



ENVIRONMENT IN THE COURTROOM

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A Precautionary Tale: Trials and Tribulations of the Precautionary Principle

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1. Introduction

The rise to prominence of the precautionary principle both as a legal concept and a public policy tool has prompted extraordinary attention and debate. Considered by many to be one of the foundational principles of modern environmental law, it increasingly is being incorporated into federal and provincial legislation, and invoked in litigation before domestic courts and tribunals.

This chapter reflects on the challenges and opportunities associated with litigating the precautionary principle as a basis for seeking review of governmental action. In so doing, it builds on and revisits themes and questions originally addressed in a paper authored in 2007.¹ Since that time, a critical mass of domestic jurisprudence on the application and interpretation of the principle has continued to emerge. To date, however, within much of this jurisprudence, the principle continues to be adverted to as a discretionary consideration or background interpretive canon. Nevertheless, there is also growing evidence of a judicial appetite to engage with the principle in a more systematic doctrinal fashion: in the words of one leading jurist, to give it “some specific work to do.”² Whether and to what extent this aspiration can be realized depends on whether the precautionary principle can be rendered sufficiently coherent and predictable to serve as a basis for judicial decision making.

In Part 2 of this chapter, I offer some introductory thoughts on the principle and the challenges associated with its deployment as an adjudicative tool. Part 3 surveys the various avenues and legal theories through which litigants

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have sought to invoke the principle in domestic litigation. Part 4 then considers the growing Canadian jurisprudence that has emerged out of these efforts, offering some views on overarching trends and themes. And, finally, in Part 5, I return to the question of how and whether the principle can be given some specific work to do by exploring some recent Australian case law that has directly taken up this challenge.

2. The Precautionary Principle: An Overview

The origins and implications of the precautionary principle are the subject of a considerable and growing scholarly literature.³ Derivative of the maxim “better safe than sorry,” at its core the principle seeks to formalize precaution as a regulatory obligation in the face of environmental threats and scientific uncertainty. In the domain of international law, the principle began to emerge in the early 1980s, most notably in the *World Charter for Nature* (1982). Since that time, it has become a central feature of close to one hundred international agreements and has been incorporated into scores of domestic environmental and public health laws worldwide.

There are many differing formulations of the precautionary principle. The most widely cited version of the precautionary principle is found in Principle 15 of the *Rio Declaration on Environment and Development* (1992):

Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.⁴

This relatively permissive or “weak” version of the principle is frequently contrasted with a more rigorous version famously approved by environmental activists and scholars at the 1998 Wingspread Conference:

When an activity raises threats to the environment or human health, precautionary measures should be taken, even if some cause-and-effect relationships are not fully established scientifically.⁵

The chameleon-like nature of the principle has tended to undermine reasoned consideration and debate of its precise meaning and implications. In an effort to provide an operational taxonomy of the principle, Sandin argues that its various formulations can be usefully analyzed along four key dimensions: threat, uncertainty, action, and command.⁶ Under Sandin’s approach, threat refers to

Table 2.1 | Four dimensions of the Rio and Wingspread articulations of the precautionary principle

	<i>Rio Declaration</i>	<i>Wingspread Conference</i>
Threat	Serious or irreversible damage	Threats to environment or human health
Uncertainty	Lack of full scientific uncertainty	Cause-and-effect relationships are not fully established scientifically
Action	Postpone cost-effective measures to prevent environmental degradation	Precautionary measures
Command	Shall not	Should

the nature of the imminent harm to the “state of the world” (particularly its seriousness and (ir)reversibility), while uncertainty connotes “our (lack of) knowledge as [to] whether and how this threat might materialize.” Under most formulations of the principle, where both the threat and uncertainty meet defined thresholds, an action obligation is triggered (e.g., to consider “cost effective measures to prevent environmental degradation,” “preventative measures” or “regulatory steps”). Finally, the command dimension prescribes the legal status of the action to be taken, which may be framed in either mandatory or permissive language, “shall” or “may.”⁷ According to Sandin, a key challenge to operationalizing the precautionary principle lies in the imprecision with which the dimensions of “threat,” “uncertainty,” “action,” and “command” are typically framed. Table 2.1 depicts and compares the *Rio Declaration* (1992) version of the principle with the later Wingspread Conference (1998) version using the Sandin framework.

Sandin’s work in the realm of risk assessment has parallels in the legal scholarship of Professor Applegate. Applegate argues that a “tamed” understanding of the precautionary principle is beginning to emerge.⁸ In particular, he argues that, through this taming, “the constituent elements of the precautionary principle have been altered over time to be less stringent or to narrow the scope of the principle.”⁹ This emerging, tamed version of the principle has the potential to provide a procedural vehicle for decision making in the face of uncertainty. Traditionally, where the principle has not been considered as part of a decision-making process, regulators have only taken a risk into account when it rises to a relatively high standard of certainty. In contrast, where the principle is part of the regulatory equation, a decision maker is empowered (and, in some instances, obliged) to take it into account. However,

this response must be proportional to the risk, and must adapt as knowledge of the risk becomes more certain.

If Applegate and other legal scholars are correct that a tamed version of the precautionary principle can offer decision makers the procedural means to take risk into account in a manner that is consistent with established administrative law principles, a host of important questions about the meaning and implications of the principle arise. These include:

- *When should the principle apply?* In other words, should it apply generically or only when certain threshold requirements relating to environmental damage and scientific uncertainty are met?
- *How should it apply?* Who should bear the burden of proof, should the burden shift at some juncture, what form of evidence should be considered, and what standard(s) of proof should apply?
- *What remedial consequences should flow from its application?* To what extent and how should an adjudicative body prescribe measures necessary to achieve compliance with the principle?

3. Enter Precaution: The Emergence of the Principle in Domestic Environmental Litigation

There are two distinct avenues for the precautionary principle to enter domestic litigation: through the domestic application of international law, or through its application as a principle of domestic law.¹⁰ Each of these categories may be further subdivided. International law may be applied directly, as binding in its own right; or it may apply indirectly, as an interpretive aid. Likewise, stand-alone principles of domestic law may be derived either from common law or statutory sources.

