

Mary Repar

My comments and a support document for my comments are attached. Please let me know if you have problems with the documents. Thank you.

Mary Repar

**Mary J. Repar  
P.O. Box 103  
Stevenson, WA 98648  
Tel: (360) 726-7052**

31 October 2019

Washington Department of Fish and Wildlife  
Lisa Wood, SEPA/NEPA Coordinator,  
WDFW Habitat Program, Protection Division  
P.O. Box 43200  
Olympia, WA 98504

**Ref: Comments on the preparation of a draft Environmental Impact Statement for the recovery plan for wolves in Washington; including, the Precautionary Principle, De minimis non curat lex law,, and Cumulative Impacts and Effects, wolves and the Trophic Cascade Effect; (comments to be submitted to <http://wdfw.commentinput.com/?id=xDgH8>, by Nov. 01, 2019)**

To: Washington Department of Fish and Wildlife  
Lisa Wood, SEPA/NEPA Coordinator,  
WDFW Habitat Program, Protection Division

I have never been a fan of the word “manage” when it comes to humans and Nature. We cannot “manage” our own human societies and suddenly we are “managing” Nature and her processes, processes that we do not fully, or in some cases have not even begun to, understand. It is hubris of the most fatal kind to think that we can “manage” Nature. The best that we can, and should, hope for is that we humans learn to live in Harmony and Balance with the Planet and all its populations, both sentient and not. Take the word “manage” out of this issue and let us see what we can accomplish with more clarity and thoughtfulness. Use the word “BALANCE” instead of manage. That would be a great starting point.

**Proposal: Take the word “manage” out of this process and use the word “Balance.”**

### **Summary of Proposals**

- 1. Proposal: Take the word “manage” out of this process and use the word “Balance.”**
- 2. Proposal: Use the Precautionary Principle in any future attempts to restore ecosystem balance by reintroducing more wolves into any ecosystem.**
- 3. Proposal: Cattle should not be on public lands. If cattle are allowed to graze on public lands then owner(s) must be made aware that there will be losses due to wolf predation and that wolves (and other predators) will not be killed to prevent livestock predation. Educational programs for minimizing wolf predation of cattle/sheep are needed. Programs to minimize wolf—prey and wolf-human interactions are well known and should be introduced as needed. We are spending millions on reintroducing wolves**

into various ecosystems and then when cows are killed for food by predators, humans kill off whole packs to satisfy a private enterprise's bitching, and agencies that should be operating on science-based criteria cave to political pressure. Can't we institute some programs of restitution for actual wolf kills? Politics should not be part of the process. Those who use public lands must learn that they are not the top predator in the ecosystem. Wolves (among other apex predators, i.e., grizzlies) have the priority in the restoration of balance to ecosystems.

4. **Proposal:** Therefore, we must look at, and analyze, all the actions and activities, that is cumulative impacts/effects, of human activities that contribute to loss of habitat, degradation of habitat, habitat fragmentation, loss of habitat connectivity, loss of ecosystem biodiversity, etc., when we attempt to bring Balance and Harmony into existing environments and ecosystems by reintroducing a apex predator or predators.
5. **Proposal:** That the law of De Minimis Non Curat Lex and the way it is used in attempts to derail wolf recovery and to bring balance into the ecosystems inhabited by this apex predator be updated to reflect the fact that de minimis applications have cumulative impacts, often these cumulative impacts are lethally detrimental to wolves.
6. **Proposal:** That forestry practices be reviewed and investigated so that best available science applications can be used to increase wolf habitat(s), restore degraded habitats, and create "green corridors" for wolf (and other wildlife) migrations.
7. **Proposal:** Buffers should also be used to minimize human-wildlife interactions. These buffers should be multi-layered so that buffer protection of the green corridor is a gradient that increases protections the further it exists from humans and their habitations.
8. **Proposal:** The science of the Trophic Cascade Effect should be used to help us in our efforts to encourage balance in any ecosystem into which wolves (or other apex predators) are introduced. We have to try to understand the processes of all the ecological phenomena that are triggered by the addition or removal of top predators, and we have to understand all the phenomena involved in reciprocal changes in the relative populations of predator and prey through any pertinent food chain, which can often result in dramatic changes in ecosystem structure and nutrient cycling. Understanding the Food Chain and the Web of Life are critical to our comprehension of how our world works and how we humans fit into its processes. We humans are not outside these processes. We must learn to balance ourselves in the processes that make our world possible.

### **Precautionary Principle<sup>1</sup>**

The **Precautionary Principle** ("Principle") is one good place to start when we consider any human actions that would affect Nature and natural processes. The Precautionary Principle, in its simplest form, tells us "First, Do No Harm." There are disagreements about what this may mean but I propose that in the case of wolves and our environment, the Principle should be that we

---

<sup>1</sup>The Precautionary Principle: Definitions, Applications and Governance, European Parliamentary Research Service, Author: Didier Bourguignon, Dec 2015—PE 573.876

humans have done so much harm to wolf populations over the years<sup>2</sup> that we must now do all we can to return balance to the ecosystem without trying to control and “manage” the process. First, do no harm. The Center for Biological Diversity, estimates that some 2,000,000—that is, TWO MILLION--wolves lived in N. America. How many were in WA State alone can only be guesstimated but “Historically, gray wolves were common throughout much of Washington, but numbers began to decline as human populations increased in the latter half of the 1800s. Encouraged by high prices for hides, bounties, and government sponsored predator control programs, wolves were believed to be extirpated from Washington by the 1930s.”<sup>3</sup>

So, we humans managed to extirpate-- root out and destroy completely—the entire wolf population of WA State. Today, WDFW “estimates at least 126 wolves and 27 packs were living in Washington by the end of 2018.” We exterminated all the wolves from WA State by the 1930’s and now have 126 wolves living in WA State. I think we can all agree that there were many more than 126 wolves living in WA State before the extermination by humans.

Let me see how this goes: We exterminated all the wolves and caused irreparable harm to WA’s ecosystems and now we are trying to put wolves back to work as one of the apex predators necessary to balance the system and its processes but we humans want to control the process because we will be, and would be, inconvenienced if the process was allowed to unfold naturally with minimal interference from humans.

**Proposal: Use the Precautionary Principle in any future attempts to restore ecosystem balance by reintroducing more wolves into any ecosystem.**

### **De Minimis Non Curat Lex Law and Cumulative Impacts**

For too long we humans have used the idea of minimal harm, the concept of **de minimis non curat lex**—that states that the law does not concern itself with trifling matters, to do what we want and when we want, and we have applied this de minimis law so many times to wolf matters that we managed to exterminate all wolves in WA State. As if all these minimal actions and activities— hunting wolves, killing their cubs, letting ranchers shoot them if they allegedly or even do kill cattle, killing off packs, killing breeding pairs, etc., etc., etc., didn’t have fatal impacts on wolves and the ecosystems they occupy, in WA State. All these actions and activities add up to cumulative impacts and effects.<sup>4</sup> And, they are not cumulatively de minimis. The harm done to wolves, and by extension, to the environment in which they live, the ecosystems that they co-habit with other species, has been long and deep and the cumulative impacts will be felt for many generations.

