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando* (Forsvarsministeriet: May 19, 2011), 8.

<sup>872</sup> Regeringen, “Forsvarsforlig 2010-2014: København, den 24. juni 2009,” *Marinehistorisk Selskab og Orlogsmuseets Venner*, May 4, 2021, <http://www.marinehist.dk/orlogsbib/Forsvarsforlig/20090624-Fforlig.pdf>, 10-11.

<sup>873</sup> Forsvaret, “Arktisk Kommandos historie,” *Forsvaret*, May 13, 2020, <https://forsvaret.dk/da/organisation/arktisk-kommando/om-os-underside/>; Kongehuset, “Indvielse af Arktisk Kommando,” *Kongehuset*, October 30, 2012, <https://www.kongehuset.dk/nyheder/indvielse-af-arktisk-kommando>.

<sup>874</sup> Personal observations in Nuuk, May 2019.

same storey, though not room likely due to classification issues as Arctic Command has access to NATO's Recognized Maritime Picture) greatly improves land-sea coordination.<sup>875</sup>

It is not quite certain why the move to Nuuk was finally possible after so many failed attempts, but it may be attributed to several developments at the technical, force structure, and societal levels that finally reduced the “pros” of staying in Grønnedal, many of which were noted in the Joint Arctic Command Working Group's “Report Regarding Location of Joint Arctic Command.”<sup>876</sup> Firstly, new internet-based communications may well have reduced the dependency on large radio antenna farms for communications. Information sharing from diverse radio and satellite sources were now possible in addition to traditional radio infrastructure in Nuuk. Indeed, the Working Group's assessment of Nuuk's pros and cons in terms of operational goals did not even mention the antenna park, though it did note the need to rebuild it as a financial consideration.<sup>877</sup> Ultimately, instead of rebuilding Grønnedal's antenna park in Nuuk, it was established instead at Kangerlussuaq airport, though evidence remains scarce as to why.<sup>878</sup> Secondly, the replacement of the short-ranged inspection cutters with the much larger Knud-class inspection vessels would also reduce the need for a dedicated forward base in Greenland to regularly sustain their presence. Their greater seaworthiness allows them to more comfortably return to continental Denmark for maintenance and refits instead of depending on spare parts stored in Grønnedal.<sup>879</sup> This is not to say the Knud- and Thetis-class ships do not regularly dock at Nuuk. They certainly do so, but are not prioritized by the Nuuk's port authority. Because the Danish navy does not have to pay fees to dock in Nuuk, the port authority favours paying civilian users instead.

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<sup>875</sup> Arktisk Kommando, *En Værnsfælles Kommando for det Arktiske og Nordatlantiske Område* (Nuuk: Forsvaret, u.d.), 13, 19; interviews with Joint Arctic Command personnel, May 2019.

<sup>876</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando*.

<sup>877</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando*, 83-84, 93-94.

<sup>878</sup> Redaktionen, “Antennerne er nu slukket i Kangilinnguit,” *Sermitsiaq AG*, September 6, 2014, <https://sermitsiaq.ag/node/171138>.

<sup>879</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando*, 28.

Where the occasional doublebooking for the same docking spot occurs, the Danish warship is asked to use one of the alternate, less preferred spots.<sup>880</sup> The fact that Nuuk serves as the primary air-and-sea transit point for military and civilian personnel to/from Denmark and international locations also makes it a focal point for inspection ship operations while reducing transportation costs.<sup>881</sup> The fact that Nuuk's airport was strongly being considered for runway extension that would allow direct international flights helped it meet Joint Arctic Command Working Group's desire for "immediate access" to an airport with direct flights to Denmark.<sup>882</sup> While the ships should be spread along the vast Greenland coastline when possible to maximize coverage, the reality of Greenland's limited transportation infrastructure (the only regular international airport is at Kangerlussuaq, which has regular flights to Nuuk) means Nuuk will often be where passengers and crew will transfer. In May 2019, for example, both deployed Knud-class inspection vessels as well as the inspection ship *Hvidbjørnen* were in the vicinity of Nuuk over a two-day period. For *Hvidbjørnen*, this was to pick up its thirteen conscripts for their five-week tour on board the ship and who are additional to the core crew of 49 personnel.<sup>883</sup>

To maximize the presence of the ships in Greenlandic and Faroese waters, there are more crews available than there are ships: six 49-person crews rotate between the four Thetis-class ships, while two 19-person crews rotate for each of the three Knud-class vessels.<sup>884</sup> This allows each ship to remain on active duty while each crew takes significant rest periods between deployments: two to three months

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<sup>880</sup> Observations on HDMS *Hvidbjørnen*, May 2019.

<sup>881</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando*, 5, 74-75.

<sup>882</sup> Arbejdsgruppe Værnsfælles Arktisk Kommando, *Rapport vedrørende placering af Værnsfælles Arktisk Kommando*, 75.

<sup>883</sup> Observations on HDMS *Hvidbjørnen*, May 2019; Morten Scheelsbeck, "Værnepligtige vil have mere at rive i," *Søværnet* 39, no. 2 (July 2009), 8-9.

<sup>884</sup> The Boston Consulting Group and Struensee & Co., *Budgetanalyse af Forsvaret 2017: Materialesamling – Del 2: Endelig version* (2016), <https://fmn.dk/globalassets/fmn/dokumenter/forlig/-materialesamling-del-2-det-understoettende-materiel-og-it-omraade-.pdf>, 467-468; Korsør, "Større besætninger på Søværnets skibe," *Slagelse News*, November 1, 2019, <https://www.slagelse.info/artikel/korsoer/stoerre-besaetninger-paa-soevaernets-skibe/#gsc.tab=0>. The sixth crew was added to the Thetis class starting in 2019.

on, two to three months off.<sup>885</sup> However, such an arrangement requires places where the crews can change on and off, and it is here that the RDN has shown a remarkably flexible approach. As mentioned above, Grønnedal's relative inaccessibility makes it challenging to move large amount of people in a short period of time. As well, sending an inspection ship back to Grønnedal in southern Greenland for a crew change adds several days' journey on both the inbound and outbound trips, reducing the time it can be on station in the northernmost reaches of Greenland's seas. For the smaller crew and fuel requirements on the Knud class, the American airbase at Thule on the northwest side of Greenland and the Sirius Sled Patrol base at Daneborg on the northeastern coast have been proposed solutions to extend operations at the northernmost reaches of the Danish Kingdom.<sup>886</sup> For the larger Thetis class, however, the main answer is to regularly employ Reykjavik in Iceland as a resupply and crew change port, where passenger air connections to Denmark are much more readily available compared to Greenland.<sup>887</sup>

While using another country's port as a *de facto* naval station may be a notion usually reserved for larger navies operating on a global scale, it is clear that the need for persistent presence in the North Atlantic area has resulted in a similar approach at a smaller scale by the RDN. Agreements between Iceland and Denmark allow for the latter's naval ships to enter Iceland's internal waters with only six hours' notice, and there is no fee for docking in Reykjavik downtown's Old Harbour alongside whale-watching cruise ships, fishing vessels, and Icelandic Coast Guard ships under the glittering façade of the

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<sup>885</sup> Interviews with crew in HDMS *Hvidbjørnen*, May 2019; compare also the tour start and end dates of the "trip letters" for each crew in, for example, *Rejsebreve fra Søværnets enheder, 2009*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2009.pdf>.

<sup>886</sup> Jensen, *Støt Kurs*, 301. While the notion of using Thule and Daneborg was suggested in 2011, it is not certain whether such an arrangement has actually been put into practice. Further south, the 345-person settlement of Ittoqqortoormiit has been used for refuelling, while crew change has been conducted at Nerlerit Inaat airstrip near Ittoqqortoormiit and Mestersvig air station.

<sup>887</sup> The "Rejsebreve", or trip newsletters, from the *Thetis* ships regularly indicate their use of Reykjavik as a place to change crews and resupply. PDF copies of all newsletters between 2002 and 2009 can be found here: Søren Nørby, "Søværnets Rejsebreve," *Marinehistorisk Selskab og Orlogsmuseets Venners*, July 2010, [http://marinehist.dk/?page\\_id=3222](http://marinehist.dk/?page_id=3222).

Harpa concert hall.<sup>888</sup> At 113m long, a Thetis class is larger than any other occupant of the small harbour other than small cruise ships. Despite this and the narrow confines of the harbour, the design of the Thetis class, especially the bow thruster and controllable-pitch propeller, allows it to turn a full 180 degrees to exit the harbour's narrow entrance without the assistance of tugboats. Illustrating the close ties and confidence between Icelandic authorities and the RDN, harbour pilots are also optional when entering and leaving Reykjavik.<sup>889</sup>

While in Iceland, the ship's helicopter is also made available to the Icelandic Coast Guard for search and rescue duties. The framework for this is the 2011 Arctic Council Search and Rescue Agreement. The day before my arrival in Reykjavik to join HDMS *Hvidbjørnen* on May 17, 2019, the ship's Seahawk helicopter was requested to assist with a 33-passenger bus crash in Hof, approximately 250 km away on the southeastern coast of Iceland.<sup>890</sup> While the Icelandic Coast Guard has two helicopters, only one was available, and the scale of the accident meant multiple trips would be needed from the helicopter. The Seahawk could, in theory, provide a doubling of evacuation capacity. However, the ship was in the middle of its crew change (the new crew had just arrived three hours earlier) and the

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<sup>888</sup> Interviews with crew on HDMS *Hvidbjørnen*, May 2019; Björn Bjarnason and Søren Gade, "Memorandum of Understanding Between the Ministry of Justice of Iceland and the Ministry of Defence of Denmark," *Government of Iceland*, January 11, 2007, [https://www.stjornarradid.is/media/innanrikisraduneyti-media/media/Samningar/samkomulag\\_islands\\_danmerkur.pdf](https://www.stjornarradid.is/media/innanrikisraduneyti-media/media/Samningar/samkomulag_islands_danmerkur.pdf); Valgerður Sverrisdóttir and Per Stig Møller, "Yfirlýsing lýðveldisins Íslands og konungsríkisins Danmerkur um samstarf í víðari skilningi um öryggis- og varnarmál og almannavarnir," *Government of Iceland*, March 22, 2017, [https://www.stjornarradid.is/media/utanrikisraduneyti-media/media/Frettatilkynning/Yfirlýsing\\_Islands\\_og\\_Danmerkur.pdf](https://www.stjornarradid.is/media/utanrikisraduneyti-media/media/Frettatilkynning/Yfirlýsing_Islands_og_Danmerkur.pdf); Icelandic Ministry of Foreign Affairs, "Samningar við grannríki," *Government of Iceland*, <https://www.stjornarradid.is/verkefni/utanrikismal/oryggis-og-varnarmal/samningar-vid-grannriki/>; Georg Lárusson, Gunnar Pálsson, Sóley Kaldal, and Auðunn F. Kristinsson, Björgun og öryggi í norðurhöfum: Skýrsla stýrihóps innanríkisráðherra (Reykjavik: Government of Iceland, 2016) 22-25, 31; Dagmar Sigurðardóttir, "Efni: Umsögn Landhelgisgæslu Íslands um þingsályktunartillögu um aukna samvinnu og samráð um öryggis- og björgunarmál milli Vestur-Norðurlandanna og við önnur ríki við Norður-Atlantshaf, 274. mál." LHG/017/9,6/DS/sig, *Icelandic Coast Guard*, February 22, 2018, <https://www.althingi.is/alttext/erindi/135/135-1552.pdf>.

<sup>889</sup> Interviews and observations on HDMS *Hvidbjørnen*, May 2019.

<sup>890</sup> 1. Eskadre, "\*\*\*OPDATERET med billede af SEAHAWK helikopteren i kommentartråden\* I går, torsdags d. 16. maj 2019, var der skiftedag på HVIDBJØRNEN, og 1. Besætning overtog skibet i Reykjavik i Island." *Facebook*, May 17, 2019, <https://www.facebook.com/1Eskadre/posts/2190744211009387>.



Seahawk was in the midst of maintenance. This meant that it was several hours before the helicopter was ready for takeoff from the ship in the midst of the Old Harbour.<sup>891</sup> By the time the Seahawk stopped to pick up five members of Reykjavik University Hospital's mobile triage team and then reached the accident site, only three minor injuries remained, and the civilians had the opportunity to enjoy a rare military helicopter ride to the hospital in Reykjavik.<sup>892</sup>

Illustrating the advantages of using a forward port and multiple crews for extending a ship's availability in the operational area, a new crew only requires four days to prepare the ship for departure from Reykjavik. Following departure, the ship may spend two further days within Icelandic internal waters to carry out additional training, including for new ship captains who have not had the chance to be at sea for a long period of time. With the limited size and number of docks in Greenland, practicing even something as routine as docking the ship requires taking advantage of any opportunity that arises, including using civilian commercial facilities for docking approaches. In the same Hvalfjord north of Reykjavik where Second World War convoys gathered, *Hvidbjørnen* under the command of its "CHELEV" (captain trainee/student) spent several hours making docking approaches at the Elkem ferrosilicon facility from port and starboard sides.<sup>893</sup> This also involved deploying one of the ship's RHIBs with a crew of deckhands to wait on the dock to help secure the mooring lines. With the limited infrastructure in Greenland, having the ability to dock and secure a ship without the assistance of non-ship personnel at all times of the day is key.<sup>894</sup>

Crew integration and training continues as the ship makes its way to Nuuk on the west coast of Greenland. While the individuals that make up each crew should always stay in the same crew to maximize cohesion and familiarity, there can be several transfers from other parts of the RDN. These

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<sup>891</sup> 1. Eskadre, "\*\*\*OPDATERET med billede af SEAHAWK helikopteren i kommentartråden\*."'

<sup>892</sup> 1. Eskadre, "\*\*\*OPDATERET med billede af SEAHAWK helikopteren i kommentartråden\*.'"; interviews with crew on HDMS *Hvidbjørnen*, May 2019.

<sup>893</sup> Observations on HDMS *Hvidbjørnen*, May 2019.

<sup>894</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

include members who have previously served on the large Absalon- and Iver Huitfeldt-class combat ships of 2<sup>nd</sup> Squadron, as well as officer cadets and new graduates.<sup>895</sup> After a week spent sailing across the Denmark Strait, around Cape Farewell, through coastal fjords, and a spontaneous decision to stop in Grønneidal, *Hvidbjørnen* arrives off Nuuk. Here culminates the numerous search and rescue exercises that the crew have trained for since their arrival in Reykjavik. Under the obelisk peak of Sermitsiaq mountain, the presence of the third Knud-class *Lauge Koch* in the area provided an opportunity to practice with another ship all of the skills that the crew have honed while confined within *Hvidbjørnen*.<sup>896</sup> Boarding exercises and the transport of rescue and firefighting gear can now be carried out against a ship other than the crew's own. Towing exercises can now be done with an actual ship on the other end of the line. Unfamiliar decks, cabins, and bulkheads provide a less certain, and thus more realistic, setting for locating "casualties" and carrying out damage control activities.

Illustrating the safety concerns associated with increased Arctic activity, *Lauge Koch* played the role of a ship named *Arctic Research*, which had struck an uncharted rock and is taking on water.<sup>897</sup> The exercise demonstrated the utility of having two large RHIBs and the crew to operate them simultaneously in situations other than fisheries inspections. While one carried the initial boarding party, the second stood ready nearby to catch any "panic jumpers" who may decide to jump into the water from their burning vessel.<sup>898</sup> As the situation increases in severity, the RHIBs shuttle back and forth to bring additional personnel and equipment, such as stretchers, generators, and pumps. Conveniently, the exercise problem was resolved just before lunch, when everyone returned to their

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<sup>895</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

<sup>896</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

<sup>897</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

<sup>898</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019. The composition of the boarding party and equipment depends on what is known about the emergency on board the other vessel – light injuries, for instance, means only medics are sent rather than the doctor. Having a standby RHIB to catch jumpers is even more important in the cold waters of Greenland, where a person without a survival suit may have only six minutes to live.

rightful ships (with the exception of one visitor from *Lauge Koch*). In the afternoon, the exercise scenario was flipped, with the larger *Hvidbjørnen* serving as the casualty vessel and the small crew of *Lauge Koch* as the rescuers.<sup>899</sup>

These exercises ensure the crew is ready to mentor the conscripts that will join the ship shortly in Nuuk, as well as prepare them for the operational portion of the deployment. Noteworthy is the lack of dedicated training during this portion of the cruise for fisheries inspection. While several components of the training can be useful as part of a fisheries inspection mission, such as helicopter take off/landing/hoisting and boarding exercises, these tended to be for scenarios where the patrol ship would be working to assist another vessel in distress.<sup>900</sup> Training to contest an opponent for use of the seas was not a focus during this stage. This is not to say that such training would not occur later in the deployment, however. A year later, a different crew on *Hvidbjørnen* practiced tracking and aiming its 76mm bow gun against a Danish Air Force Challenger aircraft transiting from Kangerlussuaq to Aalborg while sailing near the Faroes. The Challenger served as a surrogate hostile aircraft, illustrating that despite its inability to carry surface-to-air missiles, the Thetis class is still expected to play a minor military role in contesting sea control in times of conflict despite being predominantly a constabulary platform.<sup>901</sup>

Danish Arctic seapower in the post-Cold War period took on both compulsive and institutional forms in its efforts to secure the use of the seas as a resources. The compulsive form was, however, less evident than during the Cold War and less frequent than what the Norwegians experienced in their disputed fishing zones off Svalbard during the same post-Cold War period. There were no incidents that saw the use of violent force by Danish patrol ships despite the expansion of the 200 NM EEZ off both

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<sup>899</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

<sup>900</sup> Observations and interviews on HDMS *Hvidbjørnen*, May 2019.

<sup>901</sup> 1. Eskadre, "Inspektionsskibet HVIDBJØRNEN 4. besætning har påbegyndt sit sommertogt ved Færøerne, hvor der skal gennemføres patrulje i ni uger," *Facebook*, May 29, 2020, <https://www.facebook.com/1Eskadre/posts/2957034041047063>.

Greenland and the Faroes, and only one notable incident where compulsive power had to be used to attempt to change the behaviour of an illegal fisher. Denmark's efforts to boost its ability to bring limited compulsive seapower to bear throughout its EEZ manifested in its acquisition of dedicated patrol ships as the associated seapower inputs. However, despite initial expectations that these ships would also play a more military role with increased weaponry and defensive systems, this never panned out and has not been practiced. In a way, this demonstrated the adequacy of the Danish approach, which used its ships to inspect, deter, and if necessary collect evidence of infractions in its EEZ. Such infractions would then be prosecuted back on land through international cooperative channels between governments, which exemplify a form of institutional seapower as successful prosecutions helped prevent further infractions. At the same time, the RDN's ability to consistently operate in the region has been both enabled by and perpetuated an institutionalized form of seapower as an input, specifically the enduring arrangement with Iceland to allow Danish ships to use Reykjavik as a resupply port. As a small navy operating in a less-populated part of the Arctic, such cooperative efforts with regional powers prove vital for maximizing the operational availability of its seapower inputs. The relatively peaceful and calm state of Danish Arctic constabulary affairs in the post-Cold War period also allowed some of those seapower inputs, which had been developed as direct responses to the EEZ, to be employed elsewhere around the world as Denmark embarked upon a sea change in its security policy. This will now be addressed in the following Part III of the chapter.

## 6.3 Part III: from Homeland Defence to Expeditionary Operations...and

### Back Again, 1988-2020

The first two parts of this chapter highlighted the split responsibilities of the Royal Danish Navy's warfighting fleet centered around the Danish Straits and the Baltic Sea versus the constabulary fleet operating off Greenland and the Faroe Islands. Throughout the Cold War, the warfighting fleet stuck to its primary sea denial mission and geographic focus around the Danish homeland. It rarely, if ever, strayed from this responsibility in either its force structure or its operations and exercises. The constabulary fleet, meanwhile, continued its missions of fisheries inspection and sovereignty patrol off Greenland and the Faroes even through the post-Cold War period, investing even more resources in terms of new more capable vessels. However, as this final part of the chapter will discuss, the constabulary fleet would also take part in some of the expeditionary operations that have since become the hallmark of the post-Cold War warfighting fleet. At the same time, the warfighting fleet would also increasingly operate in the geographic areas traditionally the purview of the constabulary fleet. The two fleet have and can be expected to merge their responsibilities and missions in the coming years.

Part I ended with the observation that Danish defence policy in the 1980s was described as the "footnote decade", which was the result of a country that had essentially two foreign policy bodies: the more pro-NATO center-right minority government, and the coalition of center-left opposition members who had the majority needed to actually pass parliamentary resolutions despite the will of the government.<sup>902</sup> This resulted in embarrassing public disagreements with NATO nuclear policies and an unwillingness to pay for shared infrastructure costs relating to the Intermediate-Range Nuclear Forces.<sup>903</sup> This deadlock continued until the ruling party resigned in 1988 over an intractable debate on

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<sup>902</sup> Hans-Henrik Holm, "A Democratic Revolt? Stability and Change in Danish Security Policy 1979-1989," *Cooperation and Conflict* 24, no. 3 (1989): 180.

<sup>903</sup> Holm, "A Democratic Revolt?" 179.

whether to adopt New Zealand's policy requiring American warships to declare their nuclear weapons-free status. The Conservative Prime Minister Schluter feared such a declaration would effectively mean Denmark would no longer be in NATO, just as the US had suspended military cooperation with New Zealand. Such a major consequence, Schluter argued, should be decided by the voters.<sup>904</sup> Following the subsequent election, the Social Liberal party from the previous opposition realigned themselves with the former center-right parties, creating a majority governing coalition more favorable to NATO positions. Fredrik Doeser argues that this change was partly due to the increasing détente between Reagan and Gorbachev and the ongoing efforts to implement the INF Treaty, which effectively eliminated the nuclear issue that was at the heart of the acrimonious "dual track" decision and led to the "footnote decade."<sup>905</sup> This new government arrived at a policy calling for more active involvement in NATO, by which it hoped to rehabilitate Denmark's tarnished image in the alliance.<sup>906</sup>

For Denmark's warfighting forces, this new governing coalition and the end of the Cold War introduced a dramatic shift in Danish defense thinking. Denmark's foreign policy of cooperative, détente-oriented policies between East and West while maintaining a defense policy of ensuring its own security via NATO was challenged. As one recent account describes it, "Denmark suddenly found itself surrounded by friends and allies, with no credible threat to its territory."<sup>907</sup> Denmark's freedom of action in foreign policy was significantly increased. At the same time, the post-Soviet era provided Denmark with the chance to "restore Denmark's ruined credibility as an ally and partner in international cooperation" through greater military involvement in NATO, United Nations, and other coalition

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<sup>904</sup> Fredrik Doeser, "Domestic Politics and Forcing Policy Change in Small States: The Fall of the Danish 'Footnote Policy'," *Cooperation and Conflict* 46, no. 2 (2011): 230.

<sup>905</sup> Doeser, "Domestic Politics and Forcing Policy Change," 231.

<sup>906</sup> Doeser, "Domestic Politics and Forcing Policy Change," 230–1.

<sup>907</sup> Hakon Lunde Saxi, "Defending Small States: Norwegian and Danish Defense Policies in the Post-Cold War Era," *Defense & Security Analysis* 26, no. 4 (2010): 415.

operations, as will be detailed in this section.<sup>908</sup> The arrival of American unipolarity in the 1990s and the removal of Russia as a serious threat to the West made it even more attractive to take that more active NATO role in areas outside of the Danish navy's traditional Baltic waters. But not only did this unipolar moment enable the solidification of new policy at the political level, it also made it possible to match means with ends. Danish defense, and particularly naval, force structures and operations could now be comprehensively reoriented for the new, more expeditionary-focused, foreign policy. Although this was most clearly manifest in the ships of the warfighting fleet (which would be centralized into 2<sup>nd</sup> Squadron), the operations of the constabulary 1<sup>st</sup> Squadron detailed in Part II would also reflect the new expeditionary orientation on some occasions.

### *6.3.1 Cold War Fleet in a Post-Cold War World: Expeditionary Operations*

#### *1990-2010*

The first opportunity Denmark received for effecting this new policy was the United Nations embargo on Iraq and subsequent liberation of Kuwait. The first "out of area" operation for post-war Denmark, the Royal Danish Navy was chosen to spearhead this unprecedented venture. Though small in scope, the year-long deployment of the Niels Juel-class corvette HDMS *Olfert Fischer* in the appropriately-named Operation *Faraway* initiated an extensive rehabilitation of Denmark's reputation in the West.<sup>909</sup> Although the 1990–1991 Gulf War was not a NATO operation *per se*, it nonetheless involved a large number of that organization's members, thus improving Denmark's standing within the overall organization. Furthermore, since the operation was sanctioned by the United Nations,

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<sup>908</sup> Magnus Petersson and Håkon Lunde Saxi, "Shifted Roles: Explaining Danish and Norwegian Alliance Strategy," *Journal of Strategic Studies* 36, no. 6: 767–8.

<sup>909</sup> Johnny E. Balsved, "Olfert Fischer (1981–)," *Danish Naval History*, 2009, accessed December 18, 2019, [http://www.navalhistory.dk/English/TheShips/O/OlfertFischer\(1981\).htm](http://www.navalhistory.dk/English/TheShips/O/OlfertFischer(1981).htm).

Denmark's involvement meant it was able to participate in a military action that reflected the decades-old desire for cooperative internationalism hinged on the U.N.<sup>910</sup>

As the Gulf War concluded, NATO leaders held a meeting to agree on a new post-Cold War Strategic Concept. Emphasizing conventional mobile forces that could be deployed at a moment's notice, this new approach to force structuring was adopted readily by Denmark. An expeditionary capability was developed and employed extensively by the Danish military in the subsequent years.<sup>911</sup> For the Army, a 4,500-strong mechanized brigade including tanks and artillery was established in 1992 that could be deployed for Alliance, CSCE (Commission on Security and Cooperation in Europe), and UN needs. The heavily armed nature of this force made it a drastic departure from the light UN peacekeeping forces to which Denmark had hitherto limited its foreign military presence.<sup>912</sup> For the Navy, however, the intrinsically deployable nature of larger ships, as demonstrated by *Olfert Fischer's* Gulf War deployment, meant that no substantive changes to the Navy's forces were needed to effect the Alliance's new strategy.

Yet, it can be argued that financial concerns had a greater role in stemming Danish naval procurement during the 1990s than the recognition that current Danish naval forces were strategically adequate. As RDN Commander K.T. Madsen noted in 1997, the predominantly coastal nature of Denmark's navy did not fit either NATO's new strategy nor Denmark's own, promulgated in 1993. Although the 1993 Defence Act passed by the *Folketing* assigned homeland (including Greenland and the Faeroes) defence as the number one priority, the second main mission of the navy was to act in accordance to the requirements of NATO and other multinational forces. Although the RDN was

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<sup>910</sup> Petersen, "Danish Security Policy," 141.

<sup>911</sup> Saxi, "Defending Small States," 415.

<sup>912</sup> Petersson and Saxi, "Shifted Roles," 769; Saxi, "Defending Small States," 416-417.



proficient for the first mission, proficiency in the second was only being slowly developed.<sup>913</sup> The deployment of *Olfert Fischer*, for example, was supported by the 3200-ton Norwegian coast guard Nordkapp-class patrol ship KV *Andenes*.<sup>914</sup> The 1320t Niels Juel class was designed as flotilla leaders for missile boats in the Baltic and lacked the organic endurance needed to operate independently overseas.<sup>915</sup> While the new Thetis-class inspection ships would have had the range and endurance to operate in the Persian Gulf (and would have been a true test of the ability to upgrade them with heavy weapons in their STANFLEX slots), the first ship did not enter service until July 1991, well after the Gulf War.<sup>916</sup>

Meanwhile, Danish defence budgets dropped in a typical “peace dividend” fashion. To some extent, this was justified by the focus on smaller, more professional and mobile forces. However, while a soldier or tank can be rapidly transported for duties both at home and abroad in accordance with the new defence policy, such is not the case for ships. Even with the innovative StanFlex approach to ship configurations, the ability to deploy at long distances and for extended durations required major hull changes that could not be simply inserted as with containerized weapons and sensors. Thus, the call for the navy to reduce expenditures meant that not only did it have to reduce the amount of ships that could be deployed, but also that no funds were available to procure new vessels more suitable for long-range expeditionary duties. The result was a navy that could not carry out half the new defence policy to anywhere near its full potential.

Thus, throughout the 1990s, despite a willingness to embrace a greater international military role, the Royal Danish Navy had not acquired the assets it needed for such a strategy. Although its

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<sup>913</sup> Commander K.T. Madsen, “Royal Danish Navy: Future Capabilities and Options,” *United States Naval Institute Proceedings* 123, no. 1129 (1997), <http://www.usni.org/magazines/proceedings/1997-03/royal-danish-navy-future-capabilities-and-option> (online edition; last accessed May 30, 2014)

<sup>914</sup> Petersson and Saxi, 769; Sverre Mo, *Norske Marinefartøy Samtlige norske marinefartøy 1814-2008 og Marinens Flygevåpen 1912-1944* (Bergen: Bodoni Forlag, 2008), 274-275;

<sup>915</sup> Madsen, “Future Capabilities and Options”.

<sup>916</sup> Jensen, *Atlantsejlerne*, 245.

continued procurement of the second and third batch of *Flyvefisken* patrol vessels well into the mid-1990s improved its capability to defend Danish home waters, little was done towards the second goal of expeditionary operations.<sup>917</sup>

Despite this, the active participation in overseas military operations continued into the 2000s, with Denmark contributing forces to the United States-led “Coalition of the Willing” in 2003. The contribution for Iraq began similarly to that of the first Gulf War. Despite its limitations, *Olfert Fischer* was chosen to head into the Persian Gulf. This time, she was joined by the small coastal submarine *Saelen*, one of the ex-Norwegian Tumleren-class boats.<sup>918</sup> Ironically, both the submarine and the corvette’s littoral-focused design, which had hampered Danish desires to carry out expeditionary operations, actually became an advantage in this particular conflict. Their small sizes made them suitable for the shallow littoral conditions of the Gulf and Strait of Hormuz, with *Olfert Fischer* entering Iraqi coastal waterways, guarding oil facilities and escorting Coalition shipping through inshore areas while *Saelen* collected electronic and acoustic intelligence in hydrographic conditions similar to home waters.<sup>919</sup> Her deployment was considerably shorter than in 1990/1991, however, and conducted missions in the Gulf between only April 8 and May 9 before heading home.<sup>920</sup> Because *Olfert Fischer* had been in the Mediterranean as part of the NATO counterterrorism Operation *Active Endeavour*, its absence in that operation was replaced by the two *Flyvefisken*-class *Viben* and *Ravnen*. They, along with four Norwegian *Hauk*-class motor-torpedo boats, were responsible for escorting civilian traffic through the Strait of Gibraltar against the potential threat of terror attacks using small boats or slow-flying

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<sup>917</sup> Olsen and Storgaard, *Flådens Skibe og Fartøjer 1945-1995*, 81.

<sup>918</sup> Søren Nørby and Jakob Seerup, *For Flaget og Danmark: Søværnet dag for dag gennem 500 år* (Copenhagen: Forsvarsakademiet, 2017), 54.

<sup>919</sup> Per Ring Henriksen, “Undervandsbåden SÆLEN i operation ACTIVE ENDEAVOUR og IRAQI FREEDOM,” *Det Krigsvidenskabelige Selskab*, October 1, 2004, <https://krigsvidenskab.dk/emne/nyere-erfaringer-fra-deltagelse-i-internationale-operationer-i-2003>; Johnny E. Balsved, “Operation Iraqi Freedom (2003),” *Danish Naval History*, 2006, [http://www.navalhistory.dk/English/History/1989\\_2003/IraqiFreedom\\_2003.htm](http://www.navalhistory.dk/English/History/1989_2003/IraqiFreedom_2003.htm) (May 8, 2021).

<sup>920</sup> Balsved, “Operation Iraqi Freedom (2003),”; Gustav Lang, “Nyere erfaringer fra deltagelse i internationale operationer i 2003,” *Krigsvidenskabelige Selskab*, October 1, 2004, <https://krigsvidenskab.dk/emne/nyere-erfaringer-fra-deltagelse-i-internationale-operationer-i-2003>.

aircraft.<sup>921</sup> Demonstrating their STANFLEX utility, they were equipped with the Sea Sparrow and 76mm modules for contesting any terror attacks by sea or air, while the two remaining slots were used for extra storage and a crane with RHIB. Illustrating again the challenges of using coastal vessels for out-of-area operations due to the lack of better alternatives, these two vessels had to be supported by additional logistics personnel and materiel set up in their temporary home port of Cadiz, Spain.<sup>922</sup>

While the above examples show case how 2<sup>nd</sup> Squadron's warfighting units have participated repeatedly in crisis and wartime operations far away from home, it should also be noted that even 1<sup>st</sup> Squadron's inspection ships have partaken in their own missions outside of the frigid Arctic seas. As early as January 1992, the brand-new *Triton's* first deployment was a "presentation cruise" to the United States – first to the Commercial and Defence Exhibition in Norfolk, Virginia, and then to participate in the 75<sup>th</sup> anniversary ceremonies of the Danish sale of the US Virgin Islands to America.<sup>923</sup> A mere one and a half years later, *Vædderen* embarked on a globe-trotting journey to Southeast Asia, where Naval Team Denmark (NTD), comprised of private companies and Navy Material Command, wished to showcase Danish naval technology at the LIMA 93 exhibition. In particular, NTD wished to use *Vædderen* as a real-life example of their Standard Flex 1500 proposal to fulfill Malaysia's requirement of up to 27 offshore patrol vessels.<sup>924</sup> In 1994, *Vædderen* was again used as a showcase ship, this time to South Africa, which had expressed great interest in the Thetis class to help patrol the 200 NM EEZ given its fleet of small vessels.<sup>925</sup> Alas, none of these sale attempts proved fruitful, with no other country taking up the Thetis class or its derivatives. Nonetheless, they are a clear demonstration of how one

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<sup>921</sup> P.M Dannerfjord, "Missilfartøjerne RAVNENs og VIBENs deltagelse i Operation ACTIVE ENDEAVOUR STROG," *Det Krigsvidenskabelige Selskab*, October 1, 2004, <https://krigsvidenskab.dk/emne/nyere-erfaringer-fra-deltagelse-i-internationale-operationer-i-2003>.

<sup>922</sup> Nørby and Seerup, *For Flaget og Danmark*, 58; NATO, "Operation Active Endeavour (Archived)," *North Atlantic Treaty Organization*, October 27, 2016, [https://www.nato.int/cps/en/natohq/topics\\_7932.htm](https://www.nato.int/cps/en/natohq/topics_7932.htm); Dannerfjord, "Missilfartøjerne RAVNENs og VIBENs".

<sup>923</sup> Jensen, *Atlantsejlerne*, 198-199;

<sup>924</sup> Jensen, *Atlantsejlerne*, 199.

<sup>925</sup> Jensen, *Atlantsejlerne*, 210.

small state's domestic ability to design and build ships can result in the use of its navy in a diplomatic role to help influence foreign governments to purchase their naval equipment.

Greater success was to be had in the more militarily-oriented expeditionary operations. In January 2001, the RDN established the Navy Tactical Staff, which was a planning and command unit that could be deployed forward to enable Danish command and control of domestic and international task groups in distant waters. To house them, HDMS *Hvidbjørnen* and subsequently *Thetis* were assigned as command ships, with the latter being modified internally to improve staff functions such as dedicated briefing and command rooms.<sup>926</sup> Although the inspection ships were meant to be replaced by the new Absalon-class support ships (see next section) once they came online in 2007, *Thetis* still often participates in NATO exercises as command or flagship, especially for mine warfare forces.<sup>927</sup> From February to April 2008, *Thetis* was also in charge of escorting UN World Food Programme cargo ships to ensure their safe arrival in Somalia in the face of piracy threats, taking advantage of its command ship modifications to carry with them Military Police and Frømandskorpets (Frogman Corps) special operations forces.<sup>928</sup> The use of *Thetis* for ensuring the secure use of the seas as a medium of transport by having a robust ability to contest any pirate threat is a dramatic change from the inspection ship's traditional sea control role of contesting unarmed fishers' use of the sea as a resource.

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<sup>926</sup> Jensen, *Atlantsejlerne*, 175.

<sup>927</sup> Jensen, *Atlantsejlerne*, 175-176; NATO, "US and Denmark take command of two NATO naval groups," *North Atlantic Treaty Organization*, January 16, 2019, [https://www.nato.int/cps/en/natohq/news\\_162393.htm](https://www.nato.int/cps/en/natohq/news_162393.htm); HDMS *Thetis* crew, "Rejsebrev nr. 1 – 2009, THETIS I SNMCMG1," in *Rejsebreve fra Søværnets enheder, 2009*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2009.pdf>, 19-20.

<sup>928</sup> Eigil Andreassen, "THETIS I FN World Food Programme – Rejsebrev nr. 12," in *Rejsebreve fra Søværnets enheder 2008*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2008.pdf>, 37; Eigil Andreassen, "THETIS I FN World Food Programme – Rejsebrev nr. 40," in *Rejsebreve fra Søværnets enheder 2008*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2008.pdf>, 86..

### 6.3.2 The RDN Transformation: The Absalon Support Ships and Iver

#### *Huitfeldt Air Defence Frigates*

While all of the above post-Cold War operations were occurring, the Royal Danish Navy undertook its first new major ship procurement since the Cold War. These were the 6400-ton “support ships” *Absalon* and *Esbern Snare*,<sup>929</sup> which would be the largest ships in the Danish inventory since the RDN was created.<sup>930</sup> An idea conceived in the mid-1990s, the two-ship Absalon class was not only meant to replace the old 2000-ton Falster-class minelayers, but to provide new command-and-control, amphibious sealift for army reconnaissance units, humanitarian relief, and hospital capabilities.<sup>931</sup> As the design evolved towards their physical construction in the early 2000s, it became significantly larger and more capable in all respects than the initial 1990s concepts.<sup>932</sup> Equipped with not just StanFlex positions for a variety of modular equipment, they are also built with a “flex deck” and stern ramp enabling the roll-on-roll-off transportation of large amounts of vehicles and cargo, including up to seven Leopard 2 main battle tanks.<sup>933</sup> This requirement was driven by Serbian obstruction of Danish battle tanks from deploying through land to peacekeeping operations in Yugoslavia, which a sealift capability was expected to help bypass in the future.<sup>934</sup> But unlike most transport vessels, the Absalon class are also able to hold their own in combat. In addition to two twin torpedo tubes for MU90 anti-submarine torpedoes, their five midships StanFlex positions allow them to carry a mix of Harpoon and Sea Sparrow missiles or communications suites, while a bow 5”/62 gun provides fire support for troops on the

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<sup>929</sup> Saunders, *Jane’s Fighting Ships*, 196.

<sup>930</sup> Richard Scott and Guy Toremans, “Danish Fleet Command Organisation,” *Jane’s Navy International* October 21, 2005.

<sup>931</sup> “Denmark Takes Stanflex System Further,” *Jane’s International Defense Review*, March 1, 2000; Richard Scott and Guy Toremans, “Flexible Friends: Flexible Support Ships,” *Jane’s Defence Weekly*, February 26, 2009.

<sup>932</sup> Søren Nørby and Tom Wismann, *Absalon and Esbern Snare: The Danish Navy’s Absalon-class Support Ships*, (Copenhagen: Steel & Stone Publishing, 2017), 9-10. Smashwords Ebook Edition.

<sup>933</sup> Scott and Toremans, “Flexible Friends.”; Nørby and Wismann, *Absalon and Esbern Snare*, 32.

<sup>934</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 10.

coast.<sup>935</sup> The SMART-S surveillance radar provided long-range warning and tracking of aerial targets while four CEROS 200 fire control radars on the ship ensured those weapons could be brought to bear against multiple targets at once.<sup>936</sup> In sum, the Absalon class were designed as jacks-of-all-trades, but unlike many such designs, it was just as, if not more, capable as some single-purpose designs.

The influence of *Olfert Fischer's* 1990/1991 Gulf experience during Operation *Faraway* can be clearly seen in the Absalon design. Lessons learned included the need for a larger hull to enable better seakeeping, better endurance and range, and organic helicopter facilities.<sup>937</sup> With a range almost three times that of the Niels Juel corvettes and a hangar that can house up to two medium helicopters, the *Absalon* certainly succeeded in meeting these requirements.<sup>938</sup> Unlike their Norwegian contemporaries of the Nansen class, there are no indications that the *Absalons'* design requirements was driven by the need to operate at the edges of the EEZ. However, the similarities in technical requirements for ships carrying out expeditionary military roles and offshore EEZ constabulary patrols would make themselves apparent in the Absalon design, as will be noted below.

Remarkably, the ships were completed to the stage of sea trials within the five years of the 2000-2004 Defence Agreement that authorized their construction. Much of this was due to the major design work having already been prepared by the navy's Naval Material Command (Søværnets Materielkommando) during the 1990s. Further cooperation with the mature Danish civilian shipbuilding and supply industry ensured that when the yards bid for the construction contract, they had a good idea of what would be expected of them.<sup>939</sup> Built in the Odense Steel Shipyard in Lindø alongside the massive

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<sup>935</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 40, 43-45. The decision to purchase the American United Defense 5"/62 was due to the expectation at the time that munition companies would succeed in developing extended-range ammunition for it, but this has not come to pass, though the competing Italian OTO Melara 5"/64 has since demonstrated working extended-range guided rounds.

<sup>936</sup> Scott and Toremans, "Flexible Friends."

<sup>937</sup> Richard Scott, "Danish Task Group Charts a New Course," *Jane's Navy International*, June 13, 2002.

<sup>938</sup> Saunders, *Jane's Fighting Ships*, 196.

<sup>939</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 14, 20. Two yards bid for the construction contract: Ørskov Steel Shipyard in Frederikshavn and Odense Steel Shipyard in Lindø.

Maersk container ships, the importance of an experienced and “hot” shipyard production line was clearly illustrated in the speed with which the hull came together. *Absalon*’s production began on April 30, 2003, was launched on February 25, 2004, commissioned January 10, 2005, and deemed fully operational after being outfitted with military sensors and weapons on August 17, 2007.<sup>940</sup> The yard, however, lost money on the project, with press indicating at least 30 m DKK in losses due to greater-than-expected challenges in adjusting from simple large container ships to complex smaller warships, and Danish naval historians Søren Nørby and Tom Wismann suspected the actual loss to be much higher.<sup>941</sup>

Sacrifices in terms of armour, shock resistance, and extent of nuclear-biological-chemical (NBC) warfare protection were also made to reduce cost and weight. Only some areas of the ship were armoured, shock resistance was limited to enabling the ships to move out of a dangerous area after being hit rather than stay and keep fighting, and NBC protection was limited to three citadels rather than the entire interior.<sup>942</sup> Besides from the 5” gun and two 35mm Oerlikon Millennium close-in defence guns, the remaining major weapons were re-used from the *Flyvefisken* class’s STANFLEX modules. If they had to be purchased anew, Nørby and Wismann suspected the costs would mean the ships would never have been built.<sup>943</sup> Given the increased emphasis on military crisis interventions such as peacekeeping and counterterrorism operations, such sacrifices for the sake of ensuring the ships would fall as close as possible to the 1999 construction budget of 800 m DKK for the two ships would seem to be a reasonable compromise.<sup>944</sup>

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<sup>940</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 23.

<sup>941</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 25.

<sup>942</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 27. NBC protection meant interior overpressure to keep contaminated air outside, as well as advanced air filtration to ensure prolonged habitability within the citadels.

<sup>943</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 15, 40-41.

<sup>944</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 16, 20. The contract with the shipyard was eventually settled at 950 m DKK, which was less than half of the total cost of the ships once new weapons, fire control systems, communications, and sensors were included.

It is clear that these ships are a direct answer to the Danish government's change in policy towards greater expeditionary roles. Yet, besides from the Iraq experience and subsequent blockade duties in southern Europe during the Balkan crises, the naval design staff had few empirical ideas from which to draw as to how the Danish navy would contribute to future post-Cold War international efforts. As a result, a safe bet, at least in terms of capabilities balance, was to design a vessel that could be capable of as wide a range of missions as possible while leveraging existing knowledge gained from building the Thetis class OPVs and Flyvefisken class patrol vessels.<sup>945</sup> The Navy's experience with the StanFlex system gave it the confidence needed to scale up the existing modular warships to a vessel as large as the *Absalons*, with a greater emphasis on overall systems flexibility and reconfigurable spaces rather than just the StanFlex container modules themselves.<sup>946</sup> But while the overall design and specifications were capably determined by the Naval Material Command in-house, the reduction in naval architects that occurred in the early 1990s required outside assistance. To this end, Britain's BAE and France's DCN were consulted to provide their independent studies on the feasibility of the project between 1990 and 2001.<sup>947</sup> During the same period, the Naval Material Command's offices hired sufficient personnel to carry out the remaining detailed design work for the vessels. This design work was conducted in conjunction with the Danish Shipyard Association's own personnel, which ensured the shipyard that would eventually build the ships would be familiar with the design and its construction requirements.<sup>948</sup> The result was a vessel that has proven very satisfactory to Danish commanders. One early sign that the design was "spot on" was the role HDMS *Absalon* took on in 2008-2009, when she became flagship of Combined Task Force 150 (CTF 150) in the western Indian Ocean, responsible for

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<sup>945</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 9-10.

<sup>946</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 9-10.

<sup>947</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 13, 16.

<sup>948</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 14.



counterpiracy off Somalia.<sup>949</sup> Further details on the adequacy of the *Absalon* design for the overseas mission will be discussed below.

