ENDANGERED SPECIES LITIGATION AND THE PRECAUTIONARY PRINCIPLE

A THESIS

Presented to

The Faculty of the Environmental Program

Colorado College

In Partial Fulfillment of the Requirements for the Degree

Bachelor of Arts

By

Evan Yen Rao

May 2023

ENDANGERED SPECIES LITIGATION AND THE PRECAUTIONARY PRINCIPLE

Evan Rao

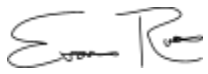
May 2023

Environmental Studies

Abstract

New and innovative approaches are necessary to confront the current biodiversity crisis, especially when it comes to protecting endangered species, which are at the most immediate risk of extinction. In this thesis, I explore whether lawsuits using the precautionary principle may represent an effective species conservation strategy by examining how judges in the United States, Canada, and Australia are using the principle to protect endangered species. This study addresses a gap in international environmental law (IEL) and species conservation literature by explicitly investigating the linkage between the precautionary principle and endangered species litigation. Through qualitative analysis on 36 cases from the United States, Canada, and Australia, I suggest that judges perceive a role for the precautionary principle in endangered species lawsuits, that they derive more authority for the principle from domestic rather than international law, and that the Canadian judiciary is uniquely receptive to legal strategies linking the principle with endangered species.

ON MY HONOR, I HAVE NEITHER GIVEN NOR RECEIVED UNAUTHORIZED AID ON THIS THESIS



Signature

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I would like to express my deepest appreciation to Dr. Mike Angstadt, who provided invaluable guidance and mentorship throughout the entire process of researching and writing this thesis. Without him, completion of this project would not have been possible. I would also like to thank Dr. Eric Perramond, who provided me with feedback and advice in the final stages of writing. Finally, I am grateful for my family and friends who supported me throughout my time working to finish this thesis.

1. Introduction

One of the most urgent issues of our time is the collapse of global biodiversity. Some one million species of plants and animals are threatened with extinction, the average abundance of native plant and animal life has declined by 20% in most land habitats over the past century, and climate change and population growth are ensuring that these trends accelerate in the coming years (Global Assessment Report on Biodiversity and Ecosystem Services 2019, 15). Endangered species, which are defined as those at serious risk of extinction, are at the forefront of this crisis, as their populations are those which are most immediately at risk of collapse (Wilcove and Master 2005, 2).

Human societies are simply not doing enough to adequately respond to this increasingly dire situation. Habitat loss, the primary driver of population decline in species, is accelerating with the current rate at roughly 177 km^2 converted to agriculture and other uses daily (Nagy et. al 2021, 1). Changes in average temperature, precipitation, and frequency of natural disasters caused by human induced climate change all contribute to biodiversity loss (Habubullah 2021, 1074). Governments spend an estimated $500 billion a year on activities classified as environmentally harmful, while a comparatively tiny $80-$90 billion is allocated for biodiversity protection from private and public financers (Global Assessment Report on Biodiversity and Ecosystem Services 2019, 44). Similarly, the world's governments are failing to meet benchmark conservation goals set in international biodiversity agreements; a 2019 report found that only 6 of the 20 targets set by the 1992 Convention on Biological Diversity (CBD) were partially achieved, with none fully achieved (id.).

While the overall prognosis on human responses to global biodiversity loss is grim, the judiciary represents one promising realm for innovative and powerful solutions. A case like

Massachusetts v. EPA, in which the Supreme Court ordered the United States government to regulate emissions from cars due to standards set in the Clean Air Act, demonstrates that judicial rulings can spawn significant action on pressing environmental issues (*Massachusetts v. EPA,* 2007). Similarly, the case *TVA. v. Hill*, in which the court ruled to halt construction of a large dam project in favor of conserving the endangered Snail Darter, illustrates the power and potential of the judiciary to respond to the biodiversity crisis (*TVA. v. Hill,* 1978). In both of these cases, the government was failing to take positive action for the environment, and domestic environmental statutes enforced through the legal system provided the catalyst for policy change.

Litigants have more than domestic law to draw upon in their environmental lawsuits; principles from international climate law have functioned as effective backing for legal arguments aimed at confronting climate change, and they may be able to support strategies aimed at protecting endangered species (Barrit 2020, 297. Cooney 2005, 4-5). Two climate change cases stand out in particular. One such case is *Urgenda Foundation v. The State of the Netherlands,* in which the Dutch Supreme Court ruled that the Dutch Government had abdicated its emissions reduction responsibilities under United Nations and European Union climate agreements and subsequently ordered the government to cut emissions to levels in line with parameters set in the agreements (*Urgenda Foundation v. The State of the Netherlands*, 2019). This was evidence that domestic courts are increasingly being used as sites to solidify obligations to international law (Barritt 2020, 297).

A second example of this can be found in the case *Leghari v. Federation of Pakistan*. In *Leghari*, the Supreme Court of Pakistan ruled that the government had violated the human rights of its citizens by failing to reduce its emissions— these human rights originated in large part from the 2015 Paris Climate Agreement (*Leghari v. Federation of Pakistan*, 2015*).* Indeed, both

Urgenda and *Leghari* exemplify that domestic courts are responding to international law and simultaneously acting as models which other jurisdictions are seeking to adopt (Peel and Osofsky 2018, 37).

In terms of the protection of endangered species, the precautionary principle is perhaps the most directly relevant international principle. At its core, the precautionary principle is about anticipation and protection. The principle argues that full scientific certainty, or indisputable evidence of potential harm, should not be a prerequisite to taking protective action for the environment (Cooney 2005, 4-5). The framing of the principle holds particular relevance to the conservation of species, since the lack of full scientific certainty about the status of a species or the effects a potential action may have on its populations frequently precludes the implementation of conservation measures (id.). Perhaps most importantly, the precautionary principle shifts the burden of proof onto the entity attempting to undertake an activity which may harm a species, which might encourage more species-centric development plans (Lavrik 2022, 106).

The precautionary principle has found its way into a plethora of international biodiversity conservation agreements, including the 1992 Rio Declaration, the 1992 CBD, and the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), (Cooney 2005, 4-7). Formulations of it vary, but the one which is most widely accepted is from the 1992 Rio Declaration:

> "In order to protect the environment the Precautionary Approach shall be widely applied by States according to their capabilities. 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"

(Rio Declaration, 1992).

The 1992 CBD articulates the precautionary principle in the following way:

> "Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat"

(Convention on Biological Diversity, 1992).

Finally, CITES frames the principle as follows:

> "When considering proposals to amend Appendix I or II, the Parties shall, by virtue of the precautionary approach and in case of uncertainty… act in the best interest of the conservation of the species concerned and adopt measures that ate proportionate to the anticipated risks to the species"

(Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973).

The precautionary principle is utilized in many ways, but general tenets for its implementation were disseminated by the EU "Communication for the Commission on the Precautionary Principle". These tenets include Proportionality, Non-Discrimination, Consistency, Examination of Costs and Benefits, Examination of Scientific Developments , and The Burden of Proof (Communication for the Commission on the Precautionary Principle, 2000) (Table 1).