---

<sup>2</sup> **America’s Gray Wolves** Wolves once roamed freely throughout North America, in numbers estimated at some 2 million. But federal extermination programs and conflicts with human settlements have reduced their numbers to the breaking point. [https://www.biologicaldiversity.org/campaigns/gray\\_wolves/](https://www.biologicaldiversity.org/campaigns/gray_wolves/)

<sup>3</sup> <https://www.fws.gov/wafwo/Documents/GraywolvesinWashingtonfinalJune2017.pdf>

<sup>4</sup> <https://komonews.com/news/local/washington-state-to-kill-more-wolves-to-protect-cattle> and <https://www.theguardian.com/us-news/2019/aug/19/washington-outcry-after-last-four-wolves-in-pack-killed-by-state-hunters>

There are many non-lethal<sup>5</sup>, scientifically proven strategies to minimize wolf predation of prey animals. (Although some of the studies are sheep-based, it does not negate the effectiveness of the strategies.) It will take education and adjustment on the part of humans who will have to learn to co-exist with wolves.

**Proposal: Cattle should not be on public lands. If cattle are allowed to graze on public lands then owner(s) must be made aware that there will be losses due to wolf predation and that wolves (and other predators) will not be killed to prevent livestock predation. Educational programs for minimizing wolf predation of cattle/sheep are needed. Programs to minimize wolf—prey interactions are well known and should be introduced as needed. We are spending millions on reintroducing wolves into various ecosystems and then when cows are killed for food by predators, humans kill off whole packs to satisfy a private enterprise’s bitching, and agencies that should be operating on science-based criteria cave to political pressure. Can’t we institute some programs of restitution for actual wolf kills? Politics should not be part of the process. Those who use public lands must learn that they are not the top predator in the ecosystem. Wolves (among other apex predators, i.e., grizzlies) have the priority in the restoration of balance to ecosystems.**

It is time that we also understand how this law affects environmental degradation when the use of de minimis law results in cumulative impacts.<sup>6</sup> Cumulative effects, also referred to as cumulative environmental effects and cumulative impacts, can be defined as changes to the environment caused by the combined impact of past, present, and future human activities and natural processes.

It is way past time to do in-depth and science-based cumulative impacts analyses (and some have been done) on wolves and their place in the web of Life that exists in any ecosystem. All things interact with each other in Nature. No species exists on its own. Except humans who seem to think that they are not part of the chain of Life and that they will not be affected by the destruction of habitats and loss of species. Everything is interconnected and if we don’t understand those connections we humans can, and do, irreparable harm to ecosystems and species.

Although the article “Ancient Maxim, Modern Problems: De Minimis, Cumulative Environmental Effects and Risk-Based Regulations,” by Martin Z.P. Olszynski, addresses how de minimis non curat lex should be applied to Canadian environmental law, it is and should be applicable to our American laws. The article “...argues that the prevailing conception of de minimis as a single-step test concerned only with the magnitude of environmental harm in isolation is incorrect; rather, the foundational jurisprudence points to a two-step test that considers the potential for cumulative effects. This Part also examines recent developments in cumulative effects assessment and the emerging paradigm of risk-based regulation in order to shed some modern light on this ancient

---

<sup>5</sup> Adaptive use of nonlethal strategies for minimizing wolf–sheep conflict in Idaho; Suzanne A. Stone, Stewart W. Breck, Jesse Timberlake, Peter M. Haswell, Fernando Najera, Brian S. Bean, Daniel J. Thornhill *Journal of Mammalogy*, Volume 98, Issue 1, 8 February 2017, Pages 33–44, <https://doi.org/10.1093/jmammal/gyw188> Published: 02 February 2017

<sup>6</sup> Olszynski, Martin. (2015). Martin Z.P. Olszynski, “Ancient Maxim, Modern Problems: De Minimis, Cumulative Environmental Effects and Risk-based Regulation” (2015) 40(2) *Queen's L. J.* 705. *Queen's law journal.* 40. 705.

maxim's application. The article concludes by considering the implications of applying de minimis in this way for regulators, industry and the public." (See footnote #6)

**Proposal: Therefore, we must look at, and analyze, all the actions and activities, that is, cumulative impacts/effects, of human activities that contribute to loss of habitat, degradation of habitat, habitat fragmentation, loss of habitat connectivity, loss of ecosystem biodiversity, etc., when we attempt to bring Balance and Harmony into existing environments and ecosystems by reintroducing a apex predator or predators.**

**Proposal: That the law of De Minimis Non Curat Lex and the way it is used in attempts to derail wolf recovery and to bring balance into the ecosystems inhabited by this apex predator be updated to reflect the fact that de minimis applications have cumulative impacts, often these cumulative impacts are lethally detrimental to wolves.**

For example, **Cumulative Impact and Effects** should be included in forestry practices and how forestry practices affect wolves: "Understanding the relationships between animals and their environment in systems undergoing rapid changes has significant conservation value (Pickens and Root 2009). We showed that habitat selection by wolves in boreal ecosystems is a complex response to both natural and anthropogenic habitat features and that this response operates at multiple hierarchical levels. The influence of roads and cutblocks on wolf distribution varies spatially, depending on the local abundance of these habitat features across the home range (HR level). The average road density and cutblock abundance could not generally explain interpack differences in the overall selection of these features (inter-HR level), except during the denning period when only wolf packs with home ranges comprised of at least 3% of recent cutblocks selected these blocks. Our study thus highlights the hierarchical nature of cumulative effects of forestry on wolf habitat selection. By neglecting the consideration of cumulative impacts of human activities on landscape use by wolves, erroneous conclusions about the influence of anthropogenic disturbance on wolf distribution could be drawn. Effective management of wolf habitat in human-altered landscapes thus requires the consideration of cumulative effects."<sup>7</sup>

**Proposal: That forestry practices be investigated so that best available science applications can be used to increase wolf habitat(s), restore degraded habitats, and create "green corridors" for wolf migrations.**

**Proposal: Buffers should also be used to minimize human-wildlife interactions. These buffers should be multi-layered so that buffer protection of the green corridor is a gradient that increases protections the further it exists from humans and their habitations.**

Cumulative impacts<sup>8</sup> result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis. While impacts can be differentiated by direct, indirect, and cumulative, the concept of cumulative impacts

---

<sup>7</sup> Cumulative effects of forestry on habitat use by gray wolf (*Canis lupus*) in the boreal forest  
Me'lina Houle • Daniel Fortin • Christian Dussault • Re'haume Courtois • Jean-Pierre Ouellet  
Received: 18 August 2008 / Accepted: 10 October 2009\_ Springer Science+Business Media B.V. 2009

<sup>8</sup> 40 CFR § 1508.7

takes into account all disturbances since cumulative impacts result in the compounding of the effects of all actions over time. Thus, the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community of that action and all other activities affecting that resource no matter what entity (federal, non-federal, or private) is taking the actions.<sup>9</sup> Consistent with the CEQ regulations (CEQ, 1987), effects and impacts are used synonymously in the guidance.

Although the Cumulative Impacts Handbook<sup>10</sup> applies to NEPA, it is a document filled with very useful and timely information that should be, I believe, used in State level SEPA Checklists. We do not need to reinvent science when it works in many different situations.

### **Trophic Cascade Effect**

Why are wolves so necessary to ecosystems? Wolves are part and parcel of the Chain of Life, the Web of Life, and whatever else we want to call the wildlife, the plants, the vertebrates, the invertebrates, fungi, etc., that makes up Life on our planet Earth. Wolves have been recognized as a keystone species necessary to the balance of ecosystems.