APPLICATION OF INTERNATIONAL LAW

To date, few courts have accepted that the precautionary principle, as a rule of international law, can be directly applied in domestic litigation. One prominent exception is the Supreme Court of India. In *Vellore Citizens Welfare Forum v. Union of India*, it held that the principle had become a part of customary international law and as such was binding domestic law.¹¹

An alternative way for international law to affect domestic litigation is for it to be applied indirectly as an interpretive aid. Generally, courts will be reluctant to apply the precautionary principle in this way if it is inconsistent with applicable domestic law. However, if domestic law is capable of being

interpreted in a manner consistent with the principle, it may play a persuasive interpretive role.

The Supreme Court of Canada's decision in *Spraytech*¹² is an illustration of the indirect application of international law. While the status of the principle in international law was not fully argued before the court, the majority reasons cite scholarly opinion to the effect that "a good argument" could be made that it had become "a principle of customary international law."¹³ The majority went on to employ the principle as a relevant consideration in upholding the validity of a municipal ban on pesticide use. As such, the decision makes it clear that principles of international law—even those that are not binding on Canada—may be taken into account when interpreting domestic law.

In 2013, the Supreme Court of Canada reinforced the views it expressed in *Spraytech*. In *Castonguay*¹⁴ the court relied on the principle to interpret a provision in the *Ontario Environmental Protection Act*¹⁵ (*EPA*). The provision in question made it an offence to discharge a contaminant into the environment [see s. 15(1) *EPA*]. Abella J., writing for the court, describes the *EPA* as "Ontario's principal environmental protection statute," concluding that "its status as remedial legislation entitles it to generous interpretation."¹⁶

In support of the conclusion that a broad purposive approach should be given to the interpretation of section 15(1) of the *EPA*, Abella J. specifically relies on the precautionary principle even though the *EPA* makes no specific mention of the principle. In the words of the court:¹⁷

As the interveners Canadian Environmental Law Association and Lake Ontario Waterkeeper pointed out in their joint factum, s. 15(1) is also consistent with the precautionary principle. This emerging international law principle recognizes that since there are inherent limits in being able to determine and predict environmental impacts with scientific certainty, environmental policies must anticipate and prevent environmental degradation (O. McIntyre and T. Mosedale, "The Precautionary Principle as a Norm of Customary International Law" (1997), 9 *J. Env'tl. L.* 221, at pp. 221–222; 114957 *Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town)*, 2001 SCC 40, [2001] 2 SCR 241, at paras. 30–32).

THE COMMON LAW

The precautionary principle may also emerge as a principle of common law within a domestic legal system. This process can occur through the direct or indirect application of international law; or it can occur independently of

international law. The jurisdiction that has been the most receptive to the notion that the principle has or is destined soon to achieve common law status is Australia, where some scholars argue that this has already occurred.¹⁸

One of the earliest and most oft-cited Australian decisions marshalled in support of this claim is *Leatch v. National Parks and Wildlife Service*.¹⁹ This case involved a review of a permit to kill endangered fauna issued to a local government in connection with a road-building project. The relevant legislation did not require the precautionary principle to be applied; as a result, the plaintiffs argued that the principle was binding by virtue of international law. Stein J., of the New South Wales Land and Environment Court, demurred:

It seems to me unnecessary to enter into this debate. In my opinion the precautionary principle is a statement of common sense and has already been applied by decision-makers in appropriate circumstances prior to the principle being spelt out. It is directed towards the prevention of serious or irreversible harm to the environment in situations of scientific uncertainty. Its premise is that where uncertainty or ignorance exists concerning the nature or scope of environmental harm (whether this follows from policies, decisions or activities), decision makers should be cautious.²⁰

As a principle of “common sense” not excluded by the relevant legislation, he held that the precautionary principle should be taken into account when deciding whether the permit to take or kill should be issued.

STATUTORY ADOPTION

By far the most common way that the principle finds its way before domestic courts and tribunals is through its implicit or explicit adoption in domestic statutes. A growing number of jurisdictions have enacted legislation that explicitly incorporates the precautionary principle either as a substantive decisional criterion or in preambular language. In Canada, the principle is now found, in various iterations, in most federal environmental laws, including the *Species at Risk Act* (SARA), the *Oceans Act*, the *Canadian Environmental Protection Act* (CEPA), the *Canadian Environmental Assessment Act* (CEAA), and the *Pest Control Products Act* (PCPA). It was also included in recently proposed amendments to the *Fisheries Act*.

Currently, the principle appears in the preambles to CEPA, SARA, and the *Oceans Act*, in the purposes section of CEAA (s. 4) and as a mandatory stra-

tegic management principle under the *Oceans Act* (s. 30). It is also expressed as a relevant consideration in the exercise of administrative duties vested in the Government of Canada and its agencies under *CEPA* and *CEAA*.²¹ Moreover, in several instances, as set out below, the principle operates as a substantive decisional criterion:

- When conducting various assessments of potentially toxic substances, federal Ministers shall “apply ... the precautionary principle”: section 76.1, *CEPA*.
- In preparing a recovery strategy, action plan, or management plan the competent minister shall “consider the principle that, if there are threats of serious or irreversible damage to the listed wildlife species, cost effective measures to prevent the reduction or loss of the species should not be postponed for lack of full scientific certainty”: section 38, *SARA*.
- When conducting a re-evaluation or special review of a registered pesticide product, the minister must take the precautionary principle “into account” when deciding whether “a situation ... endangers human health or safety or the environment”: see subsections 20(1) and (2), *PCPA*.

It is also, somewhat more slowly, finding its way into provincial legislation. In this regard, Ontario has led the way, generating a growing case law discussed in Part 4 below. Here the principle has come to be incorporated in many of the Statements of Environmental Values (SEVs) that every provincial government ministry is obliged to develop and apply. For example, the Ontario Ministry of the Environment and Climate Change’s SEV commits it to “exercising a precautionary approach in its decision making.”²² Where a ministry’s SEV contains language to this effect, public interest litigants have argued that a subsequent failure by ministry officials to comply with the principle, in the issuance of a permit or the exercise of a regulation making power, provides a basis for seeking leave to appeal from a ministry action under the *Environmental Bill of Rights*.²³

Endangered species legislation in Ontario provides for a more direct way to pursue judicial review invoking the principle. Under the *Endangered Species Act (ESA)*, the principle must be considered in the development of species recovery strategy: see subsection 11(3), *ESA*. This provision is analogous to the requirement under section 38 of *SARA*.