Table 1: Precautionary principle definitions and implementation considerations.

The Precautionary Principle:	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 (Rio Declaration, 1992)
General Tenets of Implementation (Communication for the Commission on the Precautionary Principle, 2000):	
Proportionality	The action must be a proportionate response to the issue
Non-Discrimination	The action must be able to be applied similarly to similar cases
Consistency	The action should be consistent to other similar responses
Examination of Costs/Benefits	Examine the short and long-term consequences
Examination of Scientific Developments	Decisions are subject to review based on new scientific data
The Burden of Proof	Data must be produced for a comprehensive risk assessment by the party accused of potentially damaging behavior

This thesis examines the following question: how are judges in the United States, Canada, and Australia using the precautionary principle to protect endangered species? First, I provide a background of how the precautionary principle has been adopted by Australia, Canada, and the United States, alongside an explanation of how international environmental law (IEL) is influencing domestic litigation. Next, I conduct a literature review examining research on the influences of international climate law on domestic litigation, how extensively Australia, Canada, and the United States have incorporated the principle, and how the principle relates to species conservation. After that, I outline my methods for this thesis, as well as my findings. This is followed by a discussion of how judges are using the precautionary principle, how the principle may be useful in relation to endangered species, and an analysis of Canadian legal

attitudes towards the principle. I conclude that judges perceive a role for the precautionary principle in endangered species lawsuits, that they derive more authority for the principle from domestic rather than international law, and that the Canadian judiciary is uniquely receptive to legal strategies linking the principle with endangered species.

2. Background

2.1 Australia

The precautionary principle was made a fundamental aspect of Australian law through the 1992 Intergovernmental Agreement on the Environment, the 1992 CBD, the Great Barrier Reef Marine Park Act, and the Environmental Protection and Biodiversity Conservation Act (Preston 2006, 40). Further, the principle is articulated in the Protection of the Environment Administration Act, which frames it as a key component of ecologically sustainable development, and was embraced heavily by Australian courts after it was espoused in the 1992 Rio Declaration (id.).

The Land and Environment Court of New South Wales (NSW) in particular has been a heavy proponent of the precautionary principle in Australia. One case of note is *Leatch v. National Parks and Wildlife Service,* in which the Land and Environment Court ruled that a lack of knowledge about potential effects that a proposed road development may have on the Giant Burrowing Frog indicated that the precautionary principle should be adopted to preclude developmental action (*Leatch v. National Parks and Wildlife Service*, 1993). This case reflects clear endorsement of the central tenet of the precautionary principle: that lack of full consensus about the potential effects of an action should not preclude conservation measures (id.). Yet another important case from the NSW court is *Nicholls v. Director-General v. National Parks*

and Wildlife, in which the court recommended that the government apply the precautionary principle in relation to issuing licenses to take threatened flora and fauna. (*Nicholls v. Director-General v. National Parks and Wildlife,* 1994). Taken together, these cases help make up the many cases to come out of the NSW court that heavily endorse the precautionary principle and apply it towards conservation (Preston 2006, 40-44).

2.2 Canada

Canada finds the precautionary principle disseminated throughout its domestic law by way of their treaty obligations to the Bergen Declaration and the CBD (Bergen Declaration, 2002. Convention on Biological Diversity, 1992). Likewise, Canada's judiciary has acknowledged the centrality of the principle in jurisprudence, beginning with the case *Spraytech v. Hudson*, an opinion issued by the Supreme Court of Canada (Van Ert 2002, 374). In *Spraytech*, the town of Hudson, located in Quebec, adopted a bylaw restricting the use of pesticides, and a group of landscape and lawn care companies appealed the law (*Spraytech v. Hudson*, 2001). The Supreme Court of Canada rejected the appeals, in part, on the basis of Canada's obligations to the precautionary principle under the Bergen Declaration, finding that the towns' actions were justifiable under the principle (id.).

2.3 The United States

Unlike Australia and Canada, the United States is not party to the CBD, the Rio Declaration, or any treaty which explicitly incorporates the precautionary principle; thus, it has no official obligation to adhere to it (Kannan 2007, 428). Nevertheless, the values of the principle are heavily reflected in United States environmental laws, most notably the Endangered Species Act (ESA) (Mealey et. al 2005, 190). Passed by Congress in 1973, the ESA is widely

regarded as one of the most powerful pieces of environmental legislation in the United States, and it has been used as a model by different jurisdictions in drafting their own species protection statutes (Geiling 2020, 315-316). The ESA functions primarily in the following ways: providing a list of species which are threatened or endangered, establishing protections for species listed as threatened, and providing a framework for the implementation of these protections (Endangered Species Act 1973, §4 and §7). In the ESA, precaution shows up in both the listing and consultation processes for endangered species. In the listing process, the act of listing a species does not hinge on having absolute certainty about its status, but rather over evidence that it is in danger of extinction or likely to become endangered (Endangered Species Act, §4(b)(2) ["(Basis for determinations) identified as danger of extinction, or likely to become so in the foreseeable future…"]). In the consultation process, the burden of proof is on the agency undertaking action which may harm a species (Endangered Species Act, §7(a)(2) ["Each federal agency shall…insure that any action funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species…"]). The agency must prove that proposals will not harm a jeopardized species, rather than show that their activities are definitely harming a species (id.).

2.4 International Environmental Law and Domestic Litigation

More broadly, the dissemination of the precautionary principle into the jurisprudence of the United States, Canada, and Australia reflects the macro trend of IEL shaping domestic litigation. A watershed case like *Urgenda* or *Leghari* has yet to emerge linking the precautionary principle with endangered species conservation. Similarly, little research has been conducted as to how, specifically, judges are utilizing the precautionary principle towards this end.

Importantly, though, there is a history of courts being used towards endangered species protection, particularly in the United States. The previously mentioned *TVA. v. Hill* marks perhaps the most significant case in the United States regarding endangered species, as the judges' ruling in favor of the endangered Snail Darter over the expensive Tellico Dam gave legitimacy to the ESA (*TVA. v. Hill*, 1978). *Northern Spotted Owl v. Hodel*, in which a district court in Washington ruled that the Fish and Wildlife Service was wrong in not listing the Northern Spotted Owl as endangered, further affirmed the power of the ESA as a legal tool for protecting species (*Northern Spotted Owl v. Hodel*, 1988). Much like *TVA. V. Hill, Hodel* maintained protections for a listed species despite political controversy and economic costs (id.). However, important reminders exist that the judiciary does not uniformly rule in species' interests in ESA-related litigation. For instance, *Lujan v. Defenders of Wildlife* narrowed the standing requirements for litigants seeking to bring forward lawsuits on behalf of endangered species, as the court ruled that the plaintiffs had not suffered a concrete and particularized injury through the United States removing protections for endangered species abroad (*Lujan v. Defenders of Wildlife*, 1992).