In 2016 testimony before the U.S. House of Representatives, Stephen Guertin, Deputy Director for Policy, U.S. Fish and Wildlife Service, U.S. Department of the Interior<sup>11</sup>, stated: “The ESA has been successful for wolves. Extinction in the lower 48 states was averted and the long, sustained work of recovery—along with state, local, tribal, and other Federal partners—has produced thrilling successes. The ESA provides the Service with management flexibilities that have proven vital in furthering the recovery of wolves, including the designation of nonessential experimental populations under section 10(j) of the law. With a nonessential experimental population, the Service is able to introduce a population with flexible management options available that are tailored to the needs and concerns of particular area of introduction as well as the species’ needs. Probably the best-known wolf recovery effort was the reintroduction of gray wolves into Yellowstone National Park in 1995. **Some studies indicate that in pristine areas such as Yellowstone, the establishment of healthy wolf packs has had a positive cascading effect on the ecosystem. (my bold)** These effects to pristine areas, which may still be unfolding and are being studied, appear to include keeping elk from overgrazing along exposed river banks where they are vulnerable to wolf predation, leading to regrowth of riparian vegetation, an increase in beaver colonies, and the resulting positive habitat changes that beaver dams provide to a host of wildlife species. While these effects may occur at varying degrees elsewhere, they are increasingly modified and subtle the more an area is affected by humans.”

---

<sup>9</sup> Considering Cumulative Effects Under the National Environmental Policy Act (NEPA) Handbook, Council on Environmental Quality, January 1997

<sup>10</sup> [https://ceq.doe.gov/publications/cumulative\\_effects.html](https://ceq.doe.gov/publications/cumulative_effects.html)

<sup>11</sup> Management of Wolves The Status of the Federal Government’s Management of Wolves; Testimony Of Stephen Guertin, Deputy Director for Policy, U.S. Fish and Wildlife Service, U.S. Department of the Interior, before the U.S. House of Representatives, Committee on Natural Resources, Subcommittee on Oversight and Investigations Regarding “THE STATUS OF THE FEDERAL GOVERNMENT’S MANAGEMENT OF WOLVES”, September 21, 2016

It is said that there is nothing new under the sun, and so it is with the scientific principle of the Trophic Cascade Effect. “A young forest service employee named Aldo Leopold, charged with killing wolves in New Mexico in the early 1900s, started to notice that as the wolves died off, the deer population boomed and ate all the plants to nothing. In his groundbreaking piece “Thinking Like a Mountain,” from his book *Sand County Almanac*, Leopold put forth an idea 50 years ahead of his time: **predators regulate ecosystems.**”<sup>12</sup> (See full article in references)

The Encyclopedia Britannica defines the Trophic Cascade<sup>13</sup> as: “**Trophic cascade**, an ecological phenomenon triggered by the addition or removal of top predators and involving reciprocal changes in the relative populations of predator and prey through a food chain, which often results in dramatic changes in ecosystem structure and nutrient cycling.”

Wolves make ecosystems work. There is more than enough science to back the concept of a **keystone species, a apex predator**, being introduced into a degraded habitats and ecosystem and after the introduction the ecosystem and habitats change and improve for all the inhabitants and species in that ecosystem.

**Proposal: The science of the Trophic Cascade Effect should be used to help us in our efforts to encourage balance in any ecosystem into which wolves, a keystone species (or other apex predators) are introduced. We have to try to understand the processes of all the ecological phenomena that are triggered by the addition or removal of top predators, and we have to understand all the phenomena involved in reciprocal changes in the relative populations of predator and prey through any pertinent food chain, which can often result in dramatic changes in ecosystem structure and nutrient cycling. Understanding the Food Chain and the Web of Life are critical to our comprehension of how our world works and how we humans fit into its processes. We humans are not outside these processes. We must learn to balance ourselves in the processes that make our world possible.**

## Conclusion

In conclusion, I do not support the State of Washington or anyone else killing wolves, a keystone species, an apex predator, and, as such, necessary to healthy ecosystems. The science shows that wolves can be, and should be, reintroduced into Nature in a natural manner but precautions, buffers and green corridors, just to name two, have to be used in order to keep wolves and prey, and wolves and human, contact to a minimum. Wolves are more necessary to wilderness ecosystem health than humans. Cattle and other prey should be removed from the ecosystem if their presence is detrimental to wolf, and other apex predator, recovery.

---

<sup>12</sup> <https://missionwolf.org/trophic-cascade/>

<sup>13</sup> <https://www.britannica.com/science/trophic-cascade>, Trophic cascade; written by: Stephen Carpenter



We humans have managed to cumulatively destroy more than 95% of our country's wilderness, a wilderness that we are now finding out is necessary for the survival of many species, including our own. Humans should have no expectation of safety in any wilderness. Yet, humans destroy more wild areas every day without compunction. And, without understanding all the processes that are also being destroyed. This has to stop. We need more wilderness areas, not less. Our survival depends on it.

I have included more references and the full footnotes, below.

***/e-signature/Mary Repar***

## REFERENCES

**Some references on how wolves are so important to the ecosystems in which they exist:**

- A. <https://www.livingwithwolves.org/about-wolves/why-wolves-matter/>

How do wolves affect the ecosystem?

**Wolves** prey primarily on large ungulates, hoofed mammals such as deer, elk and moose. By preying on the most vulnerable (diseased, young, old, weak or injured) individuals, **wolves** help keep prey populations healthier and more vigorous (Carbyn 1983).

- B. [The Ecological Role of Wolves | Defenders of Wildlife](#)

<https://defenders.org › wildlife › gray-wolf>

Why are wolves bad for the ecosystem?

The presence of **wolves** influences the population and behavior of their prey, changing the browsing and foraging patterns of prey animals and how they move about the land. ... For this reason **wolves** are described as a “keystone species,” whose presence is vital to maintaining the health, structure and balance of **ecosystems**.

- C. [Wolves & Our Ecosystem - Living with Wolves](#)

<https://www.livingwithwolves.org › about-wolves › why-wolves-matter>

What would happen if there were no wolves?

As with the extinction of any other species, loss of the gray wolf **could** have a significant effect on the food chain(s) and ecosystems of which it is a member. ... **If** the gray wolf **were to** go extinct, the populations of **their** prey—the deer, rabbits, and so on—may increase due to a lack of at least one natural predator.

D. [What would happen if gray wolves became extinct? | eNotes](#)

<https://www.enotes.com/homework-help/what-would-happen-gray-wolve...>

How do wolves affect the ecosystem in Yellowstone?

**Wolves Change Ecosystem and Geography in Yellowstone.** In 1995, **Yellowstone** brought the **wolves** back to the park. ... Deer: It's true that **wolves** kill deer, diminishing their population, but **wolves** also change the deer's behavior. When threatened by **wolves**, deer don't graze as much and move around more, aerating the soil. Feb 27, 2018

E. [Wolves Change Ecosystem and Geography in Yellowstone ...](#)

<sites.tufts.edu/tuftsgetsgreen/2018/02/27/wolves-change-ecosystem-and...>

How did the reintroduction of wolves affect the ecosystem?

This affected the habitat of many other animals and plants in harmful ways and the ecosystem became unbalanced. Or, as science puts it, we caused a harmful “top-down trophic cascade” by removing an apex predator, the wolf, from the food web. ... Thanks to the wolf, balance has been restored. Mar 14, 2014

F. [Future - How reintroducing wolves helped save a famous park - BBC](#)

<www.bbc.com/future/story/20140128-how-wolves-saved-a-famous-park>

Why are GREY Wolves important?