The same year the *Absalon* was laid down in 2004, the Danish government passed the 2005-2009 Defence Agreement. This time, the focus was clearly on expeditionary roles, with homeland defence pushed aside to the point that territorial defence forces were abolished entirely, with nearly all resources allocated to overseas coalition endeavours.<sup>950</sup> As the official English translation of the Agreement noted, “the conventional military threat to the Danish territory has disappeared for the foreseeable future. There is thus no longer a need for the mobilization defence”, the resources from which will be released to “enable Danish Defence to mobilise and deploy forces promptly and flexibly in international operations” such as “conflict prevention, peacekeeping, [and] peacemaking.”<sup>951</sup> This ready acceptance of an expeditionary warfighting role was made possible, Saxi suggests, by the early introduction of the “harsh new reality of peacekeeping” to Danish forces, especially with the operations in the Balkans.<sup>952</sup> Jakobson agrees, and notes that the combat performance of Danish main battle tanks in Yugoslavia during Operation *Hooligan Buster* on April 29 1994 was much lauded by domestic and international observers, which helped transform the perception that Danish politicians and general public had for their peacekeepers.<sup>953</sup> No longer was the Danish peacekeeper noted for “keep[ing] the peace without firing his weapon.”<sup>954</sup> Instead, they were now a “warrior who made a difference on the battlefield,” and Danish politicians would approve additional participations in NATO operations such as fighter aircraft strike sorties during the 1999 Kosovo War.<sup>955</sup> This willingness to employ force beyond

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<sup>949</sup> Scott and Toremans, “Flexible Friends.”

<sup>950</sup> Saxi, “Defending Small States,” 417; Danish Government, *Defence Agreement 2005-2009* (Copenhagen: Ministry of Defence, 2005), <https://fmn.dk/globalassets/fmn/dokumenter/forlig/-eng-forsvarsforlig-2005-2009-inkl-bilag-.pdf>, 7-9.

<sup>951</sup> Danish Government, *Defence Agreement 2005-2009*, 2-4.

<sup>952</sup> Saxi, “Defending Small States,” 420.

<sup>953</sup> Jakobson, “Denmark and UN peacekeeping,” 750.

<sup>954</sup> Jakobson, “Denmark and UN peacekeeping,” 750.

<sup>955</sup> Jakobson, “Denmark and UN peacekeeping,” 750.

self-defence would continue in the following decades, with minimal parliamentary objections prior to decisions to joining the 2011 Libya war and Iraq and Syria in 2014/2016.<sup>956</sup> But these participations were land- and air-centric. How did Danish military seapower fit into this new world of international involvement? As will be illustrated below, efforts were well underway to ensure the navy could be more useful in distant waters even as legacy vessels were adapted for such expeditionary roles.

The 2005-2009 Defence Agreement also approved the construction of three Iver Huitfeldt-class air-defence frigates (officially referred to at the time as “patrol vessels”).<sup>957</sup> Conceived alongside and thus utilizing the *Absalon* hull sans flex deck, these 6,600-ton ships are the most capable surface combatants ever built for the Danish Navy.<sup>958</sup> Equipped with Active Phased Array (APAR) air defence and SMART-L long-range surveillance radars and 32 Mk. 41 vertical launch missile cells, they were also built to be further equipped with STANFLEX modules.<sup>959</sup> The Danish acquisition did not include ammunition for the Mk. 41 cells, however, which limited their surface-to-air missile capability to the same self-defence Evolved Sea Sparrow Missile (ESSM) as the *Absalon* class, fired from the STANFLEX container modules.<sup>960</sup> The Mk.41 served as a form of future-proofing to ensure the ships could be relatively quickly and cheaply upgraded for more powerful weapons should future situations deem it necessary. Indeed, a decade later, the 2018 Defence Agreement approved the purchase of forty-six SM-2 Block IIIA long-range surface-to-air missiles to fill the Mk. 41 cells, allowing the Huitfeldt class to more fully live up to its

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<sup>956</sup> Jakobsen, “Denmark and UN peacekeeping,” 753.

<sup>957</sup> Danish Government, *Defence Agreement 2005-2009*, 7-9.

<sup>958</sup> Nørby and Wismann, *Absalon and Esbern Snare*, 10-11; Nørby and Seerup, *For Flaget og Danmark*, 102.

<sup>959</sup> Saunders, *Jane’s Fighting Ships*, 196; Nørby and Wismann, *Absalon and Esbern Snare*, 88.

<sup>960</sup> It would not be until the 2018-2023 Defence Agreement that authorization and funding was put into place for the long-range SM-2 area-defence missiles, and even then there would only be 46 rounds acquired, which would not be enough to fill all the available launch cells on more than one frigate at a time. Danish Government, *Defence Agreement 2018-2023* (Copenhagen: Ministry of Defence, 2018), <https://fmn.dk/globalassets/fmn/dokumenter/forlig/-danish-defence-agreement-2018-2023-pdf-2018.pdf>; Defense Security Cooperation Agency, “Denmark – SM-2 Block IIIA Standard Missiles,” *Department of Defense*, July 31, 2018, <https://www.dsca.mil/press-media/major-arms-sales/denmark-sm-2-block-iiia-standard-missiles>.

air-defence role.<sup>961</sup> Within the expeditionary-focused 2005-2009 Defence Agreement, the procurement of limited numbers of large highly capable warships made perfect sense. They can provide escort for the Absalon class during task group operations as well as for future coalition naval groups.

These five large ships have since become involved in a number of long-range missions in support of NATO and U.N. missions away from Danish coasts, such as counterpiracy off Somalia and leading the operation to escort chemical weapons removal vessels from Syria.<sup>962</sup> Illustrating its improved endurance, *Absalon's* maiden deployment saw it depart Naval Station Frederikshavn on August 17, 2008, to conduct counterpiracy off Somalia and returning April 16, 2009 – nine months with several crew changes. This stood in contrast with *Thetis's* much shorter January-to-May deployment in 2008 noted above.<sup>963</sup> The greater spare accommodation in the Absalon class was also demonstrated in this deployment. In addition to the core crew of 99, there were 25 members of Danish Task Group to carry out command functions as flagship of CTF 150.<sup>964</sup> The ship also carried members of the Frogman Corps and Military Police like the *Thetis*, an Explosive Ordnance Disposal Team, intelligence staff, extra medical personnel, a lawyer, an interpreter, a navy chaplain, and an expanded galley staff to prepare the extra meals.<sup>965</sup> This increased the ship's overall complement to 155, or 33% greater than the usual crew, and highlights not just how much excess capacity was built into the class of ships, but also the necessity of such capacity to meet the diverse requirements of international operations. The design of the ships has also proven

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<sup>961</sup> Danish Government, *Defence Agreement 2018-2023*; Defense Security Cooperation Agency, "Denmark – SM-2 Block IIA Standard Missiles"; Edward H. Lundquist, "Royal Danish Navy Growing into New Missile Defense Role: An interview with Capt. Claus Andersen, Royal Danish Navy," *DefenseMediaNetwork*, January 15, 2020, <https://www.defensemedianetwork.com/stories/royal-danish-navy-growing-into-new-missile-defense-role/>.

<sup>962</sup> Anders V. Fridberg, "Medaljer for at fjerne kemiske stoffer," *Forsvaret.dk*, May 13, 2015; Pernille Kroer, "Støtteskibet Absalon er nu på patrulje i Det Indiske Ocean," *Forsvaret.dk*, September 30, 2015, <https://www.forsvaret.dk/da/nyheder/2015/stotteskibet-absalon-er-nu-pa-patrulje-i-det-indiske-ocean/>; for an in-depth look at the day-by-day operations of the chemical weapons removal program from Syria, see Torben Mikkelsen and Søren Nørby, *Two Hundred Days: My Time as Commander of Operation Removal of Chemical Agents from Syria, 2013-2014* (Odense: University of Southern Denmark, 2022).

<sup>963</sup> Nørby and Wismann, *Absalon and Esberne Snare*, 80-81.

<sup>964</sup> Nørby and Wismann, *Absalon and Esberne Snare*, 71, 79.

<sup>965</sup> Nørby and Wismann, *Absalon and Esberne Snare*, 79.

more successful than the Thetis class in terms of foreign interest, with the British Royal Navy since purchasing the Huitfeldt/Absalon hull design as the basis for their five low-cost Type 31 general-purpose frigates, which the British in turn hope to export.<sup>966</sup>

### The End of the Danish Submarine Service

Finally, it is important to note that the 2005-2009 Defence Agreement's shipbuilding boom was not without tradeoffs, which illustrated the dramatic shift in Danish thinking regarding the military dimension of their seapower. While the Baltic-centric sea denial Flyvefisken-class patrol boats and Niels Juel-class corvettes began their decommissioning during this period, at least their anti-air, anti-surface, and anti-submarine capabilities could be transferred (literally) to the five new large warships, even though they were intended for contesting and exercising sea control in expeditionary operations far from home in accordance with the new Defence Agreement's vision. Such could not be said, however, about the high-intensity sea denial and covert intelligence-gathering capabilities of submarines.<sup>967</sup> After 95 years of service, the Royal Danish Navy's submarine force was finally disbanded as part of the 2005-2009 Defence Agreement, in which the Danish Parliament provided no rationale for this decision. This led to conspiratorial accusations, including from Danish Rear Admiral Niels Mejdal, that the Dutch NATO Secretary General Jaap de Hoop Scheffer pressured the Danish Chief of Defence (who had been in favour of new submarines) in order to reduce competition for the struggling Dutch submarine industry (given that the proposed Danish submarine replacement would have been the "Viking" joint venture between Denmark and Sweden).<sup>968</sup>

A formal explanation for the submarines' cancellation was apparently never made public, but a logical argument could be made that coastal submarines were of little obvious relevance in the new

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<sup>966</sup> Babcock Team31 / Arrowhead 140, "Design – Arrowhead 140," *Arrowhead 140*, n.d., <https://www.arrowhead140.com/design>.

<sup>967</sup> Olsen and Storgaard, *Flådens Skibe Og Fartøjer*, 47, 81; Lundquist, "Royal Danish Navy Growing into New Missile Defense Role."

<sup>968</sup> Niels Mejdal, "Delfindrabet eller Ubådsvåbnets Nedlæggelse," *Tidsskrift til Søværnen* 175, no. 4 (2004): 247-248.

expeditionary-focused defence posture and, in the face of a limited defence budget, there was little choice but to let the underwater fleet go.<sup>969</sup> Although *Sælen* in Iraq 2003 performed admirably, the limitations of its coastal design was clearly demonstrated by the decision to load it on the *Grietje*, a commercial transport ship, for a quicker and cheaper eighteen-day trip home versus the sixty or so if under its own power.<sup>970</sup> Compounding the problem was that the Danish submarine fleet at the time was comprised of submarines near the end of their service lives and suffering mechanical issues, exemplified by *Sælen* having to swap out its two diesel generators while in the Gulf.<sup>971</sup> Maintaining a submarine force would thus also mean spending 4 billion DKK for new submarines at the same time that the navy was trying to acquire the aforementioned surface warships, which cost approximately 4.1 billion in 2004 DKK for the three Huitfeldt class.<sup>972</sup> With a total equipment acquisition/modernization budget of only 14 billion DKK in the 2005-2009 Defence Agreement, buying both the surface ships and submarines would have left very little for the Army and Air Force.<sup>973</sup>

Of the options available, giving up the submarine capability in favour of maintaining the surface ship programs was likely one of the more appropriate ones. A submarine, for example, could not effectively operate as a flagship, nor could it exercise its control of the sea to influence events on the ground (at least, not unless it was equipped with land-attack missiles, which these small coastal boats were not). For all its unrivalled ability to contest sea control against enemy warships, the expeditionary crises on land that drove the RDN reorientation were not likely to require such a capability. As *Sælen*

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<sup>969</sup> Scott and Toremans, "Danish Fleet Command"; Danish Government, *Defence Agreement 2005-2009*, 8; Christian Brøndum, "Ubåden fra ørkenkrigen bliver museumsskib," *Berlingske*, November 12, 2004, <https://www.berlingske.dk/samfund/ubaaden-fra-oerkenkrigen-bliver-museumsskib>.

<sup>970</sup> Soren Norby, "Danish Submarine Force's Final Moment of Glory," *Warships International Fleet Review* (July 2018), 28-29.

<sup>971</sup> Søren Nørby, "Ubåd I Ørkenkrig: Ubåden *Sælen*'s deltagelse i Operation Iraqi Freedom 2003," *Tidsskrift til Søværnen* 189, no. 4 (2018): 151-153.

<sup>972</sup> Christian Brøndum, "Ubåden fra ørkenkrigen bliver museumsskib"; Danish Ministry of Defence, "Appendix 1 [to 2005-2009 Defence Agreement]: Material survey of major material projects 2005-2009," *Forsvarsministeriet*, 2004, <https://www.fmn.dk/globalassets/fmn/dokumenter/forlig/-eng-forsvarsforlig-2005-2009-inkl-bilag-.pdf>.

<sup>973</sup> Danish Ministry of Defence, "Appendix 1 [to 2005-2009 Defence Agreement]."

demonstrated in 2003, it seemed unlikely, so long as the United States' military preponderance held, that future military threats would involve hostile naval assets requiring a submarine's heavy torpedoes, and a submarine's function would be limited to using the seas for information gathering. While an important duty, it was not likely to have sufficed to justify the enormous expense of modern replacements. Submarines, therefore, were strategically irrelevant in the context of an expeditionary-focused defence policy.

Regardless of the specific rationale behind the decision to shutter the Danish submarine force, the outcome of the 2005-2009 Defence Agreement in terms of Danish seapower inputs was clear. It meant a shift away from surface and subsurface vessels that had the weapons and numbers to defend the Danish Straits and Baltic Sea from a sizeable Soviet/Russian naval force. These small coastal defence warships that were designed for wartime sea denial in their home waters were switched out for a small number of much larger vessels that could range the world's oceans. Not only could these new ships contest sea control with the best of the larger navies' frigates, they could exercise it as well through transporting armoured vehicles, personnel, supplies, and land attack weapons like the 5" gun or future cruise missiles. The five new large vessels were concentrated in the 2<sup>nd</sup> Squadron, now dedicated to the military role of the RDN in contrast to the constabulary role of 1<sup>st</sup> Squadron. By the early 2010s, the RDN was comprised of 2<sup>nd</sup> Squadron's five ships responsible for military uses of the seas, while 1<sup>st</sup> Squadron's six to seven patrol vessels were responsible for constabulary missions. All of this was in accordance with the Danish government's shift towards a more active and expeditionary use of military force following the end of the Cold War and the collapse of the Russian military threat. However, as will be seen in the following section, this divide between constabulary and military roles for each of the Squadrons has been heading towards a convergence.

### 6.3.3 *The Convergence: 2<sup>nd</sup> Squadron in the Arctic, Uparmed Inspection*

#### *Ships on the Horizon*

Throughout the remainder of the 2000s and early 2010s, the assumption that Danish naval force would only be employed in faraway places involving militarily weaker powers (states or non-states) continued with the mid-life refit of the Thetis-class inspection ships. As mentioned in Part II, this refit removed the STANFLEX container capability which, combined with previous removals of the variable depth sonar and depth charges, ensured the inspection ships could never be turned into the “actual frigates” that caused such debate in the Danish Parliament when the ships were first conceived.<sup>974</sup> Such decisions reflect a confidence in the peaceful future of the Danish Kingdom’s Arctic areas, as well as either the low likelihood of having to deploy overseas or that such deployments would not involve military threats. But these reductions in potential weapons capability throughout the waning years of the U.S. unipolar moment might seem, in hindsight, to be premature.

With Russia’s 2014 invasion of Crimea and “hybrid warfare” in Ukraine’s eastern region, the subsequent deterioration of diplomatic relations between Russia and the West had led to concerns from both scholars and policy makers about what this may mean for the erstwhile cooperative atmosphere characterizing the Arctic.<sup>975</sup> The fear that Russian-Western antagonisms may spread to the Arctic was a

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<sup>974</sup> To the extent that the original STANFLEX configuration enabled such weaponry upgrades, which, as mentioned in Part II, was never demonstrated.

<sup>975</sup> Jon Rahbek-Clemmensen, “Carving up the Arctic: The Continental Shelf Process between International Law & Geopolitics,” in *Arctic Yearbook 2015: Arctic Governance and Governing*, eds. Lassi Heininen, Heather Exner-Pirot, and Joël Plouffe (Akureyri, Iceland: Northern Research Forum), 327-344; Benjamin Schaller, “The Arctic Security Community: Proving Ground or Sub-Plot of a Tensed European Security Environment?” in *Arctic Yearbook 2015: Arctic Governance and Governing*, eds. Lassi Heininen, Heather Exner-Pirot, and Joël Plouffe (Akureyri, Iceland: Northern Research Forum), 345-364; Alexander Sergunin and Valery Konyshev, “Commentary: Russian Military Activities in the Arctic: Myths & Realities,” in *Arctic Yearbook 2015: Arctic Governance and Governing*, eds. Lassi Heininen, Heather Exner-Pirot, and Joël Plouffe (Akureyri, Iceland: Northern Research Forum), 404-407; Maarten de Sitter, “Commentary: NATO & the Arctic,” in *Arctic Yearbook 2015: Arctic Governance and Governing*, eds. Lassi Heininen, Heather Exner-Pirot, and Joël Plouffe (Akureyri, Iceland: Northern Research Forum), 408-409; Jørgen Staun, “Russia’s strategy in the Arctic: cooperation, not confrontation,” *Polar Record* 53, no. 270 (2017): 324-327.

central point of debate in the literature, marked by the highlighting or downplaying of cooperative efforts such as the Norway-Russia Barents Sea treaty and the Arctic Search and Rescue Agreement. These have been contrasted with increasing high-end warfare developments in the Arctic, such as NATO's 2018 Trident Juncture in Norway and Russia's emplacement of anti-air and anti-ship missiles around their Arctic bases.<sup>976</sup> The potential consequences of Russia's further invasion of Ukraine in February 2022 and the resultant "pause" on certain Arctic Council activities and other regional fora where Russia and the West had previously engaged will be discussed in the conclusion chapter of this dissertation.<sup>977</sup>

Within the context of heightened tensions between Russia and the West and continuing concerns that non-Arctic actors like China are interested in establishing strategic footholds in the region, Denmark deployed elements of their 2<sup>nd</sup> Squadron combat force to their Arctic waters for the first time in summer 2019. The Huitfeldt-class frigate *Peter Willemoes* and the support ship *Absalon* took turns operating in Greenland under Denmark's Joint Arctic Command. The deployments were in support of a 2016 Danish Ministry of Defense report on possible solutions for improving Arctic capabilities and domain awareness. Although lacking ice-strengthened hulls, the frigates and support ships have much more capable radars than the 1<sup>st</sup> Squadron constabulary patrol ships, allowing them to fill air radar coverage gaps over and around Greenland.<sup>978</sup> During its time in the region, *Absalon* assisted with putting

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<sup>976</sup> Øystein Jensen, "The Barents Sea: Treaty between Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean," *International Journal of Marine and Coastal Law* 26, no. 1 (2011); Arctic Council, *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* (Tromsø, Norway: Arctic Council Secretariat, 2011); Sergunin and Konyshev, "Russian Military Activities in the Arctic," 405-406; Vladimir Isachenkov, "Russia revamps Arctic military base to stake claim on region," *CBC News*, April 5, 2019; NATO, "Trident Juncture 2018," *North Atlantic Treaty Organization*, October 29, 2018, accessed December 18, 2019, <https://www.nato.int/cps/en/natohq/157833.htm>.

<sup>977</sup> Andrew Bresnahan, "Arctic Diplomacy and War in Europe," Quick Impact Report, *North American and Arctic Defence and Security Network*, March 8, 2022, <https://naadsn.ca/wp-content/uploads/2022/03/Quick-Impact-Arctic-diplomacy-and-war-in-Europe-8-March-2022.pdf>.

<sup>978</sup> Arktisk Kommando, "Træning med udenlandske flådeenheder ved Grønlands vestkyst," *Forsvaret.dk*, August 22, 2019; Lars Bøgh Vinther, "Fregat afløses i Arktis," *Forsvaret.dk*, July 16, 2019, <https://www.forsvaret.dk/da/nyheder/2019/fregat-afloeses-i-arktis/>; Thomas Ahrenkiel, *Forsvarsministeriets fremtidige opgaveløsning i Arktis* (Copenhagen: Forsvarsministeriet, 2016), 233.



out a forest fire between Sisimiut and Kangerlussuaq International Airport, where its new MH-60R Seahawk helicopter also used its more advanced sensors to locate and rescue three hikers that the dedicated Air Greenland-operated S61 search and rescue helicopter could not find.<sup>979</sup>

But more to the point of the RDN's main sovereignty mission in the Arctic, *Absalon* also exercised with the American Arleigh Burke-class destroyer USS *Gravelly* off the western Greenland coast in mid-August 2019, which took place just as U.S. President Donald Trump was revealed to have suggested "buying" Greenland from Denmark.<sup>980</sup> From a Danish perspective, the timing could not have been more opportune. If there had to be a year that the United States were to suggest an interest in eroding Danish sovereignty over its Arctic territories, this would be the year to do it when Denmark had two large combatants, instead of just the smaller Thetis and Knud classes, in place to balance against the much larger American warship. Although the connection between *Gravelly's* visit to Greenlandic waters and Trump's comments had not been made in mainstream media, the alternative imagery of a lone US warship sailing unescorted off Nuuk could have added further fuel to the incident.<sup>981</sup> And so, instead of Danish citizens complaining about their military's inability to defend the Kingdom's sovereignty or American Trump supporters using an unescorted visit as evidence that Denmark is not spending its fair share on defense, *Gravelly's* foray into Arctic waters was minimized to a friendly passing exercise between allies thanks in part to the timely deployment of *Absalon*. Far from a one-off deployment, 2020 saw a repeat deployment of 2<sup>nd</sup> Squadron in the Arctic, with the Huitfeldt-class HDMS *Niels Juel* operating under Joint Arctic Command that summer. Despite the COVID-19 pandemic occurring at the

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<sup>979</sup> Lars Bøgh Vinther, "Reddet fra grønlandsk naturbrand," *Forsvaret.dk*, August 14, 2019, <https://www.forsvaret.dk/da/nyheder/2019/reddet-fra-gronlandsk-naturbrand/>.

<sup>980</sup> Arktisk Kommando, "Træning med udenlandske flådenheder"; Peter Baker and Maggie Haberman, "Trump's Interest in Buying Greenland Seemed Like a Joke. Then It Got Ugly," *The New York Times*, August 21, 2019.

<sup>981</sup> An exception to this is a brief article in a Virginia newspaper: Brock Vergakis, "While Trump plotted to buy Greenland, a Norfolk-based warship sailed off its coast," *The Virginian Pilot*, August 23, 2019. It is worth noting that even if unescorted, *Gravelly* would have had to receive permission from Denmark to loiter within Danish territorial waters in accordance with the United States' adherence to the United Nations Convention on the Law of the Sea as customary international law.

time, strengthening surveillance in the North Atlantic region was deemed sufficiently important to dedicate the ship to the region.<sup>982</sup> *Absalon* also made its reappearance, and highlighted its surveillance and sovereignty mission when it located, identified, and shadowed the Russian Udaloy-class destroyer *Severomorsk* while deployed to Faroese waters on October 24, 2020.<sup>983</sup>

As the multipolar world develops, Arctic waters will become increasingly a site of activity by actors who have not traditionally been involved in the region. China's Arctic voyages to date with its *Xue Long* (Snow Dragon) icebreaker will no doubt be followed by its newly-built successor, *Xue Long 2*; although such unarmed ships do not pose military threats, the observations by their crews provide a unique source of knowledge to national interest groups. During the 2007 voyage of *Xue Long* through Canada's Northwest Passage, for example, the ship's captain exclaimed, "This is a warship?!" upon sighting HMCS *Edmonton*, a 700-ton coastal patrol vessel armed with only a pair of .50 caliber machine guns, which had been tasked with retrieving some Canadian scientists from the Chinese ship.<sup>984</sup> Such observations likely shape perceptions on the extent to which such Arctic areas are considered important by their sovereign authority. While such (mis)perceptions are insufficient on their own to determine state behavior, they will nonetheless indirectly contribute to decision making, and may in turn translate into behaviors that take advantage of perceived disinterest in a region. As external actors take greater interest in using Arctic waters (whether as a resource or transitway), a robust presence by regional authorities will be key to both their ability to monitor the areas under their sovereign control as well as deter exploitations of perceived absence, such as violations of environmental regulations.

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<sup>982</sup> Arktisk Kommando – Joint Arctic Command, "For andet år i streg har det danske Forsvar en fregat i Arktis i sommerperioden." *Facebook*, June 2, 2020, <https://www.facebook.com/JointArcticCommand/posts/3104395746342917>.

<sup>983</sup> Arktisk Kommando – Joint Arctic Command, "Fregatten Absalon er for tiden indsat i Nordatlanten, under ledelse af Arktisk Kommando." *Facebook*, October 26, 2020, <https://www.facebook.com/JointArcticCommand/posts/3552884474827373>.

<sup>984</sup> Nigel Greenwood, "Voyage of the Xue Long in the Northwest Passage 2017," *Canadian Naval Review* 15, no. 2 (2019): 8.

Thus, the significance of deploying more combat-capable units like the Huitfeldt class is not that they will change the tactical cost-benefit calculus of foreign actors in potential combat. Rather, it is the *perception* that Copenhagen, by sending its major representatives of state power at sea, treats the region with greater attention than before. It is a domestic (to the extent that Greenland is a self-ruled nation under the Danish crown) manifestation of what James Cable described in his classic *Gunboat Diplomacy* as “expressive force”: ambiguously-defined employment of naval forces “to emphasize attitudes, to lend verisimilitude to otherwise unconvincing statements or to provide an outlet for emotion.”<sup>985</sup> A single warship in a region does not represent only itself, but the entire state whose flag it flies. The deployment of *Peter Willemoes* and *Absalon* were not meant to be accompanied by specific political demands against a defined actor, but to “emphasize attitudes” expressed in Danish security policy documents since 2016 that the Arctic areas of the Danish Kingdom are receiving greater international attention and therefore requires corresponding increases in Danish presence and surveillance.<sup>986</sup> The increasing geopolitical importance of Greenland and the recognition of such by Danish authorities has been further reflected by the reopening of the Grønneal naval base, which was a subject of some drama in 2016 when a Chinese business firm expressed interest in purchasing it after being closed in 2013.<sup>987</sup> Although the reopening of the base in 2017 limited it to being a “strategic logistical support point” with only three permanent occupants rather than the town-sized facility of

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<sup>985</sup> James Cable, *Gunboat Diplomacy* (New York: Praeger Publishers, 1971), 63. The deployments of the *Willemoes* and *Absalon* can also be categorized as Cable’s “catalytic force” in that they are in place and ready to act to enforce Danish interests if necessary, but that is no different than what the usual patrol ships are for and is thus of less interest.

<sup>986</sup> Danish Government, *Foreign and Security Policy Strategy 2019–2020* (Copenhagen: Ministry of Foreign Affairs of Denmark, 2018), 26; Forsvarsministeriet, “AFTALE PÅ FORSVARSOMRÅDET 2018–2023,” *Forsvarsministeriet*, January 28, 2018, accessed December 18, 2019, <https://fmn.dk/temaer/forsvarsforlig/Documents/Forsvarsforlig-2018-2023.pdf>, 11; Regeringen, “AFTALE OM STYRKELSE AF FORSVARSMINISTERIETS FREMTIDIGE OPGAVELØSNING I ARKTIS,” *Regeringen*, December 8, 2016, accessed December 18, 2019, <https://www.regeringen.dk/media/3004/aftale-om-implementering-af-arktisanalysen-8dec2016.pdf>.

<sup>987</sup> Erik Matzen, “Denmark spurned Chinese offer for Greenland naval base over security: sources,” *Reuters*, April 6, 2017.

years past,<sup>988</sup> Grønnedal illustrates how geopolitical concerns from actors outside the Arctic are limiting the extent to which an overall government policy of low-tension and cooperation between Arctic states can be divorced from security and sovereignty concerns.

As a final illustration of the increasing concerns with tensions in the Arctic and areas of Danish interests, a 2016 Danish Ministry of Defence report on future Arctic tasks and defence requirements suggested that the replacements for the Thetis class may have to be equipped with capabilities closer to the 2<sup>nd</sup> Squadron frigates than today. This includes increased armament, long-range air surveillance radar, antisubmarine sensors and weapons, and greater helicopter and transport capacity. An ice-strengthened derivative of the Absalon class would be a good starting point, but the size would have to be reduced to enable navigation in some of Greenland's inland waterways.<sup>989</sup> Thus, even as the Thetis class were undergoing their midlife refit that reduced their military potential, analyses were already underway to reverse this direction and towards a greater military capability amongst the 1<sup>st</sup> Squadron's constabulary patrol ships. Should the eventual Thetis class replacement follow the assessment of the 2016 report, it would be difficult to distinguish between the 1<sup>st</sup> and 2<sup>nd</sup> Squadrons based on capabilities. The constabulary and military roles of the RDN would, in such an event, be nigh indistinguishable in terms of the fleet's physical composition.

Twenty-first century Danish seapower, which had been so clearly delineated in the forms of its inputs between constabulary duties in the Arctic versus its new expeditionary military duties far from home, can thus expect to see a convergence in the coming years. This convergence has and will continue to be driven by geopolitical factors, primarily the resurgence of a Russia willing to employ military force outside its post-1991 borders. Climate change and the resultant increased global activity in, on, and above the waters of the Danish Kingdom's Arctic territories is an additional driver, though this likely

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<sup>988</sup> Regeringen, "AFTALE OM STYRKELSE"; Ebbe Fischer, "Tre mand holder Kina væk fra Flådestation Grønnedal," *Søfart*, June 5, 2018; see also Part II of this chapter.

<sup>989</sup> Ahrenkiel, *Forsvarsministeriets fremtidige opgaveløsning i Arktis*, 235-236.

would not have been sufficient on its own to lead to a long-term shift towards greater combat capability on the part of the Danish navy operating in the region. Ultimately, the character of Danish compulsive seapower has shifted during the post-Cold War period from the use of force against weaker state or non-state actors towards the use of compulsive force against a potential great power. In the military dimension of compulsive seapower, we have seen this shift as 2<sup>nd</sup> Squadron's five new expeditionary warships were recently pulled back to Danish home waters and the Arctic instead of operating in counter-piracy missions off West and East Africa. This is resulting in the use of seapower inputs designed for the military dimension being employed instead in the Arctic region where the Danish navy had predominantly maintained a constabulary presence while also contributing to the traditional military role it played in the Baltic. In the constabulary dimension of compulsive seapower, 1<sup>st</sup> Squadron's *Thetis* class have begun regularly training with both Danish and NATO units for wartime tasks despite their lack of actual warfighting capabilities. Discussions over these older ships' replacements have focused on bringing them more in line with the military capabilities of 2<sup>nd</sup> Squadron. There are therefore clear indications that the constabulary and military roles of the RDN will no longer be split sharply between dedicated seapower inputs. However, as the RDN remains a small navy with limited personnel and financial resources, it will be a challenge to distribute limited numbers of ships and their crews between these different tasks. The successful efforts to reduce crew requirements for low-intensity constabulary vessels ever since the Second World War-era *Thetis* and *River*-class ships will have to face the increased crewing demands of ships with more robust combat and surveillance capabilities. Whether the RDN can accomplish this in the near future is a question with no easy answer.

## **6.4 Conclusion**

A small navy that splits its attention between traditional defence in one of the world's busiest waterways at home and constabulary duties on the vast oceans adjacent to its overseas territories might be expected to resist any reductions in hull numbers given its already limited capacity. Yet, the RDN embraced its post-Cold War reorientation of seapower inputs and outputs with alacrity. As the Royal Danish Navy's warfighting fleet reduced drastically in numbers to favour a much smaller multi-mission fleet aimed at expeditionary operations, its constabulary fleet remained essentially constant in terms of numbers while also greatly increasing its existing capabilities. This demonstrates the priority given to the constabulary mission and the importance of the EEZ versus conventional military capabilities like the submarines that were sold off to help pay for the new expeditionary frigates.

The chapter identified how the establishment of the 200 NM EEZ played a central role in the qualitative expansion of this constabulary capability without initially sacrificing its core military capabilities. At the same time, the expanded constabulary capability was suitable for post-Cold War expeditionary missions far away from the traditional areas of Greenland and the Faroes. The EEZ's influence on force structure was initially manifest in the introduction of the *Beskytteren* in the mid-1970s, then the four Thetis class during the transition out of the Cold War, and finally the three Knud Rasmussen class at the height of the American-led unipolar moment. Each new vessel built upon the lessons learned from their predecessor, while incorporating greater endurance and seakeeping to provide better performance on the open ocean of the EEZ. As a small navy with limited financial and human resources, this constabulary presence was maximized by minimizing the amount of crew required per ship, multiple crews per ship, and a heavy reliance on forward-basing including the use of neighbouring countries. At a broad level, both the constabulary and warfighting fleets of the Royal Danish Navy have generally reflected a clear-eyed approach to its own foreign and security policy environments, even as they resulted in naval demands that were contradictory to sovereignty

requirements in its Arctic territories. Over time, however, the shifts in the global balance of power between bipolarity, unipolarity, and prospective multipolarity have allowed the RDN to maximize the utility of its naval forces for both domestic and international concerns. This has, in broad terms, resulted in a fleet that has decreased in numbers but comprised of more capable and larger hulls, suitable for a more flexible approach to where and when those units would be deployed.

In the immediate years after the Second World War, the RDN focused on maintaining a fleet of surplus wartime assets to ensure the security of Denmark's European territory. As far as Greenland was concerned, it merited only a single ocean-going vessel and only barely so, being a Flower-class corvette. Upon joining NATO and entering the US-Soviet bipolar world, Denmark received alliance resources to help modernize and enlarge its warfighting fleet to help counter the Soviet threat in the Baltic. Such resources, however, were not optimal for the task of asserting sovereignty in Greenlandic and Faroese waters. Still, the fact that American monetary aid could help fund the RDN's procurement of vessels like the *Tritons* for use in European waters meant that scarce defense Kroners could be allocated towards Arctic-dedicated assets like the Hvidbjørnens. Although the Hvidbjørnen class's long endurance, ice resistance, and helicopter capabilities were not initially meant for patrolling a dramatically-increased economic zone, those characteristics nonetheless made them adequate for that later task introduced in the 1970s. At the same time, those technical characteristics combined with their peacetime operational role rendered them unique assets for contributing to NATO's maritime picture of the North Atlantic and Arctic in an era where the majority of NATO and Danish assets were centered on continental Europe.<sup>990</sup> With the creation of the 200 nm exclusive economic zones, the *Beskytteren* and Thetis class became purpose-built to maximize their ability to operate in the Arctic and open ocean for extended periods of time. Recognizing the low likelihood of actual combat in the waters around Greenland, these vessels, despite being originally conceived for limited wartime use, focused on addressing everyday

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<sup>990</sup> Bogason, *Søværnet under den Kolde Krig*, 166.

maritime sovereignty and security concerns: fisheries inspection, search and rescue, assistance to mariners, scientific research, environmental protection, icebreaking, and maintaining maritime domain awareness in the harsh climate of the North Atlantic and Arctic Ocean. Such tasks meant these naval vessels were used for not just contesting civilian opponents for the use of the seas, but supporting Danish civilians in their own exercise of peacetime sea control within the waters of the Danish Kingdom.

The fall of the Soviet Union spurred the dramatic reconstruction of the RDN's main combat fleet but resulted in little change for what became the 1<sup>st</sup> Squadron and its fleet of inspection ships. While the unipolar moment and its emphasis on "out of area" operations resulted in the divestment of coastal defense forces in favor of a much smaller number of long-endurance multi-mission frigates in its 2<sup>nd</sup> Squadron, it had little long-term effects on the domestic constabulary tasks of the 1<sup>st</sup> Squadron. However, as confidence continued to be eroded regarding American commitment to its allies while other foreign powers show increasing interest in Greenland and the Faroes, Denmark has demonstrated a timely ability to redeploy and adapt the new ships of 2<sup>nd</sup> Squadron to strengthen its position in its Arctic, which was a task not originally envisioned. Time will tell whether this increased naval commitment to Arctic waters will continue, but a decision would have to be made relatively soon as the Thetis class, though just refitted, are already thirty years old and their replacements will have to be initiated in the next half decade. Should the multipolar world continue moving towards a decreased ability to rely on American power and commitment, it would not be surprising for the Thetis class replacements to be built with greater allowances for traditional weapons and sensor capabilities to, at the very least, "lend verisimilitude" to Danish Arctic policy positions.

To some extent, Denmark is already committing to the maximization of the combat potential of its fleet. The 2018-2023 Defence Agreement funded the purchase of SM-2 Block IIIA long-range air defence missiles to fill the currently empty Mk.41 Vertical Launch System cells on the Huitfeldt class, new towed sonar arrays and anti-torpedo defences for the Absalon class, and dipping sonars and ASW



torpedoes for the Seahawk helicopters.<sup>991</sup> In October 2020, the Absalons were reclassified as frigates from their former support ship status to both reduce confusion on the part of allies as to their capabilities and to reflect the upcoming increased ASW role that they would play.<sup>992</sup> It was in this new capacity as a frigate that *Absalon* shadowed the Russian destroyer *Severomorsk* near the Faroes mentioned above. Illustrating the long timeframes even for weapons and sensor procurement, however, the SM-2 missiles are not expected to be delivered until 2025, while the towed sonar array will not be fully operational until 2027.<sup>993</sup> Despite the long period until these upgrades are delivered, it is nonetheless clear that the Danish government views a need to strengthen the sea control capabilities of its navy given the increased uncertainty and threat both at home and abroad. As the frigate fleet continues its summer deployments to the Arctic, it will, by mid-2020s, be bringing their upgraded combat capabilities to the full extent of the Kingdom's Exclusive Economic Zone. Meanwhile, the Danish government has further recognized that even this would not suffice for the increased Arctic activity and has since funded a 1.5 billion DKK additional agreement on expanding Arctic capabilities. This includes a new air surveillance radar on the Faroes, coastal radars in Greenland, long endurance aerial drones, satellites, and ship-based aerial drones.<sup>994</sup> While none of these acquisitions are likely to play a direct role in contesting sea control in and around the Danish Kingdom's EEZ, they would certainly provide the foundational data required for further action.

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<sup>991</sup> Danish Government, "Defence Agreement 2018-2023," *Danish Ministry of Defence*, October 2, 2020, <https://fmn.dk/globalassets/fmn/dokumenter/forlig/-danish-defence-agreement-2018-2023-pdf-2018.pdf>, 4.

<sup>992</sup> Kasper Junge Wester, "Danmarks tre fregatter bliver til fem," *OLFI*, October 19, 2020, <https://olfi.dk/2020/10/19/danmarks-tre-fregatter-bliver-til-fem/>. Up until this point, the Absalon class had been given the hull pennant number of L16 and L17. L is used in NATO for ships whose main role is amphibious transport/assault, which tend to be minimally armed and significantly larger than the Absalon class. The two ships' new hull numbers, F341 and F342, make it clearer to allies that their combat capabilities and size are closer to that of a frigate.

<sup>993</sup> Hans Mortensen, "Afløb for pengene," *Weekendavisen*, May 10, 2021, <https://www.weekendavisen.dk/2021-19/samfund/afloeb-for-pengene>.

<sup>994</sup> Danish Government, "New political agreement on Arctic Capabilities for 1.5 billion DKK," *Danish Ministry of Defence*, February 11, 2021, <https://fmn.dk/en/news/2021/new-political-agreement-on-arctic-capabilities-for-1.5-billion-dkk/>.

From a multidecade perspective, this chapter demonstrates that although the EEZ resulted in notable improvements to its constabulary capabilities, it would be the fall of the Soviet Union that enabled a much more dramatic change to its fleet force structure. The military role has gone through three stages since the Second World War, which illustrate how the EEZ's impact can be "hived off" to only a segment of a navy. Firstly, it was a Baltic-centric sea denial force focused on high-intensity contestation against the Soviet Union (1949-1990). Secondly, it then turned towards contesting actors with much weaker naval power on a global scope while exercising sea control for limited amphibious operations (1990-2016). Thirdly, the RDN's military role saw a return to the Kingdom's waters in the Arctic and Baltic, where greater domain awareness and potential sea control contestation are expected against major state powers once more. Throughout the same period, the RDN's constabulary role has remained consistent, albeit greatly intensified in terms of its seapower inputs since the introduction of the Thetis and Knud class in response to the 200 NM EEZ, even if their sea control operations against fishers and possible submarines have yet to see the same intensity of contestation that their predecessors encountered. Denmark's ability to establish constabulary sea control in its EEZs appears to be nigh-absolute and permanent, to use Milan Vego's language.

Yet, the Cold War tension between a desire for international involvement and the need to provide homeland/kingdom security will continue to exist. Denmark's large Maersk merchant fleet, though not discussed in depth in this dissertation, is a major component of Danish seapower. Its security has recently posed challenges to the RDN's limited numbers as increasing maritime instability in the Strait of Hormuz and recent piracy attacks in the Gulf of Guinea have threatened the merchant fleet, spurring RDN frigate deployments as an ocean-going navy far abroad to ensure Danish civilian shipping can use the seas as a medium of transport.<sup>995</sup> No matter how capable the new ships are compared to

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<sup>995</sup> Danish Ministry of Defence, "Denmark sends officers and frigate to the Strait of Hormuz," *Danish Ministry of Defence*, December 12, 2019, <https://fmn.dk/en/news/english/denmark-sends-officers-and-frigate-to-the-strait-of-hormuz/>; Danish Ministry of Defence, "Denmark deploys a vessel contribution in order to fight the pirates in the

their Cold War predecessors, they can only be in one place at a time. While this limitation inherent in ship numbers applies to both larger and smaller navies, it can expect to be especially noticeable with a small fleet like Denmark's. In the next chapter on Canada, the dissertation will demonstrate how a country with a significantly larger ocean-going fleet is able to maintain nearly constant presence overseas without having to prioritize one theatre of operations at the complete expense of another.

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Gulf of Guinea," *Danish Ministry of Defence*, March 16, 2021, <https://fmn.dk/en/news/2021/denmark-deploys-a-vessel-contribution-in-order-to-fight-the-pirates-in-the-gulf-of-guinea/>.

## Chapter 7:

### Canada: A Blue Water Fleet for A Medium Navy

#### 7.0 Introduction

Canadian naval history has often been told as one of struggle for control of the North Atlantic sea lanes.<sup>996</sup> From its formative years in the First World War through the end of the Cold War, the Royal Canadian Navy (RCN) has dedicated itself to the challenging task of anti-submarine warfare.<sup>997</sup> Accordingly, discussions of seapower in the Canadian context have tended to emphasize the wartime RCN with an emphasis on its compulsive form. But as this chapter argues, seapower in both its compulsive and institutional forms have much longer and broader peacetime histories in Canada than conventional naval histories would suggest.<sup>998</sup> This can be seen in the shared and shifting responsibilities for Canada's fisheries enforcement between the country's various maritime agencies. As a function of the expanded 200 NM economic zones, however, the force structure and operations of Canada's maritime forces did not experience major and immediate changes – at least, not to the same obvious extent as the Norwegian and Danish case studies.

In contrast to those two countries, the story of Canadian peacetime sea control is less one of particular pieces of equipment tailor-made for constabulary purposes than one of shifting law enforcement authority. This authority, held by individual law enforcement officers, is what turns any

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<sup>996</sup> W.A.B. Douglas, "The Prospects for Naval History," *The Northern Mariner* 1, no. 4 (October 1991), 23. For examples of such discussions in relation to the Second World War, see footnote 1002. For examples pertaining to the Cold War, see the following: R.B. Byers, "Canadian Security and Defence: the Legacy and Challenges," *Adelphi Papers* 214 (Winter 1986): 6-7; Joel J. Sokolsky, "Striking a New Balance: Seapower, Security, Sovereignty, and Canada," in *Canadian Oceans Policy: National Strategies and the New Law of the Sea*, eds. D.M. McRae and Gordon Munroe (Vancouver: UBC Press, 1989), 192-193; Chapters 9 through 15 in Marc Milner, *Canada's Navy: The First Century* (Toronto: University of Toronto Press, 1999); Joel J. Sokolsky, "Canada and the Cold War at Sea, 1945-68," in *The RCN in Transition, 1910-1985*, ed. W.A.B. Douglas (Vancouver: UBC Press, 1988).

<sup>997</sup> Douglas, "The Prospects for Naval History," 23.

<sup>998</sup> See Chapter 2, section 2.3 for the discussion on compulsive and institutional seapower.

Canadian government vessel into a law enforcement asset. Today, whether it is one of the RCN's 4500t Halifax-class frigate or a simple Canadian Coast Guard RHIB, all Canadian federal vessels can, and do, play constabulary roles. The legal authority to contest sea control over the past two decades therefore resides not in the Canadian Coast Guard or Navy, but in Fisheries Officers or RCMP officers. In their design and function, Canada's federal civilian fleet is therefore focused on exercising sea control to ensure mariner safety, pollution response, and the reliable movement of shipping in ice-covered waters.<sup>999</sup> Its military arm, the Royal Canadian Navy, has in turn focused on contesting sea control during times of war. Both the civilian and the military arm thus contribute to Canadian seapower in their own clearly demarcated ways when operating with their own crews. Only in very recent years with the ongoing procurement of the Harry DeWolf-class Arctic and Offshore Patrol Vessels did the RCN clearly seek to design a vessel that would have as its main mission from the outset to contest control in a peacetime environment while maximizing its ability to exercise that control for a multitude of non-military tasks.

Nonetheless, from the very beginnings of Canada's naval service, there has been an understanding of seapower beyond merely that of Mahan and Corbett's military force and international/imperial seaborne commerce.<sup>1000</sup> Specifically, this chapter finds that Canada has long recognized the importance of its coastal and offshore fisheries, which must be protected by use or threat of force to ensure Canadian laws regarding them are respected by domestic and foreign users of the seas. This force has been employed both directly as an example of compulsive seapower to arrest violators, as well as indirectly via institutional seapower to ensure long term political settlements. In terms of the actors employing such maritime force, the focus in this chapter will be on the Canadian

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<sup>999</sup> Canadian Coast Guard, "Mandate," *Government of Canada*, July 26, 2019, <https://www.ccg-gcc.gc.ca/corporation-information-organisation/mandate-mandat-eng.html>.