The principle also appears in provincial environmental statutes in other jurisdictions. To date, however, such references are relatively rare and are typically restricted to preambular language: see section 2 of the Nova Scotia *Environment Act*, and section 2 of the New Brunswick *Clean Air Act*.

4. Trials and Tribulations: The Precautionary Principle Case Law Post-*Spraytech*

If the precautionary principle is to find traction and yield real benefits in the adjudicative context, courts and tribunals must find ways to engage with it in the process of legal reasoning. When the principle is viewed as little more than “common sense,” at best it provides little decisional guidance and at worst promotes uncertainty and subjectivity. The principle must likewise respect the discretion of elected decision makers to make judgments about the public good. Leaving aside concerns about interpretive uncertainty, courts are unlikely to adopt a principle that is perceived as fettering judicial discretion to balance competing interests.²⁴ In this Part, therefore, I consider whether and to what extent the emerging Canadian case law interpreting the principle mirrors these various and related concerns about uncertainty, subjectivity, deference, and institutional competence.

To date, as discussed above, the Supreme Court of Canada has directly opined on the precautionary principle in two cases. In *Spraytech*, writing for the majority, L’Heureux-Dubé J. relied upon the principle as an emerging norm of international law to assist in a domestic interpretive task, namely determining the validity of local government bylaws. And, in *Castonguay*, the court has now affirmed this majority judgment in a case involving the interpretation of a provincial environmental protection law where the statute in question made no mention of the principle. But while the Supreme Court of Canada has encouraged tribunals and courts to deploy the principle, at the very least as an interpretive tool, this invitation has not always been accepted.

One tribunal that has tended to resist arguments that it should give the principle work to do is the Environmental Appeal Board of British Columbia (EAB). Shortly after the *Spraytech* decision came down, the EAB was asked to consider the principle in the context of an appeal of a pesticide-permitting decision. At issue in the case was whether the proposed pesticide usage would cause an “unreasonable adverse effect.” The statute in question did not mention the principle specifically. The EAB, at first instance, rejected the argument that its inquiry into this issue should be expanded to take account of the precautionary principle as set out in *Spraytech*. On judicial review, however,

the BC Supreme Court disagreed, holding that *Spraytech* and in particular the precautionary principle mandated a broader analysis than the board had undertaken²⁵

Notwithstanding this admonition, however, the EAB has remained reluctant to accede to arguments that the principle should be “read into” or even deemed relevant to the merits-based review of permitting or approval decisions where the statute is otherwise silent. For example, in *Burgoon v. B.C. (Ministry of Environment)*, the EAB rejected an argument that water licensing decisions should be subjected to scrutiny under the principle, distinguishing *Wier* on the footing that water licensing decisions, unlike pesticide use decisions, do not entail considerations of “reasonableness.”²⁶ Another reason proffered in *Burgoon* for declining the invitation to apply the principle, according to the EAB, is that there are several different versions of the principle and it is unclear, “in the absence of clear statutory direction,” which one ought to be applied.²⁷ It has maintained this approach in later cases: see *Toews v. Minister of Environment*²⁸ and *Shawnigan*.²⁹

Some courts and tribunals elsewhere in Canada have likewise displayed, at least at times, a reluctance to apply the principle or, alternatively, a tendency to “read down” the principle so as to circumscribe its interpretive relevance and weight. In Ontario, several of these cases arise in connection with language contained in ministerial statements of environmental values (SEVs) that invoke the principle. A helpful summary of the tribunal jurisprudence on the subject is provided in *Greenspace Alliance v. Ontario (Ministry of Environment)*.³⁰ In this case, the applicants argued that the principle required that “if there is any uncertainty, then the decision maker is required to presume that the activity will be as hazardous as it could possibly be.”³¹ The Environmental Review Tribunal (ERT) held, however, that “to demand absolute proof ... is not a realistic expectation of science, or of the Director.”³² In its view, the principle should instead be interpreted to require that proponents provide credible scientific evidence as to whether and to what extent the proposed activity will cause environmental harm. At this juncture, according to the ERT:

Where there is credible evidence that shows that harm is unlikely, the degree of uncertainty is significantly reduced and it is consistent with the precautionary approach for the Director to approve the activity and include measures to prevent harm or to confirm the predictions. On the other hand, where there is a great deal of scientific uncertainty ... the Director must presume there will be harm. In that case,

a reasonable person having regard for the precautionary approach would refuse the permit.³³

There has also been resistance to attempts to invoke the principle in recent decisions of the Ontario Divisional Court. In *Sierra Club of Canada v. Ontario*, the applicant challenged a permit issued by the Ministry of Natural Resources (MNR) under the *Endangered Species Act (ESA)* that authorized the disturbance of endangered species habitat in connection with a major bridge-building project.³⁴ The applicant argued that the principle was binding upon the MNR (by virtue of its inclusion in the *ESA* preamble and the MNR's *SEV*), and that by issuing the permit the MNR was in breach of its duty to comply with the principle. The court rejected both propositions. It held that the principle was "not a statutory or regulatory requirement" and that in any event the MNR had "accounted for and considered" the principle, to the extent that this was mandated in its *SEV*, in its deliberations prior to issuance of the permit.³⁵

Allegations of a failure to comply with the principle also played a central role in another judicial review decided by the Divisional Court: *Hanna v. Ontario (Attorney General)*.³⁶ This case sought to strike down regulations that prescribed setback requirements for wind energy developments that had been promulgated by the Ministry of Environment. This challenge contended that these setbacks were inadequate and inconsistent with the precautionary principle, which was applicable by virtue of its inclusion in the ministry's *SEV*. The Divisional Court dismissed the application, holding that the precautionary principle was only one of ten principles set out in the *SEV*, that there was no "clear evidence" that the setback was inadequate, and that the applicant retained the remedy of challenging site-specific wind turbine approvals on their merits to the *ERT*.³⁷

In contrast, in the Federal Court the precautionary principle is most assuredly being put to work. In jurisprudence dating back to 2009, a much more sanguine perspective on the role and future of the principle emerges. Three of these decisions arise in connection with the interpretation of statutory provisions that specifically mandate consideration of the principle as a decisional criterion; significantly, however, in the fourth and most recent of these decisions the principle is considered and applied in the context of a statutory regime (the *Fisheries Act*) that makes no reference to the principle.