**Wolves** play a key role in keeping ecosystems healthy. They help keep deer and elk populations in check, which can benefit many other plant and animal species. The carcasses of their prey also help to redistribute nutrients and provide food for other wildlife species, like grizzly bears and scavengers. Jul 23, 2019

G. [Gray Wolf | Defenders of Wildlife](#)

<https://defenders.org/wildlife/gray-wolf>

**Wolves** eat ungulates like elk and deer, reducing their numbers. ... In Yellowstone, researchers saw that open fields became more vegetated when they **reintroduced wolves**. **Wolves** also increase biodiversity by providing food for scavengers and influencing the way that coyotes behave. Feb 2, 2010

## FOOTNOTES IN FULL:

### Footnote #2:

[https://www.biologicaldiversity.org/campaigns/gray\\_wolves/](https://www.biologicaldiversity.org/campaigns/gray_wolves/)

### America's Gray Wolves

Few animals evoke the wild like wolves: Majestic, rangy and highly social, they're crucial in driving evolution and balancing ecosystems. Wolves once roamed freely throughout North America, in numbers estimated at some 2 million. But federal extermination programs and conflicts with human settlements have reduced their numbers to the breaking point.

By the 1960s gray wolves were finally protected under what would become the Endangered Species Act. They had been exterminated from all the contiguous United States except a portion of Minnesota and Isle Royale National Park in Michigan.

### A REMARKABLE COMEBACK, BUT A LONG ROAD TO RECOVERY

After receiving federal protection, gray wolves saw tremendous recovery in the western Great Lakes region. Their populations grew to around 4,500 and expanded through Wisconsin and Michigan. Through natural migration from Canada and reintroduction to Yellowstone National Park and central Idaho, wolves returned to the [northern Rockies](#) and are establishing a toehold in the [West Coast states](#). There are now about 1,700 wolves across Idaho, Montana, Wyoming, Washington and Oregon, with a few wolves beginning to range into California. In the Southwest Mexican gray wolves also saw recovery — but to a lesser degree. Just seven surviving [Mexican gray wolves](#) were captured between 1977 and 1980 and bred in captivity. After their progeny were reintroduced into Arizona and New Mexico, Mexican gray wolves now number 110 in the U.S. wild, but fewer than 20 remain in Mexico.

Despite these substantial gains, the job of wolf recovery is far from over. Wolves need connected populations for genetic sustainability, and natural ecosystems need wolves to maintain a healthy balance of species — yet today wolves occupy less than 10 percent of their historic range and continue to face persecution. The Center has worked to save wolves since our inception, and we continue to defend them through science, the law and with our supporters' help.

### AN EFFORT TO STOP RECOVERY IN ITS TRACKS

Beginning in 2003 the U.S. Fish and Wildlife Service began moving to reduce or remove protections for wolves, but was repeatedly rebuffed by the courts. In 2009 the agency published separate rules removing protections in the northern Rockies and western Great Lakes, allowing wolf-hunting to move forward in both regions and spurring a court battle.

In the northern Rockies, the Center and allies successfully restored protections through a court victory, but in April 2011 Congress attached a rider to a must-pass budget bill that stripped Endangered Species Act protections from wolves in all of Montana and Idaho, the eastern third of Washington and Oregon, and a small portion of northern Utah — an unprecedented action that, for

the first time in the history of the Act, removed a species from the endangered list by political fiat instead of science. Wolves remained protected in Wyoming, but in September 2012 the Fish and Wildlife Service again moved to delist them.

The 2009 rule removing protections in the Great Lakes states of Minnesota, Wisconsin, Michigan and portions of South Dakota and North Dakota, Iowa, Indiana and Illinois was likewise quickly overturned in the courts, but Fish and Wildlife came back in 2011 and again removed protections in the region.

With protections removed in the two regions where wolves actually occurred, the Obama administration issued a proposal in 2013 to strip Endangered Species Act protections from gray wolves across the rest of the lower 48 states outside the Southwest, where the Mexican gray wolf was struggling to survive. The proposal asserts that wolf protection in place in the continental United States since 1978 is no longer needed.

In September and December 2014, two federal court rulings prompted by lawsuits filed by the Center and other allies restored federal protections to wolves in Wyoming and in the western Great Lakes states, with the judges in each case finding that in stripping protections for wolves the Fish and Wildlife Service violated the Endangered Species Act. This in turn has stalled the administration's plans to remove protections across the lower 48, and today wolves remain protected everywhere except those areas in the northern Rockies where Congress' disastrous rider removed them.

Unfortunately, Congressional Republicans are again attempting to meddle in what should be scientific decisions and have introduced multiple riders to various budget bills to again strip wolves of protection in Wyoming and the Great Lakes. And the Trump administration is planing a proposal to strip wolves of federal protections nearly everywhere else in the country is still pending. The Center is continuing to work with allies on Capitol Hill to halt any wolf-delisting riders on any budget bill.

## **OUR WORK TO SAVE GRAY WOLVES NATIONWIDE**

Since the Center's inception, we have campaigned for wolves, adapting our efforts as the opportunities for recovery changed. We have taken the long view, even while addressing short-term threats.

Our 1990 lawsuit, with allies, to compel reintroduction of the Mexican gray wolf led to a 1993 settlement agreement that resulted in the 1998 reintroduction of the wolves into the Apache and Gila national forests. The Center, founded in the Gila in 1989 and maintaining staff in the reintroduction area to the present day, monitors wolf and habitat management. We have vigorously challenged federal shooting and trapping of Mexican wolves and are pushing for the resumption of wolf releases from captivity to the wild. We've petitioned and sued for changes in wolf management, development of a new, science-based Mexican wolf recovery plan, and listing of the Mexican wolf as an endangered subspecies or population of the gray wolf to afford it the right to such a plan. We help organize public pressure on agencies and elected officials to provide maximum protection for the beleaguered Mexican wolves. We currently have two active lawsuits

filed against the Fish and Wildlife Service.

In the northern Rocky Mountains, the Center was part of four successful lawsuits that delayed the removal of federal protections for wolves from April 2003, when first promulgated by the Bush administration, until May 2011, when protections were finally (though still prematurely) removed through the infamous congressional rider. Our legal efforts helped to allow the wolf population to grow by 1,000 animals during those eight years, from 761 to 1,774. The Center mounted an unsuccessful legal challenge in district and appeals courts to the constitutionality of the rider. Since then we have helped publicize the slaughter of northern Rockies wolves, as part of a long-term strategy to pressure Congress to rescind the harmful rider, and filed a lawsuit that was successful in restoring “endangered” protections to wolves in Wyoming, where the 2011 rider does not apply.

We have also stood up for protection of the growing but still vulnerable population of wolves in Washington, Oregon and California. In 2006, with all these wolves still protected as endangered, we successfully opposed issuance of a permit to allow killing wolves in Oregon on behalf of the livestock industry. After the 2011 delisting of most wolves in the state, the Center and allies successfully sued under state law to save the lives of two wolves that Oregon officials had ordered killed. In 2012 we helped kill an Oregon bill that would have overturned our success in court and allowed the wolves' destruction. We also filed a scientific petition with California officials to place wolves on the state's endangered list and prepare a recovery plan — and in early June 2014 the California Fish and Game Commission voted to protect wolves under the state Endangered Species Act, just hours after scientists confirmed that OR-7 — the wolf that wandered into California in late 2011 and returned periodically — had sired pups in southern Oregon. California is now home to its first confirmed family of wolves in nearly 100 years: The Shasta pack, so named because this wolf family was identified and confirmed in August 2015 to be establishing territory in Siskiyou County, home to majestic Mount Shasta. Because of the Center's successful state-listing petition, the Shasta pack and any other wolves that disperse to California are now fully protected under state law, and harming, harassing or killing a wolf in California for any reason other than in defense of human life is illegal.