<sup>1000</sup> For a detailed historical overview of the Canadian naval service from confederation to the First World War, see William Johnston et al., *The Seabound Coast: The Official History of the Royal Canadian Navy, 1867-1939*, volume 1 (Toronto: Dundurn Press, 2010).

maritime institutions whose floating platforms are most often employed for the threat or use of violent force: the Royal Canadian Navy (RCN) for the majority, and the Department of Fisheries and Oceans (DFO) for a brief but vital period from 1987 to 1995 following the EEZ establishment. Although Canada has had many different maritime services throughout its history, this chapter focuses only on these institutions in order to be consistent with the previous two empirical chapters' focus on their respective navies and armed coast guard. For the sake of simplicity, Canada's navy will also be consistently referred to as the Royal Canadian Navy despite its decades as "Maritime Command" under the unification of the Canadian military branches during and after the Cold War.<sup>1001</sup>

Much as with the Norwegian and Danish chapters, this chapter will be separated into different parts that each address the warfighting versus constabulary force structures and operations of Canada's maritime forces on a roughly chronological basis. Like the other empirical chapters, it assesses if and how the dissertation's dependent variables of naval force structure and sea control operations developed before and after the EEZ establishment. Part I covers the interwar period between the First and Second World Wars, when the RCN struggled to preserve its existence in an era of minimal defence spending while juggling between constabulary and military tasks. It notes how the limited extent of Canadian fishing waters at the time actually allowed its nascent fleet of destroyers to focus on military training rather than constabulary patrols. Part II then focuses on the RCN's force structure and military operations from its position as the "third largest navy in the world" at the end of the Second World War through to the end of the Cold War. This sets the baseline understanding of the core military role for which this period's RCN had been designed. The RCN's experience during the Second World War itself will not receive significant attention due to the peacetime focus of this dissertation and the numerous

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<sup>1001</sup> The "Unification" of the Canadian military and the resulting replacement of the RCN by "Maritime Command" and its eventual reversal are outside the scope of this dissertation, but details can be found in broader histories of the Canadian navy such as Chapters Thirteen and Fourteen of Marc Milner, *Canada's Navy: The First Century* (Toronto: University of Toronto Press, 1999).

existing publications doing it much greater justice than would be possible in this chapter.<sup>1002</sup> Part III covers Canada's use of both RCN and DFO vessels for constabulary sea control in and around the Canadian 200 NM zones during the Cold War and post-Cold War period. It argues that while the DFO took limited measures to increase the contestation capabilities of its extant patrol vessels, the RCN only responded with increased sailing hours dedicated to fisheries patrols. This is changing, however, with the RCN putting into service a new dedicated ability to patrol the full width of its EEZ through its new DeWolf-class vessels. Finally, Part IV examines the post-Cold War "global turn" in Canada's naval operations to see whether the EEZ has influenced the RCN's fleet and operations. It will also examine the National Shipbuilding Strategy that aims to replace the vast majority of the RCN in order to determine the ability of the future fleet to continue, scale back, or enhance current constabulary and military tasks. It concludes that the bulk of recent RCN operations have been constabulary in nature and this will only increase both domestically and internationally even as it aims to dramatically increase its combat power. Throughout these four parts, the details on force structure are accompanied by specific operational case studies analyzed through the sea control lens to understand how Canadian compulsive and institutional seapower secured its oceanic resources.

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<sup>1002</sup> A short selection of books covering the RCN's Second World War experience includes the following: Joseph Schull, *The Far Distant Ships: An Official Account of Canadian Naval Operations in the Second World War* (Ottawa: E. Cloutier, King's Printer, 1950); W.A.B. Douglas, Roger F Sarty, and Michael J Whitby, *No Higher Purpose: the Official Operational History of the Royal Canadian Navy in the Second World War, 1939-1943* (St. Catharines, Ontario: Vanwell Publishing, 2002); W.A.B. Douglas, *A Blue Water Navy: The Official Operational History of the Royal Canadian Navy in the Second World War, 1943-1945* (St. Catharines, Ontario: Vanwell Publishing, 2007); Robert A. Darlington and Fraser McKee, *The Canadian Naval Chronicle, 1939-1945: the Successes and Losses of the Canadian Navy in World War II* (St. Catharines, Ontario: Vanwell, 1996); Donald E. Graves, L.B. Jenson, and Christopher Johnson, *In Peril on the Sea: the Royal Canadian Navy and the Battle of the Atlantic* (Toronto: Robin Brass Studio for Canadian Naval Memorial Trust, 2003); Larry Gray, *Canadians in the Battle of the Atlantic* (Edmonton: Folklore Publishing, 2007); Nathan M. Greenfield, *The Battle of the St. Lawrence: The Second World War in Canada* (Toronto: Harper Collins, 2004); James Barrett Lamb, *On the Triangle Run* (Toronto: Stoddart, 2000); Marc Milner, *North Atlantic Run: The Royal Canadian Navy and the Battle for the Convoys* (Toronto: University of Toronto Press, 1985); Marc Milner, *The U-Boat Hunters: The Royal Canadian Navy and the Offensive against Germany's Submarines* (Toronto: University of Toronto Press, 1994).

This chapter concludes with the finding that the EEZ had a minimal impact on the force structure of the RCN thanks to its core military role that resulted in blue water warships which could be easily adapted for offshore fisheries patrols. In terms of operations, the chapter finds that the RCN did dedicate notably more sailing hours to fisheries patrols as a result of the EEZ, but this was relatively short-lived as Canada began deploying the RCN's ships on a continuous global basis. This was made possible by longer-term institutional solutions like the United Nations Straddling Stocks Agreement that helped resolve major disputes surrounding the edges of the EEZ. It was also made possible by the fact that Canada, unlike the smaller Norwegian and Danish fleets, has had the number of ships necessary to maintain a regular global presence. This combination of compulsive and institutional measures has been vital to maximizing the constabulary seapower of Canada's medium navy and establishing a permanent and near-absolute level of sea control when it comes to using its EEZ as a resource.

## **7.1 Part I: RCN's Struggle as a Constabulary and Military Force in the Interwar Era**

The First World War's end resulted in a surplus of coastal patrol ships, predominantly trawler-type vessels employed for basic antisubmarine work during the war.<sup>1003</sup> Illustrating the close relationship between the Royal Canadian Navy and the Department of Marine and Fisheries (DMF), some of the excess RCN antisubmarine trawlers became used for fishery patrol and demonstrated the Canadian peacetime compulsive seapower emphasis on using the sea's resources. On the Pacific coast, the Battle-class minesweeper HMCS *Thiepval* patrolled extensively along the western shore and northern end of Vancouver Island, where she authorized US fishing vessels to take shelter as needed or to remove them

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<sup>1003</sup> Roger Sarty, "Hard Luck Flotilla: The RCN's Atlantic Coast Patrol, 1914-18," in *The RCN in Transition: 1910-1985*, ed. WAB Douglas (Vancouver: The University of British Columbia Press: 1988), 106.



when they lacked appropriate papers.<sup>1004</sup> *Thiepvál* was one of four remaining minesweepers in the RCN, built to a trawler design during the First World War and recommissioned in 1923.<sup>1005</sup> HMCS *Patrician*, one of two destroyers acquired postwar, was also employed on the West Coast for fisheries protection duties, ensuring bilateral arrangements such as the Pelagic Sealing Treaty were being adhered to via tactics similar to those used by DMF vessels.<sup>1006</sup> These included the use of its motorboat to operate as a self-contained unit for fisheries inspections for several days at a time to allow *Patrician* to carry out other duties.<sup>1007</sup> This is similar in concept to the much later use of enclosed RHIBs by the Norwegian Coast Guard's coastal patrol ships mentioned in Chapter 5.

For the rest of the first interwar decade, the RCN survived by the skin of its worn hulls. Though receiving the destroyers *Patriot* and *Patrician* and the light cruiser *Aurora* from the Royal Navy in 1920, these were already worn from First World War service. Besides from occasional training and diplomatic cruises to the Caribbean and the United States, the destroyers' main operational purpose was, as noted above, fisheries patrols.<sup>1008</sup> *Aurora* herself, being significantly more complex and expensive to operate, was paid off only three years after entering service.<sup>1009</sup> Illustrating the limited capabilities of the RCN in this period, a trans-Pacific effort to support a 1924 British round-the-world flight was carried out not by the *Patrician* or another large vessel, but by the much smaller *Thiepvál* mentioned above. Its decks ran continuously awash due to being weighed down by the extra fuel and supplies she had to carry for that mission.<sup>1010</sup> In addition to the mission's *raison d'être* of depositing seaplane supplies every few hundred kilometers, *Thiepvál* was to show the flag in the northern reaches of Canadian shared responsibility for

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<sup>1004</sup> William Johnston et al., *The Seabound Coast: The Official History of the Royal Canadian Navy, 1867-1939*, volume 1 (Toronto: Dundurn Press, 2010), 778-779.

<sup>1005</sup> Sandy McClearn, "Battle Class trawler," *Haze Gray and Underway*, 2001, <http://www.hazegray.org/navhist/canada/ww1/battle/>.

<sup>1006</sup> Johnston et al., *The Seabound Coast*, 843-844.

<sup>1007</sup> Johnston et al., *The Seabound Coast*, 843-844.

<sup>1008</sup> Johnston et al., *The Seabound Coast*, 848-850.

<sup>1009</sup> Johnston et al., *The Seabound Coast*, 948. *Aurora* cost some \$820,000 to maintain in 1921-22 versus the brand new destroyer *Saguenavy* costing \$288,000 in 1934.

<sup>1010</sup> Johnston et al., *The Seabound Coast*, 834-837.

the Pelagic sealing patrol in the Bering Sea, as well as gather a variety of intelligence data.<sup>1011</sup> Though the British flight failed and had to be ignominiously carried into Vancouver on *Thiepvál*, the minesweeper's 34,000 kilometer, six-month journey demonstrated Canada's peacetime use of the seas for information gathering, naval diplomacy, and limited constabulary purposes.

The extent of such peacetime missions did not mean the interwar RCN had no military role envisioned for them. Indeed, the 1930s saw its destroyers mainly training for military duties. As part of the parliamentary and interservice debates over whether to even maintain a navy, Commodore Walter Hose put forth a strident defence. He argued the RCN did not need to fight an enemy battle fleet on its own, and Canada itself is unlikely to face invasion. Rather, the most likely scenario would see it taking part in the defence of maritime trade off its coasts while the Royal Navy or other large allied fleets were otherwise engaged. The threat to such trade would come from the occasional submarine or marauding light or auxiliary cruiser, which could be capably handled, or at least deterred, by a small fleet of sea-going destroyers. Such a small fleet would also be useful for ensuring Canadian neutrality in the event that America were to enter a war with a third party. The RCN could credibly prevent that third party's use of Canadian waters and territory, reducing American concerns over their need to intervene.<sup>1012</sup> Convinced by the logics of these arguments, General McNaughton, chief of the general staff, reported to the government in favour of Hose's 1930 scheme of six destroyers and four new minesweepers.<sup>1013</sup> Although Hose and the RCN did not receive the full ask within the timeframe of a single budget, they did receive enough to both maintain the existing destroyers *Champlain* and *Vancouver* (commissioned 1928 as temporary replacements for *Patriot* and *Patrician*), and procure *Saguenay* and *Skeena* in 1931 (which

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<sup>1011</sup> Such intelligence ranged from the military to geological, requesting data on numerous subjects including minerals, fisheries, the state of wireless transmitters, and attitudes of local Soviet citizens to their new government. Johnston et al., *The Seabound Coast*, 833, 837-840.

<sup>1012</sup> Johnston et al., *The Seabound Coast*, 859-860.

<sup>1013</sup> Johnston et al., *The Seabound Coast*, 858, 860, 887; Marc Milner, *Canada's Navy: The First Century* (Toronto: University of Toronto Press, 1999), 71. One of the destroyers was intended to be a destroyer leader with increased command facilities.

originally would have replaced *Champlain* and *Vancouver* as the permanent new-built replacements).<sup>1014</sup> Reflecting both the renewed emphasis on the wartime sea control mission and the limited extent of Canada's fisheries zones at this time, the new destroyers rarely conducted fisheries patrols. As Hose noted in 1931, such missions involve sailing in "poorly charted waters" that posed "unjustifiable hazard" to the more valuable ships when the cheaper minesweepers could serve just as well.<sup>1015</sup> Instead, the destroyers conducted extensive training cruises to the Caribbean to practice fleet tactics alongside the Royal Navy and to carry out diplomatic missions in the region.<sup>1016</sup> With these destroyers, Canada possessed credible compulsive seapower for an expected wartime scenario against military opponents, not just in peacetime against civilians.

Following *Champlain* and *Vancouver*'s decommissioning in 1936, Hose's successor Percy Nelles helped shepherd Hose's fleet plan into fruition with the financial support of Prime Minister Mackenzie King. Initially, two C-class destroyers similar to the 1931 destroyers were acquired as replacements: HMC Ships *Fraser* and *St. Laurent*, which were transferred from existing service in the RN at approximately 22% lower cost versus new construction.<sup>1017</sup> These were augmented the following year with two sisterships, HMC Ships *Ottawa* and *Restigouche*, which brought the RCN to a total of six modern destroyers by the start of the Second World War. Three of the four minesweepers that had provided such valuable fisheries and lifesaving services since the end of the First World War had been laid up or destroyed by the mid-1930s, and were replaced one-for-one with four new ships based on the British Basset class.<sup>1018</sup> If one includes the destroyer leader HMCS *Assiniboine* commissioned shortly

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<sup>1014</sup> Johnston et al., *The Seabound Coast*, 858, 860, 887. While it may seem strange to replace ships that were only commissioned four years ago, *Champlain* and *Vancouver* had been in naval service since 1919 during their former lives under the Royal Navy as HM Ships *Torbay* and *Toreador*. *Saguenay* and *Skeena* were built at Thornycroft in Britain, whose tender won due to extensive attention paid to unique Canadian requirements such as superstructure icing and incorporating new technologies such as fire suppression: Johnston et al., *The Seabound Coast*, 902, 905-906, 925.

<sup>1015</sup> Johnston et al., *The Seabound Coast*, 894-895.

<sup>1016</sup> Johnston et al., *The Seabound Coast*, 907-916; Milner, *Canada's Navy: The First Century*, 74.

<sup>1017</sup> Johnston et al., *The Seabound Coast*, 946, 948.

<sup>1018</sup> Johnston et al., *The Seabound Coast*, 950.

after the war's start, the RCN had successfully fulfilled and exceeded Hose's fleet plan just in time for the Second World War.<sup>1019</sup>

From its near extinction during the height of the Great Depression, the RCN's surface combatant fleet had managed to not only survive, but grow by two hundred and fifty percent compared to pre-Depression. Nonetheless, with only eleven combatants, the 1939 RCN remained clearly a small navy compared to even the Norwegian and Danish fleets previously discussed. This changed quickly by the end of the Second World War, however, as the next section details.

## 7.2 Part II: Preparing for Armageddon: the RCN's Military Role in the Cold War

At the end of the Second World War, the Royal Canadian Navy boasted a fleet that has been described as the world's third biggest.<sup>1020</sup> Although comprised of predominantly smaller Flower-class and Castle-class corvettes to help escort North Atlantic convoys, this fleet also included a number of major surface combatants. By September-October 1945, these included four Tribal-class destroyers, three prewar River-class destroyers, seven wartime River-class destroyers, one Town-class destroyer, and sixty-two River-class frigates.<sup>1021</sup> Rounding out the RCN's wartime sea control assets were the pair of Colony-class light cruisers HMCS *Uganda* and HMCS *Ontario*, and some sixty-five minesweepers.<sup>1022</sup> Much scholarship has already been written on how this dramatic transformation of the RCN from 1939's

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<sup>1019</sup> Milner, *Canada's Navy: The First Century*, 70-71.

<sup>1020</sup> David Zimmerman, *Maritime Command Pacific: The Royal Canadian Navy's West Coast Fleet in the Early Cold War* (Vancouver: UBC Press, 2015), 9; Marc Milner, *Canada's Navy: The First Century* (Toronto: University of Toronto Press, 2000), 177; S. Mathwin Davis, "The 'St Laurent' Decision: Genesis of a Canadian Fleet," *The RCN in Transition, 1910-1985*, ed. W.A.B. Douglas (Vancouver: The University of British Columbia Press, 1988), 188

<sup>1021</sup> Sandy McClearn, "Tribal class," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/postwar/tribww2/>; Sandy McClearn, "River Class destroyer," 2006, <http://www.hazegray.org/navhist/canada/ww2/riverdes/>; Sandy McClearn, "River Class frigate," 2007, <http://www.hazegray.org/navhist/canada/ww2/riverfri/>.

<sup>1022</sup> Sandy McClearn, "The Canadian Navy of Yesterday & Today: World War II Canadian Ship Listing 1931-1945," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/ww2/>.

eleven ships to September 1945's 939 ships took place, so the details of that growth will not be discussed further here.<sup>1023</sup> Although this fleet was numerically-dominated by the smaller ASW escorts, wartime operations saw a substantial component of it operating in a dedicated anti-surface warfare capacity.<sup>1024</sup> The fate of this fleet and what would replace it, however, is vital for understanding what the RCN saw as its core military responsibility during the Cold War. This in turn sets the baseline for answering the dissertation's question about if and how Canada's naval forces responded to the constabulary responsibilities called for by the establishment of the EEZ.

The immediate postwar period saw the rapid divestment of most wartime assets and their personnel, with the remainder retained (either in service or reserve) in accordance with a scaled-down version of the full-spectrum fleet of carriers, cruisers, and destroyers envisioned during the war by RCN leaders like Commodore Harry DeWolf.<sup>1025</sup> In January 1946, the RCN was comprised of the just-commissioned Colossus-class light aircraft carrier HMCS *Warrior*, the two light cruisers *Uganda* and *Ontario*, seven fleet destroyers, four additional Tribal-class destroyers nearing completion, and sundry reserve and training vessels.<sup>1026</sup> Although this was half the number of carriers and destroyers requested by some wartime RCN planners, it was nonetheless "a good, workable little fleet", as Minister of National Defence for Naval Services D.C. Abbott described it in October 1945.<sup>1027</sup> What kind of "work" this little fleet would be used for was uncertain. Canada had significant compulsive seapower inputs, but their outputs were unspecified. As Marc Milner noted, "the only defence policy articulated by the government immediately after the war was demobilization and economy," with no plans for how the

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<sup>1023</sup> Elizabeth B. Elliot-Meisel, "Arctic Focus: The Royal Canadian Navy in Arctic Waters, 1946-1949," *The Northern Mariner* 9, no. 2 (1999), 25. For discussions of the RCN's wartime growth, see references in Footnote 1002.

<sup>1024</sup> Michael J. Whitby, "Fooling around the French Coast: RCN Tribal-Class Destroyers in Action, April 1944," *Canadian Defence Quarterly* 19, no. 3 (Winter 1989): 54-56; Peter A. Dixon, "'I Will Never Forget the Sound of those Engines Going Away': A Re-Examination of the Sinking of HMCS *Athabaskan*, 29 April 1944," *Canadian Military History* 5, no. 1 (1996): 16-25.

<sup>1025</sup> Zimmerman, *Maritime Command Pacific*, 12-15; Davis, "The 'St Laurent' Decision", 189-190.

<sup>1026</sup> Milner, *Canada's Navy*, 162-163.

<sup>1027</sup> Milner, *Canada's Navy*, 160-163.

RCN would be used for Canada's foreign and defence policy.<sup>1028</sup> The lack of clear direction for the RCN's role in Canadian seapower and associated lack of operational demand were perhaps a good thing at this time, given the navy's difficulties in retaining and recruiting personnel.<sup>1029</sup> As part of the RCN's rapid postwar demobilization, the number of naval personnel shrunk by 83% between April 1945 and early 1946.<sup>1030</sup> This would continue through to 1947, and such limited numbers of personnel resulted in great difficulties in crewing the ships that remained in service with many of them relegated to training roles.<sup>1031</sup> Thus, even had the Canadian government given a clear operational mandate for the RCN, there would likely have been insufficient personnel to crew enough ships to carry out such a mandate. It was a stark reminder that seapower inputs required not just ships, but personnel as well.

Politically, the continued existence of an RCN fleet was due in part to similar sovereignty concerns that the smaller Scandinavian states had to deal with in the previous chapters vis-à-vis the American juggernaut. Much as the Norwegians had to "screen" against an over-enthusiastic US presence to avoid antagonizing the Soviets, the Canadians were also concerned about the Americans taking defence matters into their own hands should Canada refuse to put in an adequate effort.<sup>1032</sup> How much effort would be deemed adequate was a major point of division between Canada's wartime Prime Minister Mackenzie King and his naval minister, Angus Macdonald, who supported the RCN's desires for a two-carrier navy.<sup>1033</sup> King's objection to an overly large RCN was also driven by his desire to keep Canada from deepening its ties to British imperialist interests in southeast Asia.<sup>1034</sup> A larger RCN would have to be provided by the British in terms of materiel and doctrine (especially when it came to naval

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<sup>1028</sup> Milner, *Canada's Navy*, 164.

<sup>1029</sup> Zimmerman, *Maritime Command Pacific*, 15.

<sup>1030</sup> Zimmerman, *Maritime Command Pacific*, 15.

<sup>1031</sup> Milner, *Canada's Navy*, 166.

<sup>1032</sup> Milner, *Canada's Navy*, 158.

<sup>1033</sup> Milner, *Canada's Navy*, 158-159.

<sup>1034</sup> Milner, *Canada's Navy*, 159.

aviation), while operations would almost certainly involve closer integration with the Royal Navy.<sup>1035</sup> Indeed, had the war gone on longer, the Royal Navy was to lease two light carriers to Canada, but only on the condition that they operate alongside British forces in the Pacific.<sup>1036</sup> With the war's end, the second carrier never came to fruition, while *Warrior* became a contentious unit in terms of both the aforementioned navy-government debate and within the navy given its high requirement for limited numbers of regular force sailors.<sup>1037</sup> The primary function of *Warrior* and its destroyer consorts was not initially to refight the antisubmarine Battle of the North Atlantic, nor indeed any particular sea control scenario with a clearly-defined opposition.<sup>1038</sup> In this light, their role was essentially diplomatic and aimed at convincing the Americans that Canada can secure its own waters, thereby reducing the likelihood of Canada being reduced "in status to the level of Mexico and other Latin-American satellites."<sup>1039</sup> Canadian naval seapower, in this brief postwar period, can be described as predominantly aimed at influencing the Americans at a political level rather than contesting and exercising sea control against some enemy naval force. In terms of its force structure, the RCN consisted of "smaller versions of the fleet units employed by the large navies", which is consistent with how some observers have characterized smaller navies as simply miniature versions of a large navy.<sup>1040</sup> This "miniature large navy" served perhaps most usefully as a way to retain expertise and personnel until the postwar strategic vacuum could be resolved.

This strategic uncertainty would be short-lived. As this section will demonstrate, the RCN would become a specialist in blue water anti-submarine warfare to the detriment of any other realm of naval warfare for the duration of the Cold War. The force structure that enabled this would have enduring

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<sup>1035</sup> Milner, *Canada's Navy*, 159-160.

<sup>1036</sup> Milner, *Canada's Navy*, 160.

<sup>1037</sup> Milner, *Canada's Navy*, 164-165.

<sup>1038</sup> Davis, "The 'St Laurent' Decision," 193.

<sup>1039</sup> Milner, *Canada's Navy*, 158.

<sup>1040</sup> Elliot-Meisel, "Arctic Focus: The Royal Canadian Navy in Arctic Waters," 123.

consequences for not just the post-Cold War military role of the RCN, but its participation in the constabulary missions at the outer edges of the 200 NM Exclusive Economic Zone that will be detailed in Part III. To understand how the RCN contributed to both military and constabulary roles in the open ocean, it is necessary to first detail the composition of its Cold War force structure and how it came to be, which will be the focus of the remainder of this Part II of the chapter.

### *7.2.1 Becoming an ASW Sea Denial Navy*

Between 1947 and the 1949 signing of the North Atlantic Treaty, several key Canadian naval officials were already convinced that the RCN's future wartime role would be contesting sea control against Soviet submarines.<sup>1041</sup> Such a role would require new vessels able to tackle the new Soviet submarines built upon the German Type XXI design with its increased underwater endurance and speed that made it such a more challenging adversary than the Type VIIIs and Type IX that formed the core of the RCN's anti-submarine warfare (ASW) experience.<sup>1042</sup> However, the actual strategic scenario and questions of how and by whom would successful sea control be exercised (as opposed to contested) would not be addressed until after the formation of NATO.<sup>1043</sup> Canada becoming a founding member of the North Atlantic Treaty in 1949 followed by the Soviet Union's growing submarine force capable of Atlantic operations through the 1950s solidified the notion that Canada's navy would require intensified material investments and operational capability for open-ocean antisubmarine warfare. In the parlance of this dissertation, this meant Canadian seapower in wartime required a fleet designed for high-

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<sup>1041</sup> Davis, "The 'St Laurent' Decision," 195-197.

<sup>1042</sup> Of the fifteen German submarine sunk by the RCN during the Second World War, five were Type IX while the rest were Type VIIC or Type VIIA: Guðmundur Helgason, "U-boats sunk by the Canadian Navy," *UBoat.net*, 2021, [https://uboat.net/allies/ships/rcn\\_victories.htm](https://uboat.net/allies/ships/rcn_victories.htm). The Zulu class was the first postwar Soviet submarine to significantly incorporate lessons learned from the German Type XXI, making them the likely candidates to operate in the mid- and western Atlantic versus the much more numerous Whiskey class: Norman Polmar and Jurrien S. Noot, *Submarines of the Russian and Soviet Navies: 1718-1990* (Annapolis: Naval Institute Press, 1991), 136-138, 148-149, 283.

<sup>1043</sup> Davis, "The 'St Laurent' Decision," 195-197.



intensity sea control contestation to ensure NATO could use the North Atlantic seas as a means of transportation. Such a fleet did not have to exercise that control to any significant extent, however, as the actual transportation of reinforcements and supplies to Europe would be carried on non-Canadian assets.<sup>1044</sup> While the Canadian merchant marine was the world's fourth largest coming out of the Second World War, lack of market demand for Canadian-flagged shipping made it no longer economical to maintain a fleet that would allow Canada to independently exercise sea control for the purposes of transportation. In contrast to the wartime and enduring postwar survival of the Norwegian and Danish merchant fleets, Canada's large merchant fleet during the war was only possible due to wartime measures allocating a set percentage of Allied shipping to Canada rather than due to favourable market conditions.<sup>1045</sup> Despite this inability to exercise sea control, Canada's geopolitical position as the western anchor of the trans-Atlantic sea and air transportation routes made it indispensable for carrying what would be known as "the Third Battle of the Atlantic".<sup>1046</sup>

For the RCN's sole aircraft carrier (initially *Warrior*, then the Majestic-class *Magnificent* from 1948-1957, and finally the *Bonaventure* from 1957-1970<sup>1047</sup>) this ASW focus meant an airwing that had to shift its focus more wholly onto antisubmarine warfare via aircraft like the legacy Avengers and new CS2F Tracker in place of the Sea Furies and Banshee fighter-bombers.<sup>1048</sup> For the rest of the fleet, the more advanced Soviet submarines meant existing Second World War-era equipment had to be

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<sup>1044</sup> Eric Grove and Geoffrey Till, "Anglo-American Maritime Strategy in the Era of Massive Retaliation, 1945-60," in *Maritime Strategy and the Balance of Power: Britain and American in the Twentieth Century*, eds. John B. Hattendorf and Robert S. Jordan (London: The MacMillan Press Ltd: 1989), 278; Isabel Campbell, "Canadian Insights into NATO Maritime Strategy, 1949-70: The Role of National and Service Interests," *The Northern Mariner* 15, no.3 (July 2015): 252.

<sup>1045</sup> Milner, *Canada's Navy*, 166-167.

<sup>1046</sup> James Foggo III and Alarik Fritz, "The Fourth Battle of the Atlantic," *USNI Proceedings* 142, no. 6 (June 2016): 1360.

<sup>1047</sup> The ASW capability of the ship was also augmented in 1965 by the introduction of the Sea King helicopters. J. Allan Snowie, *The Bonnie: HMCS Bonaventure* (Erin, ON: The Boston Mills Press, 1987), 185, 305, 331-332.

<sup>1048</sup> Campbell, "Canadian Insights into NATO Maritime Strategy," 248, 252; Snowie, *The Bonnie*, 71, 155, 183. While the Banshees and Trackers replaced the Sea Furies and Avengers, respectively, the Banshees would be removed in 1962 without replacement.

upgraded. This meant not only the sonars for detecting submarines, but weapons that would be more advanced than the wartime Hedgehogs.

The most immediate development was the recommissioning and refitting of the twenty-one surviving River-class frigates between 1953 and 1958 to the *Prestonian* standard, named for the first ship to receive the refit.<sup>1049</sup> These refits removed the Hedgehog and stern depth charges, replacing them with a pair of “Squid” anti-submarine mortars on the newly-enclosed quarter deck.<sup>1050</sup> The Squids were a second-generation ahead-throwing antisubmarine weapon developed during the latter portion of the Second World War.<sup>1051</sup> They consisted of two trainable triple-barreled mortars that would throw depth charges 250m ahead of the ship, which was a significant increase compared to the Hedgehogs’ 183m range.<sup>1052</sup> Each Squid projectile was also much more powerful (177kg versus the Hedgehog’s 29.5kg), had a higher sinking speed to reduce opportunities for enemy submarine evasive actions, and were automatically controlled by the ship’s ASDIC/sonar suite in terms of both explosion depth and firing time.<sup>1053</sup> In essence, it combined the Hedgehog’s ahead-throwing benefits with the high explosive power of conventional depth charges while increasing the integration between sensor and weapon. During the war, Squid achieved kill-to-attack ratios that were 33% greater than Hedgehog and 6.5 times higher than traditional depth charges.<sup>1054</sup> Thus, even though the Squid installation on the *Prestonians* came nearly a

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<sup>1049</sup> Ken Macpherson, *Frigates of the Royal Canadian Navy 1943-1974* (St. Catharines, ON: Vanwell Publishing Limited, 1989), 7, 77; Roger G. Steed, *Canadian Warships Since 1956* (St. Catharines, ON: Vanwell Publishing Limited, 1999, 24, 42.

<sup>1050</sup> Macpherson, *Frigates of the Royal Canadian Navy*, 15, 57.

<sup>1051</sup> Sandy McClearn, “Canadian Navy Anti-Submarine Weapons and Torpedoes,” *Haze Gray and Underway*, 2006, <https://www.hazegray.org/navhist/canada/systems/asw/>; Tony DiGiulian, “United Kingdom/Britain: ASW Weapons,” *NavWeaps: Naval Weapons, Naval Technology and Naval Reunions*, December 4, 2020, [http://www.navweaps.com/Weapons/WAMBR\\_ASW.php](http://www.navweaps.com/Weapons/WAMBR_ASW.php).

<sup>1052</sup> DiGiulian, “United Kingdom/Britain: ASW Weapons.”

<sup>1053</sup> DiGiulian, “United Kingdom/Britain: ASW Weapons.”; Anti-Submarine Warfare Division, *A.C.B. 0233/43 (5): South-west Pacific Anti-Submarine Report: October, 1943*, Ledger 59, Australian Defence Force Archive, 38, [https://www.navy.gov.au/sites/default/files/documents/1943\\_October.pdf](https://www.navy.gov.au/sites/default/files/documents/1943_October.pdf).

<sup>1054</sup> DiGiulian, “United Kingdom/Britain: ASW Weapons.” Between July 1944 and May 1945, ships equipped with two Squids had a 41% kill-to-attack ratio, while Hedgehogs were at 30% and traditional depth charges had only 6.3%. Data before this period is excluded as dual-Squids had not yet been used in combat. This also helps account for tactical maturation across all weapon types by this stage of the war.

decade after the weapon's introduction, they were a relatively expedient way to install major improvements in the ships' ASW capability.

The anti-aircraft armament was also improved to some extent, with the four twin 20mm Oerlikons replaced with six 40mm Bofors guns.<sup>1055</sup> New radars and sonars supported these new weapons.<sup>1056</sup> A new, enlarged enclosed bridge provided additional shelter from the elements. Despite the large number of ships upgraded, the *Prestonians* contributed relatively little to Canada's potential wartime seapower and were, "at best, a stopgap measure."<sup>1057</sup> Although the *Prestonians* were significantly larger and more seaworthy than the venerable Flower class that formed the North Atlantic convoy backbone, they were still relatively small ships with limited remaining service lives and were further hampered by a low top speed deemed inadequate for chasing down the new submarines.<sup>1058</sup> As a result, they spent much of their refitted lives as training ships for cadets and as test ships for new operational concepts.<sup>1059</sup> The former was emphasized in the seven *Prestonians* assigned to the Pacific fleet, which had additional accommodations and training apparatuses installed.<sup>1060</sup> Their experimentation role was perhaps most sharply demonstrated by HMCS *Buckingham*, which had a temporary platform on its stern to support trials with operating helicopters from smaller naval ships.<sup>1061</sup> As will be seen shortly, *Buckingham's* helicopter trials paved the way for Canada pioneering the use of large anti-submarine helicopters for contesting sea control in a prospective wartime North Atlantic.

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<sup>1055</sup> Macpherson, *Frigates of the Royal Canadian Navy*, 15, 57.

<sup>1056</sup> Steed, *Canadian Warships Since 1956*, 27; Sandy McClearn, "Canadian Navy SONAR Systems," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/systems/sonar/>; Jerry Proc, "ASDIC/SONAR Equipment Types – Section B," *ASDIC, RADAR and IFF SYSTEMS as used by the RCN: WWII and Post War*, January 16, 2021, [http://jproc.ca/sari/asd\\_et2.html](http://jproc.ca/sari/asd_et2.html).

<sup>1057</sup> Zimmerman, *Maritime Command Pacific*, 87.

<sup>1058</sup> Zimmerman, *Maritime Command Pacific*, 86.

<sup>1059</sup> Steed, *Canadian Warships Since 1956*, 24.

<sup>1060</sup> Steed, *Canadian Warships Since 1956*, 24, 28. There were initially eight assigned, but HMCS *New Waterford* was soon transferred to the Atlantic at the end of 1959; Zimmerman, *Maritime Command Pacific*, 96, 98.

<sup>1061</sup> Macpherson, *Frigates of the Royal Canadian Navy*, 60.

The twenty-one *Prestonians*, though by far the most numerous, were not the only ships in the RCN brought out of mothballs to receive increased ASW capability via extensive modernization. The ten larger destroyers also received new sensors and weapons as part of their conversions from DD (destroyer) to DDE (escort destroyer) configurations. While the seven Tribal class received relatively simple improvements in the form of Squid launchers replacing legacy depth charges and rear 4" guns, the C-class *Crescent* and V-class *Algonquin* underwent much more drastic 2.5-year-long modernizations.<sup>1062</sup> These two were converted in line with what the British called the "Type 15 frigate", which sought to make Second World War fast destroyer hulls into more effective anti-submarine assets.<sup>1063</sup> *Algonquin* came out of its refit in 1953 and *Crescent* in 1956 with dramatically different silhouettes and weaponry. Everything above the main deck was removed and replaced with a new aluminium superstructure to provide larger enclosed spaces for the crew, including the new operations room concept such as that demanded by the Norwegians and Danes on their ships of the period.<sup>1064</sup> A pair of new dual 4" and 3" guns provided improved anti-aircraft capability, while two of the new triple-barreled "Limbo" ASW mortars provided the bulk of the new antisubmarine capability.<sup>1065</sup> Conceptually similar to the simpler wartime Squid, the Limbos had greater range, stabilized mounts, and variable launch angles to improve effectiveness against submarines.<sup>1066</sup> These modifications served not only to improve the effectiveness of the pair of veteran destroyers for contesting sea control, but to also trial

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<sup>1062</sup> Sandy McClearn, "Tribal Class," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/postwar/tribww2/>; Sandy McClearn, "'V' Class," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/ww2/v/>; Sandy McClearn, "'Cr' Class," *Haze Gray and Underway*, 2006, <http://www.hazegray.org/navhist/canada/postwar/c/>; Chris Fraser, "Official History of HMCS Algonquin (I)," *CFB Esquimalt Naval & Military Museum*, 2021, <https://navalandmilitarymuseum.org/archives/articles/ship-histories/hmcs-algonquin-1st/>; Chris Fraser, "Official History of HMCS Crescent," *CFB Esquimalt Naval & Military Museum*, 2021, <https://navalandmilitarymuseum.org/archives/articles/ship-histories/hmcs-crescent/>.

<sup>1063</sup> McClearn, "'Cr' Class."

<sup>1064</sup> Ron Barrie and Ken Macpherson, *Cadillac of Destroyers: HMCS St. Laurent and Her Successors* (St. Catharines, ON: Vanwell Publishing Limited, 1996), 10.

<sup>1065</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 10-11.

<sup>1066</sup> DiGiulian, "United Kingdom/Britain: ASW Weapons."

key design and equipment concepts being considered for the first new-built combatants of the postwar period: the St. Laurent-class destroyer escorts.<sup>1067</sup> To a lesser extent, the V-class *Sioux* also helped prototyped some of the *St. Laurents'* innovations in the form of improved habitability standards with “bunks, cafeteria messing, modern gallery facilities, more recreation space, and so on.”<sup>1068</sup>

In sum, the 1950s RCN was rapidly turning towards a blue water ASW role. This called for relatively large vessels that could carry the array of ASW sensors and weapons necessary to detect, track, and destroy Soviet submarines in the North Atlantic. This transition towards an ASW navy would be solidified with the arrival of the St. Laurent-class destroyer escorts discussed in the following section. Understanding the extent to which the RCN embraced blue water ASW is key to the later parts of this chapter, which argues the ASW fleet provided Canada with a ready-fleet of *ad hoc* fisheries inspection vessels when the time came to enforce its new 200 NM offshore zones.

### *7.2.2 The St. Laurent-Class Destroyer Escorts and the new ASW RCN*

In the absence of wartime emergency requirements, more time and money could be spent on designing a new vessel that could make the best use of the latest equipment and allow their crews to serve more comfortably in the heavy North Atlantic weather. This would allow each ship to carry out more effective sea control contestation for a greater period of time on the open oceans should the envisioned high-intensity warfare scenario come to fruition, maximizing Canadian compulsive seapower in wartime despite limited personnel and resources. The first of the post-war designs was the St. Laurent-class destroyer escort (DDE). Much as the Norwegians' 1960 Fleet Plan formed the basis of their fleet architecture for the remainder of the Cold War, the Canadians' St. Laurent class and their variants

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<sup>1067</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 10.

<sup>1068</sup> Davis, “The ‘St Laurent’ Decision”, 202-203.

would form the backbone of the RCN's force structure until the 1990s. Therefore, they deserve a deeper examination in this section.

At 2800 tons full load and 112m long, the *St. Laurents* were larger than the 2216 tons and 92m long Prestonian-class frigates, but not too much more than the wartime destroyers that formed the core of the RCN's multimission surface combatants.<sup>1069</sup> This reflected the fairly short time between the end of the Second World War and their conception. Following the Canadian Cabinet Defence Committee's October 1948 approval for a new naval program, the seven *St. Laurents* were laid down between 1950 and 1952 with each taking approximately five years to be built and commissioned.<sup>1070</sup> While the initial approval was for only three of the class, the advent of the Korean War galvanized the Canadian government's Cabinet Defence Committee to approve the remaining four ships.<sup>1071</sup> The naval program overall was in no small part made possible by the Lester B. Pearson government's turn towards an internationalist foreign policy.<sup>1072</sup> This stands in contrast to the Danish situation, where the previous chapter illustrated how the Danish navy's local defence requirements were at odds with Denmark's internationalist foreign policy. Such a contradiction was not apparently the case with Canada, where its naval defence needs required vessels designed for long-endurance operations on the high seas and could therefore also be employed for internationalist objectives far away overseas.

The rapidity with which the *St. Laurents* were ordered after the war also reflected Canada's evolution during the war as a major shipbuilding country. It now had shipyards from coast to coast that were both available and in need of sustainment in the face of reduced demand for Canadian-built

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<sup>1069</sup> Steed, *Canadian Warships Since 1956*, 50; Ken Macpherson and Ron Barrie, *The Ships of Canada's Naval Forces 1910-2002* (St. Catharines, ON: Vanwell Publishing, 2002), 59, 63, 67; Macpherson, *Frigates of the Royal Canadian Navy*, 15; Barrie and Macpherson, *Cadillac of Destroyers*, 17; Sandy McClearn, "Tribal Class (DD/DDE) destroyer/destroyer escort," *Haze Grey & Underway*, 2006, <http://www.hazegray.org/navhist/canada/postwar/tribww2/>; McClearn, "V class". The wartime destroyers varied in displacement, with the refitted *Algonquin* at 2700 tons full load and 110m long, and the Tribal class at 2800 tons full load and 115m long.

<sup>1070</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 9, 17; Davis, "The 'St Laurent' Decision," 208.

<sup>1071</sup> Davis, "The 'St Laurent' Decision," 201, 203.

<sup>1072</sup> Milner, *Canada's Navy*, 177.

merchant shipping.<sup>1073</sup> The Canadian government had tasked the Canadian Maritime Commission (CMC) with initially advising on, then eventually full responsibility for, how to sustain the shipbuilding industry. It soon became evident that without adequate market demand for commercial shipping, Canadian shipyards could survive only on government contracts. As naval historian Marc Milner noted, “for domestic political and economic reasons, and for strategic purposes in the event of war with the Soviet Union, building for the RCN became the prop for the Canadian shipbuilding industry”.<sup>1074</sup> With the CMC’s power to “allocate” shipbuilding work to yards without competitive bidding, much friction and delay was likely allayed, allowing contracts to be signed months before the ships’ detailed requirements had been finalized.<sup>1075</sup> The survival of the shipbuilding industry was rarely far from the minds of those making procurement decisions, even when such decisions were seemingly driven by acute international events and military needs. For instance, the Cabinet Defence Committee’s discussions following the July 1950 decision to procure the latter four *St. Laurents* recognized the benefits this would have at the domestic level, with an August memorandum stating “the proposed program will give very substantial assistance to the Canadian Shipbuilding Industry.”<sup>1076</sup> Catalyzed by both the Soviet’s successful first nuclear test in 1949 and subsequent Korean War, this essentially resulted in a “blank cheque” for the *St. Laurent* program, since “no one...knew just how much the final ships would cost.”<sup>1077</sup> In terms of budget, project scope, and speed of construction, the contrast between Canada as a “Middle Power” unravaged by war versus the two small occupied powers of Norway and Denmark could barely be more stark. As discussed in Chapters 5 and 6, these two could only choose between various suboptimal second-hand wartime vessels until the late 1950s.

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<sup>1073</sup> Milner, *Canada’s Navy*, 166-167, 179.

<sup>1074</sup> Milner, *Canada’s Navy*, 179.

<sup>1075</sup> Davis, “The ‘St Laurent’ Decision,” 202, 208.

<sup>1076</sup> Memorandum to Cabinet Defence Committee, RG24 NSS 1650-26/NSS 2200-50 of 17 August 1950, as cited in Davis, “The ‘St Laurent’ Decision,” 203.

<sup>1077</sup> Milner, *Canada’s Navy*, 182, 195.

Designed in Canada under the direction of Royal Navy Constructor Captain Rowland Baker, the *St. Laurents* made extensive use of aluminium and heated enclosed spaces to reduce topside weight and the effects of ice accumulation outside the ship.<sup>1078</sup> It is noteworthy that much of the ship's design requirements was iterated and finalized during the summer of 1949 alongside the imminent test of the Soviet Union's first atomic bomb in August that year.<sup>1079</sup> While evidence is scant regarding the degree of influence the latter may have had on the ship's final configuration, the ships' designers recognized the potential need to operate in a radioactive environment. They thus equipped them with both a pre-wetting system to reduce radioactive materials from accumulating on the ship's exterior, as well as an interior that could be atmospherically sealed off from the outside environment.<sup>1080</sup> This ensured the ship could operate safely in an irradiated environment while carrying out its wartime sea control function of antisubmarine warfare. The weapons for the latter would be via Limbo mortars and fitted-for-but-never-with homing torpedoes (options under consideration included British BIDDEN, American Mk 35, or modified American Mk 32).<sup>1081</sup> The Limbos provided a medium-range (2500 yards) ASW weapon, while the torpedoes were to offer a longer range (5000 yards) capability to take advantage of the new longer-ranged sonars.<sup>1082</sup> Consistent with their ASW-centric design, the *St Laurents'* only weapon for anti-ship and anti-air defence were radar-guided dual 3"/50 guns from the Americans.<sup>1083</sup>

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<sup>1078</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 9.

<sup>1079</sup> Davis, "The 'St Laurent' Decision," 202.

<sup>1080</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 10.

<sup>1081</sup> Norman Friedman, *The Postwar Naval Revolution* (London: Conway Maritime Press, 1986), 161; Canadian War Museum, "Homing Torpedo Model," *Canadian War Museum*, <https://www.warmuseum.ca/collections/artifact/1035277>.

<sup>1082</sup> Friedman, *The Postwar Naval Revolution*, 75. Friedman does not indicate why BIDDEN failed to enter widespread service, while it appears the Mark 35 suffered from a lack of reliability when used against a maneuvering submarine: James V. Shannon, "Post-World War II Acoustic [sic] ASW Torpedo Development: A brief history of the MK-35, MK-41, MK-43 and MK-44," *Navweaps: Naval Weapons, Naval Technology and Naval Reunions*, June 14, 2002, [http://www.navweaps.com/index\\_tech/tech-082.php#Torpedo\\_MK-35](http://www.navweaps.com/index_tech/tech-082.php#Torpedo_MK-35).

<sup>1083</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 11, 17.