It is clear from cases like *Lujan* that litigants face obstacles in United States courts, such as the need to satisfy standing requirements when advancing lawsuits to protect endangered species. Beyond standing, those seeking to protect endangered species through the law often are confronted with agencies which move incredibly slowly to list species as endangered; one study found the average wait time from ESA candidacy to actual listing to be roughly 12 years (Puckett et. al 2016, 220). New approaches are necessary in order to help endangered species litigation adequately respond to the pace of biodiversity loss. As indicated by *Urgenda* and *Leghari,* legal solutions to environmental issues may be found outside the limitations of a country's domestic

structures. By examining how judges in the United States, Canada, and Australia are utilizing the precautionary principle in endangered species cases, I hope to support a greater understanding of when, and to what extent, judges view the principle as a convincing legal basis for the conservation of endangered species, and perhaps indicate a new strategy that litigants can employ to combat biodiversity loss and frame endangered species lawsuits more effectively.

3. Literature Review

Currently, there is a robust literature exploring various dimensions relevant to the overarching question of this thesis: How are judges in the United States, Canada, and Australia utilizing the precautionary principle towards endangered species conservation? Researchers are examining how international climate law is influencing domestic litigation, how extensively the precautionary principle is being implemented by different countries, and how species conservation and the precautionary principle are complementary. Broadly relevant literature is rooted in the following fields: IEL, transnational environmental law (TEL), and environmental science/conservation.

3.1 Influences of International Climate Law on Domestic Litigation

By examining the analogous question of how international climate law is influencing domestic litigation, we can better understand the trends that may lead judges to reference the precautionary principle in their domestic legal reasoning. Researchers emphasize that cases like *Urgenda Foundation v. The State of the Netherlands* and *Leghari v. Federation of Pakistan* point to the emerging influence and exchange of ideas between international law, domestic courts, and judges from diverse jurisdictions (Barritt 2020, 297). *Urgenda* illustrates an emerging

"transnational jurisprudence" in environmental law, where domestic courts enforce international agreements and borrow ideas from courts in different jurisdictions pursuing similar aims (id.). Cases like *Urgenda* and *Leghari* are being influenced by, and actively influencing, cases and judicial decisions in other jurisdictions (i.d). This is indicative of a horizontal spread of legal ideas amongst courts (Yang 2009, 616). Vertical exchange can be seen in the ratification of international treaties such as the Paris Climate Agreement, which allows countries to collaborate in shaping a truly internationally influenced environmental jurisprudence (Affolder 2019, 188).

Further, these cases point to a trend of judges finding themselves beholden not only to national legal obligations, but also to broader, more international imperatives that interact with these obligations (Affolder 2019, 188). For example, the actual obligations the court found in *Urgenda* were grounded in the Dutch government's duty to care for its citizens, but the court saw the foundation of this duty to care rooted in turn in international climate agreements and principles, including the no harm principle (Barritt 2020, 298). *Urgenda*, therefore, was the first legal judgment in which international obligations were a key component in mandating a nation to respond to climate change (id.).

Researchers have examined the contexts that may lead judges to cite IEL in domestic court cases. These include: upholding domestic legislation or administrative actions, voiding domestic legislation or administrative actions, supporting or challenging actions by a private party, assisting in interpreting confusing domestic legal provisions, and in procedural matters (Bruch 2006, 429-430). The manner in which judges use international law in their legal arguments ranges from compelling a party to conform to the international law in question, or as more of a persuasive tool in service of a domestic law. The range of its applicability,

nevertheless, suggests that judges see international law as potentially useful in a variety of contexts (i.d).

There is also currently a debate regarding how much influence international climate law is truly having on domestic court decisions. Most obviously, a country will not become a party to an international agreement if the ambitions outlined in the agreement are not in line with its own (Bruch 2006, 427). This presents a paradoxical situation: is it IEL that is influencing the decisions of domestic courts, or vice versa? Bruch argues that international law lacks what can be called a "direct effect", meaning countries need to pass domestic legislation to back it up (i.d). Even when this is done, courts often treat principles disseminated from international law into their domestic legislation with less weight than those which originated directly in their country (Van Ert 2002, 378). These factors can make it difficult to ascertain what exactly is shifting legal opinions, both domestically and internationally. The central question of this thesis- how are judges using the precautionary principle to protect endangered species?- requires an understanding of how and why judges are applying international law, in this case the precautionary principle specifically. The focus of this thesis is on how this is playing out in domestic court cases across different jurisdictions, which current research has not fully addressed.

3.2 How extensively are different countries implementing the precautionary principle?

Researchers have examined how the precautionary principle is appearing in the domestic legislation and judicial rulings of countries around the world, both explicitly through the domestic incorporation of treaty obligations and implicitly through legislators adopting the values it proposes. In doing so, they are investigating the extent to which the principle influences

the judicial decisions of countries which are obligated to it or have incorporated it into their legislation. This reflects an ongoing debate regarding the role that the precautionary principle holds in international law; it is unclear whether the principle is firmly established as customary international law, as an emergent soft law obligation, or simply a persuasive idea (Bruch 2006, 432). Commentators also explore whether the precautionary principle is justiciable in domestic courts, arguing that some judges may find it to be beyond their normal jurisdictional responsibilities and thus will not apply it in their decision making (Fisher 2001, 2).

The above-mentioned *Leatch v. National Parks and Wildlife Service* and *Nicholls v. Director-General v. National Parks and Wildlife* are considered strong examples of the Australian Judiciary, and particularly the Land and Environment court of NSW, giving international principles of environmental law domestic recognition (Mason 1996, 27). The first Australian case to meaningfully discuss the precautionary principle in Australia was, in fact, *Leatch v. National Parks and Wildlife Service* (Preston 2006, 40). Clearly the NSW court has had an outsized influence on the judicial embrace of the precautionary principle in Australia. Similar examples at the federal level of Australian courts, however, are less common, which is a gap this research will seek to fill.

Spraytech v. Hudson is often referred to as a critical moment in which the Canadian judiciary pronounced Canada as obligated to follow the precautionary principle. However, it is unclear whether reference to the principle indicates the power of international law, or simply that judges will invoke the principle out of convenience if addressing a contested issue (Van Ert 2002, 378). Commentators have observed that the Canadian Supreme Court often uses international treaties to aid interpretation, but less so because they are "relevant and persuasive" and more so because they are "instrumentally useful or merely interesting" (id.). Nevertheless, *Spraytech*

represents an important moment for the precautionary principle in Canadian law, which has shown up in a host of Canadian environmental law cases in the years following the ruling. *Spraytech also* exemplifies the recent trend of "transnational jurisprudence," as judges cited case law from India which argued that the precautionary principle was a tenet of international customary law to back up their adoption of it in their own case (Bruch 2006, 432).