In the Midwest, as in the northern Rockies, multiple lawsuits filed by the Center and allies helped delay removal or reduction of protections, allowing continued growth in the wolf population. In 2012 we filed a challenge to Minnesota's first-ever regulated wolf-hunting season. In a groundbreaking victory for Great Lakes wolves, they were again granted Endangered Species Act protection in late 2014, after a federal court ruled in a case brought by one of our partners showing that prematurely stripping wolves of protection violated the Endangered Species Act. In the Midwest, as in the northern Rockies, multiple lawsuits filed by the Center and allies helped delay removal or reduction of protections, allowing continued growth in the wolf population. In 2012 we filed a challenge to Minnesota's first-ever regulated wolf-hunting season. In a groundbreaking victory for Great Lakes wolves, they were again granted Endangered Species Act protection in late 2014, after a federal court ruled in a case brought by one of our partners showing that prematurely stripping wolves of protection violated the Endangered Species Act. That victory stopped wolf hunting but Congressional Republicans have continued to try to undo the court ruling by attaching delisting riders to major federal budget bills.

In [January 2016](#) the Senate Environment and Public Works Committee passed the so-called “Bipartisan Sportsmen's Act of 2016,” with the inclusion of an amendment to permanently end Endangered Species Act protections for gray wolves in Wyoming and the western Great Lakes states.

Since the original wolf recovery plans were written in the 1980s, we've learned much more about wolves' behavior, ecology and needs. We know, for example, that returning wolves to ecosystems sets off a chain of events that benefits many species, including songbirds and beavers that gain from a return of streamside vegetation — which thrives in the absence of browsing elk that must move more often to avoid wolves — and pronghorn and foxes that are aided by wolves' control of coyote populations.

A mere 5,000 to 6,000 wolves occupy less than 10 percent of the animals' historic range in the lower 48 states. Establishing wolf populations in remaining suitable habitat in the Northeast, southern Rocky Mountains, Southwest, Pacific Northwest, California and elsewhere would secure a future for wolves and allow them to play their valuable ecological role in more of their former range. The Center seeks an end to wolf persecution and seeks to link isolated wolf populations to combat inbreeding and allow ecosystem rejuvenation on a broader scale.

**Footnote #4:**

<https://komonews.com/news/local/washington-state-to-kill-more-wolves-to-protect-cattle>

SPOKANE, Wash. (AP) — The state of Washington has announced plans to kill more wolves from a pack that is repeatedly preying on cattle in Ferry County.

Conservation groups contend it may be time to consider moving the cattle off of public lands in the Kettle River Range.

The state Department of Fish and Wildlife said Wednesday that it planned to kill more members of the Old Profanity Territory wolf pack. The agency killed one member of the pack last month in an effort to change the pack's behavior.

Since then the pack is blamed for killing two cattle and injuring five. The pack is credited with a total of 27 depredations since last September.

"The chronic livestock depredations and subsequent wolf removals are stressful and deeply concerning for all those involved," agency director Kelly Susewind said in a press release. "The department is working very hard to try to change this pack's behavior."

The Lands Council, a Spokane-based conservation group, said it may be time to move the cattle off Colville National Forest grazing land instead.

"It is evident at this point, grazing in an area of prime wolf habitat is folly," Chris Bachman of the Lands Council said in a Wednesday press release. "This is an area where livestock will continue to fall prey to wolves."

Bachman noted that wolves have come into regular conflict with cattle from the Diamond M Ranch in Ferry County, and the state has killed numerous wolves in recent years in response.

"It's time to try moving the cattle instead," Bachman wrote.

The Center for Biological Diversity also opposes killing more wolves.

"Four years of ineffective wolf killing in the same area for one private ranching business is a senseless waste," said Sophia Ressler, an attorney at the center. "If this rancher keeps putting cattle in prime wolf habitat, he needs to accept some losses just like any other business."

In 2016, the agency wiped out the Profanity Peak pack of wolves for preying on cattle. The Old Profanity Territory pack occupies the same general area.

Wolves were exterminated in Washington by the 1930s on behalf of ranchers. The animals started returning to the state earlier this century from neighboring Idaho and British Columbia.

Most of the wolves are located in the rugged mountains of northeastern Washington, but they have started spreading to other areas of the state.

The WDFW said the state had a minimum of 126 wolves in 27 packs with 15 successful breeding pairs last year. For the first time, a pack was found living west of the Cascade Range.

Gray wolves are no longer listed as an endangered species under federal protection in eastern Washington. They are still federally protected across the rest of the state, although the federal government is considering lifting those protections.

**<https://www.theguardian.com/us-news/2019/aug/19/washington-outcry-after-last-four-wolves-in-pack-killed-by-state-hunters>**

The last four members of a wolf pack that preyed on cattle in a rural [Washington state](#) area bordering Canada have been killed by state hunters, prompting protests from environmental groups.

The four wolves were part of a pack that originally had seven members and attacked cows, killing or wounding them 29 times since 2018 and nine times over the last month, the Washington Department of Fish and [Wildlife](#) said in a statement.

Environmental groups opposed the killings, which they contended benefited one ranching operation in Ferry county in the remote Kettle River Range of mountains that stretches into the Canadian province of British Columbia.

"It's unbelievably tragic that this wolf family has already been annihilated by the state," said Sophia Ressler of the Center for Biological Diversity, which tried to block the hunt. "It seems like Washington's wildlife agency is bent on wiping out the state's wolves."

Hunters for the state Department of Fish and Wildlife who were inside helicopters tracked down and shot the wolves from the air on Friday, said Sam Montgomery, an agency spokeswoman.

State officials have authorized the killing of numerous wolf packs in Washington that have preyed on cattle in recent years, with environmentalists using the courts to attempt to halt the hunts. They say killing wolves doesn't protect livestock and contend better management practices are needed to keep wolves away from cattle.

The rancher hired horse riders to ride among the cattle and try to scare the wolves away before the decision was made to kill them, the agency said.

Wolves were all but wiped out by the 1930s in Washington, largely at the behest of the cattle industry. The animals started returning from Idaho and British Columbia about 15 years ago.

Most of the state's grey wolves are concentrated in rural, mountainous areas of north-eastern Washington, where there have been constant conflicts with ranchers, although some have been spotted in the Cascade Range in western Washington state.

The number of wolves counted in Washington stood at 126 before the four wolves were killed.

**Footnote #6:**

**Included as an attachment to my comments, PDF format; Olszynski, Martin. (2015). Martin Z.P. Olszynski, "Ancient Maxim, Modern Problems: De Minimis, Cumulative Environmental Effects and Risk-based Regulation" (2015) 40(2) Queen's L. J. 705. Queen's law journal. 40. 705.**

**Footnote #11:**

<https://missionwolf.org/trophic-cascade/>

A young forest service employee named Aldo Leopold, charged with killing wolves in New Mexico in the early 1900s, started to notice that as the wolves died off, the deer population boomed and ate all the plants to nothing. In his groundbreaking piece "Thinking Like a Mountain," from his book *Sand County Almanac*, Leopold put forth an idea 50 years ahead of his time: **predators regulate ecosystems.**

Since the reintroduction of wolves to Yellowstone National Park in 1995, we have learned much about the effect large carnivores have on an ecosystem. In the past, it was largely thought that an ecosystem was built from the bottom up, with plant life as the foundation from which everything else grew. Once healthy plants were established, insects, small rodents, birds, larger herbivores, and finally the top predators, all fell into balance with each other. Almost all conservation and species reintroduction efforts were based on this theory. In a damaged area, biologists would first try to rebuild the plant life before doing anything else. However, some ecosystems could not be fixed before reintroducing an endangered top-level animal. In Yellowstone National Park, the U.S. Fish



and Wildlife Service was required by the Endangered Species Act to reintroduce wolves before balancing the plant base and herbivore populations.