Illustrating the vast size difference between Canada as a medium-sized country and smaller NATO countries like Norway and Denmark, there was no apparent major concern about either the higher crew demands of the RCN's more heavily-armed warships or the sheer difference in number of vessels.<sup>1084</sup> The twenty-one *Prestonian* frigates, ten wartime destroyers, fourteen new destroyer escorts, aircraft carrier, and fourteen new Bay-class minesweepers individually and collectively had crewing requirements that would far outstrip the capacity of smaller navies.<sup>1085</sup> Each of the new minesweepers alone required a crew of thirty-eight, which stands in stark contrast to the much smaller Norwegian navy's continued quest during the same period for offshore patrol ships with even fewer crewmembers.<sup>1086</sup> The ease by which the RCN was able to crew both the re-commissioned and new-built vessels led to the mid-late 1950s being described as a "Golden Age" of the RCN.<sup>1087</sup> This is not to say the RCN never experienced retention and recruitment problems. The immediate postwar years certainly saw a challenge between demobilizing the thousands of temporary wartime reservist sailors versus growing the permanent professional force. As mentioned previously, this problem was most severe in 1947, which saw twice the number of people leaving the RCN than joining it.<sup>1088</sup> Thankfully for the new and growing fleet, it was not a problem that lingered into the fifties, with recruitment tripling following the start of the Korean War just in time to help crew the new *St. Laurents* and recommissioned *Prestonians*.<sup>1089</sup>

In contrast to the Norwegian focus on littoral anti-submarine warfare, the RCN's concern lied much farther in the offshore. This was driven by the rapid developments in nuclear-armed cruise missile-launching submarines. In the 1950s, much of this concern was driven by the United States' own

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<sup>1084</sup> Zimmerman, *Maritime Command Pacific*, 113-114.

<sup>1085</sup> Macpherson and Barrie, *The Ships of Canada's Naval Forces*, 67, 239, 242, 244, 251, 256, 260, 271.

<sup>1086</sup> Macpherson and Barrie, *The Ships of Canada's Naval Forces*, 271; see Chapter 5: Norway, pages 189 and 192 for discussions of crewing concerns in the Norwegian navy.

<sup>1087</sup> Zimmerman, *Maritime Command Pacific*, 113.

<sup>1088</sup> Milner, *Canada's Navy*, 184.

<sup>1089</sup> Milner, *Canada's Navy*, 195.

experiments with systems like the Regulus missile, which could be carried in limited numbers by modified diesel-electric submarines and used to attack fixed land targets with a nuclear warhead. For Canada's Pacific fleet, this meant establishing an ASW "barrier" some 500 nautical miles from Vancouver Island, which reflected the maximum distance from shore where a Soviet diesel submarine would have to submerge in order to reach its missile launch point without having to snorkel and be more easily located.<sup>1090</sup> The Atlantic coast was also concerned about the land-attack threat posed by Soviet submarines, which was compounded by the rapid development of nuclear-powered Soviet submarines in the 1960s that could threaten North Atlantic convoys and helped spur the development of ASW weapons and equipment that would populate the RCN's Atlantic forces.<sup>1091</sup> The Cuban Missile Crisis of 1962 helped put this into practice, where the ASW-centric carrier HMCS *Bonaventure* and its escorts cut short a port visit in the United Kingdom to provide the north end of the mid-Atlantic "picket line" aimed at detecting Soviet submarines heading to Cuba.<sup>1092</sup> Although this was an instance where Soviet submarines were escorting their own surface shipping rather than attacking NATO ones, the RCN's ASW challenge was nonetheless front and centre. Thus, while the Pacific fleet was concerned with contesting sea control against an enemy that sought to exercise control for land attack via cruise missiles, the Atlantic fleet had to become competent in contesting control against an enemy that would attempt to both use the seas as a source of power projection and use or deny the use of the seas as a means of transportation. Canada's compulsive seapower, as embodied within the RCN, was centered upon the tactical ability to deny Soviet submarines from attacking continental or seagoing targets.

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<sup>1090</sup> Zimmerman, *Maritime Command Pacific*, 99.

<sup>1091</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12-13; for a detailed discussion on the threat of Soviet submarine-launched missiles in the Atlantic, see Michael Whitby, "A "New Look" at Cold War Maritime Defense - The Royal Canadian Navy's Seaward Defence Report and the Threat of the Missile-Firing Submarine, 1955," *Naval War College Review* 73, no. 4 (Autumn 2020).

<sup>1092</sup> Snowie, *The Bonnie*, 159.

By the end of the 1950s, the RCN force structure had transitioned from a multirole fleet that could perform anti-air and anti-surface warfare to a moderate extent to a fleet that was state-of-the-art in terms of anti-submarine warfare. Through to 1964, the fleet's Second World War legacy units would be replaced by further developments of the *St. Laurents*, namely the seven *Restigouches*, four *Mackenzies*, and two *Annapolises*, as well as major modifications to some of the original *St. Laurents* themselves.<sup>1093</sup> The improvements to each successive class centered on gradually improving the ships' antisubmarine capability. Perhaps the most striking development in this regard was the installation of a hangar and flight deck for the large CH-124 Sea King helicopters on the two Annapolis class and all seven of the *St. Laurents*, which turned them in "DDH" or helicopter-carrying destroyers.<sup>1094</sup> The aforementioned trials on the frigate HMCS *Buckingham* helped lay the groundwork for this capability.<sup>1095</sup> These refits and the Sea King helicopters to accompany them were completed by May 1967, when HMCS *Annapolis* became the first ship to host its own operational helicopter detachment.<sup>1096</sup>

Operating a large helicopter from a small flight deck in heavy seas was a challenge that was addressed through two major pieces of equipment. These were the invention and installation of the "Beartrap" helicopter haul-down and traverse system and active fin stabilizers to reduce the ship's motions to reduce the stress on the Beartrap.<sup>1097</sup> The Beartrap made it possible to handle such a large helicopter and land them through a greater range of operating limits even after the ship's motion had been reduced via the stabilizers. This is not to say that a well-trained helicopter pilot could not

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<sup>1093</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12-13, 17, 37, 52, 58.

<sup>1094</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12-13; Milner, *Canada's Navy*, 259.

<sup>1095</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12; John L. Orr, "'We Came To Mow Your Lawn': How and Why Canada Acquired the Sikorsky Sea King Helicopter," in *Wings for the Fleet: Fifty Years of the Canadian Sea King*, Sic Itur Ad Astra: Canadian Aerospace Power Studies Volume 5, ed. W. A. March (Canadian Forces Aerospace Warfare Centre Production Section, 2015), 16-17.

<sup>1096</sup> Milner, *Canada's Navy*, 259.

<sup>1097</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12-13; Jason Delaney, "Seasprite to Sea King: The Royal Canadian Navy's Ship-borne Antisubmarine Helicopter Capability," in *Wings for the Fleet: Fifty Years of the Canadian Sea King*, Sic Itur Ad Astra: Canadian Aerospace Power Studies Volume 5, ed. W. A. March (Canadian Forces Aerospace Warfare Centre Production Section, 2015), 37-38.

otherwise land, as the Danish experience with their Hvidbjørnen and Thetis-class patrol ships showed in the last chapter. However, the Danish ships, which otherwise sail in similar weather and sea states as the Canadian Atlantic fleet, operated much smaller helicopters (the 2.3 ton Alouette IIIs at first, followed by the 5.9 ton Lynx) compared to Canada's 10.3 ton Sea Kings.<sup>1098</sup> The smaller size also likely made for easier handling on deck across a wider range of conditions, with the Danes utilizing wire-and-winch handling mechanisms that are lighter and can be less automated than the elaborate Beartrap.<sup>1099</sup>

The larger size of the Sea Kings provided them with longer endurance, range, and payload for both antisubmarine sensors and torpedoes that would allow them to both search for and destroy submarines.<sup>1100</sup> With the advent of fast Soviet nuclear-powered submarines in the open ocean of the North Atlantic, there was a need to extend the ASW detection and attack ranges of the destroyers, and the Sea Kings provided the outermost cordon in this regard.<sup>1101</sup> These attributes provided Canadian naval forces with much greater sea control contestation capabilities in wartime against open-ocean submarines than their Arctic NATO allies that were otherwise concerned with coastal submarine threats.<sup>1102</sup>

All together, these twenty new destroyer escorts would form the backbone of the RCN's wartime sea denial fleet for the remainder of the Cold War and for some years after, with their armaments and capabilities ruthlessly centered upon ASW at the expense of anti-ship and anti-air warfare. But unlike their Norwegian and Danish counterparts, the RCN's Cold War fleet never received

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<sup>1098</sup> Per Herholdt Jensen, *Atlantsejlerne: Flådens inspektionsskibe i 100 år* (Copenhagen: Aschehoug, 2005), 247; Royal Canadian Air Force, "CH-124 Sea King," *Government of Canada*, June 28, 2017, <http://www.rcf-arc.forces.gc.ca/en/aircraft-current/ch-124.page>.

<sup>1099</sup> Manufacturers of the rail-less wire-and-winch deck-handling solution are, unsurprisingly, keen to emphasize their solution is just as capable of safely moving the same helicopters around decks as their rail-based competitors: Brian J Thomson, "The Case for Rail-less Helicopter Handling," *MacTaggart Scott*, November 2020, [https://www.mactag.com/uploads/tinymce/The%20Case%20for%20RHH%20Paper\\_web1.pdf](https://www.mactag.com/uploads/tinymce/The%20Case%20for%20RHH%20Paper_web1.pdf). Jason Delaney notes the Sea Kings' large size meant maneuvering it into the hangar "could not be done manually": Delaney, "Seasprite to Sea King", 35.

<sup>1100</sup> Orr, "We Came To Mow Your Lawn," 18, 24; Delaney, "Seasprite to Sea King," 34.

<sup>1101</sup> Barrie and Macpherson, *Cadillac of Destroyers*, 12.

<sup>1102</sup> See Chapters 5 and 6.

the Harpoon anti-ship missile as it came online in the late 1970s. Likewise, the NATO Sea Sparrow surface-to-air missile system that was refitted onto the Norwegian Oslo- and Danish Pedar Skram-class ships was also never refitted onto the *St. Laurents* and their derivatives. Until the arrival of the Halifax-class frigates in the post-Cold War period, the RCN's anti-ship and anti-air capabilities were little improved from the end of the Second World War, much to the frustration of Canadian sailors as Soviet aerial antiship capabilities improved.<sup>1103</sup>

One exception to the RCN's aversion to updating its non-ASW weapons were the four Iroquois-class destroyers commissioned from the end of the 1960s. Ordered under the Liberal government's naval program promulgated in December 1964, the four destroyers doubled-down on the RCN's antisubmarine role by incorporating the latest technologies pioneered by the *St Laurent* derivatives.<sup>1104</sup> At over 4,633 tons, they were substantially larger than the existing destroyers in RCN service. In addition to the hull and variable depth sonars, Limbo, and MK 32 torpedo systems carried by their smaller consorts, the Iroquois' larger size allowed them to carry two (instead of one) Sea King helicopters, a 5"/54 OTO Melara multipurpose gun on the forecastle, and the then-new point defence Sea Sparrow surface-to-air missile.<sup>1105</sup> Illustrating the greater latitude towards experimental systems that a medium-sized navy can afford to pursue, the *Iroquois'* Sea Sparrow launching system was designed by Raytheon Canada.<sup>1106</sup> It was the first guided-missile point-defence system to be installed on an operational warship and predated the Sea Sparrow's consolidation into the NATO Seasparrow Missile (NSSM) program, which did not enter production until 1973.<sup>1107</sup> As a result, it utilized a unique internal storage-and-launch system rather than the Mk 29 trainable box launchers installed on later Sea Sparrow-

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<sup>1103</sup> Milner, *Canada's Navy*, 279.

<sup>1104</sup> Milner, *Canada's Navy*, 258.

<sup>1105</sup> Litton Systems Canada Limited, *CBS-H0001 REV N/C Combat System Familiarization Course Trainee Handout* (April 24, 1988), digitized in HTML format at [http://jproc.ca/rrp/iroq\\_280.html](http://jproc.ca/rrp/iroq_280.html); Milner, *Canada's Navy*, 259.

<sup>1106</sup> *Sisters of the Space Age*, directed by James Carney (1974; Montreal: National Film Board of Canada).

<sup>1107</sup> Charles L. Roe, "The NATO Seasparrow Missile Program," *Johns Hopkins APL Technical Digest* 12, no. 4 (1991), 319.

equipped vessels like the Norwegian *Oslos* and Danish *Peder Skrams*.<sup>1108</sup> The *Iroquois'* Sea Sparrow system was located forward and below the ship's bridge, where an enclosed space contained the magazine, loading mechanism, and launching arm for the missiles. When inactive, all of this was hidden behind a large rectangular door for protection, with a launcher in each of the port and starboard sides of the superstructure. When readied for firing, four missiles were loaded onto launch rails at the end of an overhead crane, the door slid down, the crane extended outside the ship's superstructure, the door slid back up to provide protection from the missile exhaust, and the rails with their missiles rotated and tilted to the necessary bearing before firing.<sup>1109</sup> The crane can then be retracted and the next four missiles reloaded. This system with its multiple moving parts has been assessed by some observers as rather cumbersome and less than optimal for its point-defence role against antiship missiles given the lengthy preparation and reloading time it required.<sup>1110</sup> As Canadian naval historian Marc Milner noted, "deployment from the housing took several minutes, and that much time was needed to warm the missile's guidance system...[r]eloading the launchers took nearly ten minutes."<sup>1111</sup> Even if the Sea Sparrows worked well in their intended role, it remained clear that the RCN paid relatively little attention to aerial threats during the majority of the Cold War. Given its emphasis on open-ocean sea control against submarines, this would have been a reasonable approach were it not for the fact that Soviet submarines were also being equipped with sea-skimming antiship missiles.<sup>1112</sup>

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<sup>1108</sup> Roe, "The NATO Seasparrow Missile Program," 319.

<sup>1109</sup> *Sisters of the Space Age*; Tyler Rogoway, "Canadian Destroyers had these Totally Wacky Sea Sparrow Missile Launcher Systems," *The Drive*, August 13, 2019, <https://www.thedrive.com/the-war-zone/29400/canadian-destroyers-had-these-totally-wacky-sea-sparrow-missile-launcher-systems>.

<sup>1110</sup> Rogoway, "Canadian Destroyers"; Harold A. Skaarup, "Royal Canadian Navy (RCN) Iroquois Class Destroyers," *Military History Books by Harold A. Skaarup*, July 31, 2021, <http://silverhawkauthor.com/royal-canadian-navy-rcn-19722017-destroyers-iroquois-class-hmc-siroquois-ddg-280-huron-ddg-281-athabaska-ddg-282-algonquin-ddg-283-1053.html>.

<sup>1111</sup> Milner, *Canada's Navy*, 275.

<sup>1112</sup> Milner, *Canada's Navy*, 276.

The general absence of guided anti-ship and anti-air weaponry did not mean the RCN ignored developments that occurred through the guided missile age, however. During the 1970s, many of the destroyers received significant upgrades to their armaments to keep pace with the nuclear-powered Soviet submarine threat. This required greater detection and engagement ranges, which would be made possible through advanced electronics and guided weaponry. In terms of weapons, this saw the replacement of legacy 3" guns with the ASROC (Anti-Submarine Rocket) rocket-delivered torpedo and MK 32 triple torpedo tubes.<sup>1113</sup> Both torpedo systems used the same MK 44 or later MK 46 lightweight torpedo, but while the MK 32 tubes used compressed air to push the torpedo into the water directly from the ship's deck, the ASROC comprised of the torpedo attached to the tip of a rocket motor. This rocket propelled the torpedo through the air before entering the water at up to 10,000 yards (9100m) from the ship.<sup>1114</sup> Combined with the MK 44's own 6,000 yard or MK 46's 8,000 yard range, this allowed the upgraded destroyers to attack Soviet submarines at as much as 18,000 yards from the vessel. This was an over seven-fold increase from the 2,500 yard range of the Limbos that preceded the ASROCs.<sup>1115</sup> In principle, this enabled destroyers without helicopters to attack Soviet submarines before they could enter firing range for their own torpedoes.<sup>1116</sup> Such extended ranges required requisite sensors to make full use of their range and here, too, new innovations were incorporated into the fleet.

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<sup>1113</sup> Four of the Restigouches received ASROC and MK 32 tubes with MK 46 torpedoes during their refit as "Improved Restigouches"; the four *Mackenzies* were West Coast ships, relegated to training roles but receiving the MK 32 tubes during their life extension refits in the 1980s; the two *Annapolises* were built with VDS and Limbo and received MK 32s only in the mid-1980s as part of DELEX.

<sup>1114</sup> Tony DiGiulian, "ASROC RUR-5A and VLA," *NavWeaps: Naval Weapons, Naval Technology and Naval Reunions*, March 30, 2014, [http://www.navweaps.com/Weapons/WMUS\\_ASROC.php](http://www.navweaps.com/Weapons/WMUS_ASROC.php).

<sup>1115</sup> Tony DiGiulian, "Torpedoes of the United States of America: Post-World War II," *NavWeaps: Naval Weapons, Naval Technology and Naval Reunions*, October 5, 2019, [http://www.navweaps.com/Weapons/WTUS\\_PostWWII.php](http://www.navweaps.com/Weapons/WTUS_PostWWII.php).

<sup>1116</sup> Soviet submarine non-nuclear homing torpedoes that were in service between 1950 and 1970 had ranges between 4,400 and 24,000 yards, averaging 15,600 yards between all models (though this does not account for the number of each type actually in service and thus says little about the type of torpedo a RCN destroyer was likely to encounter): Tony DiGiulian, "Torpedoes of Russia/USSR: Post-World War II," *NavWeaps: Naval Weapons, Naval Technology and Naval Reunions*, April 23, 2021, [http://www.navweaps.com/Weapons/WTRussian\\_post-WWII.php](http://www.navweaps.com/Weapons/WTRussian_post-WWII.php).

The major sensor development was the addition of the Variable Depth Sonar (VDS) to the sterns of both the DDEs/DDHs and the Iroquois class. Although qualitatively little different from the hull-mounted sonars previously in service, the detached nature of the VDS towed body allowed it send and receive sonar signals below temperature layers in the ocean depths. Such layers reflect sound, preventing them from being detected by sensors located on the opposite side of the layer boundary. This has enabled submarines to remain acoustically hidden from surface warships so long as they were below a certain depth. Complementarily, some layers can act as a duct to transmit sound through much longer distances than normally possible. A VDS is therefore useful for not just detecting submarines at deeper depths, but at longer distances as well. Their distance from the ship's hull also reduces sound interference from the ship itself. It should be noted that the installation of the VDS was not a direct reaction to the nuclear-powered Soviet submarine threat.

Research and development that led to a viable VDS had been ongoing since at least 1947 in Canada, when initial bathythermographs off the Scotia Bank were undertaken by HMCS *New Liskeard* to explore the seemingly unique underwater layers in that area.<sup>1117</sup> The first generation SQS-504 VDS (known as CAST/1/X during development) that were refitted on the *St. Laurents* "outranged the fleet-fit Type 144 [hull-mounted sonar] by a factor of five" despite being "essentially a post World War II directional sonar placed in a VDS body."<sup>1118</sup> A decade later, the second-generation SQS-505 VDS installed on RCN destroyers demonstrated an ability to detect submarine contacts from as far out as 27,500 yards during tests, and 15 miles during a seemingly casual "non-ASW passage".<sup>1119</sup> Given a large number of Soviet torpedoes' maximum range of 15,000 yards, the SQS-505's performance would seem to keep

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<sup>1117</sup> D.G. Brassington, "The Canadian Development of VDS," *Maritime Warfare Bulletin – Commemorative Edition* (1985), 45.

<sup>1118</sup> Brassington, "The Canadian Development of VDS," 54-55, 60. The Type 144 had a nominal range of 2500 yards: Proc, "ASDIC/SONAR EQUIPMENT TYPES – SECTION B."

<sup>1119</sup> It is uncertain whether these were in active or passive sensing mode. Brassington, "The Canadian Development of VDS," 62, 65.



pace with the threat.<sup>1120</sup> Importantly, a key requirement for the SQS-505 was to enable the new ASROC's maximum 18,000 yard range, and the sonar's performance certainly seemed to meet that requirement.<sup>1121</sup> Such performance was even further improved when employed by the newer, quieter Iroquois-class destroyers.<sup>1122</sup> Whatever the system's "true" performance (which likely varied depending on environmental variables), both generations of Canadian-developed VDS were deemed superior to options tested by the larger navies of the United Kingdom and United States, resulting in sales and adoptions by those and other navies.<sup>1123</sup> In the words of the SQS-505's development team leader, Commander Joe Stachon, this "converted Canada from a manufacturer of obsolescent, British sonar designs in the 50's to a designer and manufacturer of the most up to date sonar equipment anywhere."<sup>1124</sup>

The development of the VDS deepened Canada's blue water ASW role. Much as the Norwegians' seapower involved the use of their own defence industry to create specialized sensors and weapons in accordance with their littoral operating area, so, too, did Canada for its focus far from its shores to match the platforms they had acquired. From the VDS' origins as a bespoke solution to locating submarines in a singular area of water off the Canadian coast to a generalized solution for deep-water oceanic ASW, the VDS demonstrates the RCN's full embrace of its North Atlantic ASW role within a high-intensity wartime sea control situation. In Cold War exercises, the VDS combined with the large Sea King helicopter's dipping sonars appeared to have performed well, with Canadian units scoring multiple "kills" against surrogate Soviet submarine targets while escorting NATO units through the Greenland-Iceland-United Kingdom gap.<sup>1125</sup> From 1988 onwards, the introduction of the Canadian Towed Array

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<sup>1120</sup> See footnote 1116.

<sup>1121</sup> Brassington, "The Canadian Development of VDS," 61, 65.

<sup>1122</sup> Brassington, "The Canadian Development of VDS," 65.

<sup>1123</sup> Brassington, "The Canadian Development of VDS," 55, 64.

<sup>1124</sup> Brassington, "The Canadian Development of VDS," 59.

<sup>1125</sup> Eric Grove with Graham Thompson, *Battle for the Fjords: NATO's Forward Maritime Strategy in Action* (Annapolis: Naval Institute Press, 1991), 52, 67, 71, 75.

Sonar System (CANTASS) on Annapolis, Nipigon, and the future Halifax class further increased the degree to which Canadian warships could carry out advanced submarine detection.<sup>1126</sup> Although CANTASS employed the American AN/SQR-19 array for the sensor itself in order to save time, the signals and display processors were developed by Computing Devices in Nepean, Ontario. This was done to meet Canadian requirements, demonstrating Canada's continued ability to develop advanced ASW sensors technology through to the end of the Cold War.<sup>1127</sup>

All of these technical developments illustrated a single-mindedness on the part of the Canadian navy and its research and development institutions to focus on ASW. Although intraservice rivalries debated the extent to which the RCN should focus on ASW at the expense of exercising sea control to conduct shore bombardment or land troops for peacekeeping operations, limited funds led to the continuation of the ASW destroyer-centric fleet.<sup>1128</sup> Large-scale exercises with NATO in the late 1980s showed the limits of this niche approach, however. Even as the RCN became renowned for its open-ocean ASW capabilities in the North Atlantic, it also transited that same ocean to take on warfighting roles closer to European shores. Towards the 1980s with NATO adopting its more offensively-oriented "Forward Maritime Strategy" versus the Soviet Union, RCN vessels were called upon to play important ASW roles near Norwegian shores.<sup>1129</sup> As British naval historian/strategist Eric Grove details based on his personal experiences with the NATO task forces during the September 1988 Exercise *Teamwork*, Canadian DDEs and DDHs provided key ASW capabilities against surrogate targets on the way to and

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<sup>1126</sup> Richard Marchand, "CANTASS – Bringing ASW into the 21<sup>st</sup> Century," *Maritime Engineering Journal* (January 1989), 9, 13-14.

<sup>1127</sup> Marchand, "CANTASS," 9.

<sup>1128</sup> For an in-depth study on the debates over nuclear submarines, aircraft carriers, and ASW-centric destroyers that took place within the RCN during the 1950s-1960s, see Richard Oliver Mayne, "The Annapolis Riddle: Advocacy, Ship Design and the Canadian Navy's Force Structure Crisis, 1957-1965" (PhD diss., Queen's University, 2008).

<sup>1129</sup> Grove, *Battle for the Fjords*, 6, 8, 22-23. Grove notes that although this new strategy is often thought of as an extension of the Americans' "Maritime Strategy" promulgated that decade, many of the concepts embodied in the American concept had already been developed and practiced to some degree within NATO circles.

within the coastal Norwegian waters.<sup>1130</sup> Sailing alongside American and British aircraft carrier battle groups, the Canadian Task Group under Commodore Westropp with destroyers *Athabaskan*, *Annapolis*, *Fraser*, *Margaree*, *Ottawa*, *Saguenay* and the replenishment ship *Preserver* provided vital ASW screens around their larger consorts.<sup>1131</sup> They also operated ahead of the larger ships to ensure the coastal operating area, the Vestfjords, was clear of enemy submarines – a task at which they were successful under the exercise rules.<sup>1132</sup> Their combination of active sonar VDS and the new CANTASS passive towed arrays proved vital for identifying or holding at risk submerged targets in or outside the deep waters of the Vestfjord, where “strong seasonal water temperature variation” created tricky sonar conditions.<sup>1133</sup> In such waters close to Soviet air threats, however, NATO commanders were concerned for the Canadian ships’ lack of anti-air capability, requiring them to operate with ships that could provide such protection.<sup>1134</sup> Furthermore, mechanical issues affecting both the surface ships and their embarked helicopters negatively affected their availability for various stages of the *Teamwork* exercise, illustrating the risks of keeping aging warships on frontline service.<sup>1135</sup> Although the RCN could be commended for recognizing its core focus as ASW and devoting its resources towards it, it was already well-aware that its wartime seapower could not be limited to influencing enemies operating in just the underwater domain. As will be seen in Part IV of this chapter, relief would soon be coming with the arrival of Halifax-class frigates in the following years that would be more readily able to address enemies operating on the surface and aerial domains.

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<sup>1130</sup> Grove, *Battle for the Fiords*, 43, 45.

<sup>1131</sup> Grove, *Battle for the Fiords*, 43, 122.

<sup>1132</sup> Grove, *Battle for the Fiords*, 79-80.

<sup>1133</sup> Grove, *Battle for the Fiords*, 79-80, 122.

<sup>1134</sup> Grove, *Battle for the Fiords*, 61, 67.

<sup>1135</sup> Grove, *Battle for the Fiords*, 43-45, 72, 92. *Saguenay* and *Annapolis* both needed to retire for repairs at different points in the exercise, while *Fraser*’s helicopter needed to be replaced. *Athabaskan* ran aground with damage to its hull plating and sonar dome while assisting another vessel that had similarly grounded on the rocky Norwegian coast.

Similar to their Norwegian and Danish counterparts, the Cold War RCN was limited to sea control contestation without any serious ability to exercise that control through power projection onto land or the actual transport of troops and materiel to Europe. Ultimately, the Cold War RCN could only be described as a sea denial fleet, albeit one designed to do so in blue waters far away from home shores. Despite Canada having a much larger navy by having four times the number of major surface combatants than their Scandinavian allies, their respective positions on the sea control spectrum were very similar given their ability to only contest, rather than exercise, control of the seas. Even the contestation element is not a straightforward comparison between the three countries. As this section showed, while the RCN had more ships, they were limited to just ASW, whereas the two Scandinavian navies had a more well-rounded set of capabilities that included anti-surface and anti-air warfare even if their blue water ASW capabilities were inferior. But as will be discussed later in this chapter, the RCN's blue water capability would render it well-prepared to support Canada's increased constabulary needs during the 1980s and 1990s as conflicts arose over its offshore areas, including the newly-implemented Exclusive Economic Zone.

### *7.2.3 Under the Sea: The RCN's Cold War Submarine Force*

The RCN destroyers and destroyer escorts formed the core of the navy's fleet through the remainder of the Cold War, providing the bulk of the navy's antisubmarine capabilities in accordance with its primary mission. The only addition to the fleet during this period were the three Oberon-class submarines (in commission from 1965-2000), which supplemented and subsequently replaced the rented ex-American submarines *Grilse* (1961-1969) and *Rainbow* (1968-1974).<sup>1136</sup> But three submarines

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<sup>1136</sup> Sandy McClearn, "OBERON Class," *Haze Gray and Underway*, 2001, <http://www.hazegray.org/navhist/canada/postwar/oberon/>; Sandy McClearn, "Ex-USN," *Haze Gray and Underway*, 2003, <http://www.hazegray.org/navhist/canada/postwar/exussub/>.

hardly suffice for a reliable operational capability in terms of wartime sea control, especially in light of the Danish and Norwegian experiences which required over a dozen submarines each just to patrol their much smaller maritime areas. Thus, in the cases of all of Canada's ~2400ton submarines, they were procured and primarily employed as training targets for the ASW-centric surface fleet, with the two ex-USN vessels in the Pacific and the *Oberons* in the Atlantic.<sup>1137</sup> The *Oberons* were expected to play a minor operational role in the area of anti-submarine warfare using their thirty MK 37 guided torpedoes, which were designed with ASW capability.<sup>1138</sup> This contrasts with the Danish coastal submarine fleet described in Chapter 6, which used unguided torpedoes more suited to the Baltic threat of Soviet surface forces. On the other hand, the Norwegians equipped up to four of their Kobben-class submarines' eight torpedo tubes with the MK 37, which, like Canada, reflects the greater concern with Soviet submarine activity in their home area of operations.<sup>1139</sup>

Canada's employment of its submarines as both "clockwork mice" for the surface fleet and also as limited ASW assets made them suitable for the additional role of improving Western ASW equipment.<sup>1140</sup> This was exemplified in *Rainbow's* role as a test platform for the Americans' upgrade program for '50s vintage Mk 37 torpedoes, which saw *Rainbow* firing several new Mk 37C torpedoes at Canada's Nanoose Underwater Weapons Range in 1971 and 1972.<sup>1141</sup> These upgraded torpedoes with their increased speed, range, and sonar sensitivity were necessary to keep pace with new Soviet nuclear-powered submarines, which could otherwise outrun or outmaneuver older Mk 37 torpedoes.<sup>1142</sup>

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<sup>1137</sup> Julie H. Ferguson, *Through a Canadian Periscope: the Story of the Canadian Submarine Service*, 2nd ed. (Toronto: Dundurn, 2014), 282, 285, 308-309; McClearn, "OBERON Class"; McClearn, "Ex-USN"; Royal Canadian Navy, "Canadian Submarine History," *Government of Canada*, August 8, 2014, <http://www.navy-marine.forces.gc.ca/en/navy-life/sub-centennial/submarine-history.page>.

<sup>1138</sup> Ferguson, *Through a Canadian Periscope*, 302, 310-311; Tony DiGiulian, "Torpedoes of the United States of America: Post-World War II," *NavWeaps: Naval Weapons, Naval Technology and Naval Reunions*, October 5, 2019, [http://www.navweaps.com/Weapons/WTUS\\_PostWWII.php](http://www.navweaps.com/Weapons/WTUS_PostWWII.php).

<sup>1139</sup> Marinemuseet, *Ubåtvåpenet 100 år: 1909-2009* (Marinemuseet, 2009), 11.

<sup>1140</sup> Ferguson, *Through a Canadian Periscope*, 287.

<sup>1141</sup> Northrop, *MK 37C Torpedo System Technical Description NVR 73-50 September 1973* (Newbury Park, California: Northrop Corporation, 1973), 3-6 – 3-9.

<sup>1142</sup> Northrop, *MK 37C Torpedo System Technical Description*, 1-1 – 1-2.

Existing stocks of Mk 37s were converted to the new standard throughout the '70s.<sup>1143</sup> There was therefore a substantial difference between the way the RCN used its submarines versus the smaller Norwegian and Danish navies. While the latter used theirs in a sea denial role versus the Soviet surface fleet, Canada used its much smaller fleet to hone the antisubmarine capability of its own surface forces as part of their North Atlantic sea control contestation efforts, with a side function of providing technical assistance to its American neighbour and ally to improve the latter's submarine capabilities.

Despite being procured and employed as primarily training targets, the *Oberons* were described at the time of purchase by then-Minister of National Defence Paul Hellyer as also "fully operational [anti-submarine] weapons systems."<sup>1144</sup> They were newly built in British yards with some Canadian modifications and were "among the best diesel/electric boats in the world" whose "low noise propagation kept them competitive longer than anyone expected".<sup>1145</sup> Still, the rapid pace of technological and Soviet submarine development soon made the *Oberons* decreasingly useful as realistic targets for the surface fleet.<sup>1146</sup> Ironically, this made the *Oberons* more operationally viable, as they could now be employed for activities short of replicating the high-intensity sea control contestation scenarios necessary for the RCN's ASW training.<sup>1147</sup> Such activities included maritime domain awareness off the Atlantic coast, fisheries patrols (as will be seen in Part III of this chapter), and training for a wartime hunter killer role against Soviet submarines. The subs' new utility was enhanced as part of the midlife refit that took place in the late 1970s and early 1980s known as the Submarine Operational Update Program, or SOUP. This program equipped with *Oberons* with new sonars, modern digital computers and fire control systems, new batteries, night vision periscopes, and the latest American Mk 48 heavyweight torpedo infamous for its ability to sink surface ships by breaking their keels (but were

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<sup>1143</sup> Ferguson, *Through a Canadian Periscope*, 304.

<sup>1144</sup> Ferguson, *Through a Canadian Periscope*, 285.

<sup>1145</sup> Ferguson, *Through a Canadian Periscope*, 285-286, 295.

<sup>1146</sup> Ferguson, *Through a Canadian Periscope*, 330.

<sup>1147</sup> Ferguson, *Through a Canadian Periscope*, 330.

designed primarily for ASW).<sup>1148</sup> All of this took place while discussions continued within the RCN and later the Mulroney government as to the future of the Canadian submarine fleet.

The decline of the *Oberons*' training target role coincided with the general recognition by Western public and military observers since the 1970s that submarines have become the "primary ASW platform".<sup>1149</sup> Even as the surface fleet no longer had reliable training targets, they were also increasingly vulnerable to new and old Soviet submarines, given the proliferation of submarine-launched cruise missiles that can outrange even the latest shipboard underwater sensors and weapons.<sup>1150</sup> This was recognized in the 1980s by the RCN's commander, Vice Admiral Thomas, during testimony to the Standing Committee on National Defence in February 1988: "it is necessary to credit every Soviet submarine with being a cruise missile firer."<sup>1151</sup> Gone were the days when only surface vessels and aircraft offered the best speed, sensors, and weapons to attack submerged submarines. Modern submarines, with larger hull sonars, towed array sonars, and much lower noise levels than surface ships, could now take on the ASW role with much greater effectiveness.<sup>1152</sup> If the RCN were to remain true to its role as antisubmarine specialists in the North Atlantic, it had to at least attempt to maintain a submarine fleet even at the cost of a reduced surface fleet. As DND spokesman Brigadier General Terry Liston said in response to press queries about the submarine fleet's future, "[the] navy has come to the conclusion that the best antisubmarine weapon is another submarine."<sup>1153</sup>

Despite the *Oberons* just having received their midlife SOUP improvements, the long lead times involved in naval procurement meant the formal process for their replacements had to be underway by

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<sup>1148</sup> Ferguson, *Through a Canadian Periscope*, 332-333; DiGiulian, "Torpedoes of the United States of America: Post-World War II".

<sup>1149</sup> Ferguson, *Through a Canadian Periscope*, 330; George P. Hunt, "Our four-star military mess," *Life* 70, no. 23 (June 18, 1971), 63;

<sup>1150</sup> Richard L. Garwin, "Antisubmarine Warfare and National Security," *Scientific American* 227, no. 1 (July 1972), 18.

<sup>1151</sup> As cited in Karen V. Brown, "Canadian SSNs and Their Employment," (Master's thesis, Naval Postgraduate School, 1988), 40.

<sup>1152</sup> Garwin, "Antisubmarine Warfare and National Security," 16.

<sup>1153</sup> Ian Austen and Marc Clark, "Cool criticism from Washington," *Macleans* (May 18, 1987), 17.

the mid-1980s. Under the Canadian Submarine Acquisition Program (CASAP), RCN officials developed plans to procure eight diesel-electric replacements for the *Oberons*, with an initial buy of four approved by DND for forwarding to Cabinet. This met with support from the Conservative defence minister at the time, Eric Nielsen, who signed off on the proposal in October 1985 and which in turn was approved by Cabinet.<sup>1154</sup> At the same time, however, Nielsen engaged the CASAP office to also undertake a “Nuclear Submarine Option Study” (NSOS) to examine the general feasibility of Canada acquiring nuclear-powered submarines (SSNs) instead of diesel-electrics.<sup>1155</sup> The NSOS report became the basis for the closest that Canada has yet proceeded towards a decades-old effort at procuring a nuclear-powered submarine capability.

While previous attempts were little more than sporadic lobbying efforts by individual navy officers, this time it received the wholesale support of Minister of Defence Beatty (who replaced Nielsen in 1986) and Prime Minister Brian Mulroney.<sup>1156</sup> Despite the objections of Finance Minister Michael Wilson and Secretary of State for External Affairs Joe Clark on the basis of the SSNs’ high costs and perceived destabilizing nature, a fleet of twelve SSNs was included in the Mulroney government’s 1987 White Paper on Defence.<sup>1157</sup> The White Paper outlined the need to develop a “three ocean navy” in order to secure Canadian Arctic sovereignty in the face of recent foreign vessel intrusions such as the American icebreaker *Polar Sea* as well as implied Soviet submarines.<sup>1158</sup> This White Paper policy development formed the basic justification for the SSN acquisition, which argued there was no other credible means of operating in year-round Arctic waters other than an SSN.<sup>1159</sup> This meant an immediate

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<sup>1154</sup> Ferguson, *Through a Canadian Periscope*, 338-339.

<sup>1155</sup> Ferguson, *Through a Canadian Periscope*, 339, 343.

<sup>1156</sup> Ferguson, *Through a Canadian Periscope*, 344-345.

<sup>1157</sup> Ferguson, *Through a Canadian Periscope*, 345.

<sup>1158</sup> Susan Colbourn, “Who’s going to Invade Arctic Canada, Anyway? Debating the Acquisition of the Nuclear Submarine in the 1980s,” in *The Nuclear North: Histories of Canada in the Atomic Age*, eds. Susan Colbourn and Timothy Andrews Sayle (Vancouver: UBC Press, 2020), 141-143.

<sup>1159</sup> Colbourn, “Who’s going to Invade Arctic Canada, Anyway?”, 143.



halt to the ongoing SSK replacement, for which the Request for Source Qualifications (RfSQs) had already gone out and responses received from seven different teams made up of Canadian builders and foreign design firms.<sup>1160</sup> The companies, which had spent such time and effort in anticipation of receiving the Request for Proposals (RfPs), waited in silence between their RfSQ response submissions in early 1987 and the White Paper on Defence's release later that year, at which point they realized ignominiously that the SSK project had been scrapped. Members of the RCN were ecstatic at first: they were trading in "a '62 Volkswagen to an '88 Porsche!"<sup>1161</sup> But soon came the sobering thought among some skeptics, including those in CASAP, that if the SSNs ran into trouble and were cancelled, there would be no backup option since the less ambitious SSK process was effectively eliminated.<sup>1162</sup>

The CASAP office, meanwhile, shifted towards the SSN procurement in earnest, along with the new "Chief, Submarine Acquisition" (CSA) office to help manage the more complex interdepartmental nature of a nuclear-powered submarine and liaise with Minister Beatty.<sup>1163</sup> With an ambitious goal of keel-laying by 1991, the bureaucratic pace was described as "astounding" by Canadian submarine historian Julie Ferguson.<sup>1164</sup> But this came with significant headbutting between departments, each trying to have their interests heard by the relevant political authorities.<sup>1165</sup> At the same time, there were very real technical challenges in terms of submarine designs suitable for Canada. Two designs were available: the 2400t French *Rubis/Amethyste* and the larger 4730t British *Trafalgar*.<sup>1166</sup> Neither were straightforward options for the RCN. The French boat lacked the RCN's demanding three-meter-thick ice

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<sup>1160</sup> Ferguson, *Through a Canadian Periscope*, 340-342.

<sup>1161</sup> Ferguson, *Through a Canadian Periscope*, 347.

<sup>1162</sup> Ferguson, *Through a Canadian Periscope*, 348.

<sup>1163</sup> Ferguson, *Through a Canadian Periscope*, 349.

<sup>1164</sup> Ferguson, *Through a Canadian Periscope*, 348.

<sup>1165</sup> Ferguson, *Through a Canadian Periscope*, 349-350, 354-355.

<sup>1166</sup> Colbourn, "Who's going to Invade Arctic Canada, Anyway?", 134; Ferguson, *Through a Canadian Periscope*, 351.

surfacing capability, while the British boat used an American nuclear reactor and thus required the latter's approval before the detailed design could be shared with the Canadians.<sup>1167</sup>

Despite being close allies with deeply integrated defence institutions like NORAD, the United States was reluctant to expand the so-called "SSN fraternity" out of fears that "amateurish" navies would give naval nuclear power a bad name should anything go wrong.<sup>1168</sup> As nuclear historian Susan Colbourne noted, the public's fear of nuclear power resulting from the Chernobyl and Three Mile Island accidents drove the US Navy into a defensive state regarding their own nuclear reactors.<sup>1169</sup> The USN was concerned that in the event of any nuclear accident, even if it was in the hands of the Canadians, the anti-nuclear power movement would extend to the USN's own submarines and aircraft carriers, which were the only nuclear reactors still in production in the United States.<sup>1170</sup> Richard Archer, who served on the staff of the CSA, noted in particular the American fear that antinuclear movements abroad, spurred on by a Canadian SSN accident, would further restrict port access to the USN's nuclear fleet.<sup>1171</sup>

As the process continued, the American navy's reluctance to approve the technology transfer required to build the *Trafalgars* was overridden by President Ronald Reagan in April 1988, while the French position was improved by DND reducing the ice surfacing requirements to just one metre thick.<sup>1172</sup> Both could remain in the running and offer Canada viable options for its program. But just as quickly as the SSN process picked up steam, it collapsed. A Cabinet meeting scheduled for May 11, 1988, that was to discuss the project was cancelled just a few days earlier after Minister Beatty (Defence),

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<sup>1167</sup> Ferguson, *Through a Canadian Periscope*, XXX; Colbourn, "Who's going to Invade Arctic Canada, Anyway?", 135.

<sup>1168</sup> Colbourn, "Who's going to Invade Arctic Canada, Anyway?", 136.

<sup>1169</sup> Colbourn, "Who's going to Invade Arctic Canada, Anyway?", 136.

<sup>1170</sup> Colbourn, "Who's going to Invade Arctic Canada, Anyway?", 136.

<sup>1171</sup> Richard Archer, "The Real Reason the Canadian Nuclear-Propelled Submarines Were Cancelled?" *Soundings* 50, no. 2 (November 2014), 18.

<sup>1172</sup> Ferguson, *Through a Canadian Periscope*, 352, 357. Ferguson suspects Reagan's decision was influenced by British Prime Minister Margaret Thatcher advocating on behalf of the UK team.

Clark (Foreign Affairs), and Wilson (Finance) read the Treasury Board briefing note prepared for the May 11 meeting.<sup>1173</sup> The note highlighted a number of problems with the SSN process, ranging from lack of independent program analysis to the fact that “ministers would have to vote on the SSNs without even knowing their operational requirements.”<sup>1174</sup> Most significantly, it heavily criticized CSA’s selection of the French *Amethyste* design as being based on inadequate data with too much technical risk, while suggesting that Canada would be able to afford only five submarines for the \$8 billion budget.<sup>1175</sup> Having read such a harsh critique of the situation, it was perhaps understandable that Beatty would rather put off discussing the issue with Cabinet. With the November 1988 federal election coming up, little was done at the political level through the summer and fall, though CSA, the British, and the French continued to operate as though the program was still in play.<sup>1176</sup>

In the aftermath of the November 1988 federal election, the harsh realities of the Canadian economy came to roost. Although the incumbent Conservatives remained in power, SSN champion Minister Beatty was shuffled out of Cabinet in Spring 1989, and the government soon undertook dramatic cuts in all areas including defence in the April 1989 budget.<sup>1177</sup> At the same time, Gorbachev’s arms control overtures to the West were perceived as generally trustworthy by Canadians, reducing justification for tougher military capabilities against the Soviets – in the Arctic, underwater, or elsewhere.<sup>1178</sup> Prime Minister Mulroney, in turn, had made public his prioritization of child care and free trade over submarines.<sup>1179</sup> The American disagreement towards Canada’s internal waters claim over the Northwest Passage, meanwhile, had also been practically resolved via the 1988 Arctic Cooperation Agreement, which required US icebreakers to receive Canadian consent when travelling in such waters.

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<sup>1173</sup> Ferguson, *Through a Canadian Periscope*, 358.

<sup>1174</sup> Ferguson, *Through a Canadian Periscope*, 358.

<sup>1175</sup> Ferguson, *Through a Canadian Periscope*, 358.

<sup>1176</sup> Ferguson, *Through a Canadian Periscope*, 359-360.

<sup>1177</sup> Colbourn, “Who’s going to Invade Arctic Canada, Anyway?”, 146.

<sup>1178</sup> Colbourn, “Who’s going to Invade Arctic Canada, Anyway?”, 141.

<sup>1179</sup> Ferguson, *Through a Canadian Periscope*, 360.

To the extent that submarines were ever a practical tool for rejecting sovereignty violations by Canada's superpower ally, this eliminated the salience of the final publicized justification for a Canadian Arctic submarine.<sup>1180</sup> Shortly before the announcement of the April 27 1989 budget, the French and British delegations were informed over separate dinner parties by their Canadian hosts that the so-called "Canada class" had been cancelled.<sup>1181</sup> With this came the end of the Royal Canadian Navy's dream of continuing to be a leader in conducting high-end sea control contestation via state-of-the-art antisubmarine warfare.