Debate exists over how extensively the precautionary principle is incorporated into United States law, in particular the ESA. Some scholars view ESA as even more precautionary than the approach advocated in the highly cited Rio Declaration, as the ESA approach compels preventative action where any risks are believed to be likely, while the Rio Declaration definition limits preventative action to cases involving threats of "serious of irreversible damage (Mealey 2005, 192). Others find that, while the ESA does encourage a precautionary approach, agency actions are often not precautionary in practice (Kannan 2006, 436). Finally, some scholars argue that United States environmental law only sporadically includes the principle in practice, instead generally favoring a "neoclassical economic efficiency lens" which prioritizes industry interests (Geiling 2020, 314).

3.3 The precautionary principle and species conservation

A growing body of research recognizes the precautionary principle as a strong tool for species conservation. However, scholars diverge on how to operationalize the principle. Critically, many species face dramatic declines in their habitat and population, but law and policy aimed at protecting them is often precluded by lack of full scientific certainty, regarding the status of species and the risks of a potentially damaging action (Cooney 2005, 3). This is due to the difficulty of assessing the drivers of threats to biodiversity, as well as the potential effects

these drivers may have in short term and long term time frames (id.). Data gaps also exist for many species, as exemplified by the significant lack of data on pollinators, which are in drastic decline worldwide (Drivdal 2021, 95). Collecting enough data to substantiate a scientific consensus about the effects a certain action may have on a species simply takes time, time which can mean the life or death of the species in question. Indeed, some researchers have proposed that the precautionary principle must be applied in such uncertain situations in order to prevent the extinction of species essential to ecosystem functions (Drivdal 2021, 97).

These issues are only heightened in the case of endangered species, which are in the most urgent need of conservation (Nagy 2021, 1). Ultimately, the overwhelming uncertainty surrounding biodiversity loss and the resultant effects of that loss indicate that the precautionary principle could be a powerful tool for the conservation of threatened and endangered species (Myers 1993, 77). However, very little research has directly examined how the precautionary principle can inform the conservation of endangered species, specifically in a legal context. Whether litigation may be an effective way to utilize the precautionary principle towards endangered species protection is an understudied area.

4. Methods

I use qualitative analysis and coding to assess how judges in the United States, Canada, and Australia are utilizing the precautionary principle in their domestic court cases relating to endangered species. I selected these countries for this project because they possess several similar characteristics in their legal structures: each of the countries operates under a common law system, has a federal government, and exhibits dualism in their legal systems (Bruch 2006, 427). Further, rulings from common law countries such as the ones chosen here are lengthy and

detailed, which lends itself well to research into judicial attitudes. The method of comparative analysis used for this thesis aligns with the "functional method," which postulates that institutions are comparable if they fulfill similar functions in different legal systems (Michaels 2005, 4). The legal institutions at the federal level of the United States, Canada, and Australia all fit the criteria of fulfilling similar functions, and thus are apt for comparison.

I collected data for this project through the NexisUni database, which gave me access to judgements in court cases in each of the countries I was examining. I then used the search term "Endangered Species AND Precautionary Principle" to filter for cases from the database which specifically included those terms. I further limited my case sample to those issued after 1992, which was when the CBD entered into force. The CBD was the first moment the precautionary principle was widely disseminated into international law, and thus represents a useful starting point to see how it has been adopted by domestic courts (Christie 1993, 472). Further, I excluded cases argued in specialized courts, including tribunals, land and environment councils, and utilities boards in generalist courts to focus exclusively on cases argued at the federal level of each country in order to follow the functional method of comparison.

I then created a form with questions intended to answer my primary research question: "How are judges in the United States, Canada, and Australia utilizing the precautionary principle in endangered species cases?" (Table 2). I drafted prompts that would yield broad qualitative responses to guide my research. Broader questions included the following: 'What is the broader role of the principle in the argument?', and 'Is the threatened/endangered species a central focus of the case?'. These questions prompted me to examine judges' legal arguments to see how directly they were linking the precautionary principle to endangered species protection, and to note whether the case revolved around this type of concern. More specific questions are listed in

the table below (Table 2). Coding each case with these questions allowed me to determine which cases most directly addressed my research question. Ultimately, my sample yielded 13 Australian cases, 3 United States cases, and 20 Canadian cases in which judges made a strong connection between the precautionary principle and endangered species in their rulings.

Table 2: Questions and potential coding responses.

Specific Questions:	**Answers:**
Case Name?	_____
Judgment Date?	_____
Country?	United States, Canada, Australia
Level of judiciary at which the case was decided?	_____
Types of parties involved in the case?	___ vs. _____
Who "won" the case?	The party advocating for greater species protection OR The party advocating for less species protection
Specific use of the precautionary principle?	Supporting/Against domestic legislation or regulations Supporting/Against government action Supporting/Against private party action
Does the court use the principle for greater species protection?	Yes/ No
Are international agreements, like the CBD, mentioned?	_____
Description of species in the case	___

5. Findings

Through the coding questions presented above, I was able to collect information regarding case outcomes, uses of the precautionary principle, whether international agreements

were referenced, parties involved in the cases, and specific applications of the precautionary principle.

5.1 Case Outcomes

Of the 36 cases where the precautionary principle played a significant role in the legal reasoning, 20 resulted in the group advocating for greater species protection "winning" the case (4/13 Australian cases, 14/20 Canadian cases, and 2/3 US cases) (Fig. 1). The majority of cases in which judges supported the aims of groups seeking to conserve endangered species were in Canadian courts. Conversely, 10 cases resulted in the group advocating for less species protection "winning" the case (6/13 Australian cases, 3/20 Canadian cases, and 1/3 US cases). Groups seeking to protect endangered species saw more unfavorable outcomes in Australian courts than those in the other countries (4/13 positive outcomes in Australian cases, 14/20 in Canadian cases, and 2/3 in US cases). 6 of 36 cases resulted in an "ambiguous" ruling, where the judges' reasoning did not run clearly to the benefit of either side.