The first two of these cases were rendered in 2009 in litigation brought to compel the federal government to designate critical habitat in recovery

strategies prepared under subsection 41(1) of *SARA*. The provision in question makes it mandatory to designate such habitat “to the extent possible” based on best available information.³⁸ The species at issue in these cases were the Greater Sage-Grouse and the Nooksack Dace; in both instances, the argument was that the federal government had acted unlawfully in failing to designate critical habitat where the facts suggested that it was possible to do so.

As noted earlier, *SARA* incorporates the precautionary principle not only in preambular language but also as a mandatory decisional consideration in the preparation of a recovery strategy, action plan, or management plan: see section 38, *SARA*. In both decisions, the Federal Court interpreted the habitat designation obligation under section 41 of *SARA* as reflecting and embodying the principle, concluding that the government’s failure to designate habitat was not only inconsistent with the principle but also unlawful. Indeed, the judgment in the *Nooksack Dace* case goes even further. Noting that the precautionary principle is “an important feature of the [Biodiversity] Convention” that Canada has ratified, it held that *SARA* must be construed “to conform to the values and principles of the Convention [and that] the court must avoid any interpretation that could put Canada in breach of its Convention obligations.”³⁹

The third decision was rendered in late 2011: *Wier v. Canada (Health)*. The applicant in this case had requested the federal Minister of Health to initiate a “special review” (under subsection 17(1) of *PCPA*) of a registered pesticide, namely a variety of glyphosate-based product regularly sprayed to control forest undergrowth.⁴⁰ The minister declined. On judicial review, the applicant contended that there was uncertainty within the scientific community about the effects of the pesticide on amphibians in wetland areas. In light of this uncertainty, she therefore argued subsection 20(2) of *PCPA* (described in Part 3 above) made it mandatory for the minister to take the principle “into account” when deciding whether a special review was justified.

Kelen J.’s ruling in the case sets out in considerable detail the scientific assessment process undertaken on the minister’s behalf by the Pest Management Regulatory Agency. This internal assessment revealed some differing views as to the toxicity of the pesticide in issue. Accordingly, Kelen J. concluded that this was a situation in which application of the principle required him to rule in favour of the applicant:

With opinions within the Regulatory Agency on both sides of the question as to whether the pesticide presents an unacceptable environ-

mental risk to amphibians in ephemeral wetlands, the precautionary principle would require the Minister initiate a special review into that issue.⁴¹

Finally, a recent decision of Rennie J. (as he then was) strongly reinforces relevance of the precautionary principle even to where the statute in question does not make explicit reference to the precautionary principle.⁴² In *Morton v. Canada (Minister of Fisheries and Oceans)*, at issue was the validity of licences issued under the *Fisheries Act* that allowed for the transfer of “smolts”—“that is, salmon which have undergone a physical change ... enabling them to live in sea water.”⁴³ The applicant was concerned that licences had been improperly issued by the Department of Fisheries and Oceans (DFO) to a large fish farm operator (Marine Harvest) that allowed for the transport of smolts diseased with PRV (piscine reovirus).⁴⁴ The applicant argued that the issuance of such licences was inconsistent with the overarching obligation of the minister under the *Fisheries Act* to ensure “conservation and protection of fish.”⁴⁵

A central scientific issue in the case was the relationship between PRV and a disorder known as HSMI (heart and skeletal muscle inflammation). HSMI is known to cause anorexia and mortality in farmed salmon and is capable of wiping out entire stocks.⁴⁶ It would appear that the applicant brought this suit out of concern that there was a potential causal connection between PRV and HSMI, and that licences that allowed for the transport of smolts afflicted with PRV therefore posed a threat to wild and farmed salmon stocks.⁴⁷ In determining the validity of these licences, the applicant contended that the Federal Court should employ the precautionary principle notwithstanding that the *Fisheries Act* makes no mention of the principle. The Federal Court agreed.

Marine Harvest and DFO vigorously disputed the existence of a causal link between PRV and HSMI.⁴⁸ In the end, the court agreed that prevailing science did not support the conclusion that PRV caused HSMI. In its view, however, while there was a “body of credible science” supporting the theory of a causal relationship, such a link had yet to be proven. In its words,

although there is a healthy debate between respected scientists on the issue, the evidence suggests that the disease agent (PRV) *may* be harmful to the protection and conservation of fish, and therefore a “lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation”: *Spraytech* at 31. In sum, it is not, on the face of the evidence, open to the respondents

to assert that the licence conditions permitting a transfer of PRV infected smolts reflect the precautionary principle. The Minister is not, based on the evidence, erring on the side of caution.⁴⁹

After citing *Spraytech* and *Castonguay*, Rennie J. offers the following observations about the principle:⁵⁰

The precautionary principle recognizes, that as a matter of sound public policy the lack of complete scientific certainty should not be used as a basis for avoiding or postponing measures to protect the environment, as there are inherent limits in being able to predict environmental harm. Moving from the realm of public policy to the law, the precautionary principle is at a minimum, an established aspect of statutory interpretation, and arguably, has crystallized into a norm of customary international law and substantive domestic law: *Spraytech* at paras 30–31.