The concerns of the RCN's SSN skeptics came true. With the nuclear option now sunk, and the SSK procurement that it replaced cancelled years earlier, the RCN was left with no active submarine replacement program.<sup>1182</sup> The *Oberons* would have to remain active through to the post-Cold War era, with no certain future for the Canadian submarine service. With the rest of the naval budget consumed by the replacement of the surface fleet and the threat of Soviet submarine predations in the North Atlantic fading with the Cold War's end, there was little fiscal room or operational rationale to undertake a typical procurement process for the submarines. But as Part IV of this chapter details, this would not be the end of the RCN submarine fleet, and the surface fleet itself would prove to be well-suited as seapower inputs for the "New World Order".

This Part II of the chapter demonstrates how Canadian wartime seapower was reliant upon compulsive measures as might be expected of conventional military forces, even as those measures were forced to play roles adjacent northern European shores and well beyond where they were designed for due to Canada's position within NATO. Despite being a significantly larger navy than both Denmark and Norway in terms of the number of blue-water capable warships, the RCN's warfighting Cold War fleet differed from those smaller countries primarily in degree but less so in kind. While all

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<sup>1180</sup> Archer, "The Real Reason the Canadian Nuclear-Propelled Submarines Were Cancelled," 18.

<sup>1181</sup> Ferguson, *Through a Canadian Periscope*, 361.

<sup>1182</sup> Ferguson, *Through a Canadian Periscope*, 348.

three countries' navies focused on contesting sea control rather than exercising it, the RCN stands out for limiting its ability to do so to hunting enemy submarines. However, even that capability failed to keep pace with the advancements in Soviet underwater capability and operational posture. The two Scandinavian countries, on the other hand, put into service much earlier modern antiship missiles, guided surface-launched torpedoes, and reliable Sea Sparrow launchers suitable for the confined waters of their coasts and allowed them fight on all three physical domains at sea. At the same time, the RCN's ability to exercise sea control was essentially nil, especially following the decommissioning of its aircraft carriers. It could not transport Canadian troops across the oceans, whether in wartime or for peacekeeping. It did not have the ability to project force onto land other than what could be reached with the 5" guns on the four *Iroquois* destroyers or special forces operating from its limited number of submarines. Its intelligence gathering capability was limited to the underwater realm, where it could make use of its ASW sensors to maintain some underwater domain awareness. And, of course, it is not the navy's role to exploit the physical resources of the oceans. The RCN's combat fleet was built and maintained for the single-minded endeavour of blue water antisubmarine warfare. However, this would not be the only task it carried out, as the following Part III demonstrates. The very blue water ASW requirements that dictated the RCN's ship designs would become vital for enabling the RCN's peacetime constabulary duties in the era of the 200 NM Exclusive Fishing and Economic Zones.

### **7.3 Part III: Constabulary Sea Control: Institutional and Compulsive Seapower in the Cold War and Beyond**

Although the RCN did not exercise control of the seas to any appreciable extent, they did carry out substantial sea control contestation for constabulary purposes. They played an important role in ensuring authorized civilians could exploit those ocean resources and preventing unauthorized users from doing same. As this part of the chapter will demonstrate, the Canadian exploitation of ocean

resources during and after the Cold War rested upon a combination of compulsive and institutional seapower, with the threat or use of direct force at sea being crucial to ensuring long term political solutions that in turn reduced or changed how compulsive seapower would be employed. There are strong parallels during this period to the constabulary challenges faced by Canadian maritime forces during the interwar period illustrated in Part I, which help demonstrate Canada's consistent approach to combining compulsive and institutional seapower for securing its ocean resources.

### *7.3.1 Machine Guns, Periscopes, and Hours: Fisheries Enforcement at the Edges of the EEZ*

Responsibility for securing such ocean resources in Canada has long been, and continues to be, shared between different agencies. In conjunction with other Canadian government departments such as the Royal Canadian Mounted Police (RCMP) and the Department of Marine and Fisheries (DMF, and its successors), RCN crews and vessels helped ensure Canadian regulations and maritime boundaries were adhered to by both domestic and foreign users. For instance, during the interwar period, the RCN's small minesweeping and destroyer fleet conducted maritime constabulary duties alongside the RCMP and DMF, which also had their own vessels with which to conduct their own enforcement and surveillance duties. The departments' training often overlapped, with the RCN running annual training courses on gunnery, communications, navigation, and other skills for the RCMP.<sup>1183</sup> So, too, were the RCMP's vessels maintained in the RCN-run dockyards while warehouses stored items used by the departments of Transport and Fisheries.<sup>1184</sup>

In those early years of the RCN, the delineation of duties between it and the DMF was quite ambiguous. Organizationally, this dichotomous approach does not quite reflect the nuances involved in

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<sup>1183</sup> Johnston et al., *The Seabound Coast*, 928.

<sup>1184</sup> Johnston et al., *The Seabound Coast*, 942-943.

the plethora of agencies involved in affairs maritime. Even at the creation of the Canadian Coast Guard in 1962, there were thirteen different governmental departments which had waterborne capabilities.<sup>1185</sup> It would not be until the mid-1990s that Canada's maritime capabilities could be clearly delineated between the military vessels of the Royal Canadian Navy and civilian assets in the Canadian Coast Guard. As a result, this section will rarely reference the Canadian Coast Guard *per se* as it was the Department of Fisheries (and its successors) that was the lead agency responsible for fisheries protection and law enforcement until 1995.<sup>1186</sup>

It is perhaps surprising that fisheries protection is being cited here to exemplify sea control during and after the Cold War. Certainly, the previous part of this chapter has shown how the RCN's core duty as guardian of North Atlantic sea lanes of communication versus the Soviet submarine threat occupied the highly contested end of the sea control concept. But as the Cold War never turned "hot", RCN efforts to secure the North Atlantic and enable its use for US and Canadian reinforcements to Europe remained more potential than actual. Such was not the case, however, for that seemingly lowly duty of fisheries protection.

While Part I's focus the RCN's interwar constabulary patrols took place primarily within the three-nautical mile territorial seas that Canada was permitted at the time, the third United Nations Conference on the Law of the Sea and its resulting 1982 Convention (UNCLOS) dramatically increased the internationally-accepted area of responsibilities out to 200 nautical miles, even if this limit afforded

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<sup>1185</sup> Charles D. Maginley, *The Canadian Coast Guard, 1962-2002* (St. Catherine's, ON: Vanwell Publishing, 2003), 221.

<sup>1186</sup> The fishery protection vessels would also subsequently fall under the Department of Fisheries and Forestry (1969), the Department of Environment (1970), the Department of Fisheries and Environment (1976) and the Department of Fisheries and Oceans (1979). Maginley, *The Canadian Coast Guard*, 219-222.

countries only very limited rights.<sup>1187</sup> This had extensive effects on not just the operations and tactics required of Canada's sea-based approach to fisheries protection, but also strategies and policies.

On January 1, 1977, Canada declared its 200 nautical mile exclusive fisheries zone (EFZ).<sup>1188</sup> Anticipating the 200 nautical mile exclusive economic zone (EEZ) then being discussed at the UNCLOS negotiations, Canada helped push for EEZ acceptance despite resistance from other powers. The Soviet Union, for example, had the world's largest distant-fishing fleet and was initially disinclined to support any measure that would so drastically regulate global fisheries. Through bilateral negotiations, however, Canada managed to convince the Soviet Union to accept reduced total allowable catch (TACs) limits off Canadian shores in return for surplus stocks. This acceptance of Canadian jurisdiction out to 200 NM was reciprocated by the other major states which fished in soon-to-be Canadian waters: Poland, Spain, Portugal, and Norway.<sup>1189</sup> To prepare for the new 200 NM zone, the federal Cabinet in March 1976 authorized \$12 million over five years to increase Canada's ability to monitor these expanded waters via measures such as doubling aerial surveillance hours by RCAF Tracker aircraft and doubling offshore patrol ship time.<sup>1190</sup> Despite no new patrol vessels or capabilities being funded, this seemed to have been sufficient. Although minor issues at the start of this new regime required sea control actions, such as the arrest of an unlicensed Norwegian longliner by the Coast Guard ship *John Cabot* on the day the 200 NM zone came into effect, the overall reception and behavior by foreign fishing fleets was acquiescence.<sup>1191</sup> Canadian fishermen, ecstatic about the dramatic expansion of fisheries they no longer had to compete for, were encouraged by optimistic stock yields and biomass projections from the

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<sup>1187</sup> Parzival Copes, "Canadian Fisheries Management Policy: International Dimensions," in *Canadian Oceans Policy: National Strategies and the New Law of the Sea*, ed. Donald McRae and Gordon Munro (Vancouver: University of British Columbia Press, 1989), 6.

<sup>1188</sup> Joseph Gough, *Managing Canada's Fisheries: from Early Days to the Year 2000* (Ottawa: Fisheries and Oceans Canada, 2007), 298.

<sup>1189</sup> Gough, *Managing Canada's Fisheries*, 297-298.

<sup>1190</sup> L.S. Parsons, *Management of Marine Fisheries in Canada* (Ottawa: National Research Council of Canada and Department of Fisheries and Oceans, 1993), 630-631.

<sup>1191</sup> Gough, *Managing Canada's Fisheries*, 298. In anticipation for violators at the initial stages of implementation of the new regime, vessels from the fishery protection fleet were augmented with CCG and RCN assets.



scientists of the Department of Fisheries and Oceans (DFO). For the first several years after the EFZ was put into place, all seemed well.<sup>1192</sup>

However, these fish stock sustainability estimations were in error, and it eventually became apparent that the fishing had to be dramatically curtailed. While this was easily enough done for stocks wholly within Canada's 200 NM EFZ, challenges became apparent when a fishery straddled the outer limits of that zone. Specifically, the problem resided in two species of fish in two different areas. The first species, seabed scallops, straddled the "Hague Line" delineating the Georges Bank between Canada and the United States.<sup>1193</sup> The Hague Line was established by the International Court of Justice as a solution to overlapping claims by the two countries resulting from their establishment of 200 NM EFZs.<sup>1194</sup> The second species was turbot, a type of halibut dwelling on/close to the seabed, which populated parts of Canada's Grand Banks continental shelf that crossed the 200 NM boundary called the "Nose and Tail". This meant the health of the fishing stock outside the limit was key to the sustainability of the stock overall. Both of these issues are discussed in this section to illustrate how the RCN has employed compulsive seapower to secure long term institutional solutions to protecting its offshore fisheries.

The first issue of seabed scallops involved American scallop draggers which attempted to cross the Hague Line and fish from the Canadian half, which was much healthier and less depleted than the American side. "Under cover of night or fog", American poachers could easily evade the Department of Fisheries and Oceans' offshore patrol vessels, which lacked sophisticated sensors and could easily be seen by the offending fishers.<sup>1195</sup> A more covert means of ascertaining and documenting infractions

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<sup>1192</sup> Douglas Day, "Fishing beyond the limit: the Canada-European Union Dispute," *IBRU Boundary and Security Bulletin* 3, no. 1 (1995): 52.

<sup>1193</sup> Sean M. Maloney, "Canadian Subs Protect Fisheries," *United States Naval Institute Proceedings* 124, no. 3 (March 1998), <https://www.usni.org/magazines/proceedings/1998/march/canadian-subs-protect-fisheries>.

<sup>1194</sup> John A. Duff, "The Hague Line In The Gulf Of Maine: Impetus Or Impediment To Ecosystemic Regime Building?" *Ocean and Coastal Law Journal* 15, no. 2 (2010): 287-289.

<sup>1195</sup> Maloney, "Canadian Subs Protect Fisheries."

sufficient to be proven in the court of law had to be employed. This led to Operation Ambuscade in 1993, which employed HMCS *Ojibwa*, one of the three Oberon-class submarines. Although the submarine was expected to serve primarily in an evidence and intelligence collection capacity rather than law enforcement, there was nonetheless a DFO Fisheries Officer on board, Bernard Sullivan, who would serve as legal and professional witness in the event any evidence proved sufficient for court proceedings.<sup>1196</sup> Violations required proof of two things. Firstly, an American vessel must be positively-identified over one nautical mile past the Canadian side of the Hague Line, and secondly, it must have fishing equipment (a “rake” in this case) in the water while there.<sup>1197</sup> *Ojibwa* employed both visual (periscope) and acoustic (passive sonar) methods to collect evidence on both accounts.

On March 8, a violation was observed but a confluence of two technical issues, the failure of a key LORAN broadcasting station and the breakdown of the submarine’s Low Light Television, prevented the collection of positioning and identification evidence that would have been deemed sufficient to prevail in the court of law. *Ojibwa*’s Officer of the Watch, Lt. Higginson, noted in the patrol report that “...due to poor fixing and a significant tidal stream, OJIBWA was not where she thought she was. When a sat fix finally did come in, OJIBWA and [the fishing vessel] were both in American water. His navigation is apparently superior to our own.”<sup>1198</sup> In lieu of collecting sufficient evidence, Officer Sullivan took a deterrent approach instead the following evening.<sup>1199</sup> Over the submarine’s radio, he announced to the American vessels sailing on the Canadian side of the Hague Line that they had been observed over the past two days by the Canadian submarine, and that further violations would result in their

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<sup>1196</sup> Maloney, “Canadian Subs Protect Fisheries.”

<sup>1197</sup> Michael Whitby, “Boomers, Draggers and Black Boxes: The Operational Legacy of Canada’s Oberon Class Submarines, 1983-1998,” *The Northern Mariner* 23, no. 4 (October 2013), 386.

<sup>1198</sup> As quoted in Whitby, “Boomers, Draggers and Black Boxes,” 388.

<sup>1199</sup> Whitby, “Boomers, Draggers and Black Boxes,” 389.

apprehension. Within hours, the news had been shared to other American fishing vessels, as confirmed by Canadian intelligence intercepts of radio transmissions and media attention.<sup>1200</sup>

Although *Ojibwa* failed to collect sufficient evidence of wrongdoing that would meet legal requirements, Operation *Ambuscade* was nonetheless a major success. Between 1993 and 1995, known violations of the Hague Line dropped from thirty-three to just one.<sup>1201</sup> Although submarines are vulnerable to collisions from potentially hostile fishers, their ability to covertly gather intelligence made them a valuable element of Canadian seapower even for the task of constabulary sea control.<sup>1202</sup> This stands in contrast to discussions that occurred just a few years earlier, when a parliamentary report simply concluded that submarines are “unsuitable” for fisheries monitoring and control when analyzing how best to optimize usage of Canada’s federal fleet.<sup>1203</sup> *Ojibwa*’s mission demonstrated the immediate success of employing compulsive seapower in a constabulary context. Deployed with the cooperation of American authorities, it was an unusual demonstration of how a submarine can compel civilian, rather than government or military, maritime actors to behave according to the wishes of the state. At the same time, the Hague Line and the legal dispute mechanism that led up to it was a form of institutional seapower that Canada could employ to restrict the degree to which American fishers could exploit Canadian resources. Were it not for Canada’s ability to bring the Americans to agree to the Hague Line settlement, it would likely have required compulsive seapower measures for much longer periods and in much wider spaces than the deployment of a single submarine. Institutional seapower in the form of the Hague Line, enforced by the compulsive seapower of a submarine deployment, worked together to ensure Canadian control over its seabed resources.

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<sup>1200</sup> Whitby, “Boomers, Draggers and Black Boxes,” 389-390.

<sup>1201</sup> Maloney, “Canadian Subs Protect Fisheries.”

<sup>1202</sup> Maloney, “Canadian Subs Protect Fisheries.”

<sup>1203</sup> Gordon F. Osbaldeston, *All the Ships That Sail: A Study of Canada’s Fleets* (Ottawa: Government of Canada, 1990), 104. This is the “Report of the Study on the Utilization of the Federal Government’s Marine Fleets” commissioned by the Treasury Board of Canada, and is often referred to as simply “The Osbaldeston Report”.

The other major fisheries issue of the Canadian Atlantic coast, that of turbot lying on the Grand Banks, leveraged *Ojibwa's* experience as part of its ultimate resolution. Recognizing the potential for competing approaches to exploitation of fish stocks lying across EFZ and high seas boundaries, a new international fisheries organization was also established in 1979 to help manage fishing stocks straddling and just beyond Canada's EFZ boundary: the Northwest Atlantic Fisheries Organization, NAFO.<sup>1204</sup> A primarily scientific organization, its main role was to identify and set Total Allowable Catches and quotas for relevant fisheries.<sup>1205</sup> Member states could, however, object to these quotas and not be bound by them.<sup>1206</sup> This fundamental weakness to NAFO would help lead to what became known as the "Turbot War".

As the fish stock situation deteriorated, Canada first declared a moratorium on cod fishing in 1992, after which fishers shifted to turbot.<sup>1207</sup> This, too, became endangered, and was followed by Canada amending its Coastal Fisheries Protection Act in 1994 to grant itself the power to arrest foreign vessels working in the "Nose and Tail" areas of the Grand Banks lying outside the EFZ line.<sup>1208</sup> The primary users of the turbot stock in the Nose and Tail were trawlers from Spain and Portugal, which were represented on the NAFO committees by the European Union. Objecting to Canadian attempts to impose restrictions on their activities, Spanish trawlers, in particular, continued to well exceed the quotas set by the NAFO. As will be seen shortly, Spain differed from the Americans off the Georges Bank: rather than supporting Canadian efforts to stop violations, Spain would actively support their citizens including by sending their own naval forces.<sup>1209</sup>

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<sup>1204</sup> Northwest Atlantic Fisheries Organization, "About NAFO," *NAFO: Northwest Atlantic Fisheries Organization*, 2021, <https://www.nafo.int/About-us>.

<sup>1205</sup> Gough, *Managing Canada's Fisheries*, 299.

<sup>1206</sup> Day, "Fishing beyond the limits," 53-54.

<sup>1207</sup> Whitby, "Boomers, Draggers and Black Boxes," 390.

<sup>1208</sup> Whitby, "Boomers, Draggers and Black Boxes," 390.

<sup>1209</sup> American enforcement agencies supported Canada's planning for the aforementioned Operation Ambuscade, including providing US Coast Guard patrol craft: Whitby, "Boomers, Draggers and Black Boxes," 385-386.

In Canada, fishermen and industry increasingly pressured the Canadian government to take further actions to ensure the future viability of the turbot stock. As Canadian Fish, Food, and Allied Workers union president Earle McCurdy eloquently stated: “We in Atlantic Canada expect to be protected from foreign invasion on the fishing grounds in the same way that people on the Prairies would expect to be protected from foreign invasion of their farmlands”.<sup>1210</sup>

Thus, on March 9, 1995, the Spanish trawler *Estai* was arrested. Selected due to previous infractions and her continued presence on the Grand Banks well after the quota was estimated to have been exceeded, the *Estai*'s crew's reaction to Canadian officials demonstrated the wisdom of the DFO adopting an “armed boarding” program for its patrol fleet in 1987.<sup>1211</sup> Instead of allowing DFO officers from the fishery patrol vessel *Cape Roger* to board safely, the *Estai*'s crew threw the boarding ladder into the sea, and the officers with them. A second attempt with Royal Canadian Mounted Police officers also met with similar fate. Meanwhile, nearby Spanish trawlers attempted to dissuade the Canadians from further attempts, setting collision courses with the other patrol ship, the *Leonard J. Crowley*, and the CCG ship *Wilfred Grenfell*. A third attempt to board also met with failure. In the face of such inability to maintain sea control without the use of violent force, the only option remaining was to escalate. The use of warning shots, however, had to be approved by the Deputy Minister of Fisheries and Oceans, Bill Rowat. Approval was relayed to the captain of the *Cape Roger* after discussion with the Minister of Fisheries and Oceans, Brian Tobin, and other high-level members of the government. At 17:55, after three hours of chasing, *Cape Roger* opened fire with her .50 calibre machine guns, expending a total of

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<sup>1210</sup> Donald Barry, Bob Applebaum, and Earl Wiseman, *Fishing for a Solution: Canada's Fisheries Relations with the European Union, 1977-2013* (Calgary: University of Calgary Press, 2014), 58-59.

<sup>1211</sup> Gough, *Managing Canada's Fisheries*, 385. This program armed fishery patrol ships with .50 calibre machine guns and trained their crews to conduct opposed boardings.

twenty-three rounds of ammunition into the waters ahead of the *Estai*. This was finally enough to convince the *Estai* to surrender the chase, and she was brought into St. John's harbour.<sup>1212</sup>

Minister Tobin stayed out of the limelight as the *Estai* came in under tow, wanting the event to be no more than merely halting the act of illegal fishing in and of itself.<sup>1213</sup> In the days after *Estai's* arrest, Canadian government ships were equipped with warp cutters. These would enable them to continue Tobin's definitive force mission without tripping the rules of engagement of Spanish Navy patrol vessels *Vigia* and sister ship *Serviola*, which had arrived to stop further Canadian boardings.<sup>1214</sup>

Amidst claims by Spain that the Canadian government were conducting piracy on the high seas, negotiations dragged on over the next months, and the RCN deployed the destroyers *Gatineau* and *Nipigon* to counter the Spanish patrol vessels should they uncover their weapons. Tobin also publicly revealed that a Canadian submarine was carrying out surveillance duties in the area.<sup>1215</sup> Although there is no evidence to indicate that an *Oberon* was actually at sea and in the area, 1993's Operation *Ambuscade* in the Georges Bank and 1994's deployment of *Okanagan* to the Nose and Tail on Operation *Grouse* likely provided sufficient credibility to Tobin's claims.<sup>1216</sup> The Canadian media also played their role, with the June 8 Toronto *Sun* publishing a front-page photo of a Spanish fishing vessel taken by *Okanagan* during the previous year's Operation *Grouse*.<sup>1217</sup> This role played by the RCN gave Canada escalation dominance. By escalating the risk of outright naval battle between NATO members, Canada

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<sup>1212</sup> Adam Gough, "The Turbot War: The Arrest of the Spanish Vessel *Estai* and its Implications for Canada-EU Relations" (Master's thesis, University of Ottawa, 2009), 59-62.

<sup>1213</sup> Gough, "The Turbot War," 65.

<sup>1214</sup> Gough, "The Turbot War," 70; Rhiannon Stromberg, "Unilateralism in Canadian Foreign Policy: An Examination of Three Cases," (Master's thesis, University of Saskatchewan, 2006), 44; "Patrol Boat SERVIOLA (P-71)," *Armada Espanola*, 2017, <http://www.armada.mde.es/ArmadaPortal/page/Portal/ArmadaEspanola/buquessuperficie/prefLang-en/08patrulleros--03patrulleros-clase-serviola>.

<sup>1215</sup> Nicholas Tracy, "Canada's Naval Strategy: The Record and the Prospects," in *Canadian Gunboat Diplomacy: The Canadian Navy and Foreign Policy*, ed. Ann Griffiths, Peter T. Haydon, and Richard Gimblett (Halifax: Dalhousie University, 1998), 236.

<sup>1216</sup> Whitby, "Boomers, Draggers and Black Boxes," 384, 391.

<sup>1217</sup> Whitby, "Boomers, Draggers and Black Boxes," 396-397.

encouraged negotiators of the United Nations Fish Stocks Agreement conference and the members of NAFO to accept the proposals that had been stalled, resolving the issue through such measures as permanent full-time observers on all ships and new quotas.<sup>1218</sup>

Although these measures have not been entirely fool-proof, the lack of resisted boarding during Canadian inspections under NAFO authority since 2004 would seem to suggest that the current arrangement has been sufficient.<sup>1219</sup> Indeed, there are even faint signs that despite approximately 30% of the CCG's fisheries conservation and protection operation days being spent on NAFO patrols, the CCG appears to have stopped arming their offshore patrol vessels in line with a lower expectation of the need to employ compulsive seapower.<sup>1220</sup> Any mention of "armed" or "arming" was removed in the *2010-2011 Canadian Coast Guard Fleet Annual Report*, whereas it had been clearly present in the previous year's iteration in paragraphs that were otherwise identical.<sup>1221</sup> The limited numbers of images of the CCG's offshore fisheries patrol vessels have also failed to provide any indication of their being armed, though the portable nature of the .50 cal machine gun makes it unlikely to be visible other than for training or rare operational scenarios.<sup>1222</sup> Additionally, helicopter-carrying capabilities have also been removed from the *Cape Roger*.<sup>1223</sup> Ultimately, enforcement over Canada's offshore fisheries and the resources under NAFO regulation appears to have shifted towards a greater reliance on institutional seapower, with flag states recalling and arresting their own vessels once informed of violations by

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<sup>1218</sup> Tracy, "Canada's Naval Strategy," 236-237; Gough, "The Turbot War," 90, 94-95.

<sup>1219</sup> Fisheries and Oceans Canada, "Northwest Atlantic Fisheries Organization Notice of Infringements," *Government of Canada*, October 12, 2021, <https://www.dfo-mpo.gc.ca/international/mcs-citations-eng.htm>.

<sup>1220</sup> Canadian Coast Guard, *2010-2011 Fleet Annual Report* (Ottawa: Fisheries and Oceans Canada, 2011), 18.

<sup>1221</sup> Canadian Coast Guard, *2010-2011 Fleet Annual Report*, 17; Canadian Coast Guard, *2009-2010 Fleet Annual Report* (Ottawa: Fisheries and Oceans Canada, 2010), 46.

<sup>1222</sup> Unlike the Norwegian and Danish militaries, the Canadian Coast Guard does not maintain a comprehensive and active image archive. As a result, image sources consulted have been limited to the following: Canadian Coast Guard, "Vessels," *Government of Canada*, <https://inter-j01.dfo-mpo.gc.ca/fdat/vessels?type=13>; searches on the social media website Instagram for the terms "#CCGSCapeRoger", "#CapeRoger", "#CCGSCowley", "#CCGSLeonardJCowley", "CCGS Cygnus";

<sup>1223</sup> Canadian Coast Guard, "CCGS Cape Roger," *Government of Canada*, <https://inter-j01.dfo-mpo.gc.ca/fdat/vessels/44>.

Canadian inspectors. This, however, still requires the use of armed Canadian Fisheries Officers to collect the requisite evidence when boarding suspicious vessels, even if their contemporary handguns are a far cry from the MP5 submachine guns and .50 calibre heavy machine guns employed at the height of the Turbot Wars.<sup>1224</sup> But although CCG patrol ships no longer sail with their guns on display, the potential for rapidly re-integrating weaponry is still maintained. In a personal Twitter exchange with the author on January 13, 2022, Anthony Potts, former Canadian Coast Guard Director of the Maritime Region Fleet, wrote that the three remaining OPVs (*Cape Roger*, *Cygnus*, and *Leonard Cowley*) retain mountings for the .50 calibre machine guns, though the guns themselves are primarily embarked only for armed boarding training rather than during patrols. Despite its lack of law enforcement authority, the CCG thus remains one of the primary custodians of compulsive seapower when it comes to constabulary missions in Canadian and NAFO waters. But equipping Canadian civilian vessels with machine guns was not a foregone conclusion, coming only in the wake of the 200 NM zone establishment. The following section details how the DFO/CCG OPV fleet and Fisheries Officers acquired their means of compulsive seapower.

### 7.3.2 Arming the DFO: Enhancing Compulsive Seapower Inputs

Not all fisheries enforcement incidents led to the notably high levels of escalation detailed in the previous section, though they certainly laid the groundwork which saw *Cape Roger* being armed with its instrumental .50 calibre machine gun. In 1986, two incidents on the Grand Banks involving foreign vessels fishing for cod demonstrated the need for some degree of sea contestation against violations of

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<sup>1224</sup> A 2019 internal audit of the DFO and CCG's firearms indicated only handguns are employed for enforcement purposes, though rifles and shotguns are retained for "non-enforcement" use as part of science efforts: Fisheries and Oceans Canada, "Internal Audit Report: Audit of the Management of Firearms, Project 2018-6B299," *Fisheries and Oceans Canada*, December 2019, <https://waves-vagues.dfo-mpo.gc.ca/Library/40936090.pdf>. Meanwhile, a background document for the Fishery Officer Career Progression Program from circa 1995 explicitly notes officers operating on offshore vessels must "requalify on the HK-MP-5 (sub machine gun) and the .50 calibre (vessel mounted heavy machine gun) on a quarterly basis": Fisheries and Oceans, "Department of Fisheries and Oceans Conservation & Protection: Fishery Officer Career Progression Program (FOCCP)," *Government of Canada*, <https://waves-vagues.dfo-mpo.gc.ca/Library/210376.pdf>, 6.



the Canadian EFZ. On March 1, the Iroquois-class destroyer HMCS *Algonquin* was requested by the DFO to help effect the arrest of the Panama-flagged/Korean-crewed trawler *Peonia 7*.<sup>1225</sup> DFO fisheries officers from the *Cape Roger* had boarded the trawler, which then attempted to sail away with the officers on board. Illustrating the emergency nature of the event, *Algonquin* was not operating as part of the RCN's allotment of days for DFO operations.<sup>1226</sup> Records are unclear as to the degree to which *Algonquin's* presence influenced the *Peonia* captain's decision to adhere to the original DFO orders to head towards St. John's, but the three ships arrived in Canadian port by March 3 without further issues.<sup>1227</sup>

Two months later, a more dramatic incident occurred involving a pair of Spanish trawlers, though without RCN involvement. On May 22, the trawlers *Amelia Meirama* and *Julio Molina* had been boarded by officers from the venerable *Cape Roger* while exercising the right of "hot pursuit" off the Grand Banks.<sup>1228</sup> The hot pursuit element meant that unlike arrests that stemmed from contested jurisdiction over straddling stocks outside the EFZ where NAFO authority applied, this incident resulted from illegal fishing within the Canadian EFZ that resulted in boarding outside the EFZ as the trawlers attempted to run from Canadian enforcement assets.<sup>1229</sup> The trawlers' owners in Spain ordered the ships to make their way towards the Azores with the DFO officers on board. Seemingly not yet equipped with weapons, the *Cape Roger* radioed for assistance, which came in the form of the brand new *Leonard J. Crowley*.<sup>1230</sup> A sixteen-member RCMP team trained for boarding operations was on board, and the

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<sup>1225</sup> Alan Story, "Seized trawler is escorted into St. John's by destroyer," *Toronto Star*, March 3, 1986, A3.

<sup>1226</sup> "1986 Year in Review," *The Wednesday Report: Canada's Aerospace & Defence Weekly*, 6-7, <https://thewednesdayreport.com/articles/historical/historical-2004-1.htm>.

<sup>1227</sup> Story, "Seized trawler is escorted"; "1986 Year in Review".

<sup>1228</sup> Northwest Atlantic Fisheries Organization, "Appendix VI: Provisional Report of the Standing Committee on International Control," in *Eighth Annual Meeting- September 1986: Report of the Fisheries Commission*, Serial No. N1267, NAFO/FC Doc. 86/14 (Rev.) (Corrigendum), 27. Available at <https://archive.nafo.int/open/mp/meetproc-1992.pdf>.

<sup>1229</sup> Northwest Atlantic Fisheries Organization, "Appendix IV: Provisional Report", 27.

<sup>1230</sup> "1986 Year in Review", 7; Department of Fisheries and Oceans, Newfoundland Region, "The Leonard J. Crowley: New offshore patrol vessel for Newfoundland Region," *Fo'c'sle 4*, no. 2 (1985), 14.

*Crowley* proceeded to give chase.<sup>1231</sup> After nearly two days and now 700 miles from the Canadian coast, the *Crowley* caught up and its RCMP team employed flashbangs to distract the trawler crews while they boarded and took control. RCAF Tracker and Aurora aircraft provided aerial surveillance throughout.<sup>1232</sup> The small convoy of two DFO offshore patrol ships and the two diminutive trawlers subsequently entered St. John's harbour, much to the excitement of onlookers.<sup>1233</sup>

Recognizing the need for improved response times and options for employing force in the course of their duties, Minister of Foreign Affairs Joe Clark and Minister of Fisheries and Oceans Thomas Siddon announced on June 13 that the Atlantic offshore patrol vessels would henceforth be armed with heavy machine guns and requisite training sourced from DND.<sup>1234</sup> Additionally, Fisheries Officers would now be armed, and a two-year pilot program would acquire a twin-engine helicopter for operating off the OPVs to help expand surveillance.<sup>1235</sup> Under the then-extant framework of calling on DND or RCMP assets when force is required to effect an arrest, much time could be wasted waiting on those assets as they would not often be in the same area. By equipping the DFO with their own armed response capabilities, they could employ or threaten force immediately, preventing such lengthy scenarios as the incident with *Amelia Meirama* and *Julio Molina*.<sup>1236</sup> In four other instances, "resisting vessels had avoided DFO arrest and fled the Canadian zone before the arrival of armed assistance."<sup>1237</sup> By December 30, 1987, all five Atlantic offshore patrol ships had been armed.<sup>1238</sup>

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<sup>1231</sup> "Police escort passes into Canadian waters, nears port," *UPI*, May 27, 1986, <https://www.upi.com/Archives/1986/05/27/Police-escort-passes-into-Canadian-waters-nears-port/2708517550400/>.

<sup>1232</sup> "1986 Year in Review", 7.

<sup>1233</sup> "The men the Mounties got," *Maclean's*, June 9, 1986, 17, <https://archive.macleans.ca/article/1986/6/9/the-men-the-mounties-got>; "Police escort passes into Canadian waters, nears port".

<sup>1234</sup> "1986 Year n Review", 7-8; Thomas Siddon, speech given to St. John's Board of Trade on June 13 1986, reproduced in "Canada Toughens Offshore Enforcement," *Fo'c'sle* 6, no. 1 (1986), 3

<sup>1235</sup> Siddon, speech given to St. John's Board of Trade; Parsons, *Management of Marine Fisheries in Canada*, 634.

<sup>1236</sup> Siddon, speech given to St. John's Board of Trade.

<sup>1237</sup> Parsons, *Management of Marine Fisheries in Canada*, 646.

<sup>1238</sup> Parsons, *Management of Marine Fisheries in Canada*, 646.

This decision to arm DFO vessels and personnel demonstrates how the tactical realities at sea in times of consistent non-cooperation between the coastal and flag states requires the merger of armed force with those who are authorized to inspect and, if necessary, arrest illegal fishers. Despite Canada being a medium-sized country that could afford to coordinate and maintain separate agencies for maritime defence, law enforcement, and fisheries, the organizational benefits of dedicated agencies were insufficient to address contestation efforts by civilian users of the sea. Indeed, as captain of the *Okanagan* during 1994's Operation *Grouse* noted, there is a wide difference in approach to fisheries enforcement stemming from the different agencies' time dedicated to that mission. While the RCN only conducts fisheries patrols sporadically, DFO does it on a constant basis. This means RCN patrols tend to desire an eventful arrest during their limited weeks on patrol, while DFO patrols are more interested in noting long term patterns of illegal behaviour.<sup>1239</sup>

We see here how a sea control operation has dramatic political consequences for ensuring a state's environmental and economic security. The complex multi-layered efforts of the Royal Canadian Mounted Police, the Department of Fisheries and Oceans, the Canadian Coast Guard, and the Royal Canadian Navy enabled Canada to maintain control over its fisheries at both the tactical and operational levels via direct interdiction and deterrence, respectively. Through this integrated law enforcement effort, sea control established the conditions required, as well as providing the physical evidence necessary, to conclude long-term political solutions. The sea control resources required for such efforts differed greatly depending on the specific situation. The Turbot War with its RCN fleet providing backup for multiple DFO, CCG, and RCMP maritime units, for instance, reflected the greater resistance provided by the opponent, placing it further right on the sea control spectrum than most day-to-day activities.

It should be noted that fisheries monitoring and enforcement were not the only major constabulary role played by the RCN. Counternarcotics was another major task that the RCN supported

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<sup>1239</sup> Whitby, "Boomers, Draggers and Black Boxes," 392.

in a direct manner via the operational requests and legal authority enabled by the RCMP.<sup>1240</sup> However, in order to be consistent with the coverage of the Norwegian and Danish navies earlier in this dissertation, the RCN's role in counternarcotics in home waters will not receive in-depth discussion, though the shift towards its conduct in overseas waters will be mentioned briefly later in this chapter in the context of the RCN's turn towards global operations.

### *7.3.3 Return to the North: The Harry DeWolf-Class Arctic Offshore Patrol Vessels and Constabulary Maritime Security in the Canadian Arctic*

For much of Canadian maritime and naval history, Canada's naval forces played few roles in its Arctic. Except for the icebreaker *Labrador's* brief service under the RCN in the mid-1950s before its transfer to the Department of Transport, the RCN did not have dedicated constabulary or military forces for its ice-covered waters.<sup>1241</sup> To be sure, ice-covered waters make for poor fishing opportunities, while drug runners would likely consider Arctic communities too sparsely populated to be a market worth the expense of travelling the tremendous distances to reach them. Besides from limited numbers of research and resupply vessels, there were few maritime "targets" against which an armed RCN patrol vessel could be used in the north. Canadian sovereignty over its Arctic landmasses during the Cold War have been essentially undisputed except for the recently-resolved matter of Hans Island, while challenges to Canadian positions on Arctic maritime boundaries and navigational rights were predominantly posed by

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<sup>1240</sup> L E Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18, no. 6 (1994): 523, 527.

<sup>1241</sup> For a detailed operational history of the *Labrador* in RCN service compiled from the ship's original classified history, see Naval Historical Section, *HMCS Labrador: An Operational History*, eds. P. Whitney Lackenbauer and Adam Lajeunesse with Lieutenant (N) Jason Delaney (Antigonish: St. Francis Xavier University, 2017), available at [www.OperationalHistories.ca](http://www.OperationalHistories.ca).

its closest ally, the United States.<sup>1242</sup> Naval forces, especially during the geopolitical circumstances of the Cold War, could not be credibly used against Canada's neighbour.

With the ongoing warming of the Arctic, however, both access to and activity in the Canadian Arctic have increased, resulting in the RCN moving towards an ability to assert some degree of sea control in ice-covered waters.<sup>1243</sup>

On September 15, 2018, the first of Canada's Arctic and Offshore Patrol Vessels (AOPVs), *Harry DeWolf*, was launched in Halifax, Nova Scotia.<sup>1244</sup> The helicopter-carrying 6,600-ton ship and its five sisters will provide the RCN with its first armed capability in ice-covered waters since the transfer of HMCS *Labrador* to the CCG in the mid-1950s. They have been designed to sail in first-year sea ice of 1.2m thick, with additional protection against limited amounts of multi-year ice that is common to the Canadian Arctic.<sup>1245</sup> Although built with Canada's Arctic in mind, they are also expected to conduct

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<sup>1242</sup> Much has been written regarding sovereignty and Canada's Arctic. A collection of volumes emphasizing primary sources that address the issue across different time periods can be found in the "Documents on Canadian Arctic Sovereignty and Security" series hosted by the University of Calgary: Arctic Institute of North America, "Documents on Canadian Arctic Sovereignty and Security," *University of Calgary*, 2020, <https://arctic.ucalgary.ca/dcass-documents-canadian-arctic-sovereignty-and-security>. Other published works on Canadian Arctic sovereignty include the following: Mathieu Landriault, *Media, Security and Sovereignty in the Canadian Arctic: From the Manhattan to the Crystal Serenity* (New York: Routledge, 2019); Elixabeth Riddell-Dixon, *Breaking the Ice: Canada, Sovereignty, and the Arctic Extended Continental Shelf* (Toronto: Dundurn, 2017); Adam Lajeunesse, *Lock, Stock, and Icebergs: A History of Canada's Arctic Maritime Sovereignty* (Vancouver: UBC Press, 2016); Shelagh D. Grant, *Polar Imperative: A History of Arctic Sovereignty in North America* (Vancouver: Douglas & McIntyre, 2010); Franklyn Griffiths, Robert Huebert, and P. Whitney Lauckenbauer, eds., *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfrid Laurier University Press, 2011); Jennifer Parks, *Canada's Arctic Sovereignty: Resources, Climate and Conflict* (Edmonton: Lone Pine Publishing, 2010); Peter Pigott, *From Far and Wide: A Complete History of Canada's Arctic Sovereignty* (Toronto: Dundurn, 2011). The Hans Island boundary dispute was resolved on June 14, 2022: Global Affairs Canada, "Canada and the Kingdom of Denmark, together with Greenland, reach historic agreement on long-standing boundary disputes," *Government of Canada*, June 14, 2022, <https://www.canada.ca/en/global-affairs/news/2022/06/canada-and-the-kingdom-of-denmark-together-with-greenland-reach-historic-agreement-on-long-standing-boundary-disputes.html>.

<sup>1243</sup> Frédéric Lasserre, "Canadian Arctic Marine Transportation Issues, Opportunities and Challenges," *University of Calgary: The School of Public Policy SPP Research Paper* 15, no. 6 (February 2022): 1-53.

<sup>1244</sup> Royal Canadian Navy, "Future HMCS Harry DeWolf launches," *Royal Canadian Navy*, September 24, 2018, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=future-hmcs-harry-dewolf-launches/jmc3wpez>.

<sup>1245</sup> Adam Lajeunesse, "Canada's Arctic Offshore and Patrol Ships (AOPS): Their History and Purpose," *Marine Policy* 124, article 104323 (February 2021): 6.

many of the long-range maritime security operations currently carried out by the comparatively diminutive Kingston class such as Operation *Caribbe*.<sup>1246</sup> The widely differing requirements for the ship's systems were successfully tested during separate sea trials in February and March of 2021, when *Harry DeWolf* successfully sailed and maneuvered in both the winter sea ice off Baffin Island and in the warm waters of the Caribbean.<sup>1247</sup>

Unlike other countries' offshore patrol ships, the Harry DeWolf class places a greater relative emphasis on exercising sea control versus contesting it. With its own hangar and helodeck, the *DeWolf* class can carry the large 13-tonne CH-148 Cyclone helicopter as well as any of the smaller Canadian Coast Guard helicopters.<sup>1248</sup> This organic aviation capability, in addition to a small landing craft, a vehicle garage, a six-container deck, and four rigid-hull inflatable boats/lifeboats, allows an AOPV to carry out a wide degree of maritime security tasks. These include humanitarian assistance/disaster relief, science support, search and rescue, boarding teams during counterpiracy and counternarcotics operations, and limited amphibious troop deployments. Such abilities to exercise sea control are more expansive than that found in most countries' OPVs, reflecting Canada's Arctic requirements as well as its internationalist naval posture (see Part IV below).

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<sup>1246</sup> Lajeunesse, "Canada's Arctic Offshore and Patrol Ships," 11.

<sup>1247</sup> Chris Lambie, "Dashing through thick ice, spotting polar bears among highlights for Halifax crew putting new warship through its Arctic paces," *Saltwire*, February 25, 2021, <https://www.saltwire.com/nova-scotia/news/dashing-through-thick-ice-spotting-polar-bears-among-highlights-for-halifax-crew-putting-new-warship-through-its-arctic-paces-556844/>; Irving Shipbuilding, "HMCS Harry DeWolf: exceeding expectations in first encounter with sea ice in Canada's North," *Irving Shipbuilding*, March 22, 2021, <https://shipsforcanada.ca/our-stories/hmcs-harry-dewolf-first-encounters-with-sea-ice-in-canadas-north>; RCN/DND, "Harry DeWolf trades ice-breaking for warm weather trials," *Lookout: CFB Esquimalt Navy News*, June 10, 2021, <https://www.lookoutnewspaper.com/harry-dewolf-trades-ice-breaking-warm-weather-trials/>.

<sup>1248</sup> Royal Canadian Air Force, "CH-148 Cyclone fact sheet," *Government of Canada*, June 15, 2020, <http://www.rcaf-arc.forces.gc.ca/en/aircraft-current/ch-148-fact-sheet.page>. Contrast this with the previous maritime helicopter, the CH-124 Sea King, which had a maximum gross weight of 9.3 tonnes: Royal Canadian Air Force, "CH-124 Sea King," *Government of Canada*, <http://www.rcaf-arc.forces.gc.ca/en/aircraft-current/ch-124.page>.

However, belying their namesake's storied career as a Second World War destroyer captain, the DeWolf class are not designed for conventional naval warfare, being armed with only a 25mm cannon in a climate-controlled copula and a pair of .50 calibre machine guns.<sup>1249</sup> Within the sea control framework described in this dissertation, the ships are meant for the low-intensity side of the contestation element against non-state actors, but with a substantial capability to exercise sea control in support of whole-of-government missions as required.<sup>1250</sup> Their ability to operate throughout the Arctic shipping season will greatly increase the RCN's role in addressing Canada's Arctic maritime security responsibilities, heretofore led by the CCG. Given the generally cooperative atmosphere between Arctic states within the Arctic realm, this is a reasonable match of means and ends. However, in combination with the CCG's own icebreaker recapitalization problems, the introduction of the six *DeWolfs* may well mean a *de facto* shift in Arctic maritime responsibilities to the RCN.

Despite some media coverage of the Arctic as a region of future interstate competition and conflict, many Arctic security and politics scholars tend to hold a more optimistic view regarding the ability of the five Arctic Ocean states to keep "Arctic" issues isolated from other political concerns arising elsewhere.<sup>1251</sup> As for issues within the Arctic itself, it is unlikely that a "race" for hydrocarbons and minerals in disputed areas will occur due to the financial and practical difficulties of resource extraction in ice-covered waters. Although climate change is reducing the amount and thickness of sea ice overall, significant ice will remain for much of the year in the as-yet undelimited extended continental shelf beyond the 200 NM EEZ. It would make little economic sense to expend resources on such unproductive

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<sup>1249</sup> Department of Defence, *AOPS – SRD – DRAFT* (Department of National Defence, September 15, 2010), 187.

<sup>1250</sup> The DeWolf class has substantial sealift capabilities for a patrol ship, with bays for landing craft, rescue boats, and modular containers to assist in a variety of government missions – from humanitarian assistance to scientific research. Department of Defence, *AOPS – SRD – DRAFT*.