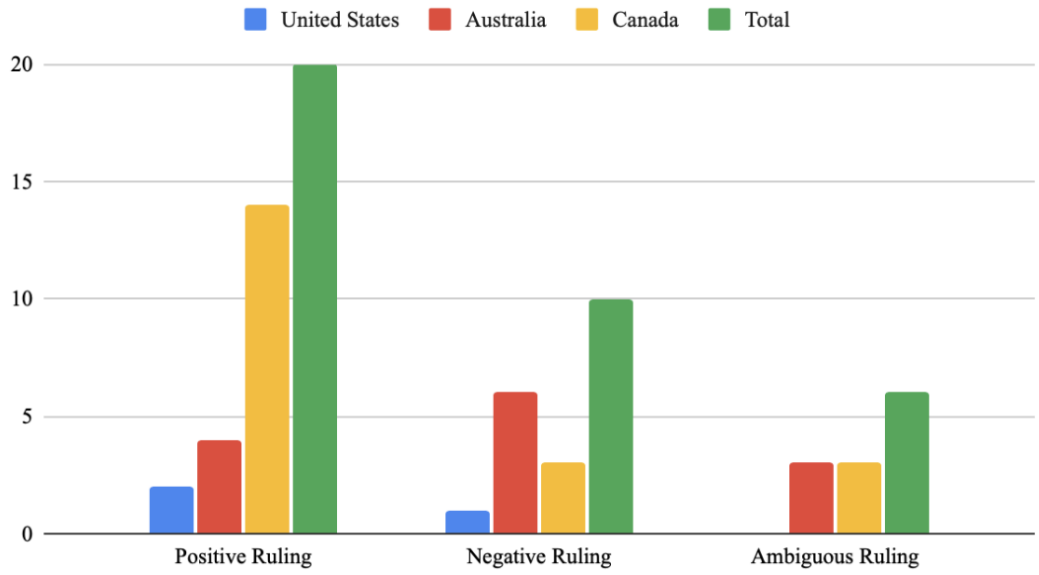


Figure 1: Case outcomes, when precautionary principle invoked.

5.2 Use of the Precautionary Principle

In 19 of 36 cases, the court utilized the precautionary principle towards greater species protection (4/13 Australian cases, 13/20 Canadian cases, and 2/3 US cases). In 12 of 36 cases, the court did not use the precautionary principle to achieve greater species protection (6/13 Australian cases, 5/20 Canadian cases, and 1/3 US cases). 5 of 36 cases resulted in an ambiguous ruling, in which the judge did not utilize the precautionary principle clearly towards greater or lesser species protection. The data here follows a similar trend to that explained in the previous paragraph; judges in Canada linked the precautionary principle to a need for enhanced protection of endangered species more often than those in Australia (13/20 v. 4/13) and in greater volume (14 v. 2) than those in the United States.

5.3 Reference to International Agreements

Among the 36 cases, 19 contained explicit and significant reference to an international agreement with relevance in IEL (Fig. 2). The most commonly cited international agreement was the CBD. 15 out of the 36 cases contained reference to the treaty (5/13 of the Australian cases, 10/20 Canadian cases, and 0/3 US cases). The data here shows that Canadian courts commonly reference the CBD in cases involving the precautionary principle, while Australian courts did less frequently. Other international agreements referenced were the Bergen Declaration (6/36 references, all from Canada), CITES, the World Heritage Agreement, the APIA Convention, and the Migratory Bird Conservation Agreement.

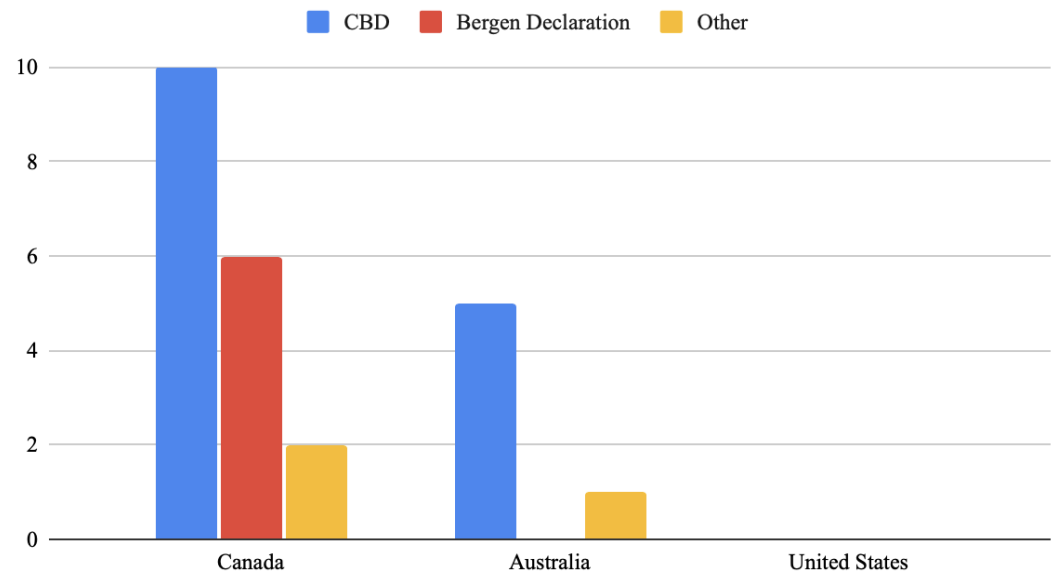


Figure 2: Reference to international agreements, by jurisdiction.

5.4 Parties Involved in the Cases

I grouped the results for this question into applicants and respondents. The majority of the applicants were environmental groups: 20 out of 36 cases involved environmental groups challenging other entities in court (5/36 of these instances were in Australian courts, 12/36 in Canadian courts, and 3/36 in US courts). The second largest grouping of applicants was private parties (6/36 from Australia and 1/36 from Canada). First nations comprised the third largest group of applicants, 3/36, of which all originate in Canada. 2/36 of the applicants were governments, one instance Canadian and one instance Australian. 1/36 of the applicants is an Australian state-owned company (Vicforests), 1/36 a Canadian city, and 1/36 a real estate developer.

The majority of the respondents were governments or governmental agencies, 29/36 (8/36 of the respondents were the Australian government, 18/36 the Canadian government, and

3/36 the US government). Other respondents include an environmental group (1/36), state owned businesses (2/36), a group of eight youths (1/36), and a private party (1/36).

5.5 Specific Applications of the Precautionary Principle

The first category of use for the precautionary principle I sought out was whether it was used in support of government action or against government action. In 12 out of the 36 cases, the principle was leveraged in support of government action, such as to show that the government was in compliance with the principle (6/13 Australian cases exhibited this, while 5/20 Canadian cases and 1/3 US cases did so). In 15 of the 36 cases, the precautionary principle was used against government action, or to demonstrate that the government was out of step with the principle in a specific activity (this includes 3/13 Australian cases and 13/20 Canadian cases). Of note here is the significant volume of Canadian cases in which judges found that the government was failing to adhere to the precautionary principle.

Secondly, I examined whether the principle was used in support of or against private party action. In other words, did courts find that private parties were in compliance with the precautionary principle, or did they find private parties failing to adhere to it? Only 3/36 cases involved the principle being used to support private party action, all of which are Australian. Conversely, 4/13 Australian cases saw private parties out of step with the principle, while 2/20 Canadian cases did so.

Thirdly, I examined whether the principle was used in support of domestic laws and regulations, or whether it was used against domestic laws and regulations. I sought to test whether judges found that domestic legislation was in compliance with the precautionary principle, or whether they found legislation out of compliance with it. 5/36 cases exhibited

judges reasoning that domestic legislation and regulations were in step with the precautionary principle, while 3/36 found domestic laws to be out of step with the principle.