In the years since the wolf reintroduction, Yellowstone has become a prime scientific laboratory for wilderness observation and ecosystem recovery. Scientists have come from around the world to watch the effect wild wolves have on the park. We have discovered that an ecological effect called the “trophic cascade” has taken over Yellowstone, with the wolves initiating a more natural ecosystem balance than has been seen in over 65 years.

The idea of a “trophic cascade” is relatively basic. The term “trophic” refers to the different levels of a food chain (with plants being one trophic level, insects the next, all the way up the ladder to mid-level and top predators). However, the “cascade” forces us to look at the traditional food chain from a different perspective. Picture a small stream flowing through the woods — then the stream comes to a waterfall, or cascade. As the stream falls over the edge of the cliff, it hits a rock and splits, then each of those waterfalls hit another rock and splinter again. You end up with a single stream at the top scattering out into many different and unique tributaries, inlets, and cascades. Now, put the two terms together: trophic cascade. We are learning that a large carnivore at the top of the food chain functions as the origin of this little stream — its effects on the rest of the ecosystem splinter out over all of the trophic levels. In other words, when wild wolves return to an ecosystem, by chasing and hunting their prey and competing with other species, they help restore a natural balance.

Since wild wolves have returned to Yellowstone, the elk and deer are stronger, the aspens and willows are healthier, and the grasses taller. When wolves chase elk during a hunt, the elk are forced to run faster and farther. As the elk run, their hooves aerate the soil, making it prime for water retention and allowing more grasses to grow. Since the elk cannot remain stationary for too long, aspens and willows in one area are not heavily grazed, and can therefore fully recover between migrations. As with the rest of the country, coyote populations were nearly out of control in Yellowstone before the wolves returned. Now, the coyotes have been out-competed and essentially reduced by nearly 80% in areas occupied by wolves. The coyotes that do remain are more skittish and wary. With fewer coyotes hunting small rodents, raptors like the eagle, hawk, and osprey have more prey and are making a comeback. The endangered grizzly bears successfully steal wolf kills more often than not, and thus have more food to feed their cubs. The grizzly bears also benefit from the vegetation regrowth, and in turn, as top predators, help reinforce the effect of the wolves on prey species. In essence, we have learned that by starting recovery at the top of the food chain, with predators like wolves, the whole system benefits. A wild wolf population actually makes for a stronger, healthier, and more balanced ecosystem. From plant, to insect, to people — we all stand to benefit from wolves.

With only 5% of our nation’s wilderness left, people are recognizing the importance of complete ecosystems in keeping all of us healthy. With new knowledge of trophic cascades, we can now begin to focus wilderness recovery efforts on a wider variety of ecosystems. Using Yellowstone as an example, we can teach the world about the wolf’s positive and vital role in nature.

**Footnote #12:**

<https://www.britannica.com/science/trophic-cascade>

**Trophic cascade, ecology, Written By: [Stephen Carpenter](#)**

**Trophic cascade**, an ecological phenomenon triggered by the addition or removal of top [predators](#) and involving [reciprocal](#) changes in the relative populations of predator and [prey](#) through a [food chain](#), which often results in dramatic changes in [ecosystem](#) structure and nutrient cycling.

In a three-level food chain, an increase (or decrease) in [carnivores](#) causes a decrease (or increase) in [herbivores](#) and an increase (or decrease) in primary producers such as [plants](#) and [phytoplankton](#). For example, in eastern [North America](#) the removal of [wolves](#) (*Canis lupus*) has been associated with an increase in [white-tailed deer](#) (*Odocoileus virginianus*) and a decline in plants eaten by the deer. American zoologist [Robert Paine](#) coined the term *trophic cascade* in 1980 to describe reciprocal changes in [food webs](#) caused by experimental manipulations of top predators. In the 1980s others used the term to describe changes in aquatic [ecosystems](#) arising from factors such as sudden increases in predatory [fish](#) populations from stocking or dramatic declines in predatory fishes caused by [overfishing](#).

**Effects on [aquatic](#) and [terrestrial ecosystems](#)**

During the 1980s and '90s a series of experiments demonstrated trophic cascades by adding or removing [top carnivores](#), such as [bass](#) (*Micropterus*) and [yellow perch](#) (*Perca flavescens*), to or from freshwater [lakes](#). Those experiments showed that trophic cascades controlled [biomass](#) and production of phytoplankton, recycling rates of [nutrients](#), the ratio of nitrogen to phosphorus available to phytoplankton, activity of [bacteria](#), and sedimentation rates. Because trophic cascades affected the rates of primary production and respiration by the [lake](#) as a whole, they affected rates of exchange of [carbon dioxide](#) and oxygen between the lake and the [atmosphere](#).

Research in a wide variety of terrestrial and aquatic [environments](#) has shown that trophic cascades control species [composition](#), biomass, and production of herbivores and plants. For example, overfishing of [cod](#) (*Gadus morhua*) and other commercially exploited fishes such as [haddock](#) (*Melanogrammus*) and [hake](#) (*Urophycis*, *Raniceps*, and *Phycis*) in the North Atlantic Ocean led to an increase in small pelagic (open ocean) fish consumed by cod, snow crab (*Chionoecetes opilio*), and [shrimp](#). As a result, populations of large-bodied herbivorous [zooplankton](#), which are consumed by small pelagic fishes, decreased, which in turn led to an increase in the phytoplankton. Restoration of wolves to the Bow Valley of Alberta, Canada, decreased the [population](#) of [elk](#) (*Cervus elaphus*) and increased the growth of [aspen](#) (*Populus*) and [willow](#) (*Salix*). In another example, the commercial harvesting of [sea otters](#) (*Enhydra lutris*) for the fur trade off the west coast of North America triggered an increase in [sea urchins](#) and a decline in [kelp](#) forests, because of kelp [consumption](#) by the urchins, in nearby marine environments.

# Ancient Maxim, Modern Problems: *De Minimis*, Cumulative Environmental Effects and Risk-Based Regulation

*Martin Z.P. Olszynski\**

*This article considers when and how the ancient common law maxim de minimis non curat lex—the law does not concern itself with trifling matters—ought to be applied in Canadian environmental law. These questions are important because their answers determine whether conduct that results in a seemingly minor level of environmental harm will—or will not—be subject to a given regulatory regime, which in turn creates the potential for environmental degradation through cumulative effects. Part I observes that there is considerable confusion about whether the maxim is ever applicable in the Canadian environmental law context, but concludes that it is applicable in certain legislative circumstances. Part II argues that the prevailing conception of de minimis as a single-step test concerned only with the magnitude of environmental harm in isolation is incorrect; rather, the foundational jurisprudence points to a two-step test that considers the potential for cumulative effects. This Part also examines recent developments in cumulative effects assessment and the emerging paradigm of risk-based regulation in order to shed some modern light on this ancient maxim's application. The article concludes by considering the implications of applying de minimis in this way for regulators, industry and the public.*

---

\* Faculty of Law, University of Calgary. I am grateful to Professors Patrick Knoll, James Coleman, Sharon Mascher, Jonnette Watson Hamilton, Jennifer Koshan and Alice Wooley for comments and suggestions offered in the course of writing this paper.