In justifying reliance on the precautionary principle to interpret the *Fisheries Act* (a statute that does not mention the principle directly), Rennie J. notes that “the precautionary principle has been applied in international agreements to which Canada is a party (such as the *Convention on Biological Diversity*), and domestic legislation (for example the *Oceans Act* or the *Species at Risk Act*).” He also notes the Supreme Court of Canada’s reliance on the principle in “interpreting regulations directed to public health and the environment” in the *Spraytech* and *Castonguay* cases.⁵¹ Moreover, he underscores that use of the principle is consistent with the relevant language of the *Fisheries Act*:⁵²

In the language of “... the protection and conservation of fish,” the word “protection” does not stand for “management”; rather the word means “preservation”: *Canada (Minister of Fisheries and Oceans) v. David Suzuki Foundation*, 2012 FCA at para 114.

INSIDE THE JUDICIAL MINDSET

From these early cases, some themes are beginning to emerge. For one, there has been little patience for claims that the precautionary principle is a trump card that when played clinches the case.⁵³ Courts and tribunals have, likewise, been unsympathetic to claims that compliance with the principle requires decision makers to defer approval for potentially harmful activities wherever

any scientific uncertainty, no matter how remote or speculative, about the nature or extent of the harm exists.⁵⁴ What level of scientific uncertainty is required, and what forms of scientific evidence can and should be relied in this assessment, is unclear. Where, however, there are diverging opinions within the “regulatory community,” and especially among a government’s own scientific advisors, as to the nature or extent of the harm, it would appear that the test is met.⁵⁵ Likewise, adjudicators also seem clearly to want compelling evidence that a proposed action or standard poses a serious risk to human health or the environment before concluding that the principle applies.⁵⁶ Moreover, what quantum of risk is necessary, once again, is unclear.

Secondly, it would appear that, at least judicially, there is a growing appetite to consider the principle and give it work to do. This is certainly reflected in the Supreme Court of Canada (*Spraytech* and *Castonguay*) and, as well, in Federal Court jurisprudence (*Greater Sage Grouse*, *Nootsack Dace*, *Wier v. Canada (Health)* and *Morton*). And, of course, we can add to this list *Wier v. BC (EAB)* in the BC Supreme Court involving the same Dr. Wier.⁵⁷ It is notable that, in three of these seven cases, courts have chosen to deploy the principle even where the principle itself has not been referenced in the legislation being interpreted.

Finally, however, both in cases where courts and tribunals have demurred from considering the principle and where they have chosen to engage with it, there is a very discernible sense that the “legal contours” of the principle remain uncertain. Can the principle become more than an interpretive “straw in the wind”? Can it offer guidance as a decisional criterion? The Divisional Court in *Sierra Club* is illustrative, dismissing the idea that preambular language referring to the principle does anything more than serve “to introduce the ideas and concerns that inform the legislation that follows.”⁵⁸ Cases in which references to the principle in preambular and purpose provisions have been interpreted in a more robust light have tended, almost invariably, to be ones where the principle is also incorporated into a substantive decisional criterion within the same statutory regime.⁵⁹ Yet, where the precautionary principle is framed as a substantive decisional criterion, what guidance can be relied upon to apply that criterion? In the next part, I discuss possible ways through which the principle can be applied.

5. Can the Principle Be Given some “Specific Work To Do”?

Although there has been very little judicial consideration of the precautionary approach or ‘precautionary principle’ ... the clear thread which emerges

from what consideration has been given to the approach is that it does dictate caution, but it does not dictate inaction, and it will not generally dictate one specific course of action to the exclusion of others.

—JUSTICE CHRISTINE WHEELER, COURT OF APPEAL OF WEST AUSTRALIA⁶⁰

I now propose to return to a question posed at this beginning of this chapter: assuming that courts or tribunals are inclined or required to apply the principle, to what extent can it be given specific work to do? As noted earlier, a variety of legal scholars have argued in favour of “taming” the principle, enabling it to provide useful guidance to decision makers, rather than dictating to them.⁶¹ Whether this can occur—in effect, whether the principle can be rendered justiciable—depends heavily on the creativity and initiative of lawyers and courts alike. Ten years ago, in the predecessor to this article, I profiled and critiqued a new decision of the Land and Environment Court of New South Wales which, in my view, represented an important step in this direction: *Telstra Corporation Ltd. v. Hornsby Shire Council*.⁶² In the balance of this part, I want to revisit *Telstra* and consider whether it has indeed given the principle something specific to do.

TELSTRA AND ITS PROGENY

The *Telstra* case arose out of a proposal to construct a mobile telephone base station in a suburb of Sydney, Australia.⁶³ The Shire Council, in response to community fears about the health effects of radiofrequency electromagnetic energy, refused the development application for the base station despite the fact that the installation complied with a peer-reviewed, applicable national safety standard. The council’s decision was appealed to the Land and Environment Court of New South Wales, pursuant to the *Environmental Planning and Assessment Act, 1979 (EPAA)*.⁶⁴ The *EPAA* requires the principles of sustainable development, including the precautionary principle, to be taken into account when considering development applications.⁶⁵

Under the *Telstra* approach, determining whether and how to apply the precautionary principle in a particular case occurs in three discrete steps: (1) deciding whether the principle applies; (2) if so, reversing the onus of proof; and (3) identifying the appropriate governmental response.

An important feature of *Telstra* is its recognition of the importance of restricting the application of the principle to situations where it can add analytic value. As such, it holds that before the principle can be applied the applicant must establish two conditions precedent: (1) the existence of a threat of serious or irreversible environmental damage; and (2) the existence of scientific

uncertainty as to the environmental damage.⁶⁶ Whether these preconditions exist are questions of fact.