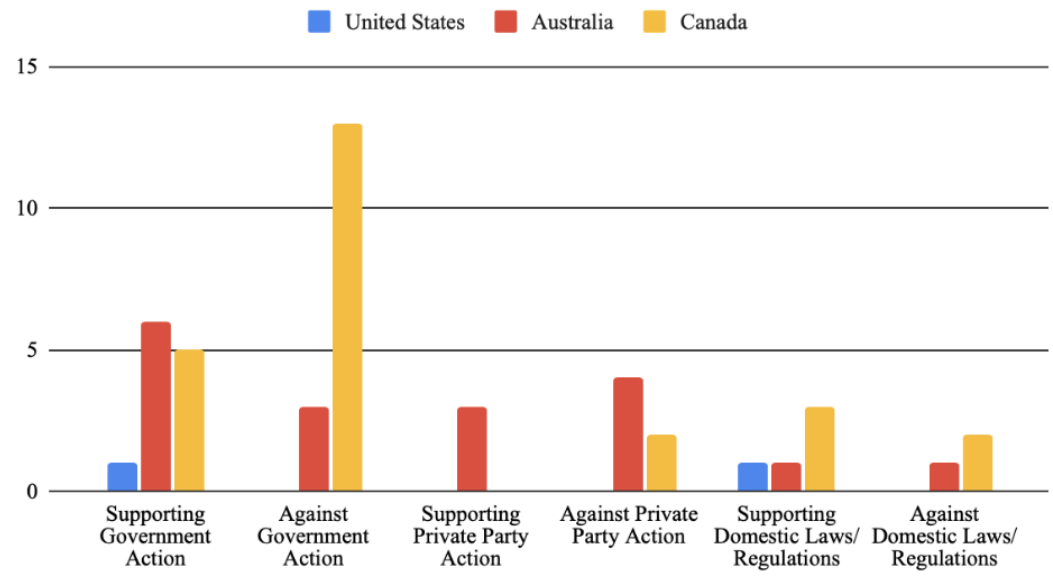


Figure 3: Specific use of precautionary principle, by case.

6. Discussion

Through investigating cases in the United States, Canada, and Australia in which judges utilize the precautionary principle towards the protection of endangered species, I present three main conclusions. Firstly, I find that many judges are using the precautionary principle as a central component of their legal reasoning, but deriving more authority from domestic legislation which incorporates the principle than from international treaties or customs. This informs existing research about the linkage between principles of IEL and domestic litigation, as well as research examining why judges use IEL. Secondly, I find that judges perceive a role for the precautionary principle in the protection of endangered species. This indicates that litigants may

be able to integrate the principle into their lawsuits advocating for endangered species. Finally, I identify an unusually receptive environment in Canada towards using the precautionary principle for endangered species protection. This research suggests that differences in legal cultures will shape how the precautionary principle can be leveraged in endangered species lawsuits, and more broadly how the fight to protect biodiversity with international law principles will play out unevenly across different jurisdictions.

6.1 Judicial use of the precautionary principle

Cases in Canada and Australia paint a clear picture: judges are using the precautionary principle in a plethora of ways, finding obligations through their treaty commitments, through its status as customary international law, and most directly through domestic laws which incorporate the principle. Further, these references fulfill several of the categories of judicial reference of IEL, as identified by Bruch: (upholding/voiding government action, upholding/ voiding domestic legislation, upholding/voiding private party action). Bruch has indicated that IEL often occupies a tenuous position, as it lacks power unless countries join the agreement disseminating it and pass legislation giving it backing in their own systems (Bruch 2006, 423). The precautionary principle is to some a firm principle of customary international law, to others more of a "soft law," useful only for rhetorical purposes (Bruch 2006, 450). The many ways the principle was used in the cases examined in this project indicate that judges find themselves obligated to varying degrees and integrate it into their legal arguments accordingly.

The high frequency (50%) of Canadian cases citing the CBD and the Bergen Declaration directly points to the influence that treaties, both of which Canada is a part of, bear upon the dissemination of the precautionary principle. The judge in *Environmental Defense Canada v.*

Canada (Minister of fisheries and oceans) demonstrated this connection succinctly: "Canada has ratified the United Nations Convention on the Conservation of Biological Diversity (the Convention) and, therefore, is committed to apply its principles." (*Environmental Defense Canada v. Canada (Minister of fisheries and oceans)* 2010, 22).

The judge in *Bancroft v. Nova Scotia* went a step further than those in other cases, arguing that "Scholars have documented the precautionary principle's inclusion 'in virtually every recently adopted treaty and policy document related to the protection and preservation of the environment' and by extension that there may be 'currently sufficient state practice to allow a good argument that the precautionary principle is a principle of customary international law'"(*Bancroft v. Nova Scotia* 2020, 13).

These findings support literature examining the increasing influence of IEL on domestic litigation. Much like in cases such as *Urgenda v. State of the Netherlands* and *Leghari v. Federation of Pakistan*, many judges in cases relevant to this project found an explicit obligation to follow standards set in international treaties, and they compelled their countries to do so through judicial order (Barritt 2020, 296). This was seen most consistently through judges in Canada and Australia finding obligations under the precautionary principle through their countries' commitments to the CBD, as well as in Canada through commitments to the Bergen Declaration. A case like *Bancroft v. Nova Scotia,* in which the judge used the precautionary principle as a foundation for protecting endangered species, and incorporated it into his legal argumentation as a source of rhetorical backing, parallels the ways in which the court in *Urgenda* utilized principles of IEL which were not legally binding in their arguments. From this, it can be extrapolated that judges are using IEL in both a direct sense, through commitments set in

international treaties their countries signed on to, and indirectly, by using principles of IEL as a moral foundation.

The frequency with which judges sourced authority for the precautionary principle through domestic legislation, however, indicates that the greatest influence of the principle on endangered species litigation results when it is incorporated into the laws of a country. In the cases studied, both Canada and Australia had passed legislation implementing treaties which incorporate the precautionary principle. One judge in *Bancroft v. Nova Scotia* indicated that the precautionary principle may be part of customary international law, but the majority found their main source of authority for the principle through their domestic legislation.

The judge in *Athabasca Chipewyan First Nation v. Canada (Minister of the Environment)* found obligations to the principle under the Species at Risk Act (SARA), stating that "section 38 of the SARA codifies the precautionary principle that 'cost-effective measures to prevent the reduction or loss of [a] species should not be postponed for lack of full scientific certainty'"(*Athabasca Chipewyan First Nation v. Canada (Minister of the Environment)* 2011, 15). Similarly, the judge in *Brown v. Forestry Tasmania* reflected that the precautionary principle is "fundamentally enmeshed in Australia's environmental policies" (*Brown v. Forestry Tasmania* 2006, 24). In a related but separate vein, the judge in *Sierra Club Canada v. Ontario* described the principle as common throughout Canadian legislation. He noted that the principle is in the preamble of the Canadian Endangered Species Act, but thought it to be more of a moral framing device than a concrete obligation (*Sierra Club Canada v. Ontario*, 2011). These findings suggest that the precautionary principle may prove most influential if it is a part of domestic legislation, as incorporated from a treaty, rather than as a foundational principle of international law.