<sup>1251</sup> Jørgen Staun, "Russia's strategy in the Arctic: cooperation, not confrontation," *Polar Record* 53, no. 270, 314-315; Andreas Østhagen, "High North, Low Politics – Maritime Cooperation with Russia in the Arctic," *Arctic Review on Law and Politics* 7, no. 1, 83-100; Elizabeth Riddell-Dixon, "Canada and Arctic Politics: The Continental Shelf Extension," *Ocean Development & International Law* 39, no. 4, 343.

endeavours when the majority of resources lie within already-accepted boundaries.<sup>1252</sup> From a sea control perspective, contestation over seabed resources in the central Arctic Ocean is unlikely to be necessary, given the uneconomical ways in which control, even if successfully contested, could be exercised.

However, there may be some requirement for minimal sea control capabilities where the resources in the water column are concerned. On October 3, 2018, the five Arctic Ocean states as well as Iceland, Japan, South Korea, China, and the European Union signed a legally-binding agreement instituting a moratorium on commercial fishing in the central Arctic Ocean for the next sixteen years while further scientific studies are conducted. The signatories promise to monitor the area and ensure that “nobody undercuts the agreement”, in the words of the Canadian negotiator, Nadia Bouffard.<sup>1253</sup> However, private actors and countries outside the agreement may still attempt to exploit the waters if fish stocks migrate north into the warmer waters,<sup>1254</sup> and a sea-based ice-capable platform like the DeWolf class can help enforce the moratorium.

But although the RCN’s *DeWolf* vessels provide Canada with a significant degree of offshore presence to help maintain maritime domain awareness, as well as minor weapons to help coerce potential opponents, they will have to operate in conjunction with other Canadian agencies for any law enforcement duty. Because the RCN does not have arrest authority, their ships will have to embark Fisheries and Oceans Canada (as the DFO is now referred to) inspectors if functioning in the fisheries enforcement role. This is similar to current arrangements off the Atlantic and Pacific coasts, where such

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<sup>1252</sup> Riddell-Dixon, “Canada and Arctic Politics: The Continental Shelf Extension,” 344-345.

<sup>1253</sup> Levon Sevunts, “Canada, EU and 8 other countries sign ‘historic’ Arctic fisheries moratorium agreement,” *Radio Canadian International*, October 3, 2018.

<sup>1254</sup> Susanne Kortsch, Raul Primicerio, Maria Fossheim, Andrey V. Dolgov, and Michaela Aschan, “Climate change alters the structure of arctic marine food webs due to poleward shifts of boreal generalists,” *Proceedings of the Royal Society B: Biological Sciences* 282 (2015), no. 1814: 20151546; Jørgen S. Christiansen, Catherine W. Mecklenburg, and Oleg V. Karamushko, “Arctic marine fishes and their fisheries in light of global climate change,” *Global Change Biology* 20 (2014), no. 2: 352-359.



inspectors carry out “Monitoring, Control and Surveillance Activities” from CCG vessels. Where and when such activities occur outside Canada’s 200 NM EEZ, the officers operate under the authority of the relevant regional fisheries management organization, such as the Northwest Atlantic Fisheries Organization (NAFO) or the North Pacific Anadromous Fish Commission (NPAFC).<sup>1255</sup> The exception is in the case of “hot pursuit”, as previously mentioned in the case of *Leonard Crowley* boarding the pair of Spanish trawlers in 1986 some 700 NM away from shore.

The NPAFC is similar to the 2018 Illulissat declaration and therefore a likely model. NPAFC hosts *Operation Driftnet*, which sees member and partner states patrol four million square kilometres of the North Pacific for illegal high seas driftnet fishing in accordance with a 1993 United Nations-imposed moratorium.<sup>1256</sup> For this role, Canada employs the air force’s CP-140 *Aurora* maritime patrol aircraft, illustrating the close relationship between Canadian military and civilian assets when it comes to fishery operations.<sup>1257</sup> More recently in 2021, *Operation North Pacific Guard* saw the DFO employ its new Dash-8 patrol aircraft based out of Japan to help identify illegal fishing activities.<sup>1258</sup> Although the aircraft do not contest and exercise sea control directly in such usage, they provide the information necessary for NPAFC member states to arrest violators and prevent further illegal fishing in international waters. In essence, this enables land-based authorities lacking available long-range seagoing assets to deny certain users the ability to use the seas hundreds of kilometres away from land. This illustrates the diverse ways in which Canada can conduct maritime security missions without using agencies traditionally associated with that role, such as the CCG and RCN.

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<sup>1255</sup> Fisheries and Oceans Canada, “Canada’s High Seas Monitoring, Control and Surveillance Activities,” *Fisheries and Oceans Canada*, November 10, 2015, <http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm>.

<sup>1256</sup> Fisheries and Oceans Canada, “*Operation Driftnet*,” *Fisheries and Oceans Canada*, April 8, 2015, <http://www.dfo-mpo.gc.ca/international/mcs-npafc-eng.htm>.

<sup>1257</sup> Fisheries and Oceans Canada, “*Operation Driftnet’s 20<sup>th</sup> Anniversary*,” *Fisheries and Oceans Canada*, November 14, 2013, <http://www.dfo-mpo.gc.ca/international/media/Driftnet-eng.htm>.

<sup>1258</sup> Fisheries and Oceans Canada, “Canada wraps up *Operation North Pacific Guard* to combat global illegal fishing,” *Government of Canada*, November 1, 2021, <https://www.canada.ca/en/fisheries-oceans/news/2021/11/canada-wraps-up-operation-north-pacific-guard-to-combat-global-illegal-fishing3.html>.

However, the long distances between the main Canadian airbases in the south of the country and the central Arctic poses a significant logistical challenge for such aerial-centric enforcement of the Arctic moratorium. This favors the use of assets capable of remaining on station for longer periods, such as CCG icebreakers and the DeWolf class. While they may not have the same capability to quickly surveil vast areas of the ocean as fixed-wing aircraft, they do have organic helicopter-carrying facilities and benefit from being able to more directly and immediately affect actor behaviour on the ocean surface. Fishery officers can board and inspect vessels, halting illegal fishing before the violator returns to shore and thereby reduce potential damage to the fishstocks.

The rising number of users in the Arctic will require greater presence by Canadian authorities, but there will be challenges to meeting such demand. While the RCN is developing a fairly robust Arctic capability for the summer navigational months, the agency traditionally responsible for Canadian Arctic maritime security is facing decreased fortunes in its ability to maintain a reliable northern presence: the Canadian Coast Guard's icebreaker fleet is nearing the end of its lifespan. Despite the recent decision by the Trudeau government to purchase and convert three second-hand commercial medium icebreakers<sup>1259</sup>, plans to recapitalize the heavy icebreakers capable of operations in the central Arctic throughout most of the year remain in a state of uncertainty. Although two new ships are currently planned to replace the venerable CCGS *Louis St. Laurent*, the latter will likely be over a half-century old by the time it is replaced.<sup>1260</sup> Meanwhile, plans to replace the remainder of the CCG ice-capable fleet have yet to be elucidated.<sup>1261</sup>

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<sup>1259</sup> Public Services and Procurement Canada, "Canada to Acquire Three Interim Icebreakers," *Government of Canada*, June 22, 2018, <https://www.canada.ca/en/public-services-procurement/news/2018/06/canada-to-acquire-three-interim-icebreakers.html>.

<sup>1260</sup> Canadian Coast Guard, "Government of Canada announces Polar Icebreakers to enhance Canada's Arctic presence and provide critical services to Canadians," *Government of Canada*, May 6, 2021, <https://www.canada.ca/en/canadian-coast-guard/news/2021/05/government-of-canada-announces-polar-icebreakers-to-enhance-canadas-arctic-presence-and-provide-critical-services-to-canadians.html>.

<sup>1261</sup> Public Services and Procurement Canada, "Shipbuilding projects to equip the Royal Canadian Navy and the Canadian Coast Guard," *Government of Canada*, September 27, 2018, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/projets-projects-eng.html>.

While the light icebreakers are still fairly young by government vessel standards (the six Martha Black class have been in service for around thirty-one years), the medium icebreakers are approximately 30-40 years old.<sup>1262</sup> In addition to their lesser icebreaking capabilities that are more suited for the Gulf of St. Lawrence and the eastern coast of Canada than the Arctic, their collective age creates a block obsolescence problem when the time comes for their replacement. This will be exacerbated if the government of Canada wishes to maintain the current schedule of its National Shipbuilding Strategy, which will not be able to deliver the *Diefenbaker* until well into the mid 2020s due to Seaspan Vancouver Shipyard's limited building capacity.<sup>1263</sup> The follow-on effects will be such that the remaining legacy icebreakers will likely reach their fiftieth anniversaries before permanent replacements are received – with attendant reliability problems.<sup>1264</sup> While the three commercial interim purchases alleviates this issue to an extent, the overlaps between their availability and the existing four medium icebreakers' will be minimal as the interim vessels are partly meant to stand in for the older ships as they enter refit.<sup>1265</sup> As a result, it is unlikely that the CCG will be able to increase the number of icebreakers despite the increasingly busy Arctic, and much of the rising demand for monitoring and enforcement capacity will have to be met by the new DeWolf class patrol ships. Consequently, Arctic maritime security and its attendant sea control activities will fall increasingly under the purview of the Royal Canadian Navy rather than the Canadian Coast Guard.

At the time of this writing, *Harry DeWolf* has just concluded its first operational deployment: an ambitious circumnavigation of North America. It departed the Halifax naval base in early August and

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<sup>1262</sup> Stephen Saunders, *Jane's Fighting Ships 2011-2012* (Coulson: IHS Jane's, 2010), 106-107; Canadian Coast Guard, "Appendices – Icebreaker Requirements," *Government of Canada*, February 9, 2018, <http://www.ccg-gcc.gc.ca/icebreaking/icebreaker-requirements/appendices>.

<sup>1263</sup> The Canadian Press, "Arctic icebreaker delayed as Tories prioritize supply ships," *CBC News*, October 11, 2013, <https://www.cbc.ca/news/politics/arctic-icebreaker-delayed-as-tories-prioritize-supply-ships-1.1991522>.

<sup>1264</sup> The 30 year-old CCGS *Terry Fox*, already one of the fleet's youngest, experienced mechanical failure that prevented it from assisting a trapped ferry in early 2018. "Cold snap raises concerns about coast guard's aging icebreakers in the St. Lawrence," *CBC News*, January 7, 2018, <https://www.cbc.ca/news/canada/montreal/quebec-icebreakers-coast-guard-aging-fleet-1.4476465>.

<sup>1265</sup> Public Services and Procurement Canada, "Canada to Acquire Three Interim Icebreakers."

successfully transited westbound through the Northwest Passages before turning south into the Pacific, through the Panama Canal, and returning home on December 16, 2021. Along the way it conducted many of the missions mentioned above: amphibious landings in Canada's Arctic while visiting local communities, interdicting drug smugglers while embarking a US Coast Guard Law Enforcement detachment in the Pacific and Caribbean, and hosting diplomatic visits in various ports.<sup>1266</sup> Notably, and as predicted by this dissertation's author several years ago, *DeWolf* also carried the Towed Reelable Active-Passive Sonar (TRAPS), a containerized antisubmarine sonar that is being tested by Defence Research and Development Canada.<sup>1267</sup> This was tested near Grise Fjord in the eastern Northwest Passage, and swapped out for humanitarian assistance/disaster relief containers during a stop in Esquimalt, Canada's Pacific naval base.<sup>1268</sup> The ship's captain, Corey Gleason, considers the experiment a success and expects the TRAPS or similar listening device to be equipped in future Arctic deployments of the AOPVs.<sup>1269</sup> How DRDC or the RCN will manage the slow speed instability and potential ice damage that resulted in the deprecation and eventual removal of the similar variable depth sonar on the Danish Thetis class remains to be seen, though it certainly indicates the Harry DeWolf class is expected to play a limited military role in addition to its primary constabulary purpose.<sup>1270</sup>

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<sup>1266</sup> Ginette Séguin (@SegaRCN), "ATV, Landing craft, beautiful scenery and fabulous Community Engagement! What more can a sailor ask for? Great work by @HMCSHarryDeWolf crew! #navyrocks," Twitter, August 20, 2021, 5:10 p.m., <https://twitter.com/SegaRCN/status/1428857046590394369>; Corey Gleason, "US Media Event – HMCS Harry DeWolf," question and answer period during Royal Canadian Navy Public Affairs media event, held in Norfolk, Virginia, during HMCS *Harry DeWolf*'s port visit on December 10, 2021; Royal Canadian Navy, "HMCS Harry DeWolf makes first two drug busts," *Government of Canada*, December 1, 2021, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=hmcs-harry-dewolf-makes-first-two-drug-busts/kwewfub4>;

<sup>1267</sup> Royal Canadian Navy, "New sonar system tested aboard Harry DeWolf," *Government of Canada*, December 6, 2021, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=new-sonar-system-tested-aboard-harry-dewolf/kwewgonf>; Timothy Choi, "Defending our Northern Coast: Contextualizing the Arctic Offshore Patrol Ships," *Royal Canadian Military Institute SITREP* 74, no. 4 (2014), 5.

<sup>1268</sup> Gleason, "US Media Event – HMCS Harry DeWolf."

<sup>1269</sup> Gleason, "US Media Event – HMCS Harry DeWolf."

<sup>1270</sup> See Chapter 6: Denmark, page 286.

This journey, and the Harry DeWolf class itself, embodies the balance that Canada has sought to strike between domestic and international naval missions while extending the RCN's force structure into a dedicated and direct constabulary role. While the Kingston class maritime coastal defence vessels do conduct constabulary missions on a regular basis (see Part IV below), they were built with the military function of mine countermeasures as a core requirement. With neither the RCN nor the Canadian Coast Guard invested with law enforcement authority, it is understandable that their vessels are not generally designed for constabulary purposes as the primary mission. In the Canadian maritime law enforcement arrangement, enforcement authority lies in Royal Canadian Mounted Police and Fisheries Officers, which use RCN or CCG vessels as enforcement platforms. Thus, the fact that the DeWolf class is being built primarily for constabulary purposes is a new development for the RCN, where the ships are expected to exercise sea control for constabulary purposes while limiting sea control contestation to law enforcement operations. As climate change continues to take its toll on the Arctic, the range of constabulary tasks expected to be fulfilled by the DeWolf class will likely expand, blending in with some military tasks such as underwater domain awareness via the TRAP Sonar or its successors. By taking on this more direct involvement in constabulary issues, the DeWolf class illustrates how the RCN is increasingly adopting compulsive seapower for peacetime missions rather than relying on the latent threat of force and institutionalized political solutions as during the Turbot War. This is consistent with the increasing constabulary tasks that the rest of the RCN has been tasked to participate in over the last two decades, as the following Part IV of this chapter demonstrates.

## 7.4 Part IV: Military and Constabulary Convergence in RCN Global

### Operations and the Future Fleet

Much as the Danish and Norwegian navies transitioned to increasing participation in “out of area” operations in the aftermath of the Cold War, so, too, did the Canadians. Unlike both those countries, however, Canada would already have a fleet of brand new large-displacement surface ships, the Halifax-class frigates, either being built or in service by the mid-1990s. Though these were not available in time for Canada’s contribution to the 1991 Gulf War, their endurance and general-purpose naval capabilities have since made them regular representatives of Canada around the world. This section first provides an overview of the Halifax-class frigates, and then discusses how they have been employed in the first twenty-five years of their service.

#### 7.4.1 *The Halifax-Class Frigates: Cold War Origins, Post-Cold War Fit*

Entering service throughout the 1990s, the twelve Halifax-class frigates have become the backbone of the post-Cold War RCN. Designed and built domestically, the 4750t and 134m long Halifax class are approximately fifty percent larger than the steam-driven *St. Laurent* derivatives that they replaced.<sup>1271</sup> This massive increase in size allowed for a plethora of weapons: sixteen vertical-launched Sea Sparrow anti-aircraft/missile missiles, Mk. 46 torpedoes (launched via four static tubes or the ship’s organic helicopter), eight Harpoon long-range anti-ship missiles, an automatic rapid-fire 57mm gun, and a Phalanx close-in defence gun system.<sup>1272</sup> Almost any single one of these systems on their own would have been a dramatic improvement if they were installed on the previous fleet of *St. Laurent*- and *Iroquois*-class destroyers. Combining them all, along with their requisite sensors and integrated computing systems, made the Halifax class a truly impressive replacements for the aging Cold War fleet.

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<sup>1271</sup> National Defence, *Canadian Patrol Frigate Project* (Ottawa: National Defence, 1992), 13-18.

<sup>1272</sup> National Defence, *Canadian Patrol Frigate Project*, 13-18.

They lacked the long-range air defence missiles of larger navies' destroyers, but made up for it in lower costs and a more well-rounded set of capabilities, especially anti-submarine warfare.<sup>1273</sup> Perhaps more importantly than the weapons and systems were the dramatically improved seakeeping, endurance, and crew comfort, which has allowed the fleet to serve Canada's changing foreign and defence policy interests throughout their ongoing service.<sup>1274</sup> Compared to other frigates of their time, these characteristics were generally equal or better.<sup>1275</sup> Considered by contemporary observers and auditors as "a world-class fighting ship" for their category, the frigates marked a dramatic "renaissance" in the RCN's force structure despite early technical issues.<sup>1276</sup> In a sense, these characteristics made them jacks-of-all-trades rather than masters of any particular naval warfare specialty, but they were nonetheless very adequate Canadian seapower inputs across a wide range of scenarios as will be seen in the following section on their operational activities.

But although such general-purpose characteristics make the Halifax class sound as though they were tailor-made for the globe-spanning low-medium intensity conflicts of the post-Cold War period, they were in fact products of the 1980s. With the aim of replacing the twenty *St. Laurents* and their derivatives, the original plan was to replace the legacy vessels on a nearly one-for-one basis with a total order of eighteen ships, with the first batch of six approved in December 1977.<sup>1277</sup> As previously noted, however, the nuclear-powered submarine procurement attempt by the Mulroney government took up

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<sup>1273</sup> National Defence, *Canadian Patrol Frigate Project*, 14; Milner, *Canada's Navy*, 290; Chief of Review Services, *Report on Canadian Patrol Frigate Cost and Capability Comparison*, 7050-11-11 (CRS) (Ottawa: Government of Canada, March 26 1999), D-1.

<sup>1274</sup> Milner, *Canada's Navy*, 290.

<sup>1275</sup> Chief of Review Services, *Report on Canadian Patrol Frigate Cost and Capability*, 5.

<sup>1276</sup> Chief of Review Services, *Report on Canadian Patrol Frigate Cost and Capability*, 1, 6-7, D-1, E-1; Canadian Press, "French firm accepts responsibility for frigate cracks," *Canadian Press NewsWire*, August 5, 1994; Canadian Press, "Problems continue to plague Canada's new high-tech warships," *Canadian Press NewsWire*, September 29, 1995; Canadian Press, "Cracks in exhaust funnels latest bug in \$9.3b frigate project," *Canadian Press NewsWire*, January 14, 1996.

<sup>1277</sup> Peter Haydon, "Choosing the Right Fleet Mix: Lessons from the Canadian Patrol Frigate Selection Process," *Canadian Military Journal* 9, no. 1 (2008): 70.

substantial budgetary space from the surface fleet. Although the submarines were never procured, the collapse of the Soviet Union and pre-existing government-wide budgetary pressures all contributed to the Halifax class procurement being confined to just the first two batches.<sup>1278</sup> As was noted in Chapter 3, this was still a dramatic increase in the RCN's combat capability and has ensured Canada's status as one of NATO's few medium navies that suffered only relatively little decline post-Cold War.

Unlike the broadly similar Norwegian Nansen class, there is no evidence that the Halifax class were built with patrolling the 200 NM EFZ/EEZ as a requirement. Although the Canadian Patrol Frigate (CPF) project spent its definitional and request for proposals stages between 1977 and 1983 when one might reasonably expect the newly-declared 200 NM EFZ to be front of mind, their design was driven by the very Cold War need to participate meaningfully in NATO's maritime strategy.<sup>1279</sup> By the time their design finalized towards steel-cutting in the second half of the 1980s, such participation meant not just escorting NATO strike groups within Norwegian waters within range of Soviet aircraft, but also fending off Soviet surface vessels in the blue water on the way across the North Atlantic and Norwegian Sea.<sup>1280</sup> To operate in such a wide range of environments, the new frigates had to have some ability to defend itself against Soviet forces operating above, on, and under water. This meant a relatively large hull to accommodate the new systems, not to mention ensure sufficient endurance and seakeeping for trans-Atlantic operations.<sup>1281</sup> The lack of consideration for the new 200 NM zone is perhaps not so surprising, given Canada's relative lack of economic dependence on the resources off the Atlantic coast compared to Norway. Indeed, Canada did not even begin commercial offshore oil operations until 1992, unlike Norway's rapidly growing exploitation of its continental shelf oil starting in 1971.<sup>1282</sup> DND considered

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<sup>1278</sup> Milner, *Canada's Navy*, 292-293, 305; Ferguson, *Through a Canadian Periscope*, 364.

<sup>1279</sup> Milner, *Canada's Navy*, 284, 287-288; National Defence, *Canadian Patrol Frigate Project* (Ottawa: National Defence, 1992), 10.

<sup>1280</sup> See Part II of this chapter; Milner, *Canada's Navy*, 288.

<sup>1281</sup> Haydon, "Choosing the Right Fleet Mix," 70-71.

<sup>1282</sup> Natural Resources Canada, "Offshore Oil and Gas," *Government of Canada*, March 23, 2020, <https://www.nrcan.gc.ca/energy/energy-sources-distribution/offshore-oil-and-gas/5835>; Norwegian Petroleum



building smaller and less well-armed vessels specifically for fisheries patrol before and during CPF definition process as part of their studies for Cabinet. However, this was dismissed by the Pierre Trudeau Cabinet when they accepted DND's argument that while a large frigate like the *Halifax* can conduct fisheries enforcement, a fisheries patrol ship cannot fulfill NATO obligations and other military duties.<sup>1283</sup>

The similarities between the Halifax class and the newer Norwegian Nansen class in terms of general combat capability and size demonstrate how widely differing geopolitical circumstances and mission sets nonetheless can result in very similar design requirements.<sup>1284</sup> While the Halifax class was designed for transoceanic military operations against a Soviet enemy, the *Nansens* stemmed initially from the need to patrol its 200 NM EEZ during the unipolar moment.<sup>1285</sup> Despite these widely different sea control situations, both converged on hulls of roughly 4700t, with some degree of modern anti-air, anti-surface, and anti-submarine warfare capabilities. Even though the Halifax class did not have fisheries enforcement in the EEZ as a driver of their design characteristics, they nonetheless rapidly became host of a key capability that would be vital for that role: the Rigid Hull Inflatable Boat (RHIB). While RHIBs had been considered for the RCN during the late 1980s and early 1990s, an unspecified fisheries enforcement incident resulted in a need for better equipment and procedures against opposed boardings. The RCN approached the Royal Canadian Mounted Police's Emergency Response Teams, whose advise led to a hastened RHIB acquisition for the RCN.<sup>1286</sup>

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Directorate, "Norway's Petroleum History," *Norwegian Petroleum*, October 13, 2021,

<https://www.norskipetroleum.no/en/framework/norways-petroleum-history/>.

<sup>1283</sup> Haydon, "Choosing the Right Fleet Mix," 69-70, 71.

<sup>1284</sup> Some may see the *Nansen's* SPY-1F radars and Aegis combat system as a major step up over the *Halifax*, but in terms of weapons, the Evolved Seasparrow Missiles filling their eight Mk 41 VLS cells are comparable to the sixteen ESSMs on the modernized *Halifaxes*.

<sup>1285</sup> See Chapter 5: Norway, section 5.1.4.

<sup>1286</sup> L E Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18, no. 6 (1994): 527.

In addition to the capabilities required in a vessel, availability of sailing time and ships was also deemed by the government to favour an all-frigate surface fleet to carry out both constabulary and military missions. A Senate subcommittee report on the state of Canada's maritime defence assumed that sufficient "excess" capacity would be available in the navy's combat fleet to allow it to be spared for domestic constabulary missions.<sup>1287</sup> This implied that this would not take away from the navy's military role in contrast to the Norwegian decision to develop a separate armed coast guard service due to a major problem being the lack of time available for training crews for military roles while conducting fisheries patrols.<sup>1288</sup> The ability of the RCN to meet its availability needs was confirmed by the so-called Osbaldeston Report, commissioned by the Treasury Board in 1990 to examine whether DND, DFO, and CCG fleet utilization hours could be distributed more efficiently. Conversely, the report found that the federal fleet with the greatest shortfall in terms of required sea days versus delivered sea days was the DFO's fisheries management program.<sup>1289</sup> The disparity in vessel days demanded and vessel days delivered increased slightly the farther one proceeded offshore. In 1990, only 58% of inshore (less than 20 nautical miles), 53.6% of nearshore (20 to 120 NM), and 54.5% of offshore (beyond 120 NM) vessel days demanded was delivered.<sup>1290</sup> As a result, the early-90s saw a dramatic increase in the number of DND operating hours allocated to DFO fisheries patrol using RCN and RCAF assets.<sup>1291</sup> For instance, while the RCN had allocated 95 ship days each year up until 1991, 1992 saw this double to 188. From then until 1994 during the height of the aforementioned Grand Banks and Georges Bank fisheries disputes, this further increased to 280 days.<sup>1292</sup> While it is uncertain which vessels (coastal patrol versus

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<sup>1287</sup> Haydon, "Choosing the Right Fleet Mix," 71.

<sup>1288</sup> See Chapter 5: Norway, section 5.2.1 and 5.2.2.

<sup>1289</sup> Osbaldeston, *All the Ships That Sail*, 34.

<sup>1290</sup> Osbaldeston, *All the Ships That Sail*, vii, 40.

<sup>1291</sup> L E Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18, no. 6 (1994): 526

<sup>1292</sup> Murray, "Maritime enforcement," 526.

frigates/destroyers) and where these patrol hours were spent (inshore, nearshore, or offshore), it is clear that the RCN played a vital role in supporting Canada's fisheries patrol requirements.

Constabulary capabilities for the RCN, then, was less about acquiring dedicated fisheries patrol assets than it was about adapting existing equipment and employing them during days dedicated to the mission. Excess capacity measured in terms of available sailing days, rather than large pieces of "kit", provided the essential capability for constabulary missions. The arrival of the Halifax class did little to change this arrangement, and indeed confirmed the somewhat *ad hoc* nature of the RCN's role in domestic law enforcement.

#### *7.4.2 RCN Goes Global: Operations in the Post-Cold War Era*

The arrival of the Halifax class in the aftermath of the Cold War coincided well with a series of NATO, United Nations, and other alliance operations that took place well beyond the RCN's Cold War operational area of the North Atlantic. The longer endurance and broader range of naval capabilities of the post-Cold War fleet provided Canadian policy makers with the option to participate in such operations in accordance with Canada's internationalist foreign policy. Operations spanned the gamut from anti-piracy and counternarcotics to United States Marine Amphibious Ready Group (ARG) protection and "red team" opposition training for other NATO navies.

At the very beginning of this post-Cold War period, Canada, like its Danish and Norwegian counterparts, participated in pushing back the Iraqi invasion of Kuwait. With its larger fleet of ocean-going ships, Canada was able to send a significantly larger task force to the Middle East than those two smaller European powers. Although still the products of Cold War North Atlantic ASW requirements, the Iroquois-class destroyer HMCS *Athabaskan* and Restigouche class destroyer escort HMCS *Terra Nova* were able to sail to the Persian Gulf for a seven-month Operation *Friction* deployment thanks to their

accompanying supply ship HMCS *Protecteur*.<sup>1293</sup> However, their original weapons and sensors were far from adequate for the aerial and surface threats likely to be encountered in the confined waters of the Persian Gulf. To address this, the ships were hastily equipped with weapons ordered for the Halifax-class frigates undergoing construction in a process that took only two weeks from implementation approval (August 9) to deployment (August 24).<sup>1294</sup> The *Limbo* ASW mortars on both combatants were replaced with automated Phalanx close-in anti-missile guns, and *Terra Nova* became the first ship in the RCN to be equipped with modern antiship weaponry when its anti-submarine rocket system (ASROC) was replaced with Harpoon anti-ship missiles.<sup>1295</sup> *Protecteur*, previously unarmed, received a pair of Phalanxes, new radars, electronic warfare equipment, and satellite communications.<sup>1296</sup> To protect the ships against Iraqi sea mines, the latest commercial fish-finding sonar – a C-Tech *Spectra-Scan 3000* – was purchased “literally off the shelf” and installed on all three ships.<sup>1297</sup> Upgraded command and control systems were also added to ensure maximum interoperability between the different allies. While the *Brahms* secure telephone system was used to communicate with the British, Australians, and Dutch, the existing *STU-III* was for communicating with the Americans.<sup>1298</sup> Having both systems would later allow the Canadians to take on the unique responsibility of being a natural link between the different participants.<sup>1299</sup> The ships’ Sea King helicopters were also rapidly reconfigured, with door-mounted machine guns, forward-looking infrared (FLIR) sensors, chaff and flares, and radar and laser warning receivers added in place of the heavy antisubmarine dipping sonars.<sup>1300</sup> Despite these modifications, the RCN task force were still viewed with some skepticism by the Americans, relegating

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<sup>1293</sup> Richard H. Gimblett, “The Transformation Era (1990-2010),” in *The Naval Service of Canada, 1910-2010: The Centennial Story* (Toronto: Dundurn Press, 2010), 186-187; Jean H. Morin and Richard H. Gimblett, *Operation Friction 1990-1991: The Canadian Forces in the Persian Gulf* (Toronto: Dundurn Press, 1997),

<sup>1294</sup> Morin and Gimblett, *Operation Friction*, 38, 44, 47.

<sup>1295</sup> Morin and Gimblett, *Operation Friction*, 38, 41.

<sup>1296</sup> Morin and Gimblett, *Operation Friction*, 38.

<sup>1297</sup> Morin and Gimblett, *Operation Friction*, 40.

<sup>1298</sup> Morin and Gimblett, *Operation Friction*, 40.

<sup>1299</sup> Gimblett, “The Transformation Era,” 189.

<sup>1300</sup> Morin and Gimblett, *Operation Friction*, 44-45, 189.

them to either plane guard rescue duties behind their aircraft carriers or protecting logistics vessels in the relatively low-risk southern area of the Gulf.<sup>1301</sup> With communications incompatibilities between the different nationalities, however, the RCN found a gap it could fulfill. Staff on the *Athabaskan* took advantage of its flagship capabilities to command the “Combined Logistics Force” that arranged escort and protection for the resupply vessels as they met up with the carrier strike groups.<sup>1302</sup> The two-ship Norwegian-Danish task group of HDMS *Olfert Fischer* and KV *Andennes*, for example, fell under Canadian command under this arrangement, illustrating Canada’s status as a “larger” navy that leveraged its Cold War experience as a multinational task force commander in NATO contexts.<sup>1303</sup> These transformations in individual pieces of equipment (and the personnel necessary to operate them) may not be as grand in scale as entire new ships, but they did illustrate and foreshadow the changes in opponents against which the RCN would conduct sea control in the post-Cold War era.

Perhaps the sharpest division between the “old” Cold War RCN with its North Atlantic focus and the “new” practice of regular global expeditionary operations was the response to the terrorist attacks on the United States on September 11, 2001. For the next three years, the new fleet of twelve Halifax-class frigates, four Iroquois-class destroyers, and both Protecteur-class replenishment ships rotated through the Arabian Sea region on a continuous basis under Operation *Apollo*.<sup>1304</sup> Initially, Canadian naval forces served as international task force commanders and as screening vessels for the American ARGs that were in the region.<sup>1305</sup> Defending American task groups soon included preventing members of al Qaeda and the Taliban from escaping by sea in so-called “leadership interdiction operations”.<sup>1306</sup> In the years following and through to the present day, the RCN maintained a regular presence in the region

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<sup>1301</sup> Morin and Gimblett, *Operation Friction*, 179-180.

<sup>1302</sup> Morin and Gimblett, *Operation Friction*, 182, 197.

<sup>1303</sup> Morin and Gimblett, *Operation Friction*, 183-184, 186.

<sup>1304</sup> Gimblett, *Operation Apollo*, 124.

<sup>1305</sup> Gimblett, *Operation Apollo*, 48, 51, 54, 56.

<sup>1306</sup> Gimblett, *Operation Apollo*, 50.

under Operations *Altair* and *Artemis*, which conducted more general maritime security operations with a focus on disrupting drug trafficking and other forms of smuggling potentially tied to terrorist funding.<sup>1307</sup> As an example of the RCN's regular participation, seven RCN ships were in the region between 2004 and 2008, while four frigate deployments occurred between just 2012 and 2014.<sup>1308</sup>

Through the 2010s, the RCN gradually took on a greater operational presence in the western Pacific and southeast Asia, including naval diplomatic engagements with multiple southeast Asia and East Asia countries under Operation *Projection*. Perhaps the most unique manifestation of this was the six-month deployment of the submarine HMCS *Chicoutimi* to Japan in 2017-2018 as part of Canada's contributions to enforcing North Korean sanctions.<sup>1309</sup> In the Atlantic, sister submarine HMCS *Windsor* has deployed to northern Europe and assisted in tracking Russian submarines during a particularly notable "break out".<sup>1310</sup> Unlike other contemporary navies that deploy submarines far from home waters, Canada's underwater fleet is entirely diesel-electric rather than nuclear-powered. The saga of how Canada came into possession of its ex-British Victoria-class SSKs has been told in detail elsewhere, but it suffices to say that despite over a decade of repairs and modernization, it appears the fundamental design of the class has turned out to be adequate for the RCN's unique globe-spanning needs in spite of Canada's reluctance to pursue nuclear power.

It is the surface fleet, however, that have conducted the bulk of Op *Projection*, with the aforementioned interim replenishment ship *Asterix* on its inaugural deployment escorting the frigate

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<sup>1307</sup> National Defence, "Operation ARTEMIS," *Government of Canada*, July 16, 2021, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-artemis.html>.

<sup>1308</sup> National Defence, "Operation ARTEMIS".

<sup>1309</sup> David Common, "Canadian sub on mission to bolster North Korea surveillance," *CBC News*, February 6, 2018, <https://www.cbc.ca/news/canada/hmcs-chicoutimi-submarine-canada-pacific-north-korea-1.4511238>; Isabelle Raghem, "Emotional homecoming for HMCS Chicoutimi sailor after 197 days at sea," *CHEK News*, March 22, 2018, <https://www.cheknews.ca/sailors-of-hmcs-chicoutimi-come-home-after-197-days-at-sea-431578/>.

<sup>1310</sup> Bruce Champion-Smith, "Canadian sub in underwater hunt for Russian vessel," *Toronto Star*, May 28, 2016, <https://www.thestar.com/news/canada/2016/05/28/canadian-sub-in-underwater-hunt-for-russian-vessel.html>.

HMCS *Calgary* from July to December 2018.<sup>1311</sup> Both before and since then, other Halifax-class frigates have rotated through: HMCS *Vancouver* from April-June 2018, HMCS *Regina* and MV *Asterix* from February-August 2019 (also participated in *Op Artemis*), HMCS *Ottawa* from August-December 2019, HMCS *Winnipeg* from August-December 2020, HMCS *Calgary* again from February-September 2021 (also participated in *Op Artemis*), and HMCS *Winnipeg* once more from August-December 2021.<sup>1312</sup> From the East Coast, frigates (and, before their decommissioning, destroyers) have similarly taken turns as part of NATO task groups in northern Europe and the Mediterranean as part of Operation *Reassurance*.<sup>1313</sup>

The RCN's globally-oriented operational posture has not been limited to just the frigates. In recent years, pairs of the twelve 970-tonnes Kingston-class Maritime Coastal Defence Vessels (essentially mine countermeasures vessels) have also been employed for overseas operations, conducting naval diplomacy and constabulary support for west African navies under *Neptune Trident 17-01* (2017) and Operation *Projection-West Africa* (2018-2019).<sup>1314</sup> This has been in addition to their more

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<sup>1311</sup> "Operation" is often shortened to "Op" in Canadian usage. Richard Watts, "For crew of MV Asterix, return home means a chance to refuel," *Times Colonist*, December 18, 2018, <https://www.timescolonist.com/news/local/for-crew-of-mv-asterix-return-home-means-a-chance-to-refuel-1.23546336>.

<sup>1312</sup> National Defence, "Operation PROJECTION," *Government of Canada*, February 2, 2021, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-projection.html>; Hannah Lepine, "HMCS Calgary returns home to Vancouver Island after successful operations abroad," *CHEK News*, August 31, 2021, <https://www.cheknews.ca/hmcs-calgary-returns-home-to-vancouver-island-after-successful-operations-abroad-875064/>; Pedro Arrais, "HMCS Winnipeg casts off for the Asia-Pacific region on Tuesday," *Times Colonist*, August 13, 2021, <https://www.timescolonist.com/news/local/hmcs-winnipeg-casts-off-for-the-asia-pacific-region-on-tuesday-1.24350915>.

<sup>1313</sup> National Defence, "Operation REASSURANCE," *Government of Canada*, August 31, 2021, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>.

<sup>1314</sup> Government of Canada, "Maritime Coastal Defence Vessels," *Government of Canada*, August 27, 2021, <http://www.navy-marine.forces.gc.ca/en/fleet-units/mcdv-home.page>; National Defence, "Royal Canadian Navy Deploys to African West Coast," *Government of Canada*, February 18, 2017, <https://www.canada.ca/en/department-national-defence/news/2017/02/royal-canadian-navydeploystoafricanwestcoast.html>; National Defence, "Royal Canadian Navy Deploys to the West Coast of Africa," *Government of Canada*, February 22, 2019, <https://www.canada.ca/en/department-national-defence/news/2019/02/royal-canadian-navy-deploys-to-the-west-coast-of-africa.html>; Kelly Williamson, "Neptune Triden – A rewarding experience for RCN sailors," *Government of Canada*, April 7, 2017, <http://www.navy-marine.forces.gc.ca/en/news-operations/news->

traditional deployments to northern Europe as part of NATO exercises or the Caribbean and eastern Pacific as part of joint counternarcotics operations with regional organizations under Operation *Caribbe*.<sup>1315</sup> The latter mission appears to have replaced previous counternarcotics operations closer to home in Canada's offshore waters, which had been a major concern between the late 1970s and 1990s with extensive Royal Canadian Mounted Police involvement.<sup>1316</sup> This form of forward defence against drug smuggling is characteristic of the RCN general turn in overseas operations. Their relatively small crews and physical size, low resource requirements and operating costs, limited weaponry (a pair of .50cal machine guns), and high level of maneuverability via azipod propulsion versus the usual frigates have allowed them to engage with countries where infrastructure is more limited and basic maritime security remains their primary concern.<sup>1317</sup>

Deploying ships around the globe has not been the only way the RCN demonstrates its unique approach to being a medium navy. It has also taken command roles within Combined Task Force 150, the multinational command that coordinates the various smuggling interdiction activities in the Arabian Sea region.<sup>1318</sup> This ability to take leadership demonstrates the RCN's highly-respected position in the world naval hierarchy. As Christopher Martin notes in a forthcoming publication, the ability of a navy to take strong leadership positions in international operations is one key indicator for a medium power's

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[view.page?doc=neptune-trident-a-rewarding-experience-for-rcn-sailors/j0y9oold](#); Blair Gilmore, "RCN diplomacy in West Africa deployment," *FrontLine*, July 24, 2017, <https://defence.frontline.online/blogs/5431-Blair-Gilmore/7751-RCN-diplomacy-in-West-Africa-deployment>.

<sup>1315</sup> Joanie Veitch, "Annual multinational training exercise under way in northern Europe," *Government of Canada*, June 14, 2021, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=annual-multinational-training-exercise-under-way-in-northern-europe%2Fkoeiyzrj>; National Defence, "Operation CARIBBE," *Government of Canada*, August 10, 2021, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-caribbe.html>.

<sup>1316</sup> L E Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18, no. 6 (1994): 523, 527.

<sup>1317</sup> Gilmore, "RCN diplomacy in West Africa deployment".

<sup>1318</sup> Royal Canadian Navy, "Canada assumes command of Combined Task Force 150," *Government of Canada*, December 4, 2014, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-artemis.html>; National Defence, "Operation ARTEMIS".



navy.<sup>1319</sup> Canada's naval leadership role has not been limited to only "low end" maritime security issues, however. Halifax-class frigates have also served regularly as part of the Standing NATO Maritime Groups (SNMGs) in Europe, frequently as flagships.<sup>1320</sup> Canadian flag officers have also taken command of SNMGs, such as Commodore Josée Kurtz in 2019 when she was also the first female commander of SNMG 2.<sup>1321</sup> When the United States re-established its 2<sup>nd</sup> Fleet in August 2018 in response to "the very real resurgence of great power competition in the North Atlantic and Arctic", RCN Rear Admiral Steve Waddell was tapped as its second-in-command. This highlights the close working and command relationships between the RCN and its American counterparts when it comes to "high end" naval operations.<sup>1322</sup> In the Pacific, the RCN has taken on similar roles at the biennial Rim of the Pacific exercise run by the USN, with Canadians often taking command of the multinational exercise's maritime component.<sup>1323</sup>

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<sup>1319</sup> Christopher Martin, "The Logistics of Medium Maritime Power," in *Maritime Strategy for Medium Powers in the 21<sup>st</sup> Century: Richard Hill's Strategic Thinking Re-Visited*, eds. James Goldrick and Steven Haines (Suffolk: Boydell and Brewer, 2022).

<sup>1320</sup> National Defence, "Operation REASSURANCE".

<sup>1321</sup> Government of Canada, "Commodore Kurtz leading the way for women in the RCN," *Government of Canada*, October 28, 2019, <https://navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=commodore-kurtz-leading-the-way-for-women-in-the-rcn/k1zy5wj8>; Allied Maritime Command Public Affairs Office, "Canada Hands Command of Standing NATO Maritime Group Two to Italy," *Allied Maritime Command*, December 16, 2019, <https://mc.nato.int/media-centre/news/2019/canada-hands-command-of-standing-nato-maritime-group-two-to-italy>.

<sup>1322</sup> Joshua Sheppard, "Royal Canadian Navy plays a key role in 2<sup>nd</sup> Fleet mission," *Government of Canada*, November 27, 2019, <https://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=royal-canadian-navy-plays-a-key-role-in-2nd-fleet-mission/k3aiwlmf>.

<sup>1323</sup> Peter Mallett, "New MARPAC Commander gets down to business at RIMPAC," *Government of Canada*, July 25, 2018, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=new-marpac-commander-gets-down-to-business-at-rimpac/jk183xnk>; Rachel Lallouz, "RIMPAC: RCN gears up for large-scale maritime exercise in Hawaii," *Government of Canada*, June 15, 2016, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=rimpac-military-gears-up-for-large-scale-maritime-exercise-in-hawaii-area/ipmtg5t8>; Government of Canada, "Canada participates in World's Largest maritime Exercise – RIMPAC 2014," *Government of Canada*, May 12, 2014, <https://www.canada.ca/en/news/archive/2014/05/canada-participates-world-largest-maritime-exercise-rimpac-2014.html>.

### 7.4.3 The RCN's Future Fleet: Embracing Expeditionary Operations

#### The Canadian Surface Combatant: Increasing Confidence in Global Engagement

The current twelve Halifax-class frigates are planned to be replaced by fifteen much larger vessels based on the British Type 26 frigate. Dubbed for now the Canadian Surface Combatant (CSC), the fifteen ships are meant to replace not just the twelve in-service frigates, but also the three Iroquois-class destroyers that were decommissioned in the mid-2010s.<sup>1324</sup> The Iroquois class had received a major modernization in the early 1990s that greatly enhanced their anti-air warfare capabilities with 29 Mk 41 vertical launch missile cells replacing the legacy Sea Sparrows.<sup>1325</sup> The SM-2 Standard missiles in those new missile cells provided a Canadian or allied task group with longer ranged air defence than what the then-new Halifax class's sixteen Sea Sparrows could achieve.<sup>1326</sup> Although the recent Evolved Seasparrow Missile (ESSM) and FELEX radar upgrades to the *Halifaxes* helped to compensate for the loss of the *Iroquois* and their SM-2s, the current fleet remains capable of only defending against "arrows" rather than being able to threaten their "archers".<sup>1327</sup>

To regain and modernize the long-range air defence capability formerly provided by the Iroquois class, all fifteen of the new CSCs are planned to be built with Lockheed Martin's SPY-7 active electronically scanned phased array radar, with a combat management system that utilizes the famous

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<sup>1324</sup> Royal Canadian Navy, "The Canadian Surface Combatant – More than Just a Ship," *Government of Canada*, October 16, 2020, <http://www.navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=the-canadian-surface-combatant-more-than-just-a-ship%2Fkfi7q8h5>.

<sup>1325</sup> Sandy McClearn, "IROQUOIS Class," *Hazegray and Underway*, 2009, <http://www.hazegray.org/navhist/canada/current/iroquois/>.

<sup>1326</sup> Tony Thatcher, "The Story of the Tribal Class Update and Modernization Project (TRUMP)," *Canadian Naval Technical History Association*, July 25, 2009, <https://www.cntha.ca/articles/trump.html>.

<sup>1327</sup> Department of National Defence, "Halifax-class Modernization/Frigate Life Extension (HCM/FELEX)"; Missile Defense Project, "Evolved Seasparrow Missile (ESSM)," *Missile Threat*, Center for Strategic and International Studies, June 23, 2021, <https://missilethreat.csis.org/defsyst/evolved-seasparrow-missile-essm/>.