The first condition precedent requires that impending environmental damage must be *serious or irreversible*. This, according to *Telstra*, can be measured using a variety of factors including:

- (a) the spatial scale of the threat (eg local, regional, statewide, national, international);
- (b) the magnitude of possible impacts, on both natural and human systems;
- (c) the perceived value of the threatened environment;
- (d) the temporal scale of possible impacts, in terms of both the timing and the longevity (or persistence) of the impacts;
- (e) the complexity and connectivity of the possible impacts;
- (f) the manageability of possible impacts, having regard to the availability of means and the acceptability of means;
- (g) the level of public concern, and the rationality of and scientific or other evidentiary basis for the public concern; and
- (h) the reversibility of the possible impacts and, if reversible, the time frame for reversing the impacts, and the difficulty and expense of reversing the impacts.⁶⁷

Under this approach, the seriousness of the threat is primarily a “values” as opposed to a “science” question, to be judged by consultations with a broad range of experts, stakeholders, and right-holders. This does not mean, however, that science is irrelevant at this stage of the inquiry: indeed, Preston C.J. specifically notes “the threat of environmental damage must be adequately sustained by scientific evidence.”⁶⁸

The second condition precedent is that there be *a lack of full scientific certainty*. In assessing this question of fact, *Telstra* posits another menu of factors, including:

- (a) the sufficiency of the evidence that there might be serious or irreversible environmental harm caused by the development plan, programme or project;
- (b) the level of uncertainty, including the kind of uncertainty (such as technical, methodological or epistemological uncertainty); and
- (c) the potential to reduce uncertainty having regard to what is possible in principle, economically and within a reasonable time frame.⁶⁹

Telstra leaves open the question of what constitutes a requisite level of scientific uncertainty sufficient to trigger application of the principle; in its view, this standard may differ depending upon the nature of the impending environmental damage. In a leading case that has recently applied *Telstra*, a standard of “substantial uncertainty” was adopted.⁷⁰

If these conditions precedent are met, the precautionary principle is then triggered. This means that the burden of proof shifts to the proponent to show that the threat of serious or irreversible environmental damage does not in fact exist or is negligible. If the proponent cannot do so, the government decision maker must assume that serious or irreversible damage will occur.

In this situation, the decision maker must respond in a manner that is consistent with the principle. The response that is required by the precautionary principle will depend on the outcome of a risk assessment. The overarching goal of the response is proportionality. The more significant and likely the threat, the greater the degree of precaution required. Where uncertainty exists, a margin of error should be left so that serious or irreversible harm is less likely to occur. This margin of error may be maintained through step-wise or adaptive management plans.

In the result, the carefully elaborated approach set out in *Telstra* was not put to the test on the facts of the case. Preston C.J. decided that the party seeking to rely upon the principle (in this case, the Shire Council) had failed to lead evidence capable of supporting the conclusion that the proposed cell tower presented a threat of serious or irreversible harm. As a result, the precautionary principle did not apply and it was unnecessary to proceed further with the analysis.

The *Telstra* approach has, however, been applied in a more fulsome fashion in several subsequent cases.⁷¹ Among these, the case that most faithfully applies the framework, *Environment East Gippsland Inc. v. VicForests*,⁷² involves a familiar scenario, especially for those of us from the Canadian West Coast. The conflict here arose in a remote region in southern Australia, and was triggered by logging plans in an old growth Crown-owned forest that were said to threaten a variety of endangered species. It is instructive to reprise how Osborn J. for the Supreme Court of Victoria analyzes this complex dispute employing the *Telstra* framework.

In this case, the plaintiff environmental group commenced an action seeking an injunction against proposed logging to be undertaken by the defendant, a state-owned forest company. The defendant had secured timber-harvesting approvals for an area known as Brown Mountain, in the East Gippsland region of the state of Victoria, southeast of Melbourne. Surrounded by conservation

reserve areas, Brown Mountain contains areas of old growth forest with high timber values and ecological significance. The area in contention was home to over a dozen threatened or endangered species, including the Long-footed Potoroo, the Powerful Owl, and the Giant Burrowing Frog.⁷³ Under a legally binding Code of Practice, the defendant was obliged to plan and undertake harvesting in accordance with the precautionary principle.

The case makes fascinating reading for Canadian environmental lawyers more accustomed to the highly constrained manner in which judicial supervision of natural resource decision making occurs in Canada. Osborn J's careful reasons for judgment help, in my view, to dispel the notion that the principle can at best play a background or ancillary role in domestic adjudication.

The case arises in the context of what Osborn J. characterizes as a "labyrinthine" maze of legislation and regulation. A central issue to be decided was whether and to what extent the precautionary principle applied to the defendant's tree harvesting plans, and what implications (in terms of injunctive relief) flow. The court heard evidence over the course of sixteen days. Ultimately, for five species—the Powerful Owl and the Spotted Owl, the Spot-tailed Quoll, the Giant Burrowing Frog, and the Large Brown Tree Frog—the principle played a decisive role in the court's conclusion that logging should be enjoined pending further studies aimed at determining what measures were necessary to maintain species viability.

To provide a sense of how Osborn J. assessed the evidence in applying the *Telstra* test, it is worthwhile to reprise his analysis with respect to two of the species at issue: the Giant Burrowing Frog and the Large Brown Tree Frog. For these species, he concluded as follows:

- (a) that the proposed logging presents a *real threat of serious or irreversible damage* to the environment (i.e. these two species) for a variety of reasons including their 'threatened' status and relevant expert evidence;
- (b) that this damage is attended by a *lack of full scientific certainty* including evidence with respect to very significant uncertainties relating to their respective distribution, biology and conservation;
- (c) the defendant has not demonstrated that the threat is *negligible* insofar as it led 'no evidence from an expert with specialist qualifications relating to the biology and conservation of frogs;
- (d) the threat can be addressed through *adaptive management*, including 'management measures, which would significantly better inform a

further judgment as to the relevant conservation values of the Brown Mountain ... [reducing] ... uncertainty with limited cost and within a reasonable timeframe’;

- (e) the ‘measures proposed are *proportionate* to the threat in issue. They are limited operations. Further, they are capable of definition and ... controlling supervision ... In addition there is satisfactory evidence that postponement of timber harvesting pending the completion of such surveys would cause VicForests significant economic damage’. [Emphasis added.]⁷⁴

While these excerpts may be not adequately convey the point, I would argue that this judgment grapples impressively with a dispute that is extraordinarily complex both in legal and scientific terms. And, I would argue, far from being a “make-work” project for the precautionary principle, the judgment shows in convincing fashion that the principle—appropriately “tamed”—can indeed be a powerful tool for analyzing and resolving disputes of this kind. Among other reasons, I think that this is attributable to the care with which the Osborn J. applies the *Telstra* framework, particularly in relation to the conditions precedent to the principle and the need to calibrate a judicial response that is proportionate to the risk.⁷⁵

As discussed at the end of Part 2, turning the precautionary principle into a workable framework raises three important questions:

- When should the principle apply?
- How should it apply?
- What remedial consequences should flow from its application?