Despite the small number of United States cases found in this study which directly link endangered species protection to the precautionary principle (3/36), United States courts still oversee a significant amount of litigation on behalf of endangered species through the ESA, which has integrated a precautionary approach (Mealey 2005, 192). This again supports a finding that judges see the precautionary principle as most applicable to their cases if it derives from domestic law. United States judges generally did not use the phrasing "precautionary principle" in their legal arguments in cases gathered for this thesis, as the principle is not part of United States legislation. However they do reference "precaution" and a "precautionary approach", phrasing which is common through the ESA. This points to a general trend of international principles indirectly influencing the decision making of some judges, as a source of moral rhetoric integrated into domestic legislation rather than through an explicit obligation to follow international law.

6.2 The precautionary principle and endangered species

The significant number of cases in which judges in Canada and Australia linked the precautionary principle to the protection of endangered species indicates that judges see a clear role for it in biodiversity conservation, and by extension that judges may be receptive to litigation strategies which use the precautionary principle (as framed in international agreements like the CBD and Bergen Declaration) as rhetorical backing for endangered species protection. These findings support current research hypothesizing that the uncertainty surrounding biodiversity loss makes the precautionary principle a strong fit for species protection (Myers 1993, 77), and they expand the current literature beyond species conservation in general to endangered species conservation more specifically, showing that the precautionary principle can

be a strong legal tool for protecting endangered species. Further, cases like *Athabasca Chipewyan First Nation v. Canada (Minister of the Environment)* and *Brown v. Forestry Tasmania* underscore that, when arguing for endangered species protection, it is useful to utilize the precautionary principle in tandem with existing endangered species legislation, as judges find the principle to be complementary to such legislation.

The jurisdiction most receptive to legal arguments linking the precautionary principle to endangered species protection seems to be Canada. In 13/20 Canadian cases where the principle and endangered species played a central role, a judge ruled in favor of greater protective measures for the species. Canadian cases also had the highest success rate of the group advocating for greater species protection "winning" the case (14/20), indicating further that Canadian judges may be more receptive to this sort of argumentation.

Litigants may have a harder time using the precautionary principle in their legal strategies for endangered species conservation in Australia, as judges in that jurisdiction saw less of a role for the precautionary principle in species conservation as a whole. Nevertheless, the 4/13 cases in which the group advocating for greater species protection "won" the case, as well as the 4/13 cases in which the court used the precautionary principle towards greater species protection indicate some degree of promise for litigants using this strategy in Australia. Additionally, an interesting contrast exists between the federal level and specialized courts like the Land and Environment Council of NSW. Unlike the cases in this study, which were limited to those at the federal level of each country, the NSW court is well known for ruling in favor of species protection while using the precautionary principle as a central aspect of its legal argumentation (Preston 2006, 40). One reason for this may be that the NSW court is specialized in hearing

environmental issues, specifically those pertaining to biodiversity, and thus may hear a greater volume of cases relevant to endangered species and the principle than courts at the federal level.

The high number of applicants in the cases examined being environmental groups (20/36) further supports the notion that judges may be receptive to litigants choosing to invoke the precautionary principle in their arguments for endangered species. The most likely type of applicant to utilize this type of argument are environmental groups, as such groups bring forward the majority of complaints regarding endangered species protection. Further, these findings align with two of Bruch's categories of why judges use IEL: to void domestic legislation and against government action (Bruch 2006, 429-430). Environmental groups seeking to utilize the precautionary principle to argue against government decisions which imperil endangered species, thus, may find judges in Australia and Canada receptive to it.

6.3 The Canada Puzzle

Perhaps the most striking finding of the research conducted for this project is the relatively high rate of success of endangered species cases linked to the precautionary principle in Canada when compared to Australia and the United States. The majority of cases in Canada linking these two concepts were successful, while the majority of such cases in Australia were not and United States cases failed to invoke the precautionary principle, specifically. Judges in Canada are clearly more receptive to the precautionary principle being used to protect endangered species, a receptivity that deserves a deeper analysis.

The receptivity of Canadian judges to such arguments may derive from sentiments about nature in Canada at large, as expressed by the judge in *Ontario v. South Bruce Peninsula*, who demonstrated a high regard for species conservation when he stated "In Ontario, our native

species are a vital component of our precious natural heritage. The people of Ontario wish to do their part in protecting species that are at risk, with appropriate regard to social, economic and cultural considerations. The present generation of Ontarians should protect species at risk for future generations" (*Ontario v. South Bruce Peninsula* 2021, 6).

As discussed previously, the seminal case *Spraytech v. Hudson* may play a role in Canadian receptiveness to arguments linking the precautionary principle to endangered species protection as well. This case serves as the chief precedent for obligations to the precautionary principle in Canada; it was the first moment in which the Canadian judiciary found the precautionary principle to be an obligation of law under the Bergen Declaration (Van Ert 2002, 2). Cases analyzed in this project that explicitly referenced *Spraytech v. Hudson* include *Bancroft v. Nova Scotia*, *Centre Québécois du droit de l'environnement v. Canada*, *Environmental Defense Canada v. Canada (Minister of fisheries and oceans)*, and *Pembina Institute for Appropriate Development v. Canada (Attorney General)*. Judges in these examples referenced the *Spraytech* precedent as a basis for why the precautionary principle was necessary to apply in their cases. This indicates that the precautionary principle is a firm aspect of Canada's legal culture, and judges often find themselves beholden to following it in their decisions. Ultimately, however, examining this question in its entirety is beyond the scope of this thesis.

7. Conclusion

This thesis examined how judges are using the precautionary principle to protect endangered species in the United States, Canada, and Australia, offering an initial indication that judges in certain jurisdictions are receptive to arguments which tie the principle to endangered

species protection, and suggests that litigants may be able to use this legal strategy to some effect. Several future directions exist which could broaden the scope of these findings.

Firstly, this study only focused on the legal opinions by judges in the cases in question. An analysis of how litigants are using the precautionary principle in their legal arguments presented to judges, and how often judges accept the principle when it is directly presented by parties in a case, would further illuminate how best to frame lawsuits arguing for endangered species protections with the principle. Since this study focused on a large volume of cases a deep analysis of each case was not possible within the time frame provided. Future studies may focus on a smaller sample size of cases in order to more deeply examine legal argumentation strategies using the principle.

Secondly, this study was limited to federal-level cases in United States, Canadian, and Australian generalist courts. Examining how other jurisdictions are approaching arguments which use the precautionary principle to conserve endangered species is merited, as is investigating how different levels of the judiciary are responding to such cases. Briefly mentioned above is the difference in receptivity to the principle between the federal level of Australian courts and the NSW court. This difference also merits future study, as does research into whether judges are forming a "transnational jurisprudence" in relation to using the precautionary principle for endangered species protection.