Aegis weapons system as the “common source library”.<sup>1328</sup> On the weapons’ side, there will be twenty-four strike-length Mk 41 VLS cells at ahead of the bridge along with six Extensible Launch System missile cells aft of the funnel for Sea Ceptor missiles serving in the close-in defence role.<sup>1329</sup> The RCN has made public that the Mk 41 cells are expected to be filled with SM-2IIIC, Evolved Sea Sparrows, and Tomahawk cruise missiles.<sup>1330</sup> The latter is an unexpected revelation, as a long-range land-attack weapon might be viewed as somewhat unpopular amongst a Canadian public that has previously objected to American cruise missile testing on Canadian soil, nevermind ownership and use by the Canadian military.<sup>1331</sup> Eight Naval Strike Missiles in two quad launchers will provide anti-ship capability, while two pairs of torpedo tubes provide a ship-launched ASW capability.<sup>1332</sup> A Leonardo 5”/64 LW gun has been selected to provide long range naval gunfire support.<sup>1333</sup> True to the RCN’s ASW heritage, manufacturing contracts have been signed with Ultra Electronics for their S2150-C bow sonar and variable-depth Towed Low Frequency Active Sonar to equip the new ships.<sup>1334</sup> The ships will continue to have a hangar for one large

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<sup>1328</sup> Royal Canadian Navy, “Canadian Surface Combatant [Factsheet],” *Department of National Defence*, November 2020, [http://www.navy-marine.forces.gc.ca/assets/NAVY\\_Internet/docs/en/fleet/rcn\\_csc\\_factsheet-8x11\\_web.pdf](http://www.navy-marine.forces.gc.ca/assets/NAVY_Internet/docs/en/fleet/rcn_csc_factsheet-8x11_web.pdf); Tim Choi, “Notes from the Field: A First-Hand Look at the CSC’s New Radar,” *Canadian Naval Review* 15, no. 3 (2020): 30.

<sup>1329</sup> Xavier Vavasseur, “MBDA Confirms Sea Ceptor Order For Canadian Surface Combatant,” *Naval News*, April 19, 2021, <https://www.navalnews.com/naval-news/2021/04/mbda-confirms-sea-ceptor-order-for-canadian-surface-combatant/>.

<sup>1330</sup> Royal Canadian Navy, “Canadian Surface Combatant [Factsheet].”

<sup>1331</sup> For a study of Canadian protests against American cruise missile testing, see Nancy Joy Pearson, “The Cruise Missile Testing Issue: a Canadian Foreign Policy Interest Group Study” (MA thesis, University of Calgary, 1984).

<sup>1332</sup> Royal Canadian Navy, “Canadian Surface Combatant [Factsheet].”

<sup>1333</sup> Xavier, Vavasseur, “Canada Selects Leonardo Naval Gun Systems For The CSC Combat Ships,” *Naval News*, April 22, 2021, <https://www.navalnews.com/naval-news/2021/04/canada-selects-leonardo-naval-gun-systems-for-the-csc-combat-ships/>. This choice highlights the importance placed by the RCN on long-range gunfire support, as the Leonardo weapon remains the only 5” guns option with extended-range rounds. The BAE Mk 45 gun slated for the baseline Type 26 and its Australian Hunter class derivative has experienced lengthy troubles in this regard and continues to lack such an option.

<sup>1334</sup> Ultra Electronics, “Ultra awarded Canadian Surface Combatant subcontract to provide Variable Depth Sonar,” *Ultra Electronics*, February 3, 2021, <https://www.ultra.group/media-centre/news/ultra-awarded-canadian-surface-combatant-subcontract-to-provide-variable-depth-sonar/>; Ultra Electronics, “Ultra awarded Canadian Surface Combatant subcontract to provide Hull-Mounted Sonar,” *Ultra Electronics*, February 18, 2021, <https://www.ultra.group/media-centre/news/ultra-awarded-canadian-surface-combatant-subcontract-to-provide-hull-mounted-sonar/>.

ASW helicopter – namely the CH-148 Cyclone that recently entered service on the Halifax-class frigates.<sup>1335</sup>

The decision to build all fifteen ships to the same standard, rather than the previous split of three air defence destroyers and twelve general purpose frigates, has been explained by the deputy program manager of the CSC as the need to maximize availability given the RCN's propensity for continuous global deployments.<sup>1336</sup> This is exacerbated by the two-coast nature of the RCN, which results in a navy that perhaps more closely functions as two small navies rather than one medium-sized one. This means that if the RCN were to simply replicate the previous practice of three or four air-defence vessels, only one or two would be available at each coast, which drastically limits their overall availability given the need for refits, maintenance, and training. The coast that has only one destroyer available, for example, would have none available when it is in its maintenance cycle. By building all fifteen ships to the same standard, there would be no capability loss when deploying any available ship from either fleet. Logistics and training should also be simplified and economies-of-scale cost efficiencies gained, though this will likely be offset by the higher cost of both procuring and maintaining the more advanced anti-air warfare systems.

Another consideration for the CSC program is due to the National Shipbuilding Strategy's objective of maintaining a continuous build schedule over a long period to avoid a "boom and bust" cycle, the warships will be built at a rate of roughly one per year starting in 2024, meaning the last ship will not enter service until the 2040s.<sup>1337</sup> This long schedule risks technological obsolescence if all fifteen

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<sup>1335</sup> Chris Enticott, "The Type 26 frigate mission bay. Part 1 – design and development," *Navy Lookout*, February 27, 2019, <https://www.navylookout.com/the-type-26-frigate-mission-bay-part-1-design-and-development/>.

<sup>1336</sup> Christopher Nucci, "The Future Canadian Surface Combatant," *USNI Proceedings* (November 2020), <https://www.usni.org/magazines/proceedings/2020/november/future-canadian-surface-combatant>.

<sup>1337</sup> Department of National Defence, "Canadian Surface Combatant," *Government of Canada*, August 4, 2021, <https://www.canada.ca/en/department-national-defence/services/procurement/canadian-surface-combatant.html>.

ships were to be ordered at once under the same contract, as that would lock them to the technologies that exist today in the early 2020s. Therefore, a batch contracting policy has been adopted, with the current result being that the first equipment contracts have ordered only enough units for the first three ships.<sup>1338</sup> The SPY-7 and 5" guns, for example, have been contracted to deliver only four units, with one reserved for land-based training and testing.<sup>1339</sup>

Given the high perceived cost of these vessels, there is a possibility that rather than building all fifteen ships to the same high-end multimission standard, future Canadian government may decide to end procurement of the current CSC design at these first three ships and build the rest to a cheaper and less capable standard. Indeed, a Canadian parliamentary committee had ordered the Parliamentary Budget Officer (PBO) to study the relative cost savings if the program were to shift to two other cheaper designs, either for all fifteen ships or for the last twelve: the Franco-Italian FREMM (frégate européenne multi-mission) and the Royal Navy's yet-unbuilt Type 31. The PBO found that only minimal savings could be had by shifting to the FREMM (despite their builders' unsolicited proposal that offered them at half the price of the Type 26-based CSC<sup>1340</sup>), while the Type 31 with its much decreased combat capabilities (24 Sea Ceptors versus the CSC's current 120 if the latter's 24 Mk 41 and six ExLS were all quad-packed with Sea Ceptors and ESSMs) should save substantial amounts on the initial acquisition cost.<sup>1341</sup> The PBO noted that its report did not, however, consider naval operational limitations, nor the costs of delays

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<sup>1338</sup> Chatham House rule conversation with RCN officer during Christopher Nucci, "The single class Canadian Surface Combatant (CSC) solution for Canada – 'Operationally focused, value conscious, and technology-enabled'," virtual presentation hosted by Canadian Leaders at Sea's Distinguished Speaker Presentation, January 12, 2021.

<sup>1339</sup> Joe Gould, "US approves \$1.7 billion Aegis missile defense sale to Canada," *Defense News*, May 11, 2021, <https://www.defensenews.com/naval/2021/05/11/us-okays-aegis-sale-to-canada-worth-17-billion/>; Vavasseur, "Canada Selects Leonardo Naval Gun".

<sup>1340</sup> Murray Brewster, "Shipbuilder appeals directly to Sajjan in warship design contest then doesn't deliver formal bid," *CBC News*, December 5, 2017, <https://www.cbc.ca/news/politics/frigate-french-designer-1.4432705>.

<sup>1341</sup> Yves Giroux, *The Cost of Canada's Surface Combatants: 2021 Update and Options Analysis* (Ottawa: Office of the Parliamentary Budget Officer, 2021), 2.

associated with re-running the competition to select a different design. One further issue that was not acknowledged was the cost of split supply chains and crew training for two different ship classes.

Given the enormous increases in the Canadian Liberal government budget to deal with the COVID-19 pandemic crisis, however, there seems to be some hope that the willingness to spend will extend to the domestic defence industry as well. Similar measures could be justified to help rejuvenate the economy and garner local votes, if not for greater military and strategic purposes.<sup>1342</sup> The re-election of the Liberal government on September 20, 2021 has yet to suggest any change in course regarding the CSC program. Although the government's December 14, 2021, *Economic and Fiscal Update 2021* makes no mention of defence spending, it does emphasize Canada's healthy economic position despite COVID-19 impacts while proposing additional spending.<sup>1343</sup> If this government was expecting to decrease promised spending, it is likely the fiscal update would have struck a more pessimistic tone to prepare Canadians for any forthcoming cuts.

Ultimately, if one assumes the current CSC plan reaches fruition, it would mean an enormous increase in the RCN's ability to both contest and exercise sea control across the world's oceans. Canadian seapower in its compulsive form would undergo a dramatic improvement. With three more ships than current, there is already an availability increase to help support the RCN's self-perception of being a medium navy by virtue of regular global deployments. More importantly, each ship would now be capable of not just basic maritime security, anti-air self-defence, anti-submarine, and anti-surface warfare, but they would also expand their sea control contestation capabilities to long-range anti-air warfare to protect allies and coastal Canadian forces. In a purely quantitative sense, each ship's anti-air

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<sup>1342</sup> Lee Berthiaume, "'Zero indication' military spending will be cut amid COVID-19, defence official says," *Global News*, June 11, 2020, <https://globalnews.ca/news/7053393/canada-military-spending-coronavirus/>.

<sup>1343</sup> Department of Finance Canada, "Government of Canada Releases *Economic and Fiscal Update 2021*," *Government of Canada*, December 14, 2021, <https://www.canada.ca/en/department-finance/news/2021/12/government-of-canada-releaseseconomic-and-fiscal-update-2021.html>.

capacity has the potential to be increased by nearly ten fold over the existing fleet.<sup>1344</sup> In terms of exercising sea control, the planned availability of long-range Tomahawk cruise missiles would allow each CSC to project lethal force nearly two thousand kilometres inland. Such a capability would exceed even that of the early Cold War when it had fixed-wing naval aviation.<sup>1345</sup> Regardless of whether the Tomahawks will come into fruition, the decision to purchase the longest variant of the Mk 41 cells allows the RCN to “future-proof” its combat capabilities by allowing it to employ even the largest missiles the United States designs for its primary surface forces.<sup>1346</sup>

Perhaps more importantly as a demonstration of how the RCN envisions the CSCs to be employed, the ships retain their base Type 26 design’s “mission bay”. This athwartships space provides storage equivalent to ten twenty-foot shipping containers.<sup>1347</sup> This can be filled with extra RHIBs, hospitals, remotely operated/uncrewed vehicles, supplies, and other items. All of this can be moved on and off the ship using an overhead crane, obviating the need for shorebased infrastructure. For the peacetime exercise of sea control, this can be especially useful for humanitarian assistance/disaster relief, special forces employment, general maritime domain awareness, and defence diplomacy. Even for wartime sea control contestation, the willingness to incorporate excess space into a warship

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<sup>1344</sup> The current Halifax class frigates carry 16 ESSMs, while the CSCs can carry as many as 152 ESSMs and the very similar Sea Ceptor when those are quad-packed into a single Mk. 41 or ExLS cell.

<sup>1345</sup> U.S. Navy Office of Information, “Tomahawk Cruise Missile,” *United States Navy*, September 27, 2021, <https://www.navy.mil/Resources/Fact-Files/Display-FactFiles/Article/2169229/tomahawk-cruise-missile/>. The Hawker Sea Fury on the 1950s carrier *Magnificent* were the last ground-attack aircraft in RCN service and had a range of 1127 km by comparison: Canada Aviation and Space Museum, “Hawker Sea Fury FB.11,” *Canada Aviation and Space Museum*, 2021, <https://ingeniumcanada.org/aviation/artifact/hawker-sea-fury-fb11>.

<sup>1346</sup> Except for the Mk. 57 cells and to-be-determined hypersonic missile launchers on the three Zumwalt-class destroyers, which are larger than the Mk. 41 Strike Length: Peter Ong, “Latest Details on Hypersonic Missile Integration Aboard Zumwalt-Class Destroyers,” *Naval News*, October 28, 2021, <https://www.navalnews.com/naval-news/2021/10/latest-details-on-hypersonic-missile-integration-aboard-zumwalt-class-destroyers/>; David B. Larter, “See the US Navy’s stealth destroyer conduct its first missile test,” *DefenseNews*, October 19, 2020, Chris Enticott, “The Type 26 frigate mission bay. Part 1 – design and development,” *Navy Lookout*, March 5, 2019, <https://www.navylookout.com/the-type-26-frigate-mission-bay-part-2-configuration-and-contents/>.

<sup>1347</sup> Chris Enticott, “The Type 26 frigate mission bay. Part 1 – design and development,” *Navy Lookout*, March 5, 2019, <https://www.navylookout.com/the-type-26-frigate-mission-bay-part-2-configuration-and-contents/>.

recognizes the potential for future technologies such as armed drones that may provide not just distributed weapons, but extended sensors and countermeasures.

### The Canadian Submarine Force: An Uncertain Future

As noted above, the RCN's current fleet of four ex-British Victoria-class diesel-electric submarines have demonstrated their ability to conduct independent trans-oceanic deployments. However, they are nearing thirty years old by the time of this writing, and the RCN has recently begun the formal process for exploring options for the submarines' replacement.<sup>1348</sup> Meaningful analysis on the submarines' futures will require further revelations from this process, but it will no doubt become subject to many of the same tensions that have been discussed in this chapter with regards to Canada's ambitious use of its fleet for global operations despite being only a medium power with limited resources while sharing the same geographic challenges and posture of the American superpower. The only known priority for the replacement project is the incorporation of Arctic capability, which will almost certainly propose a nuclear power solution to ensure reliable under-ice operations despite advances in non-nuclear propulsion technologies.<sup>1349</sup> Much as the 1980s attempt at procuring nuclear-powered submarines encountered myriad challenges, so, too, will this latest iteration. It remains unlikely that Canadians and their politicians would be willing to fund the enormous infrastructure, expertise, and political costs of a nuclear option. In the absence of such a willingness, the only option is to leave Arctic underwater capabilities to some combination of permanent sensors, mobile underwater

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<sup>1348</sup> Lee Berthiaume, "Navy kicks off long-anticipated push to replace Canada's beleaguered submarine fleet," *CBC*, July 14, 2021, <https://www.cbc.ca/news/canada/nova-scotia/navy-submarine-new-fleet-1.6102598>.

<sup>1349</sup> Roundtable discussions with Department of National Defence officials held under Chatham House rules, September 28, 2021; Timothy Choi and Adam Lajeunesse, "Some Design Considerations for Arctic Submarines," *North American and Arctic Defence and Security Network*, Policy Primer, November 16, 2020, [https://www.naadsn.ca/wp-content/uploads/2020/11/Policy-Primer\\_Some-Design-Considerations-for-Arctic-Capable-Submarines\\_Choi-and-Lajeunesse.pdf](https://www.naadsn.ca/wp-content/uploads/2020/11/Policy-Primer_Some-Design-Considerations-for-Arctic-Capable-Submarines_Choi-and-Lajeunesse.pdf); Timothy Choi, "Nuclear or Bust: Canadians face Uncomfortable Choice for New Submarines," *The Hill Times*, November 17, 2021, <https://www.hilltimes.com/2021/11/17/nuclear-or-bust-canadians-face-uncomfortable-choice-for-new-submarines/328408>.



vehicles, and surface and aerial assets in the summer season. Even as great power competition refocuses Western states on conventional defence priorities, Canada's continuing interest in being globally engaged with its maritime forces will result in it reckoning with the same dilemma that saw Denmark trade its submarine local defence capability for overseas surface vessels.

## 7.5 Conclusion

In the decades since the final years of the Cold War, the RCN's warfighting fleet has remained relatively constant in numbers despite the demise of the Soviet threat, which has allowed it to conduct a range of global operations on a continual basis and provided Canada the core of its compulsive seapower. In contrast to the smaller Norwegian and Danish navies, there was no clear change to its force structure to respond to either the creation of the 200 NM EFZ/EEZ or to the end of the Soviet threat. The major change was in increased sailing days dedicated to fisheries patrols by the warfighting fleet, including destroyers and submarines, and air force assets. This stemmed from the fact that the RCN has no independent law enforcement authority, which meant little rationale for dedicated patrol ships. Any RCN vessel, including submarines, could be a fisheries patrol ship so long as it embarked a legally-endowed Department of Fisheries and Oceans officer. This meant that the RCN employed Canada's compulsive seapower not just abroad against foreign military opponents, but at home against civilians as well.

Meanwhile, the DFO's own fleet of offshore patrol vessels undertook relatively low-cost measures to enhance their compulsive power in the newly-expanded fisheries/economic zone – namely, the 1987 addition of .50 calibre machine guns and firearms for its Fisheries Officers. These methods of asserting sea control in a time of increased civilian contestation for control of offshore fisheries eventually culminated in the long term diplomatic settlement of the 1995 Turbot War, one of Canada's most severe fisheries disputes in the last several decades. The decreasing use of the armed CCG OPV

program sometime around 2010 would seem to demonstrate the long term success of Canada's approach during this critical period. Although the offshore constabulary concerns have been essentially resolved for the Pacific and Atlantic coasts through permanent and high-absolute sea control, the Arctic is expected to require more such attention in the coming years and decades. This is reflected in the RCN's decision to procure dedicated constabulary vessels in the form of the armed Harry DeWolf class despite the RCN's lack of law enforcement authority.

As a medium power, however, Canada has not allowed its seapower inputs to be dominated by such constabulary issues either during or after the Cold War. At its heart, Canada's naval forces have been focused on preparing and equipping for military tasks ever since the Second World War even if many of their operations in recent years have been constabulary in nature. Although sea denial may evoke visions of a smaller coastal navy concerned only with working within sight of shore, it is also a term that accurately describes the RCN's Cold War focus on contestation in and cross the North Atlantic but without the ability to independently exercise that control.<sup>1350</sup>

The RCN's adoption of an increasingly global posture since the end of the Cold War echoes that taken by many other Western navies, including the traditionally locally-focused fleets of Denmark and Norway. Unlike those countries, however, Canada is unique in sharing the same geographical situation as the superpower United States, where the tyranny of distance provides additional challenges to pursuing a globally-oriented naval posture. Nonetheless, the RCN has managed to carry out consistent military, constabulary, and diplomatic missions on opposite sides of its ocean-bound coasts via both ships and leadership positions. Despite its lack of wider naval power instruments like the amphibious assault ships or long-range cruise missiles of other medium-sized navies, it is still able to regularly influence behaviour and events at sea and from the sea far from home. This seapower is made possible

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<sup>1350</sup> R.B. Byers, "Canada and Maritime Defence: Past Problems, Future Challenges," in *RCN in Transition, 1910-1985* (Vancouver: UBC Press, 1988), 326.

by its relatively large fleet of oceangoing warships in accordance with Canada's status as a medium power. Unlike the other two navies studied in this dissertation, Canada did not face a need to dramatically change its force structure to adapt to the new post-Cold War world with its globe-ranging requirements thanks to both the size of its fleet and the long endurance capabilities built into each ship as a result of its trans-Atlantic NATO commitments. This is only expected to increase with the arrival of the future fleet, and Canada can expect to remain a robust medium-sized navy that looks out and increasingly north, albeit via the criteria of frequent deployments rather than diversity of naval capabilities.

This chapter has also illustrated how the concept of sea control developed in Chapter 4 can be used to analyze how different governmental agencies contribute to a state's peacetime seapower. Particularly, the focus on fisheries control highlights one way sea control can be exercised in peacetime with corresponding contestation elements. By emphasizing the fisheries control origins of Canada's maritime forces, it illustrates how even as a navy grows in size and capability to take on higher intensity warfare missions, it remains key to securing domestic interests alongside dedicated civilian institutions. Such actions rarely involve the actual use of force, but rather, threats of escalatory compulsive seapower. Such threats can suffice to either bring an offender to heel at the tactical level as well as effect desired change at the political level through intergovernmental agreements. The nature of this threat comes from having the capability to contest sea control at some level, and even if actual contestation does not occur, the end result can nonetheless be the successful exercise of "untested" sea control. This, in turn, establishes an institutionalized form of seapower, manifest in treaties and agreements the UN Fish Stocks Agreement or new NAFO observer standards, which in turn reduces the need to employ more expensive forms of compulsive seapower like patrol ships. All of this helps establish a level of sea control that approaches the permanent and absolute.

Recognizing the relationship between sea control and peacetime maritime security requirements will become increasingly crucial in the coming decades. In addition to climate change's effect on increased Arctic access mentioned above, recent maritime violence elsewhere in the world such as the South Atlantic and South China Sea suggest an end to Canada's currently minimally-challenged control over the resources on its other two coasts.<sup>1351</sup> However, with RCN platforms seeming to take on more peacetime law enforcement roles, Canada appears to be materially prepared to address this potentially more aggressive world where the force required for securing maritime resources may move further right on the sea control spectrum's contestation axis. But materiel is not enough – a country must have the will to use that force. Here, too, Canada has demonstrated through repeated historical instances that it has been willing to employ armed force to ensure its ability to use the sea's resources. From the HMCS *Thiepvál* inspecting foreign fishing licenses in the 1920s to the *Cape Roger* bringing the *Estai* into St. John's harbour in 1995, Canada has proved time and time again that it is willing to employ compulsive and institutional forms of seapower to control its waters from the Pacific to the Atlantic. Time will tell whether this resolve extends to the country's third ocean, the Arctic.

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<sup>1351</sup> Gregory B. Poling, "Illuminating the South China Sea's Dark Fishing Fleets," *Center for Strategic and International Studies*, January 9, 2019, <https://ocean.csis.org/spotlights/illuminating-the-south-china-seas-dark-fishing-fleets/>; Reuters, "Argentina sinks Chinese trawler during pursuit for illegal fishing," *The Guardian*, March 16, 2016, <https://www.theguardian.com/world/2016/mar/16/argentina-sinks-chinese-trawler-during-pursuit-for-illegal-fishing>.

## Chapter 8: Conclusion and Analysis

### 8.0 Here for a Good Time, Not a Long Time

Lit by the golden glow of the rising sun on a cloudless February morning in 2021, the haze gray hulk of the Norwegian frigate KNM *Helge Ingstad* made its final journey.<sup>1352</sup> Raised from the seabed and brought to the Haakonsværn naval base on March 4, 2019, to restore watertight integrity, *Helge Ingstad* was soon moved to the nearby port of Ågotnes, which services Norway's maritime and petroleum industry.<sup>1353</sup> Although the frigate would lay there alongside civilian oil platforms for the next two years, the fate of the vessel was already decided in June 2019. The cost of repairing the decade-old Nansen-class frigate was estimated to exceed that of buying a new vessel, and the decision was made to scrap it after removing all reusable components.<sup>1354</sup> Its final journey on February 8, 2021, would take it from Ågotnes to the scrapyard at nearby Hanøytangen, a mere one-hour journey across the very waters where it had met its demise at the bow of the oil tanker *Sola TS*.<sup>1355</sup> Towed ignominiously by a pair of tugboats, one could not help but notice the irony. The Nansen class was designed to operate throughout the EEZ and contest control of the sea so that its civilians could safely exercise that control for exploiting the EEZ's resources. Instead, it would be one of the very assets that the frigates were meant to protect, an oil tanker, which caused the demise of the *Ingstad*. Still, despite being in service for only a decade, *Ingstad* performed the full range of peacetime missions that was expected of it at conception. From

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<sup>1352</sup> Adrian Nyhammer Olsen, Cato Heldal Kristensen, and Stian Sørnum Røkenes, "Fregatten «Helge Ingstad» har nådd sin siste destinasjon," *NRK*, February 8, 2021, <https://www.nrk.no/vestland/fregatten-helge-ingstad-bli-frakta-til-skraping-pa-hanoytangen-1.15363184>.

<sup>1353</sup> Adrian Nyhammer Olsen, "Her ligger restene av KNM «Helge Ingstad»," *NRK*, November 7, 2019, <https://www.nrk.no/vestland/her-ligger-restene-av-knm-helge-ingstad-1.14772973>;

<sup>1354</sup> Olsen, "Her ligger restene av KNM «Helge Ingstad»"; Tom Arne Moe and Nils Mehren, "KNM «Helge Ingstad» blir ikke reparert," *NRK*, June 23, 2019, <https://www.nrk.no/vestland/knm-helge-ingstad-bli-ikke-reparert-1.14600194>.

<sup>1355</sup> Helene Synes, "Siste reis," *Forsvaret*, February 8, 2021, <https://www.forsvaret.no/aktuelt-og-presse/aktuelt/siste-reis>.

escorting chemical weapons from Syria to regular participation in NATO exercises, the frigate demonstrated how the seapower of smaller navies can be expressed far away from their own shores.<sup>1356</sup>

But the loss of the *Ingstad* and its high-end combat capability is not likely to dramatically alter Norwegian seapower, despite its high cost and advanced systems. Although the Nansen class certainly helped Norway more easily meet its post-Cold War naval objectives, this dissertation has shown how the major sea control contestation actions were taken by its Coast Guard fleet in and around the country's 200 NM zones. The same Coast Guard vessels that came to *Ingstad's* assistance were the ones who have been acquired to help contest and exercise control of Norway's oceans from its internal waters out to the 200 NM limit. Similarly, Canada's major acts of sea control contestation post-Cold War took place at the edges of its EEZ by patrol ships operated by its civilian Department of Fisheries and Oceans. While its navy's fleet of blue water frigates did provide escalation dominance to help ensure the long-term institutional solution to Canada's position regarding straddling fish stocks, their only acts of contestation would be in waters far from home as part of global constabulary operations. For Denmark, the 200 NM zone was not accompanied by notable challenges to Danish rules and regulations. Their Arctic patrol vessels in Greenlandic and Faroese waters did not see opportunities to employ or threaten lethal force in the course of their duties. When sent far from home, however, such use of force did take place against non-state actors. Ultimately, what was common to all three states was the fact that long-term institutional measures provided the seapower necessary to establish near-permanent sea control in home waters, freeing up blue water hulls so their compulsive seapower could be employed far away from home. Whether it was the constabulary-centric Nordkapp and Thetis classes offshore patrol vessels of Norway and Denmark or the antisubmarine-centric Halifax class frigates of the Canadians, their availability for overseas operations was enabled by confidence in the security of their EEZs. This

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<sup>1356</sup> Synes, "Slste reis."

confidence was in turn made possible by the compulsive measures taken by those vessels serving in their constabulary capacity, which helped create environments where institutional measures could be implemented and enforced. This in turn reduced the need for the compulsive power of those blue water hulls close to home, freeing them up for overseas missions.

This dissertation examined the histories of three northern navies with the aim of answering two research questions: how the establishment of the 200 NM maritime zones affected their force structures and operations, and whether the smaller navies differed in their responses versus larger ones. The remainder of this conclusion chapter will do three things. Firstly, it answers the research questions by consolidating and analyzing the empirical findings from the case studies. Secondly, it explains the theoretical significance of the case studies to help understand and contextualize recent developments in all three navies' force structures and activities. Thirdly, it provides suggestions for further empirical and theoretical research on the phenomena of navies of differing sizes and their responses to the establishment of the Exclusive Economic Zone.

## **8.1 Answering the Researching Questions**

*8.1.1 Question One: How did the 200 NM Maritime Zones affect the force structures and operations of the Navies of Norway, Denmark, and Canada?*

Although Canada is included in the scope of the first research question (R1), it does not mean this dissertation considers it to be a small navy akin to the Danes and Norwegians. Indeed, as the explanation and case selection discussions for the second research question noted in the introduction, Canada is included specifically as the larger power for the purpose of identifying potential differences between smaller and larger powers. The only way to do so is to subject it to the same methods and scrutiny as for the other two countries while addressing R1.

This dissertation finds that the extension of Norwegian, Danish, and Canadian maritime jurisdictions out to 200 nautical miles resulted in three responses on the parts of their respective naval force structures and operations. The first response was the acquisition of large ocean-going offshore patrol vessels (OPVs) specifically for constabulary missions. This was a universal trend, though the extent of each country's investment differed. This was most clearly evidenced by the Norwegian Nordkapp-class vessels operating under their Coast Guard.<sup>1357</sup> Uniquely, Norway also acquired warfighting frigates designed to operate at the farthest extents of the EEZ to ensure the defence of offshore oil and fisheries.<sup>1358</sup> For Denmark, its requirement for deploying patrol ships across the Atlantic to Greenland meant the EEZ led to a continuation of existing large patrol ships rather than any completely new capability.<sup>1359</sup> The same ships that could deploy on their own overseas could also operate comfortably in the outer reaches of the EEZ. For Canada, the influence of the EEZ on its force structure was less clear. Because the Royal Canadian Navy (RCN) does not have law enforcement powers, it initially made little effort to produce a dedicated OPV.<sup>1360</sup> The few OPVs that Canada possessed belonged to the Department of Fisheries and Oceans, which were acquired as reactions to the EEZ establishment.<sup>1361</sup> The impact of the EEZ and its requirement for contesting sea control against foreign users was especially evident in the 1986 decision to arm these civilian OPVs with heavy machine guns, which was aimed at reducing the need to rely on the RCN's warships or RCMP boarding teams which may not be available in a timely fashion.<sup>1362</sup> Despite the DFO's own efforts, the RCN also increased the amount of sailing time

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<sup>1357</sup> See Chapter 5: Norway, section 5.2.2.

<sup>1358</sup> Jacob Børreson, *Det store fregattekjøpet: Historien om anskaffelsen av Fridtjof Nansen-klasse fregatter til Sjøforsvaret* (Oslo: Vidarforlaget, 2015), 18, 52-53, 55, 59, 84-85.

<sup>1359</sup> See Chapter 6: Denmark, section 6.2.2.

<sup>1360</sup> See Chapter 7: Canada, section 7.3.

<sup>1361</sup> Canadian Coast Guard, "CCGS Cape Roger," *Government of Canada*, <https://inter-j01.dfo-mpo.gc.ca/fdat/vessels/44>; Department of Fisheries and Oceans, Newfoundland Region, "The Leonard J. Crowley," 14.

<sup>1362</sup> Thomas Siddon, speech given to St. John's Board of Trade on June 13 1986, reproduced in "Canada Toughens Offshore Enforcement," *Fo'c'sle* 6, no. 1 (1986), 3.



allocated to fisheries patrols for both warships and submarines.<sup>1363</sup> In these taskings, the law enforcement authority was provided by on-board DFO officers.<sup>1364</sup>

The second response was in fleet organization, where EEZ establishment affected each country differently. Norway established a dedicated Coast Guard under its Navy to formalize training, expertise, and operations in order to not take away from the military needs of its warfighting fleet. Denmark did not establish a new organization but instead concentrated its constabulary forces under a single squadron rather than the preceding practice of grouping the larger Hvidbjørnen-class patrol ships in the Frigate Squadron alongside the two Pedar Skram-class frigates. Further research will be required to identify the explicit rationales behind this decision but the success of existing arrangements in stopping systematic violations of Greenlandic EEZ fisheries indicate it was a successful approach.<sup>1365</sup> Canada made no organizational changes in response to the EEZ and instead focused on increasing its navy's sailing days dedicated to fisheries patrols. This was the result of multiple government reports exploring the idea of consolidating Canada's multiple fleets, nearly all of which recommended maintaining the status quo at their time of writing.

Finally, each country responded similarly in terms of their actual fleet employments. The acquisition of larger ocean-going patrol ships led to not only their intended use as constabulary assets focused on contesting control against civilian users of the seas, but also as contributors to each country's turn towards expeditionary operations in the post-Cold War era. Coastal navies could now more easily switch to a global orientation in the aftermath of the Cold War's conclusion, which coincided with the growing acceptance of each state's 200 NM economic zone and the seapower inputs required

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<sup>1363</sup> L E Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18, no. 6 (1994): 526.

<sup>1364</sup> Fisheries and Oceans Canada, "Canada's High Seas Monitoring, Control and Surveillance Activities," *Fisheries and Oceans Canada*, November 10, 2015, <http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm>.

<sup>1365</sup> See Chapter 6: Denmark, pages 278 and 290.

to secure those zones. This *indirect* influence of the EEZ on fleet operations was particularly noticeable in Norway, where their deployment of the Coast Guard ship *Andenes*, rather than one of the smaller Oslo-class frigates, to the Persian Gulf in 1991 illustrates how the long endurance requirements of EEZ constabulary duties can also result in a vessel better suited for military tasks when it comes to expeditionary missions.<sup>1366</sup> When it came to the warfighting fleet, Norway's decision to procure the Nansen class based initially on the need to operate out to 200 NM resulted in a frigate designed specifically for military roles that has also been large enough for overseas operations. These include *Helge Ingstad's* deployment to Syria in 2013-2014 as part of a chemical weapons removal program and *Nansen's* participation at the 2014 Rim of the Pacific exercise.<sup>1367</sup> For Denmark, the indirect influence of the EEZ on its fleet operations was similar, though delayed in time due to the timing of its shipbuilding programs. For instance, the arrival of the large Thetis-class OPVs in the early 1990s came too late for their participation in the 1991 Gulf War.<sup>1368</sup> However, the ships' large size and endurance allowed them to participate in a range of sporadic global operations in the years since their commissioning, including naval industry tours to Southeast Asia and counterpiracy patrols off Somalia.<sup>1369</sup>

Nonetheless, despite both Norwegian and Danish constabulary vessels being used for occasional military tasks outside their coastal or EEZ waters, the majority of their operations remained within the

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<sup>1366</sup> Magnus Petersson and Håkon Lunde Saxi, "Shifted Roles: Explaining Danish and Norwegian Alliance Strategy," *Journal of Strategic Studies* 36, no. 6: 769; Sverre Mo, *Norske Marinefartøy Samtlige norske marinefartøy 1814-2008 og Marinens Flygevåpen 1912-1944* (Bergen: Bodoni Forlag, 2008), 274-275.

<sup>1367</sup> Forsvarsdepartement, "Prop. 1 S (2015-2016): Proposisjon til Stortinget (forslag til stortingsvedtak): For budsjettåret 2016," Forsvarsdepartement, September 18, 2015, 49; Rune Thomas Ege, "VG Eksklusivt: På innsiden av Norges Syria-Oppdrag," *VG*, December 9, 2015, <https://www.vg.no/nyheter/utenriks/i/MQQBr/vg-eksklusivt-paa-innsiden-av-norges-syria-oppdrag>; Ine Eriksen Søreide, "Speech at RIMPAC 2014 Seminar in Oslo May 12, 2014," *Government.no*, May 12, 2014, <https://www.regjeringen.no/en/aktuelt/Speech-at-RIMPAC-2014-Seminar-in-Oslo-May-12-2014/id759104/>.

<sup>1368</sup> Per Herholdt Jensen, *Atlantsejlerne: Flådens Inspektionsskibe i 100 år* (Copenhagen: Aschehoug Dansk Forlag A / S, 2005), 245.

<sup>1369</sup> Jensen, *Atlantsejlerne*, 175, 198-199, 210, . Jensen, *Atlantsejlerne*, 175-176, 198-199, 210; Eigil Andreassen, "THETIS I FN World Food Programme – Rejsebrev nr. 12," in *Rejsebreve fra Sjøværnets enheder 2008*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2008.pdf>, 37; Eigil Andreassen, "THETIS I FN World Food Programme – Rejsebrev nr. 40," in *Rejsebreve fra Sjøværnets enheder 2008*, edited by Søren Nørby, <http://www.marinehist.dk/orlogsbib/r/Rejsebreve/Rejsebreve2008.pdf>, 86.

200 NM zones for which they were built to patrol. As the empirical chapters demonstrated, the 200 NM zones *directly* influenced the need to enforce fisheries regulations close to home, though not always to the same extent as during some periods of the Cold War. During these earlier periods, the right to use lethal force by naval commanders had yet to be tested in the international courts, such as the case of *Niels Ebbesen versus the Red Crusader*.<sup>1370</sup> Even for some ships designed specifically to increase the coastal state's ability to carry out the greater responsibilities of the 200 NM EEZ, such as the Danes' Knud Rasmussen class, there have yet to be opportunities for them to operate outside their home region of operations. Indeed, the capacity for the Danish navy to maintain its constabulary fleet in its traditional coastal waters has been enabled by the transformation of its warfighting fleet for expeditionary purposes. Once the large Absalon- and Iver Huitfeldt-class frigates entered service, Denmark had no need to send its constabulary fleet on global missions, allowing the latter to be dedicated to EEZ and territorial water patrols.

For Canada, its fleet operations have steadily taken on a greater global presence in the aftermath of the Cold War. The EEZ's establishment had little direct or indirect influence on this. Unlike the Norwegian Nordkapp and Nansen class or the Danish Thetis class, there is no evidence that the RCN's ocean-going warships, the Halifax class, were built with EEZ considerations in mind. Nonetheless, the Cold War military need to operate across the Atlantic and close to Norwegian shores resulted in a large general-purpose frigate that has since been well-suited for Canada's post-Cold War turn towards expeditionary operations. The international institutional solution to the straddling stocks issue off the Grand Banks at the edges of Canada's 200 NM zone in the mid-1990s also meant there was little need for increased OPV capabilities.<sup>1371</sup> This also meant the RCN has had little need to continue dedicating

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<sup>1370</sup> See Chapter 6: Denmark, pages 267-269.

<sup>1371</sup> Nicholas Tracy, "Canada's Naval Strategy: The Record and the Prospects," in *Canadian Gunboat Diplomacy: The Canadian Navy and Foreign Policy*, ed. Ann Griffiths, Peter T. Haydon, and Richard Gimblett (Halifax: Dalhousie University, 1998), 236-237; Adam Gough, "The Turbot War: The Arrest of the Spanish Vessel Estai and its Implications for Canada-EU Relations" (Master's thesis, University of Ottawa, 2009), 90, 94-95.

sailing hours on its warships for fisheries patrols. While the RCN has embraced constabulary operations, they have been predominantly on oceans far from home, such as the Arabian and Caribbean Seas.<sup>1372</sup> Overseas drug interdiction and general maritime security have become the operational bread and butter of the RCN, rather than preparing to fight in a great power conflict. That being said, this has changed somewhat since Russia's invasion of Crimea in 2014, after which the RCN has deployed frigates continuously to Europe as part of NATO forces under Operation Reassurance where a greater emphasis has been on training for the high-end fight.<sup>1373</sup> The arrival of the new Harry DeWolf-class Arctic and Offshore Patrol Vessels may result in greater operational emphasis on Canadian EEZ and EEZ-adjacent waters, but that remains to be seen and if the inaugural deployment of *DeWolf* is any indication, the offshore constabulary emphasis will continue to be in distant waters like those around Latin America.<sup>1374</sup>

Understanding the degree to which these navies have employed their forces for both EEZ and expeditionary operations would not be possible without the decades-spanning approach taken by this dissertation and examining both dedicated constabulary and military naval forces. The eventual shifts towards greater operational focus on overseas operations post-Cold War are readily evident by the 2010s, though the fundamental seapower inputs that enable such shifts took place during the Cold War or shortly after. The following review of several deployments made by the three countries in December 2021 helps solidify this point. In December 2021, the Norwegian frigate KNM *Fridtjof Nansen* deployed with the United States Carrier Strike Group centered on USS *Harry S. Truman*, a Nimitz-class aircraft

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<sup>1372</sup> See Chapter 7: Canada, sections 7.4.1 and 7.4.2.

<sup>1373</sup> National Defence, "Operation REASSURANCE," *Government of Canada*, August 31, 2021, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>.

<sup>1374</sup> RCN, "HMCS Harry DeWolf reservists helped intercept smuggling vessel / Des réservistes à bord du NCSM Harry DeWolf contribuent à l'interception d'un navire de contrebande," *Trident Newspaper: The Newspaper of Maritime Forces Atlantic Since 1966*, January 26, 2022, <https://tridentnewspaper.com/hmcs-harry-dewolf-reservists-helped-intercept-smuggling-vessel-des-reservistes-bord-du-ncsm-harry-dewolf-contribuent-linterception-dun-navire-de-contrebande/>.

carrier, following months of integration training in the western Atlantic.<sup>1375</sup> At the same time, the Danish Absalon-class frigate HDMS *Esbern Snare* sailed in the Gulf of Guinea on the West African coast with a mission to deter and prevent the ongoing piracy attacks in the region.<sup>1376</sup> In Trondheim, Norway, the Canadian Halifax-class frigate HMCS *Fredericton* had just completed repairs to its engines, resuming duties as flagship of Standing NATO Maritime Group 1, while its sister *Winnipeg* transited the Pacific on its way back to Esquimalt, British Columbia, following a four-month deployment to East Asia.<sup>1377</sup>

These deployments by the three northern navies all share a common thread: military and constabulary seapower in areas far beyond their traditional Cold War focus. They represent a three-decade journey in both force structure development and policy reorientation enabled by the collapse of the Soviet threat. Such operations required ships with, first and foremost, long endurance and good seakeeping. Regardless of the differences in weapons and sensors, the ability to be present was fundamental to enabling this operational shift away from home waters. This will be discussed in further detail in the section below on “Long Term Consequences of the Countries’ Forces Structure Responses to the EEZ.”

At the same time, the nature of the threats to those home waters have remained, albeit increased in scale as a result of the 200 nautical mile economic zones that have been implemented off their coasts and increased activity in those areas. Such increased threats have not always required greater coercive capabilities on the water, however, as more mature international institutions such as

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<sup>1375</sup> USS Harry S. Truman Public Affairs, “NORWEIGAN [sic] FRIGATE HNOMS FRIDTJOF NANSEN ARRIVES IN NORFOLK AHEAD OF OPERATIONS WITH U.S. CARRIER STRIKE GROUP,” *Commander, Naval Air Forces Atlantic*, September 5, 2021, <https://www.airlant.usff.navy.mil/Press-Room/Press-Release/Article/2765135/norwegian-frigate-hnoms-fridtjof-nansen-arrives-in-norfolk-ahead-of-operations/>.

<sup>1376</sup> Forsvarsministeriet, “Danmark sender fregatten Esbern Snare til Guinea-bugten,” *Forsvarsministeriet*, October 22, 2021, <https://www.fmn.dk/da/nyheder/2021/danmark-sender-fregatten-esbern-snare-til-guinea-bugten/>.

<sup>1377</sup> Joanie Veitch, “HMCS Fredericton returns after five-month NATO deployment,” *CFB Esquimalt Lookout*, January 18, 2022, <https://www.lookoutnewspaper.com/hmcs-fredericton-returns-five-month-nato-deployment/>; Peter Mallet, “HMCS Winnipeg homecoming this week,” *CFB Esquimalt Lookout*, December 14, 2021, <https://www.lookoutnewspaper.com/hmcs-winnipeg-homecoming-week/>.

the UN Straddling Stocks Agreement and NAFO have allowed land-based means of ensuring adherence to fisheries regulations. While this dissertation was most interested in offshore areas, similar observations were made about coastal waters. The similarities in the degree of coercive power built into patrol ships has continued with ships designed for operating in the 12 NM territorial sea and 24 NM contiguous zone. These seapower inputs have focused on providing safety, assistance, and support capabilities to civilian users of the seas. This has been most visible in the Norwegian acquisition of the Nornen class and the Danish Knud Rasmussen classes, both of which are an order of magnitude larger than their predecessors but without a corresponding increase in firepower. Despite the larger maritime zones over which these states now have responsibility, the shipboard ability to contest sea control in the near-shore constabulary context did not increase to the same extent.

### *8.1.2 Question Two: Did Smaller Navies differ in their Response to the Creation of the EEZ from Larger Navies?*

This dissertation finds that the larger Canadian naval establishment responded to the creation of its 200 NM maritime zones in a very different way from that of its smaller Danish and Norwegian counterparts. In contrast to the latter's strict divisions between dedicated constabulary versus warfighting naval units under the same umbrella of the country's navy, the Canadian approach to the EEZ establishment manifested more in the way existing warfighting forces were employed rather than in new dedicated constabulary forces. This disparity could be attributed to two factors. Firstly, that the Canadian model for law enforcement at sea took advantage of the RCN's ocean-going platforms to host civilian individuals that have been invested with law enforcement authority and secondly, the timing required for replacing each country's major fleet units.

While Canada did acquire OPVs specifically for EEZ enforcement, the vessels were initially unarmed and never served in the country's navy. The series of violations and enforcement actions in the mid-1980s resulted in the eventual arming of these civilian OPVs, but a significant portion of Canada's fisheries enforcement activities at sea still took place on board the RCN's warships and submarines.<sup>1378</sup> In the latter operations, law enforcement authority was invested in Fisheries Officers under the Department of Fisheries and Oceans, with the naval ships merely serving as platforms.<sup>1379</sup> Canada was able to undertake such an approach due to the blue water capabilities of its warships, which was a major drawback in the warfighting fleets of Norway and Denmark. The latter smaller countries, with their smaller combatants focused on coastal combat concerns, had no warships suitable for sustained EEZ patrols. They instead continued or created dedicated constabulary forces that were separate from their warfighting fleets to carry out the necessary EEZ duties. Canada's navy, meanwhile, had the hull numbers, seakeeping, and endurance to take on fisheries enforcement out to and beyond the 200 NM limit.<sup>1380</sup>

The schedules of fleet renewal also played a part in the divergent approaches taken by the three countries. The process for initiating Norway's Nordkapp class could begin shortly after December 1977 promulgation of the country's EEZ and Svalbard EFZ areas in large part due to the lack of pre-existing vessels. Leading up to the late-1970s, the Norwegian fisheries inspection service employed only leased civilian vessels for both inshore and offshore work, allowing them to quickly dispose of the least capable vessels without needing to worry about divesting of them prematurely.<sup>1381</sup> At the same time, the then-existing warfighting frigates of the Oslo class were still relatively new and had just undergone a major refit with the latest guided anti-air and anti-surface missile capabilities.<sup>1382</sup> This meant there was no

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<sup>1378</sup> See Chapter 7: Canada, sections 7.3.1 and 7.3.2.

<sup>1379</sup> Fisheries and Oceans Canada, "Canada's High Seas Monitoring, Control and Surveillance Activities."