Telstra is a compelling illustration of how these three questions can be addressed in a manner that allows the principle to play a constructive role in a variety of administrative and adjudicative settings. The *Telstra* approach accomplishes this by responding to concerns about overbreadth by Professor Applegate and others: see Part 2 above. To this end, it injects into the principle a proportionality mechanism that calibrates the precautionary measures required to the degree of risk that is present. Moreover, as knowledge of the risk grows more certain through adaptive management and learning, these precautionary measures can be fine-tuned.

Finally, the two conditions precedent under the *Telstra* approach offer another “taming” mechanism that clarifies and constrains what the precautionary

principle is supposed to do. By requiring courts to first determine whether the principle applies in the first place, and then providing a framework for application where the principle is found to be applicable, the *Telstra* approach affirmatively answers Stein J's question about whether the principle can be given "specific work to do."

Conclusion

It is now almost a decade since I first began writing on this topic. Back then, in an article I wrote with Jamie Thornback, we emphasized that these were early days in the judicial development of the principle, and expressed the hope that lawyers would "advocate for a nuanced approach to implementing the principle capable of persuading courts that, it adds value to and is consistent with their competence and jurisdiction to supervise administrative action."⁷⁶ These remain early days. However—now more than ever—lawyers have the tools and precedents necessary to persuade courts not only of the desirability but the viability of putting the precautionary principle to work.

NOTES

- 1 C Tollefson & J Thornback, "Litigating the Precautionary Principle in Domestic Courts" (2008) 19 JELP 33.
- 2 See the extra-judicial reflections of Stein J of the NSW Court of Appeal in "A Cautious Application of the Precautionary Principle" (2000) 2 Environmental Law Review 1 at 2.
- 3 See generally David Freestone & Ellen Hey, eds, *The Precautionary Principle and International Law* (The Hague: Kluwer Law International, 1996); Arie Trouwborst, *Evolution and Status of the Precautionary Principle in International Law* (The Hague: Kluwer Law International, 2002); Harold Hohmann, *Precautionary Legal Duties and Principles of Modern International Environmental Law* (London: Graham & Trotman, 1994); Ronnie Harding & Elizabeth Fisher, *Perspectives on the Precautionary Principle* (Sydney: Federation Press, 1999); Simon Marr, *The Precautionary Principle in the Law of the Sea* (The Hague: Kluwer Law International, 2003); Joakim Zander, *The Application of the Precautionary Principle in Practice: Comparative Dimensions* (Cambridge: Cambridge University Press, 2010); Jocelyn Stacey, "Preventive Justice, the Precautionary Principle and the Rule of Law" (2016) in Tamara Tulich et al, *Regulating Preventive Justice* (New York: Routledge, 2016) 23.
- 4 United Nations Conference on Environment and Development, *Rio Declaration on Environment and Development*, Principle 15.
- 5 See generally the discussion in Per Sandin, "Dimensions of the Precautionary Principle" (1999) 5 Human and Ecological Risk Assessment 889 at 891.
- 6 *Ibid.*
- 7 *Ibid* at 891–895.
- 8 John S Applegate, "The Taming of the Precautionary Principle" (2002–2003) 27 Wm & Mary Env'tl L & Pol'y Rev 13 [Applegate]. In a similar vein, see Elizabeth Fisher, "Is the Precautionary Principle Justiciable?" (2001) 13 JELP 315.

- 9 Applegate, *ibid* at 15–16.
- 10 For a comparative review of the precautionary principle case law see B Preston, CJ, “The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific” (2005) 9:2–3 *Asia Pac J Envtl L* 109.
- 11 *Vellore Citizens Welfare Forum v Union of India*, WP 914/1991 (28 August 1996) at para 15. The *Vellore* decision was later affirmed in *MC Mehta v Kamal Nath* (1997), 1 SCC 388.
- 12 *114957 Canada Ltee (Spraytech) v Hudson (Town of)*, [2001] 2 SCR 241.
- 13 *Ibid* at para 32.
- 14 *Castonguay Blasting Ltd v Ontario (Environment)*, 2013 SCC 52 at para 20 [*Castonguay Blasting Ltd*].
- 15 RSO 1990, c E.19.
- 16 *Castonguay Blasting Ltd*, *supra* note 14 at para 9.
- 17 *Ibid* at para 20.
- 18 Charmian Barton, “The Status of the Precautionary Principle in Australia: Its Emergence in Legislation and as a Common Law Doctrine” (1998) 22 *Harv Envtl L Rev* 509 at 535.
- 19 *Leach v National Parks and Wildlife Service* (1993), 81 *LGRA* 270.
- 20 *Ibid*.
- 21 See *CEPA*, s 2 and *CEAA*, s 4(2).
- 22 Other ministries make more equivocal commitments: for example, the Ontario Ministry of Natural Resources does not use the word “precaution” in its SEV; however it does recognize that need for its staff to “exercise caution and special concern for natural values in the face of uncertainty” about “... the way the natural world works and how our actions affect it”: see discussion in *Sierra Club Canada v The Queen*, 2011 ONSC 4655 (Ont Sup Ct Gen Div) at para 46.
- 23 See *Dawber v Ontario (Director, Ministry of the Environment)* (2007), 28 *CELR* (3d) 281 aff’d (2008), 36 *CELR* (3d) 191 (Ont Sup Ct Gen Div).
- 24 In this vein, consider the words of the European Court of Justice: “[T]he precautionary principle has a future only to the extent that, far from opening the door wide to irrationality, it establishes itself as an aspect of the rational management of risks, designed not to achieve a zero risk, which everything suggest does not exist, but to limit the risks to which citizens are exposed to the lowest level reasonably imaginable”: see *National Farmers’ Union v Secretary Central of the French Government*, ECJ C-241/01 (2 July 2002) at 76.
- 25 *Wier v BC (EAB)*, [2003] BCJ No 2221 at paras 33–38.
- 26 *Burgoon v British Columbia (Ministry of Environment)*, [2010] BCEA No 5, 53 *CELR* (3d) 1 at para 127 [*Burgoon*].
- 27 *Ibid* at para 132. To a similar effect see *City of Cranbrook v British Columbia (Ministry of Environment)*, [2009] BCEA No 2, 42 *CELR* (3d) 240 at para 38.
- 28 *Toews v British Columbia (Director, Environmental Management Act)*, [2015] BCEA No 25.
- 29 *Shawnigan Residents Assn v British Columbia (Director’s Delegate, Environmental Management Act)*, 2015 *CarswellBC* 802.
- 30 *Greenspace Alliance of Canada’s Capital v Ontario (Ministry of Environment)* (2009), *CELR* (3d) 216 [*Greenspace Alliance*].
- 31 *Ibid* at para 135.
- 32 *Ibid* at para 139.
- 33 *Ibid* at para 138.
- 34 *Sierra Club of Canada v Ontario (Natural Resources and Transportation)*, 2011 ONSC 4655 [*Sierra Club*].
- 35 *Ibid* at paras 53 and 60.
- 36 *Hanna v Ontario (Attorney General)*, 2011 ONSC 609 [*Hanna*].
- 37 *Ibid* at paras 28–31.
- 38 *Alberta Wilderness Assn v Canada (Minister of Environment)*, [2009] FCJ 876 (the *Greater Sage-Grouse* case) and *Environmental Defence Canada v Canada (Minister of Fisheries and Oceans)*, [2009] FCJ 1052 (the *Nooksack Dace* case) [*Environmental Defence*].
- 39 *Environmental Defence*, *ibid* at paras 34 and 38.