Finally, this study suggested that litigants may find a legal culture in Canada which is uniquely supportive of endangered species cases which involve the precautionary principle. Why this is the case necessitates a deeper look into differences in legal cultures and a deep dive into attitudes towards environmental lawmaking and conservation in Canada in contrast to other common law countries.

This study concludes that there is an opportunity for parties which wish to advocate for the protection of endangered species through courts to use the precautionary principle as part of their legal strategies. As judges become more receptive to using principles of IEL in their rulings, litigants should respond accordingly and implement these principles into their lawsuits. The result may be a truly global jurisprudence aimed at conserving endangered species.

Works Cited:

Affolder, Natasha. 2019. “Contagious Environmental Lawmaking.” *Journal of Environmental Law* 31 (2): 187–212. doi:10.1093/jel/eqz011.

Barritt, Emily. 2020. “Consciously Transnational: Urgenda and the Shape of Climate Change Litigation: The State of the Netherlands (Ministry of Economic Affairs and Climate Policy) v Urgenda Foundation.” *Environmental Law Review* 22 (4): 296–305. doi:10.1177/1461452920974493.

Bruch, Carl. 2006. “Is International Environmental Law Really “Law”?” An Analysis of Application in Domestic Courts.” *Pace Environmental Law Review 23:* 423-463

Christie, Edward. 1993. “The Eternal Triangle: The Biodiversity Convention, Endangered Species Legislation, and the Precautionary Principle.” *Environmental and Planning Law Journal*: 470-485

Cooney, Rosie, and Barney Dickson. 2005. *Biodiversity and the Precautionary Principle : Risk and Uncertainty in Conservation and Sustainable Use*. Earthscan. https://coloradocollege.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat07660a&AN=cclc.661134&site=eds-live.

Ert, Gibran van. 2002. “The Problems and Promise of Spraytech v. Hudson.” *Canadian Yearbook*

of International Law/Annuaire Canadien De Droit International 39: 371–85. doi:10.1017/S0069005800007608.

Fisher, Elizabeth. 2001. "Is the Precautionary Principle Justiciable?" *Journal of Environmental Law* 13 (3): 315–34 https://coloradocollege.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.44248333&site=eds-live.

Geiling, Natasha. 2020. "Can the Precautionary Principle Save the Endangered Species Act from an Uncertain Climate Future?" *Ecology Law Quarterly* 47 (2): 305–38. doi:10.15779938DR2P90N.

Habibullah, Muzafar Shah, Badariah Haji Din, Siow-Hooi Tan, and Hasan Zahid. 2022. "Impact of Climate Change on Biodiversity Loss: Global Evidence." *Environmental Science and Pollution Research* 29 (1): 1073–86. doi:10.1007/s11356-021-15702-8.

Kannan, Phillip. 2007. "The Precautionary Principle: More Than a Cameo Appearance in United States Environmental Law?" *William and Mary Environmental Law and Policy Review 31*. 409-458.

Lavrik, Maksim. 2022. "Customary Norms, General Principles of International Environmental

Law, and Assisted Migration as a Tool for Biodiversity Adaptation to Climate Change." *Jus Cogens: A Critical Journal of Philosophy of Law and Politics*, January, 1–31. doi:10.1007/s42439-022-00055-8.

Mason, Anthony. 1996. "The Influence of International and Transnational Law on Australian Municipal Law." *Public Law Review 7*: 20-32

Michaels, Ralf. 2019. *The Functional Method of Comparative Law*. Oxford Handbooks. Oxford University Press. doi:10.1093/oxfordhb/9780198810230.013.11.

Nagy, Reis, Mariana, Melanie Dickie, Anna M. Calvert, Mark Hebblewhite, Dave Hervieux, Dale R. Seip, Sophie L. Gilbert, et al. 2021. "Habitat Loss Accelerates for the Endangered Woodland Caribou in Western Canada." *Conservation Science & Practice* 3 (7): 1–16. doi:10.1111/csp2.437.

Peel, Jacqueline, and Hari M. Osofsky. 2018. "A Rights Turn in Climate Change Litigation?" *TRANSNATIONAL ENVIRONMENTAL LAW* 7 (1): 37–67. doi:10.1017/S2047102517000292.

Preston, Brian J. 2005. "The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific." *Asia Pacific Journal of Environmental Law* 9 (2/3): 109–211.

https://coloradocollege.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=25533699&site=eds-live.

Puckett, Emily E., Dylan C. Kesler, and D. Noah Greenwald. 2016. "Taxa, Petitioning Agency, and Lawsuits Affect Time Spent Awaiting Listing under the US Endangered Species Act." *Biological Conservation* 201 (September): 220–29. doi:10.1016/j.biocon.2016.07.005.

Wilcove, David S., and Lawrence L. Master. 2005. "How Many Endangered Species Are There in the United States?" *Frontiers in Ecology & the Environment* 3 (8): 414–20. doi:10.1890/1540-9295(2005)003[0414:HMESAT]2.0.CO;2.

Yang, Tseming, and Robert V. Percival. 2009. "The Emergence of Global Environmental Law." *Ecology Law Quarterly* 36 (3): 615–64. https://coloradocollege.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.44320323&site=eds-live.

Cases/ Treaties Cited:

Athabasca Chipewyan First Nation v. Canada (Minister of the Environment), 2018 FC 465.

Bancroft v. Nova Scotia, [2005] 1 SCR 97.

Brown v Forestry Tasmania [2006] FCA 1725.

Centre Québécois du droit de l'environnement v. Canada (Attorney General), 2018 FC 964.

Environmental Defense Canada v. Canada (Minister of Fisheries and Oceans), [2013] 3 SCR 467.

Leghari v. Federation of Pakistan, PLD 2015 SC 564.

Leatch v National Parks and Wildlife Service [2019] HCA 38.

Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992).

Massachusetts v. EPA, 549 U.S. 497 (2007).

Nicholls v Director-General of National Parks and Wildlife, [2017] NSWSC 1669.

Northern Spotted Owl v. Hodel, 853 F.2d 1 (9th Cir. 1988).

Pembina Institute for Appropriate Development v. Canada (Attorney General), 2008 FC 143.

Sierra Club Canada v. Ontario, 2016 ONSC 1626.

Spraytech v. Hudson, [2001] 1 SCR 824.

Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

Urgenda Foundation v. The State of the Netherlands, (Case No. C/09/456689/HA ZA 13-1396, The Hague Dist. Ct. June 24, 2015).

IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). 2019. Global Assessment Report on Biodiversity and Ecosystem Services of the

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). Bonn, Germany: IPBES secretariat. 15.

Convention on Biological Diversity, 5 June 1992, 1760 UNTS 79.

Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1973, 993 UNTS 243.

United Nations Conference on Environment and Development. Rio Declaration on Environment and Development, 3-14 June 1992, Rio de Janeiro, Brazil.