<sup>1380</sup> See Chapter 7: Canada, sections 7.3.1.

<sup>1381</sup> See Chapter 5: Norway, sections 5.2.1 and 5.2.2.

<sup>1382</sup> See Chapter 5: Norway, section 5.1.3.

suitable candidate for patrolling the outer limits of the 200 NM zones, requiring the acquisition of the dedicated Nordkapp-class OPVs with their organic helicopters.<sup>1383</sup>

For Denmark, the Hvidbjørnen-class patrol ships built in the early 1960s were still capable vessels by the time of Denmark's 200 NM declaration, though they were supplemented by the similar *Beskytteren* in the mid-1970s specifically to help monitor the 200 NM limits.<sup>1384</sup> These ships had some of the technical capabilities required of Arctic offshore patrol ships, but such capabilities were not optimized for long-duration offshore duties. This was due to their endurance and seakeeping requirements being driven by acute emergency scenarios and transits to Greenland and the Faroe Islands rather than the longer loitering time required for fisheries patrols out to 200 NM.<sup>1385</sup> Ultimately, the opportunity for a "true" OPV built specifically for operating throughout the 200 NM zone off Greenland and the Faroes would not come until the Thetis class of the late 1980s.<sup>1386</sup>

For Canada, the wide availability of ocean-going warships provided the emergency response capacity for violations of the country's 200 NM zone where lethal force was required. This meant that, unlike for Norway and Denmark, the lengthy replacement schedules for the RCN's St Laurent-class derivatives had no discernible effect on Canada's ability to patrol the EEZ. Regardless of the St. Laurents or the newer Iroquois classes' increasingly obsolete warfighting abilities, they were nonetheless designed with mid-Atlantic seakeeping and endurance that made them suitable for fisheries patrols to the full extent of the EEZ and beyond.<sup>1387</sup> This was reflected in both the RCN's ability to increase days dedicated to fisheries patrols and the lack of EEZ considerations when setting out the requirements for the Halifax-class frigates.

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<sup>1383</sup> See Chapter 5: Norway, section 5.2.2.

<sup>1384</sup> See Chapter 6: Denmark, section 6.2.2.

<sup>1385</sup> See Chapter 6: Denmark, section 6.2.2.

<sup>1386</sup> See Chapter 6: Denmark, section 6.2.2.

<sup>1387</sup> See Chapter 7: Canada, section 7.3.1.



### *8.1.3 Long Term Consequences of the Countries' Forces Structure Responses to the EEZ*

Although not one of this dissertation's research objectives, the findings that came out of the multi-decade approach allow relationships to be drawn between the EEZ response differences of each country and how they navigated the post-Cold War era. The solutions that each country adopted (or maintained) in response to EEZ establishment were compatible with their general post-Cold War security policy turns toward expeditionary operations. Part of these findings were discussed in the above answer to Question 1 and they are being elaborated upon here.

Canada and Denmark responded similarly, with increased out-of-area operations compared to the Cold War. Unlike Denmark, Canada's ability to conduct such operations was to a much greater extent, with continuous overseas deployments rather than sporadic ones that reflect Canada's status as a middle power with a much larger oceangoing fleet. Although split between two coasts, the Canadian fleet of twelve frigates, four destroyers, and two replenishment ships allowed the RCN to maintain a regular presence on the opposite side of the world through the 2000s and 2010s even as that fleet was reduced to just the frigates and twelve coastal defence vessels and four diesel-electric submarines. Canada's decision to rely upon the RCN's warfighting fleet for supporting EEZ patrols meant resources were not diverted to dedicated constabulary assets until the arrival of the Harry DeWolf class in 2020. By this point, the RCN's global role had been accepted by the RCN and Canadian government, and this was reflected in the design and use of the DeWolf class despite its offshore patrol moniker. The availability of the RCN fleet for global operations was made possible by the near-permanent level of sea control established through institutional measures like NAFO and the UN Straddling Stocks Agreement,

which reduced the need for compulsive measures throughout the EEZ like Fisheries Officers on RCN warships. This freed up RCN vessels for their expanded global duties.

In contrast, Denmark's turn towards global operations involved extensive use of the same ships, the Thetis class, that it designed specifically for EEZ patrols at home. From advertising the Danish defence industry in Southeast Asia to scientific research in the South Atlantic and counterpiracy operations off Somalia, these constabulary patrol ships ranged far from their North Atlantic homes. Although these missions were not continuous to the same extent as the Canadians' larger fleet, they solidly demonstrate how the seakeeping and endurance requirements for operating in the EEZ make for vessels that are also suitable for global deployments. With the arrival of the five new Iver Huitfeldt- and Absalon-class frigates in the late 2000s and early 2010s, however, the Thetis class have since been able to remain close to home in the North Atlantic and Arctic waters for which they were designed. Ironically, the expeditionary purpose that drove the Iver and Absalon classes' requirements appear to be giving way to more pressing military priorities close to home, with deployments of these ships in the Baltic and North Atlantic in recent years more akin to Cold War operations.<sup>1388</sup> The flexibility of larger vessels is clearly demonstrated in the Danish case with their ability to play useful roles at home and abroad, in both constabulary and military missions. Unlike Canada, Denmark did not seek out major long-term multilateral institutional solutions to their fisheries control challenges and was able to secure near-permanent sea control in its EEZ through the use of its patrol ships' compulsive force and bilateral

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<sup>1388</sup> Forsvarskommandoen, "Dansk fregat og fire kampfly forstærker NATO-styrker," *Forsvaret*, January 10, 2022, <https://www.forsvaret.dk/da/nyheder/2022/dansk-fregat-og-fire-kampfly-forstarker-nato-styrker/>; Forsvarsministeriet, "Esbern Snare hjemtages fra Guineabugten og sættes på skærpet beredskab i NATO's reaktionsstyrke," *Forsvarsministeriet*, February 18, 2022, <https://www.fmn.dk/da/nyheder/2022/esbern-snare-hjemtages-fra-guineabugten-og-sattes-pa-skarpet-beredskab-i-natos-reaktionsstyrke/>; Allan Nisgaard, "Fly og fregat skal eskortere dansk styrke til Estland," *DR*, February 25, 2022, <https://www.dr.dk/nyheder/udland/fly-og-fregat-skal-eskortere-dansk-styrke-til-estland>.

cooperation with flag and landing states. This freed up Denmark's OPVs for the aforementioned expeditionary operations.

For Norway, regular expeditionary naval operations took much longer to manifest. Despite sending one of its Nordkapp OPVs to the Persian Gulf in 1991, the following two decades did not see much more naval operations away from its traditional home waters. Part of this could be explained by the numerous fisheries engagements during this period between the Norwegian Coast Guard and foreign fishing vessels in the Svalbard Fisheries Protection Zone. These required more offshore patrol resources close to home, preventing their use abroad, while the warfighting fleet had insufficient endurance and seakeeping for such use. It was not until the 2010s that the Barents Sea grey zone was resolved through institutional measures, while the Norwegian position over the Svalbard EFZ remains disputed by Russia and other treaty signatories. With the arrival of the Nansen-class frigates throughout the late 2000s, however, Norway has been able to carry out its long-standing security policy objective of ensuring American assistance via participation in international military missions. KNM *Fridtjof Nansen's* deployment with the USS *Harry S. Truman* carrier strike group in December 2021, for example, demonstrates how a ship originally conceived to help monitor and defend the EEZ also has the capacity to integrate with allied task groups far from home waters. The blue water capabilities of the Nansen class meant Norway did not have to divert its Kystvakt OPVs from their tasks of ensuring long-term sea control over the EEZ and EFZ.

Yet, the alacrity with which Norway put the new frigates on regular deployments came at a cost. By prioritizing operational availability, less time could be devoted to training in damage control and basic seamanship. The tragic consequence of this was most sharply illustrated by the loss of the *Helge Ingstad*. In the official Norwegian Safety Investigation Authority (AIBN) report on the *Ingstad's* loss, part of the blame for the frigate's sinking was attributed to Norway's 2004 adoption of the "Lean Manning Concept", which was designed to allow frigates to operate "with a crew of approximately half the

standard crew size in NATO.”<sup>1389</sup> Such a crewing model places a heavy reliance on every personnel being capable of performing multiple functions, which requires a high pace of realistic exercises to train the crew as both individuals and ship-wide teams. The Norwegian reliance on short-term conscripts exacerbates this challenge.<sup>1390</sup> While damage-control exercises may be incorporated as part of a ship crew’s schedule, there are difficulties with including more realistic and complex scenarios in between the ship’s operational requirements. The AIBN report highlighted how a “demanding sailing programme often stood in the way of the crew being able to stop the ship in open waters and simulate loss of propulsion and steering, possibly in combination with other exercise elements.”<sup>1391</sup> This “demanding sailing program” included the ship’s participation in Exercise Trident Junction 2018 while serving in Standing NATO Maritime Group 1, which “meant that the possibility of conducting exercises involving the crew as a whole were fewer than planned and that it was difficult to conduct activities requiring emergency manoeuvring.”<sup>1392</sup> Combined with some poor design decisions in the ship’s bilge pump system and watertight compartments, the lack of damage control training helped ensure the ship’s sinking after it began taking on water.<sup>1393</sup> As impressive as the Nansen class may be from a sensors and weapons perspective, the loss of *Helge Ingstad* illustrates how small navies still have to experience significant trade-offs in balancing readiness, availability, operations, and capability.

These observations also relate to the dissertation’s second research question on potential differences between the smaller versus larger navies studied here. The frequency of such global or expeditionary operations is the major point of difference. Whereas Canada can do so continuously when

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<sup>1389</sup> Norwegian Safety Investigation Authority, “PART TWO REPORT ON THE COLLISION BETWEEN THE FRIGATE HNOMS ‘HELGE INGSTAD’ AND THE OIL TANKER SOLA TS OUTSIDE THE STURE TERMINAL IN THE HJELTEFJORD IN HORDALAND COUNTY ON 8 NOVEMBER 2018,” *Norwegian Safety Investigation Authority* (Lillestrøm, Norway: April 2021), 109.

<sup>1390</sup> Norwegian Safety Investigation Authority, “PART TWO REPORT”, 115.

<sup>1391</sup> Norwegian Safety Investigation Authority, “PART TWO REPORT”, 116.

<sup>1392</sup> Norwegian Safety Investigation Authority, “PART TWO REPORT”, 115.

<sup>1393</sup> Norwegian Safety Investigation Authority, “PART TWO REPORT”, 193-196.

desired, Norway and Denmark cannot (or have yet to demonstrate an ability to do so) despite all three having warships with similar endurance and seakeeping by the 2010s. Although the capabilities of individual ships have converged on large, long-endurance vessels that can all perform similar missions around the globe, the financial and personnel capacity of each navy drastically restrict the degree to which they can deploy on a regular basis. Traditional conceptualizations of navies as being either coastal or regional or global in scope, such as that put forth by Ken Booth in 1977, are clearly now outdated with the three navies here being oceanic or global in their regular activities while maintaining a robust presence in their home waters, albeit to varying degrees. A driving enabler of all three countries' turn towards out-of-area operations was the demise of previous threats to their traditional areas of concern. These threats were the military invasion threat posed by the Soviet Union and the constabulary threat posed by IUU fishing. The first of these was solved when the USSR collapsed, while the second threat could only be resolved on a permanent basis by the use of institutional measures. Both of these enabled coastal states to establish long term, if not entirely permanent, sea control of their 200 NM zones without constant and regular use of their blue water assets, freeing them up for global operations.

It is important to note the vital role played by the end of the Cold War in how the three countries were able to employ their seapower inputs in the aftermath of the EEZ's establishment. In broad terms, while the EEZ's promulgation caused all three countries to intensify *existing* policy concerns surrounding the exploitation of their coastal water resources, it required the end of the Cold War to truly bring out any major change in their naval policies. The military seapower outputs of these countries could only change once the Soviet invasion threat had faded away. It was the end of the Cold War, not the establishment of the EEZ, that changed those outputs. What the EEZ did result in, however, was the acquisition of seapower inputs that could be used to meet those new post-Cold War outputs. While these inputs were not tailor-made for expeditionary military operations, they nonetheless allowed their owners to at least have reasonable options for pursuing their new security policies.

Summary of Empirical Findings to the two Research Questions

<b>Q1: Response to EEZ (within-case: read across for each country)</b>	<b>1970s (preparation for 200 NM)</b>	<b>1980s-1990s (after UNCLOS and domestic laws passed)</b>	<b>Long-Term (2000s+) Consequences of EEZ</b>
Norway	Establish Coast Guard under Navy; explore acquisition of dedicated armed OPVs instead of leased civilian vessels for constabulary missions	Armed OPVs acquired (Nordkapp) with secondary wartime mission; additional offshore leased civilian vessels; new frigates designed with EEZ requirements (Nansen)	OPVs predominantly used at home; Nansen class, built with long-endurance and seakeeping in mind for EEZ defence, became suitable for global ops
Denmark	Continue existing constabulary-centric fleet under Navy; acquire additional OPV based on existing design ( <i>Beskytteren</i> in 1975)	Acquire large OPVs specifically for 200NM operations (Thetis); legacy warfighting fleet employed globally while replacement designed specifically for expeditionary operations	Thetis class employed regularly for global constabulary, diplomatic, and scientific missions until warfighting fleet transformation completed; new warfighting fleet used home and abroad
Canada	Acquire unarmed civilian OPVs ( <i>Cape Roger &amp; Cygnus</i> ); continue use of warfighting Navy assets with civilian law enforcement personnel when convenient	Arming of civilian OPVs (1986); two additional civilian OPVs ( <i>Leonard Cowley</i> and <i>Sir Wilfrid Grenfell</i> ); intensify use of warfighting Navy assets for fisheries patrols (increased sailing hours); new warfighting fleet (Halifax) not designed with constabulary role in mind; intensified sea control ops against fishers	1995 Turbot War victory reduced need for intense EEZ constabulary measures; warfighting fleet numbers and sailing hours freed for continuous global presence; MCDVs deployed overseas to train smaller navies in EEZ patrol; new AOPVs by 2020s for dedicated constabulary tasks at home and abroad
<b>Q2: Small vs Large (cross-case: read down)</b>	<u>Similarities:</u> OPV acquisition.	<u>Similarities:</u> all acquired improved	<u>Similarities:</u> all increased naval

<b>the columns for each time period)</b>	<u>Differences:</u> Canada relied on warfighting Navy for armed response; the other two maintained or developed naval forces and institutions dedicated to constabulary missions	armed OPV capability for constabulary duties. <u>Differences:</u> Canada increased use of warfighting Navy for EEZ surveillance and escalation superiority; Norway and Denmark differed in rationale for warfighting fleets	operations to global level. <u>Differences:</u> Canada's larger numbers and reduced need for patrolling home waters allowed it to maintain continuous presence abroad
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Figure 4: Summary of Empirical Findings

### 8.1.4 Policy Implications of the Empirical Findings

The empirical findings of this dissertation are significant for policy makers ranging from ministers of fisheries to chiefs of force development to naval architects. Although the countries studied in this dissertation are on the smaller side of the international spectrum, even larger naval powers can benefit from the results for both their own navies and how they integrate their smaller allies. With the high expenses associated with establishing and maintaining naval forces, it is vital to understand what they are useful for, how best they can be utilized, and what alternative methods are possible for optimizing their functions.

From a budgetary perspective, perhaps the greatest lesson to be learned is the fungibility of larger naval assets. Regardless of their specific weapons, sensors, or other equipment, the endurance and seakeeping benefits of larger vessels allow them to participate across a wider range of naval operations than smaller vessels. This is vital given the decades-long periods required to conceive of and acquire naval vessels, not to mention their even longer service lives. Throughout these decades, the ships may encounter dramatic changes in their strategic environments, leading to major differences in how their countries seek to employ their militaries. Ships that may be very good at one thing, such as inshore area-denial using an array of short-ranged heavy weapons, would not be very useful if new threats require contesting sea control in or through blue water spaces. In contrast, larger vessels can

more easily be upgraded in armament and sensors to conduct high-intensity operations even if they are closer to shore. At the very least, vessels that are tailored for coastal defence tend to be smaller, cheaper, and faster to build, so acquiring such assets if necessary is easier than attempting to acquire larger blue water combat vessels. Given a limited budget, which tends to be the case for smaller navies, it is thus a more future-proof decision to acquire larger ships even if they're not perfect for specific scenarios.

Lessons also apply when it comes to crewing the ships. The increasingly automated nature of modern warships makes it possible for smaller countries to maintain fleet sizes even as they face recruitment and retention challenges. The Norwegian Nansen class is one example, where the dramatically increased weapons and sensor suites could still be operated despite a 33% reduction in crew numbers from their Oslo class predecessors. For constabulary missions using purpose-built constabulary vessels, crew numbers could be reduced even further, allowing more hulls to be operated at any given time. This in turn enables greater geographic and temporal presence than trying to use heavily-armed combat ships with their high crew levels for such missions. For smaller countries with limited populations and financial resources, this is especially useful.

From a procurement perspective, politicians and auditors would do well to learn from the more detailed elements of this dissertation as they relate to the technical capabilities of ships. Specifically, there is a need to dive deeply into all available sources of information to ascertain the "truth" behind what comparable ships are capable of. In the instance with the Danish patrol vessels and their STANFLEX system, this dissertation makes clear that the STANFLEX modules were never practiced to the extent that many non-Danish observers have claimed. Such claims have tended to cite secondary sources that are not focused on the Danish navy, resulting in erroneous assumptions about the combat potential of these ships that simply did not exist. Such assumptions have been used to criticize the relative lack of capabilities on other vessels, such as the Canadian Harry DeWolf class. In short, when comparing vessels



from different countries to ascertain whether one's country is getting sufficient "bang for the buck", one must not be seduced by simple and easy-to-use compendiums of global fleet statistics. Deep research, preferably employing visual methods if physical verification is not possible, must be conducted when auditing or passing judgement on the adequacies of multibillion dollar instruments of compulsory seapower.

But these compulsive instruments are just one of the tools available to a sea power. Institutional measures can further maximize their efficacy. As the dissertation demonstrated, even constabulary vessels meant for domestic peacetime sea control can be employed for operations far abroad, while military vessels can be freed for such foreign operations once they no longer need to play domestic constabulary roles. However, this is only possible if the constabulary mission can be reduced by other measures. Such measures can be institutional ones that leverage the resources of other countries and non-naval assets, as Canada did via the UN Straddling Stocks Agreement and NAFO third-party observers. The seapower of smaller coastal states can thus be maximized through the use of both compulsive and institutional measures such that it becomes more than the sum of its parts. In this way, smaller navies are not limited to traditional notions of "coastal" defence forces, but global actors in their own right. Although such expeditionary operations are unlikely to be sustainable on a continual basis due to limited resources, they nonetheless allow countries with smaller navies to project power far beyond their shores alongside their great power brethren. This provides opportunities for these smaller countries to not just carry out constabulary and military missions, but pursue naval diplomatic outcomes in furtherance of their foreign policy objectives as well.

## 8.2 Theoretical Contribution: Smaller Navies Within Sea Control and Seapower Theory

In terms of seapower theory, this dissertation puts forth the following fundamental argument: countries of similar political dispositions have long employed navies to contest sea control in order to secure the resources of the sea as a core component of their seapower. In contrast to the majority of seapower literature that focuses on the military utility of naval forces, this dissertation's focus on the constabulary role of navies demonstrates the operational relevance of armed force at sea in situations other than war.

The expansion of maritime zones over which these coastal states have constabulary responsibilities led to differing types of responses. Some of these took the form of greater persistence in compulsive seapower measures, namely larger armed offshore patrol ships, while others adopted a more reactive approach that leveraged longer-term institutional solutions. As mentioned above, Denmark and Norway both procured dedicated constabulary seapower inputs in the form of the Thetis- and Nordkapp-class patrol ships. These replaced older vessels with greater endurance and seakeeping to operate in the expanded 200 NM zones of their Arctic territories. The initial emphasis on EEZ protection for Norway's Nansen-class frigates also echoes the importance of defending a country's use of its sea resources. Canada, despite being a medium power with much greater resources, chose to use their warfighting assets to provide the bulk of their armed constabulary seapower inputs during the first several decades of their own 200 NM declaration.

This use of high-end military equipment alongside a limited number of civilian-operated patrol ships effectively enabled institutional seapower, such as the UN Fisheries Stocks Agreement that provided the long-term solution to the straddling stocks issue off Canada's Atlantic coast. Such institutional approaches deterred illegal activity through the embarkation of unarmed civilian observers

on fishing vessels and allowed enforcement to take place in ports by local land-based authorities, which decrease the costs of enforcement for the coastal state. These institutional forms of seapower helped coastal states ensure a more permanent and absolute level of sea control over the EEZ. Unlike the two smaller Scandinavian countries, Canada did not correspondingly increase its means of compulsive seapower dedicated to securing its offshore resources. Repeated official reports recommended simply maintaining a status quo where the Royal Canadian Navy (RCN) would allocate increasing amounts of its warfighting fleet sailing hours to fisheries patrols. With the 2020 entry into service of the Harry DeWolf-class Arctic and Offshore Patrol Vessels, the RCN is finally receiving dedicated constabulary vessels for patrolling the full extent of its 200 NM economic zones.

Beyond the specific responses by each navy to the 200 NM zone, this dissertation also demonstrated the fungibility of naval forces regardless of the initial intentions behind their conception. Ships that were designed for specific wartime military or peacetime constabulary roles have ended up being employed in a range of operations around the globe for which they were not initially designed. This has resulted in the use of vessels simply because they were the best available option, rather than because they were optimal solutions to a particular mission requirement. Certainly, major shifts in a country's geostrategic situation allows for dramatic changes in its force structures to better align with new priorities, such as the Denmark's acquisition of the Absalon class that can not only contest sea control but exercise it as well in order to transport large vehicles and personnel onto shore.

Yet, the long period required for the articulation, design, construction, and operation of new large naval vessels can result in being "late to need". In January 2022, Denmark deployed HDMS *Peter Willemoes*, one of the Iver Huitfeldt-class frigates, to the Baltic to strengthen Standing NATO Maritime Group 1.<sup>1394</sup> On February 18, 2022, *Esbern Snare*, the second of the Absalon class, was recalled early

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<sup>1394</sup> Forsvarskommandoen, "Dansk fregat og fire kampfly forstærker NATO-styrker."

from its piracy patrol in the Gulf of Guinea to stand at high readiness to join European NATO forces in response to Russia's imminent invasion of Ukraine.<sup>1395</sup> After Russia's further invasion of Ukraine on February 23, Denmark announced that one of these frigates would provide close escort for convoys carrying Danish forces to Estonia to deter "harassment" from Russian forces.<sup>1396</sup> These (re)deployments echo the role played by Denmark's Cold War Peter Skram-class frigates as forward Baltic defence units, showing that geopolitical concerns can change (or revert) quicker than shipbuilding programs and forcing states to re-adapt to strategic priorities using assets designed for other purposes. In this particular case, the Danes are fortunate that both classes are more capable than their predecessors in defending themselves and nearby ships in the highly contested region of the Baltic thanks to their advanced sensors and missile suites. The continued utility of these larger ships came at the cost of a much larger fleet of smaller ships more capable of contesting sea control against Russian naval forces in Denmark's immediate area.

The improved fungibility of larger naval vessels is echoed in the Norwegian Nansen class. Originally designed with EEZ defence as a requirement, its procurement process resulted in a much larger vessel capable of contributing to high-end warfare tasks such as escorting American aircraft carrier strike groups. The deployment of the *Nansen* with the USS *Harry S. Truman* strike group in 2021 illustrates not just the military utility of having a larger vessel with multimission capabilities, but the diplomatic utility of demonstrating relevance to the American ally in the face of renewed tensions with the Russian neighbour.<sup>1397</sup> This furthers Norway's post-Cold War efforts at securing American support despite the hitherto reduced concerns over NATO's northern flank. Seapower outputs, or that ability to

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<sup>1395</sup> Forsvarsministeriet, "Esbern Snare hjemtages fra Guineabugten og sættes på skærpet beredskab i NATO's reaktionsstyrke."

<sup>1396</sup> Nisgaard, "Fly og fregat skal eskortere dansk styrke til Estland."

<sup>1397</sup> USS Harry S. Truman Public Affairs, "NORWEIGAN [sic] FRIGATE HNOMS FRIDTJOF NANSEN ARRIVES IN NORFOLK AHEAD OF OPERATIONS WITH U.S. CARRIER STRIKE GROUP," *Commander, Naval Air Forces Atlantic*, September 5, 2021, <https://www.airlant.usff.navy.mil/Press-Room/Press-Release/Article/2765135/norweigan-frigate-hnoms-fridtjof-nansen-arrives-in-norfolk-ahead-of-operations/>.

influence the behaviour of others, is thus demonstrated in its myriad forms despite the same input. Seapower outputs are not only about influencing opposing enemy actors, but deepening bonds and political connections with allies as well.

### *8.2.1 On Differences Between Smaller Navies as Sea Denial Fleets*

The theoretical chapters of this dissertation highlighted how one of the debates regarding the phenomenon of smaller versus larger navies was whether they were different in kind or only in degree. The empirical chapters demonstrate that navies of different sizes can be better distinguished by how they balance their sea control inputs and seapower outputs. That is, which uses of the seas do they put more resources towards contesting versus exercising. The balance between the four uses of the seas (transportation, resources, power projection, and information) and each of their contestation and exercise elements sets each navy apart from each other. Smaller navies are generally weaker in most exercise components because they can leverage the capabilities of their larger allies, thanks partly to the diplomatic function served by the mere maintenance of an active navy that can demonstrate a commitment to collective defence rather than simply “free riding” off the larger allies. In this sense, the differences between small and very large navies are a matter of kind rather than degree: large navies can contest sea control and exercise it as well, while smaller ones focus on the contestation element. This focus essentially renders them as sea denial navies. But between each smaller navy (at least for the three in this dissertation), there remain significant differences in the degree to which they employ their fleets for sea control contestation in both military and constabulary contexts.

For Canada, the largest of the three countries studied, its navy’s main military objective during the Cold War was to deny the use of the North Atlantic and Norwegian waters to Soviet submarines, which could use those waters to either project power via missiles or interdict NATO’s own efforts to

project power towards the Murmansk peninsula. Their constabulary objective during the Cold War, meanwhile, was to provide a platform for Fisheries Officers in the course of their inspection and enforcement duties in the offshore areas. In the post-Cold War period, the military role was reduced, and the constabulary role emphasized, while operating at a continuous pace well beyond Canadian shores. The RCN has thus been able to conduct sea denial activities to a much greater degree than its smaller northern allies.

The Royal Norwegian Navy has echoed the RCN's sea denial focus, albeit at a much more localized level. Whether it was defending its coast against Soviet invasion or the Svalbard Fisheries Protection Zone against foreign trawlers, the RNN's emphasis in both military and constabulary roles has been contestation with limited exercise. During both the Cold War and afterwards, the RNN's material focus has been on local sea denial. In rare instances, it has been able to leverage its latent ability to contest control in wartime as a source of diplomatic power, such as the deployment of the *Nansen* to RIMPAC 2014 to demonstrate the domestically-built Naval Strike Missile as a potential new weapon for American and allied navies. Unlike Canada, Norway has been unable to maintain a regular global presence due to the much more limited number of ships and sailors available. When forced to push its resources to the limit, it ended in tragedy with the sinking of the *Helge Ingstad* due in part to insufficient time for damage control training. Norway's ability to contest sea control is therefore limited to its nearby area, and expeditionary operations will continue to be limited in degree compared to larger navies like Canada.

Denmark's post-Cold War acquisition of the Absalon-class support ships/frigates demonstrates a limited interest and ability to exercise sea control for the purposes of transporting troops and projecting power onto land. This stands out from the other two navies studied here, which have lacked similar capabilities. Denmark's larger fleet of long-range constabulary vessels have also allowed it to conduct more expeditionary operations than its Norwegian neighbour during the 1990s and 2000s. These

operations have involved not just limited sea control contestation such as counterpiracy missions off Somalia, but also using the sea as a source of information during the various science missions off Greenland and the South Atlantic where contestation was not necessary. Still, Denmark's smaller number of ships and limited personnel have limited its ability to contribute continuously to international operations in contrast to Canada.

Despite the vast differences in number of ships and pace of global operations, the three navies discussed in this dissertation share a common limitation. These navies are, on their own, predominantly "contestation navies" where their only objective is to deny use of the oceans by others. The exercise of sea control is conducted by either their own civilians (fishers or merchant fleets to exploit oceanic resources or trade routes) or allies' militaries (aircraft carriers and amphibious assault ships for landward power projection and oceanic transportation).

While all three countries possess essentially "contestation navies", the countries as a whole can "move up" to being sea powers with the ability to exercise sea control if one includes their non-navy instruments. All three have substantial fishing fleets that can exploit the resources of their EEZ, or regulate licenses for foreign fishers to exploit those resources. At different periods of time, all three also had large merchant fleets that could exercise the sea control brought about by their and allied navies in order to use the sea as a medium of transport. These civilian elements of state seapower cannot be ignored when assessing the adequacy of each state's approaches to the contestation and exercise of sea control. Smaller navies on their own lack the capability to exercise sea control, but the broader society which these navies serve can help fill the gap. At the same time, the existence of these countries' sea denial navies means their countries are not just the "sea states" discussed in Chapter 2 that are only capable of exploiting the oceans under benign situations.

### *8.2.2 Academic Implications of the Theoretical Findings*

As noted in the introduction, the academic literature on seapower has tended to focus on larger states' force structure developments and operations during times of and in preparation for war. As this dissertation demonstrates, however, peacetime non-military objectives also drive much of smaller states' force development and sea control operations. It also demonstrates how existing ways of conceptualizing categories of navies are insufficient to capture the wide range of activities that they regularly partake in. All of this has consequences for the study of seapower in its myriad components.

For scholars of seapower, this dissertation's emphasis on both compulsive and institutional seapower is especially poignant for today and the foreseeable future's focus on great power competition. The great power competition literature runs the risk of overemphasizing compulsory seapower. This is especially noticeable in works coming out of the United States, which often focus on the number of combat ships in great power navies. However, it is clear from this dissertation that institutional measures serve as a massive "force multiplier" by allowing navies to concentrate limited assets in spaces outside their traditional areas of concern. Institutional seapower can not only enhance the efficacy of compulsory constabulary assets, but it can also serve as their substitute to a significant extent. Academic thinkers should keep this in mind when analyzing the adequacies and requirements of naval forces, instead of focusing solely on how new compulsory seapower inputs compare to existing ones. For the study of smaller navies, the institutional element is especially poignant for its ability to free up very limited assets. This can allow smaller navies to operate far from home waters, contradicting existing literature's characterization of "small navies" as merely coastal in nature. The study of seapower inputs, then, must involve not just material elements like ships, ports, and personnel, but legal frameworks and rules as well.



The emphasis on sea control in this dissertation highlights the concept's applicability across the entire range of activities that comprise seapower. For scholars of maritime strategy, the three-dimensional spectrum developed in Chapter 4 helps structure more consistent comparisons between cases across time and space. As the empirical chapters demonstrated, actual incidents of sea control do occur regularly with varying levels of tactical and strategic intensity between smaller and larger sea powers. Scholars should keep this in mind as they decide on which maritime phenomenon they should focus on. While high-impact low-probability events like interstate war is the traditional *raison d'être* of navies as argued by Ken Booth, it is clear that constabulary issues occupy the vast majority of active contestation incidents. The sea control elements derived in this dissertation helps identify the key questions and components that scholars should ask themselves in any comparative endeavour. The extent of contestation and exercise, and the focus of sea-use for which they are directed, are the core elements of any research program involving navies, regardless of their size.

Finally, scholars can benefit from the source triangulation methods employed in this dissertation. In the study of military capabilities, this is especially important for both informing policy makers and developing academic rigor. The secretive nature of specific military capabilities can consciously or subconsciously result in civilian scholars assuming their inability to identify further details beyond what generalist compendiums provide. This is especially true for "modular" capabilities, the removable nature of which requires examination of evidence that spans long periods of history rather than just snapshots in time. Extensive surveys of imagery are required and are perhaps the most reliable way of determining actual practices, rather than relying on textual sources. Field research and interviews can provide further confirmation, though this is considerably more challenging from a procedural and confidentiality perspective. Nonetheless, attempts should be made and the classification status of various military systems should not be automatically assumed. The accurate assessment of military capabilities is especially important when a given research area involves security dilemma and

arms racing dynamics. In the Arctic, this is even more important as much of the literature revolves around the region's militarization in the context of its "opening up" due to climate change. Inaccurate assessments of regional military capabilities not only discredit otherwise sound academic analyses, but may lead to destabilizing military developments as countries reference such assessments to justify investments in new weapons. Even in the absence of conflict, human and monetary investments in such unnecessary equipment could be better spent on addressing more salient threats.

### **8.3 Avenues for Further Empirical and Theoretical Research**

This dissertation focused on the empirical phenomena of three relatively small northern navies within the context of their 200 NM zone declarations. These were analyzed through a theoretical framework of sea control which highlighted the contested nature of seapower even in situations outside of war.

However, there are more aspects to seapower than just controlling the seas via contestation and exercise. The main remaining element not discussed in this dissertation is support and logistics. These do not belong to either the contestation or exercise axes of the sea control spectrum, but they are nonetheless vital for a country's seapower. Examples of this include maintaining aids to navigation, icebreaking, and other measures enabling the "safe and efficient movement of maritime trade" with which the Canadian Coast Guard is charged.<sup>1398</sup> These measures enable military and civilian users of the seas to carry out their activities with increased efficiency. Shore-based activities fall into this category as well, including the shipyards that build, maintain, and refit ships. Canada's two separate bases and their respective maintenance facilities likely contribute to the regular availability of its ships for overseas

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<sup>1398</sup> Canadian Coast Guard, "Who we are and what we do," *Government of Canada*, July 26, 2019, <https://www.ccg-gcc.gc.ca/corporation-information-organisation/who-we-are-qui-nous-sommes-eng.html>.

operations as much as the number of hulls themselves. But such support measures are not without potential elements of contestation. A recent example was the sabotage of the Canadian Coast Guard Ship *Corporal McLaren* by vandals while in drydock on November 2018.<sup>1399</sup> This led to significant damage to the vessel due to flooding, and the original refit period of one month has turned into a multiyear process to assess damages and to establish a rebuild plan.<sup>1400</sup> As of February 2022, a Request for Proposals for such a plan had yet to be put out despite a Request for Information having been put out in summer 2021.<sup>1401</sup> This incident is a reminder that challenges to a state's seapower are not limited to what happens at sea, nor are they always conducted by the actors for which a state's sea control assets are designed to counter. Further research could focus on how navies of different sizes ensure adequate availability of backend support to enable their use of ships and personnel.

Another aspect of research that could employ the sea control lens would be to examine how maritime forces have used and denied the use of the seas as a source of information. Whether the information to be collected originate in the seas themselves or emanate from land, there have been sea-based challenges to such information gathering efforts. For example, Chinese ships intercepted and attempted to "snag" the towed array of a US surveillance vessel while the latter was sailing in the South China Sea in 2009, exemplifying sea denial by the Chinese forces.<sup>1402</sup> More recently, an underwater communications cable between Svalbard and the Andøya space centre in northern Norway was cut by unknown human intervention on January 7, 2022.<sup>1403</sup> With Norway's increasing use of satellites for

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<sup>1399</sup> Alexander Quon, "\$11M in repairs for sabotaged CCGS Corporal McLaren unlikely to begin until at least 2021," *Global News*, August 25, 2020, <https://globalnews.ca/news/7292604/sabotage-11-million-repairs-corporal-mclaren/>.

<sup>1400</sup> Quon, "\$11M in repairs for sabotaged CCGS Corporal McLaren."

<sup>1401</sup> Public Services and Procurement Canada, "CCGS Corporal McLaren M.M.V (F7044-210331/A): Tender Notice - Letter of Interest (LOI)/Request for Information (RFI)," *Government of Canada*, June 4, 2021, <https://buyandsell.gc.ca/procurement-data/tender-notice/PW-MC-038-28243>.

<sup>1402</sup> Andrew S. Erickson and Michael Chase, "An Undersea Deterrent?" *USNI Proceedings* (June 2009), 37-38.

<sup>1403</sup> Atle Staalesen, "'Human activity' behind Svalbard cable disruption," *The Barents Observer*, February 11, 2022, <https://thebarentsobserver.com/en/security/2022/02/unknown-human-activity-behind-svalbard-cable-disruption>.

maritime monitoring, the cable is vital to the communications chain that transmits information gathered by satellite sensors to ground stations for analysis.<sup>1404</sup> A more direct example of the contested character of sea-based information collection efforts can be seen in November 2021, when a Norwegian seabed observatory that provided both marine science and defence data was put out of service after unknown sources caused four kilometres of cable to be cut and removed.<sup>1405</sup> Scholars in intelligence studies could find much in common with their navalist brethren as they examine the challenges of intelligence and information gathering at sea.

Ultimately, this dissertation's empirical scope was on navies proper. These are agencies tasked with the use of violent force to defend the national interest at sea and from the sea. Thus, the Norwegian Coast Guard received intense study while the Canadian Coast Guard received only brief mentions. But the theoretical concerns of sea control and seapower could be further developed through the study of not just unarmed organizations like the Norwegian Coastal Administration (*Kystverket*), but also other armed forces branches that operate on or over the sea. Air forces, in particular, play a very important role in supporting navies' sea control efforts. Some mention was made of the role that the Canadian Aurora aircraft play in supporting fisheries patrols in the North Pacific, but much more work could be done on how such activities came to be and how they differ in the Norwegian and Danish contexts. The role of non-state actors is another subject worthy of study. How have those civilian fishers reacted to the establishment of the EEZ and the different enforcement mechanisms implemented before and after? The various enforcement actions by the naval forces studied in this dissertation certainly faced differing levels of resistance by their civilian opponents, but these instances only provide a limited understanding of the motivations, strategies, and tactics behind the majority of civilian fishers.

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<sup>1404</sup> Norwegian Coastal Administration, "Norway's new satellite detects radar signals from ships," *Kystverket*, April 29, 2021, <https://www.kystverket.no/en/news/2020/norways-new-satellite-detects-radar-signals-from-ships/>.

<sup>1405</sup> Atle Staalesen, "'Human activity' behind Svalbard cable disruption."

Finally, more work could be done surrounding the EEZ phenomenon. Specifically, while this dissertation looked at how countries sought to control their own EEZs, there are also cases where countries help control *other* countries' EEZs via cooperative deployments. For example, the United States Coast Guard has sent cutters to the South Atlantic in order to combat illegal, unreported, and unregulated (IUU) fishing in South American coastal state EEZs.<sup>1406</sup> In the Norwegian chapter of this dissertation, a brief note was made of Norwegian offshore support vessels helping Iceland preserve the integrity of its territorial waters from Norwegian fishers.<sup>1407</sup> There is clearly precedent of countries helping each other patrol their maritime zones. Whether such activities will continue or intensify in the future years will be of great policy relevance. It is also a space worth considering in the context of this dissertation's interest in the similarities and differences between navies of different sizes. Will smaller navies in fairly secure waters carry out distant water EEZ patrols where IUU violations are the most severe in support of global maritime security, or will such missions remain the preserve of larger navies like the Americans'? At the very least, the findings of this dissertation suggest that even the smallest navies already possess vessels large enough to traverse and patrol the global oceans in a low-threat environment. The question of whether such missions take place will be more matter of policy and strategic priorities than technical capability.

As a final (but evolving) coda, it should be noted that the full-scale Russian invasion of Ukraine in February 2022 has resulted in diplomatic and military shifts in the behaviours of all three countries studied in this dissertation. In the face of this development, the emphasis on constabulary uses of naval units in each country's Arctic will likely shift dramatically towards military purposes. At the political level, previous expectations by many academics that the Arctic can be hived off from conflict occurring

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<sup>1406</sup> Craig Collins, "Off and Running: Coast Guard Operationalizes Strategy to Fight Illegal, Unreported, and Unregulated Fishing," *Defense Media Network*, October 15, 2021, <https://www.defensemedianetwork.com/stories/off-running-coast-guard-operationalizes-strategy-fight-illegal-unreported-unregulated-fishing/>.

<sup>1407</sup> See Chapter 5: Norway.

elsewhere was sharply rebuked on February 25, 2022, when the Swedish and Finnish governments withdrew their ambassadors' attendance in the Arctic360 conference taking place in Canada due to the participation of Russian officials.<sup>1408</sup> This was followed by the even more significant decision by non-Russia members of the Arctic Council to "pause" all meetings and working groups in that organization due to Russia's invasion of Ukraine.<sup>1409</sup> Other intergovernmental institutions aimed at cooperation between the Nordic states and Russia have also seen their activities halted.<sup>1410</sup>

The extent to which other Arctic institutional arrangements will be affected remains to be seen, but there are already clear signs that the seas will be an important arena. The closure of Norwegian EEZ waters by Russian naval forces through the use of Notice to Airmen (NOTAM) as part of military exercises in February 2022 led to significant economic losses for Norwegian fishermen who are used to using those waters' resources.<sup>1411</sup> While such a closure may be tolerable in the short term and so long as they are sporadic, prolonged and frequent exercises in such waters may well become intolerable for Norway's economic and social status quo. Such exercises may not even have to be carried out in actuality, and remain a mere warning, for it to successfully interrupt Norwegian willingness to exercise

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<sup>1408</sup> Eilís Quinn, "Sweden, Finland pull out of Arctic360 conference in Toronto where Russian diplomats scheduled to attend," *RCinet Eye on the Arctic*, February 25, 2022, <https://www.rcinet.ca/eye-on-the-arctic/2022/02/25/sweden-finland-pull-out-of-arctic360-conference-in-toronto-where-russian-diplomats-scheduled-to-attend/>; Eilís Quinn, "Russian representatives slated to talk Arctic Council at Toronto conference off program," *RCinet Eye on the Arctic*, March 2, 2022, <https://www.rcinet.ca/eye-on-the-arctic/2022/03/02/russian-representatives-slated-to-talk-arctic-council-at-toronto-conference-off-program/>.

<sup>1409</sup> Melody Schreiber, "Arctic Council nations are 'pausing' work after Russia's invasion of Ukraine," *Arctic Today*, March 3, 2022, <https://www.arctictoday.com/the-7-other-arctic-council-nations-are-pausing-work-after-russias-invasion-of-ukraine/>; Global Affairs Canada, "Joint statement on Arctic Council cooperation following Russia's invasion of Ukraine," *Government of Canada*, March 3, 2022, <https://www.canada.ca/en/global-affairs/news/2022/03/joint-statement-on-arctic-council-cooperation-following-russias-invasion-of-ukraine.html>.

<sup>1410</sup> Atle Staalesen, "Nordic countries halt all regional cooperation with Russia," *The Barents Observer*, March 6, 2022, <https://thebarentsobserver.com/en/life-and-public/2022/03/nordic-countries-halt-all-regional-cooperation-russia>.

<sup>1411</sup> Thomas Nilsen, "Russia's new hypersonic Tsirkon missile was fired from Norwegian sector of Barents Sea," *The Barents Observer*, February 23, 2022, <https://thebarentsobserver.com/en/security/2022/02/russian-navy-launched-hypersonic-tsirkon-missile-norwegian-sector-barents-sea>; Thomas Nilsen, "Fishermen troubled by escalating Russian war games," *The Barents Observer*, September 9, 2021, <https://thebarentsobserver.com/en/security/2021/09/fishermen-troubled-escalating-russian-war-games>.

control of its resources. Researchers within the Norwegian military and academic spheres have already begun publishing their concerns in this regard.<sup>1412</sup> At the same time, the Ukrainian sinking of the Russian cruiser *Moskva* in the Black Sea in April 2022 shows the potential vulnerability of major surface warships when sailing within cruise missile range of enemy coastlines. Given the risks involved, it may well be the case that Russia or other actors may see the institutional measure of NOTAMs as a safer way to leverage the existence of their warships as a tool for preventing a coastal state's ability to operate freely in their EEZs. This essentially pits the military use of the seas against the civilian use of the seas as a resource, while using legal institutional measures as a seapower tool to counter compulsive measures. Whether Norway or the other two countries studied in this dissertation will attempt to contest further such actions – either at sea or through diplomatic measures – will need to be closely monitored by seapower scholars. Regardless of geographical location, such a scenario could well occur for any state that relies upon its EEZ resources for a major part of its economy and sustenance, requiring substantial compulsive and/or institutional seapower to counter. Although this dissertation focused on living resources in the EEZ, non-living resources are also subject to sea control challenges. Most recently, the September 26, 2022, explosion of the Nord Stream gas pipelines in the Baltic Sea saw the rapid redeployment of Norwegian naval and air assets to provide presence in its North Sea oil and gas production fields.<sup>1413</sup> Such presence included the Nansen-class frigates, illustrating the 1990s wisdom of procuring blue water vessels capable of operating throughout the EEZ and their potential role in deterring acts of that seek to deny Norway's ability to exercise control of the sea's resources.<sup>1414</sup> The exercise and contestation of

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<sup>1412</sup> Kristian Åtland, Thomas Nilsen, Torbjørn Pedersen, "Military Muscle-Flexing as Interstate Communication: Russian NOTAM Warnings off the Coast of Norway, 2015–2021," *Scandinavian Journal of Military Studies* 5, no. 1 (2022): 63–78.

<sup>1413</sup> The Associated Press, "Denmark says damage to Nord Stream pipeline in Baltic Sea was 'deliberate'," *CBC News*, September 27, 2022, <https://www.cbc.ca/news/world/nord-stream-pipeline-damage-1.6597069>.

<sup>1414</sup> Forsvaret operative hovedkwater, "Forsvaret med økt tilstedeværelsen ved norske olje- og gassinstallasjoner," *Forsvaret*, September 30, 2022, <https://www.forsvaret.no/aktuelt-og-presse/presse/okt-tilstedevaerelsen>.

constabulary sea control over living and non-living maritime resources will continue to be centre-stage in discussions of seapower in an age of intensified great power competition.



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