- 40 See *Wier v Canada (Health)*, 2011 FC 1322. The applicant in this case was the redoubtable Josette Wier, a non-practising, French-trained medical doctor living in Smithers, BC. Ms Wier, who describes herself as an “environmental researcher,” also successfully litigated another precautionary principle case initiated before the BC Environmental Appeal Board in 2003 discussed *infra* in text accompanying note 57.
- 41 *Ibid* at para 101.
- 42 Examples where the relevant statute is silent in this regard include *Spraytech*, *supra* note 12; *Castonguay Blasting Ltd*, *supra*, note 14; *Wier*, *supra*, note 40; and *Morton*, *infra*, note 43.
- 43 *Morton v Canada (Minister of Fisheries and Oceans)*, 2015 FC 575.
- 44 *Ibid* at paras 1–3.
- 45 *Ibid* at para 11.
- 46 *Ibid* at para 33.
- 47 *Ibid* at paras 2, 19, 33–35.
- 48 *Ibid* at paras 37–39.
- 49 *Ibid* at paras 45–46.
- 50 *Ibid* at para 43.
- 51 *Ibid* at para 58.
- 52 *Ibid* at para 23.
- 53 See *Hanna*, *supra* note 36 at para 30, and *Sierra Club*, *supra* note 34 at para 49.
- 54 See *Greenspace Alliance*, *supra* note 30 at paras 135–138.
- 55 See *Wier v Canada (Health)*, *supra* note 40 at para 101.
- 56 See, for example, *Hanna*, *supra* note 36 at para 34, where the Divisional Court uses the term “clear evidence.”
- 57 See *supra* note 24: *Wier v BC (EAB)*, [2003] BCJ No 2221.
- 58 See *Sierra Club*, *supra* note 34 at para 54.
- 59 See, for example, references to the preambular language in *SARA* (in the *Greater Sage-Grouse* and *Nooksack Dace* judgments) and to the preambular language in *PCPA* (in *Wier v Canada*).
- 60 *Bridgetown/Greenbushes Friends of the Forest Inc v Executive Director of Conservation and Land Management* (1997), 18 WAR 102 per Wheeler J (decided prior to her elevation to the Court of Appeal).
- 61 See Applegate, *supra* note 8.
- 62 [2006] NSWLEC 133 [*Telstra*].
- 63 *Telstra*, *ibid*.
- 64 *Environmental Planning and Assessment Act*, 1979 (NSW). The Land and Environment Court of New South Wales is a specialist superior court of record. Its jurisdiction includes merits review, judicial review, civil enforcement, criminal prosecution, criminal appeals and civil claims in planning, environmental, land, and mining matters. It was created by statute in 1979.
- 65 *Telstra*, *supra* note 62 at paras 121–26.
- 66 *Ibid* at para 128.
- 67 *Ibid* at para 131.
- 68 *Ibid* at para 134.
- 69 *Ibid* at para 141.
- 70 *Environment East Gippsland Inc v VicForests*, [2010] VSC 335 at para 197 [*EEG Inc*].
- 71 Some examples include *Environment East Gippsland Inc v VicForests*, [2010] VSC 335; *Rosen & Anor v Macedon Ranges Shire Council*, [2010] VSC 583; *Newcastle & Hunter Valley Speleological Society Inc v Upper Hunter Shire Council and Stoneco Pty Ltd*, [2010] NSWLEC 48; *GHD Pty Ltd v Palerang Council*, [2009] NSWLEC 1342; and *Royal Motor Yacht Club*, [2008] NSWLEC 1126.
- 72 [2010] VSC 335.
- 73 *EEG Inc*, *supra* note 70 at para 316.
- 74 *Ibid* at para 506.
- 75 The *Telstra* approach has been applied in various other New Zealand cases, e.g.: *Southern Highlands Coal Action Group v Minister for Planning and Infrastructure*, [2013] NSWLEC 1032; *Newcastle v. Hunter Valley Speleological Society v Upper Hunter Shire*, [2010] NSWLEC 48; *Sustain our Sounds Inc v The New Zealand King Salmon Co Ltd*, [2014] NZSC 40.
- 76 Tollefson & Thornback, *supra* note 1 at 58.