## Introduction

### I. *De Minimis* in Canadian Environmental Law

A. *Confusion as to Whether the Maxim Applies*

B. *Two Distinct and Mutually Exclusive Roles for De Minimis*

(i) *De Minimis* in Statutory Interpretation

(ii) *De Minimis* as a Defence

### II. The *De Minimis* Maxim Properly Construed

A. *De Minimis as a Two-Part Test*

B. *De Minimis as Simplified Cumulative Effects Analysis*

C. *De Minimis in Risk-Based Regulation*

D. *A Two-Part De Minimis as a Presumption of Statutory Interpretation*

E. *De Minimis Summarized*

## Conclusion

# Introduction

Modern environmental law appears to be at a crossroads. There is a growing consensus that its “disregard for total load, or the cumulative environmental impact created by all human activity—past, present, and future” is one of its principal failures.<sup>1</sup> Canadian commentators have noted, for example, that the approximately 1,900 people who die from air pollution in Ontario every year “are not the victims of acute environmental crises” but rather of individual “toxic drops in the bucket”.<sup>2</sup> Similarly, in the United States, recent scholarship has suggested that the “greatest remaining water quality challenges arise from the cumulative

1. Bruce Pardy, “In Search of the Holy Grail of Environmental Law: A Rule to Solve the Problem” (2005) 1 J Social Sustainability Development L Policy 29 at 38. See also Dave Owen, “Critical Habitat and the Challenge of Regulating Small Harms” (2012) 64:1 Fla L Rev 141 (observing that “[m]any of environmental law’s greatest remaining problems are caused by the cumulative effects of many actions, each of which contributes only a small increment to the larger problem” at 143); JB Ruhl & James Salzman, “Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away” (2010) 98:1 Cal L Rev 59 at 67–68 (describing the “massive problems” faced by administrative agencies as primarily characterized by the mechanism of cumulative effects).

2. Mark Davidson, “Innocent Drops and the Symbolic Generalization of Moral Harms: A New Basis for the Criminalization of Environmental Offences” (2005) 16:1 J Envtl L & Prac 19 at 23. See also Dayna Nadine Scott, “Confronting Chronic Pollution: A Socio-Legal Analysis of Risk and Precaution” (2008) 46:2 Osgoode Hall LJ 293 (“[o]ne of the most intractable problems facing modern environmental law is the issue of chronic pollution[:]. . . the continuous or continuously recurring exposures to low doses of pollutants and contaminants that characterize the experience of living in the industrialized world” at 294).

effect of many sources of storm water”,<sup>3</sup> while “the [US Environmental Protection Agency] data reveal . . . air emissions are dominated by numerous small sources, which emit among a dozen or so pollutants that account for a disproportionate share of aggregate emissions and risks”.<sup>4</sup> Much of this failure can be attributed to design flaws in environmental legislation, which tends to focus on preventing significant or major harms in an isolated or fragmented manner.<sup>5</sup> Such schemes “move us further away from sustainability, though usually only in small steps”,<sup>6</sup> resulting in what ecologist William E. Odum has described as the “tyranny of small decisions”.<sup>7</sup>

---

3. Owen, *supra* note 1 at 143. See also William E Odum, “Environmental Degradation and the Tyranny of Small Decisions” (1982) 32:9 *Bioscience* 728. For Odum:

Few cases of cultural eutrophication of lakes are the result of intentional and rational choice. Instead, lakes gradually become more and more eutrophic through the cumulative effects of small decisions: the addition of increasing numbers of domestic sewage and industrial outfalls along with increasing run-off from more and more housing developments, highways, and agricultural fields.

*Ibid* at 728.

4. David E Adelman, “Environmental Federalism When Numbers Matter More than Size” (2014) 32:2 *UCLA J Envtl L & Pol’y* 238 at 267–68.

5. See Pardy, *supra* note 1 at 38. Pardy explains that “to the extent that human actions are regulated, they are regulated as isolated events. Environmental law consists of different regulatory regimes at different levels of government that apply to different kinds of environmental hazards or natural resources containing fact-specific standards that are applied (or not) one situation at a time.” *Ibid*.

6. Robert B Gibson, “Favouring the Higher Test: Contribution to Sustainability as the Central Criterion for Reviews and Decisions Under the *Canadian Environmental Assessment Act*” (2000) 10:1 *J Envtl L & Prac* 39 at 43. See also Robert B Gibson, “The Major Deficiencies Remain: A Review of the Provisions and Limitations of Bill C-19, *an Act to amend the Canadian Environmental Assessment Act*” (2001) 11:1 *J Envtl L & Prac* 83 at 99–100.

7. Odum, *supra* note 3 at 728. Odum points to

the loss of coastal wetlands on the east coast of the United States between 1950 and 1970. No one purposely planned to destroy almost 50% of the existing marshland along the coasts of Connecticut and Massachusetts . . . . However, through hundreds of little decisions and the conversion of hundreds of small tracts of marshland, a major decision in favor of extensive wetlands conversion was made without ever addressing the issue directly.

*Ibid*.

While there are signs of positive change on this front, with several Canadian provinces and territories adopting ambitious land-use planning frameworks and legislation specifically intended to manage cumulative effects,<sup>8</sup> there is at the same time a force pushing in the opposite direction. I refer to the widespread adoption of “risk-based” approaches—throughout the western world and in virtually all sectors—to regulatory activities. Risk-based regulation is described by two leading authorities as:

[A] targeting of inspection and enforcement resources that is based on an assessment of the risks that a regulated person or firm poses to the regulator’s objectives. The key components of the approach are evaluations of the risk of non-compliance and calculations regarding the impact that the non-compliance will have on the regulatory body’s ability to achieve its objectives.<sup>9</sup>

Risk-based regulation involves identifying and classifying risks (e.g., high, medium and low) and allocating departmental resources accordingly. According to the influential 2005 Hampton Report from the United Kingdom: “Proper analysis of risk directs regulators’ efforts at areas where it is most needed, and should enable them to reduce the administrative burden of regulation, while maintaining or even improving regulatory

---

8. Alberta probably has the most advanced land-use planning regime. See *Alberta Land Stewardship Act*, SA 2009, c A-26.8. The Alberta government has finalized two of seven planned regional plans, intended to “set out regional land-use objectives and provide the context for land-use decision-making”; the first being for the northern oil sands region, and the second for the densely populated and highly agricultural southern region. See Government of Alberta, *Lower Athabasca Regional Plan 2012–2022* (Alberta: Government of Alberta, August 2012); Government of Alberta, *South Saskatchewan Regional Plan 2014–2024* (Alberta: Government of Alberta, July 2014). The Yukon Territory also recently released the Peel Watershed Regional Land-Use Plan. See Yukon Government, News Release, 14–306, “The Yukon Government Appeals Peel Land Use Planning Case to Ensure Public Government Has Say Over Public Lands” (30 January 2014), online: <[www.gov.yk.ca/news/14-306.html#.VMAtQ2TF8k8](http://www.gov.yk.ca/news/14-306.html#.VMAtQ2TF8k8)>. A draft of the Nunavut Land Use Plan is currently awaiting a final hearing. See “Nunavut Planning Body Accuses Ottawa of Blocking Updated Land Use Plan”, *Nunatsiaq Online* (17 June 2014), online: <[www.nunatsiaqonline.ca](http://www.nunatsiaqonline.ca)>.

9. See Robert Baldwin & Julia Black, “Really Responsive Regulation” (2008) 71:1 Mod L Rev 59 at 66. Risk-based regulation appears to be the latest trend in a series of regulatory approaches emerging since the 1990s, including “responsive regulation” and so-called “smart regulation”. Thus, where this article refers to “risk-based regulation”, it is referring to a specific, policy-based approach to the activity of regulating rather than to any specific delegated legislation.

outcomes.”<sup>10</sup> In Canada, risk-based approaches have since been adopted by the federal Department of Fisheries and Oceans (DFO),<sup>11</sup> Environment Canada<sup>12</sup> and the National Energy Board.<sup>13</sup> Provincially, the Alberta Energy Regulator (AER) (formerly the Energy Resources Conservation Board) has a well-established risk-based regime,<sup>14</sup> while Ontario’s Ministry

---

10. UK, Her Majesty’s Treasury, *Reducing Administrative Burdens: Effective Inspection and Enforcement*, by Philip Hampton (London, UK: Her Majesty’s Stationery Office, 2005) at 1.

11. *Fisheries Act*, RSC 1985, c F-14. Since at least 2005, DFO has sought to apply a “risk management framework” to its decision making under subsection 35(2), pursuant to which the Minister may authorize otherwise prohibited impacts to fish habitat (previously defined as “harmful alteration, disruption or destruction” (HADD) but now restricted to “permanent alteration or destruction”) caused by works, undertakings and activities. *Ibid*, s 35(2). Under the risk management framework, risks to fish habitat were ranked as low, medium, high or significant, each of which triggered a different management response. See Fisheries and Oceans Canada, “Practitioners Guide to the Risk Management Framework for DFO Habitat Management Staff”, online: <[www.dfo-mpo.gc.ca/Library/343443.pdf](http://www.dfo-mpo.gc.ca/Library/343443.pdf)> [“DFO Practitioners Guide”]. Although this framework was written in the context of the previous HADD regime, the most recent department policy confirms that DFO will continue to “be guided by the application of precaution and a risk-based approach to decision-making”. Fisheries and Oceans Canada, “Fisheries Protection Policy Statement, October 2013” (Ottawa: Ecosystem Programs Policy, 2013) at 7, online: <[www.dfo-mpo.gc.ca/pnw-ppe/pol/index-eng.html](http://www.dfo-mpo.gc.ca/pnw-ppe/pol/index-eng.html)> [Fisheries and Oceans Canada, “Fisheries Protection”].

12. Canada’s primary legislation for the management of toxic substances requires that: “The schedule of inspections will be determined by the *risk that the substance or activity presents to the environment or to human health*, and by the compliance record of the individual, company or government agency.” Environment Canada, “Compliance and Enforcement Policy for the *Canadian Environmental Protection Act, 1999*” (Ottawa: Environment Canada, 2011) at 19, online: <[www.ec.gc.ca/Publications/default.asp?lang=En&xml=326F7BE8-0483-4995-8E0E-F09719D202B8](http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=326F7BE8-0483-4995-8E0E-F09719D202B8)> [emphasis added].

13. The National Energy Board describes its evaluation of regulated companies for the purposes of determining appropriate compliance verification activities as a “risk-informed approach” that includes “identification of potential consequences to people and the environment posed by facilities . . . based on its location, type, age [and] operating history” and “a review of . . . the company’s or operator’s management of these consequences collected through previous compliance monitoring activities”. National Energy Board, “NEB’s Regulatory Framework” (8 January 2015), online: <[www.neb-one.gc.ca/sftnvrnmnt/prctcng/index-eng.html](http://www.neb-one.gc.ca/sftnvrnmnt/prctcng/index-eng.html)> .

14. In contrast to the preceding examples, the Alberta government has actually mandated the AER via directive to implement a risk-based approach to compliance and enforcement. See Alberta Energy Regulator, “Risk Assessed Noncompliance”, online: <[www.aer.ca/](http://www.aer.ca/)

of Natural Resources announced a move toward a risk-based approach in 2012.<sup>15</sup>

On its face, such an evidence-based rationalization of resources appears eminently sensible, especially considering the resource constraints currently facing most government agencies and departments.<sup>16</sup> The reality, however, is that risk-based approaches are inherently complex and give rise to a number of challenges, the most relevant being a tendency “to neglect *lower levels of risk*, which, if numerous and broadly spread, may involve *considerable cumulative dangers*”.<sup>17</sup>

---

compliance-and-enforcement/risk-assessed-noncompliance > [AER, “Risk”]. The AER states:

As stated in *Directive 019: Compliance Assurance*, the AER has compiled a list of noncompliant events that is organized into compliance categories to assist AER stakeholders. The AER uses a risk assessment process to predetermine the level of inherent risk associated with a noncompliance with each AER requirement. Each noncompliant event has an associated low or high risk rating based on the results of the risk assessment process for each AER requirement.

*Ibid.*

15. See Ontario, Ministry of Natural Resources, *Lake Nipissing Fisheries Management Plan: “Valuing a Diverse Fishery”*, Draft, March 2014 at 75–76, online: < [www.ontario.ca/document/lake-nipissing-fisheries-management-plan-draft](http://www.ontario.ca/document/lake-nipissing-fisheries-management-plan-draft) >. The report asserts:

The Ministry has moved to a formalized risk-based approach to compliance.

...

- The risk-based compliance framework will enable the Ministry to *focus their enforcement resources on the area of greatest risk*. These will include:
  - ♦ Focusing proactive work on areas of highest risk
  - ♦ Prioritizing incident/complaint response based on risk
  - ♦ Prioritizing resources for special investigations based on risk

*Ibid* [emphasis added].

16. Indeed, risk-based regulation entails the management of not just risk but also reputation and departmental resources. With respect to reputation, the adoption of a risk-based approach is often considered a tool in securing a regulator’s legitimacy amongst the regulated community and other stakeholders. See Julia Black, “Paradoxes and Failures: ‘New Governance’ Techniques and the Financial Crisis” (2012) 75:6 Mod L Rev 1037 at 1053. The AER explicitly acknowledges the management of risk, reputation and resources in its risk-based approach. See AER, “Risk”, *supra* note 14.

17. Baldwin & Black, *supra* note 9 at 66 [emphasis added].



Against this backdrop, this article considers the application of what may be one of the earliest examples of risk-based regulation—the ancient common law maxim *de minimis non curat lex* (“the law does not concern itself with trifling matters”).<sup>18</sup> More specifically, this article considers when and how the maxim ought to be applied in Canadian environmental law, bearing in mind that in this context its application renders a regulatory regime blind to certain conduct, which in turn creates the potential for environmental degradation through cumulative effects.

The article proceeds in two Parts. Part I sets out the basic and unique principles governing the maxim’s application in this context, recognizing that it plays several different roles in Canadian law generally.<sup>19</sup> It observes that there is presently considerable confusion as to the maxim’s mere availability, confusion that appears to be rooted in a failure to recognize that the maxim plays at least two potential roles—even within this one context. The law should be considered settled that the maxim applies as an interpretive aid in certain contexts, though it is less settled in its availability as a defence.

Part II argues for judicial reconsideration of what constitutes *de minimis* in the environmental law context. Much of the case law presumes a single-step test, namely the magnitude of the deviation from a prescribed standard, most often expressed in terms of the amount of pollution or the level of environmental harm. The foundational jurisprudence, however, points to a two-part test that assesses both the magnitude of the harm as well as the potential consequences if the regulated conduct were to be allowed generally. The *de minimis* test thus contains within it a simplified cumulative effects analysis, a task that has been too readily dismissed

---

18. *Black’s Law Dictionary*, 8th ed, *sub verbo* “*de minimis non curat lex*”. Although the focus of this article is Canadian environmental law, much of the discussion and analysis appears equally applicable to American environmental legislation.

19. In addition to the regulatory and criminal law context, the maxim or some related notion of triviality plays a role in the torts of negligence, nuisance and constitutional law. In negligence, causation must be more than *de minimis*. See e.g. *R v Flight*, 2014 ABCA 185 at para 85, 575 AR 297. In nuisance, interference with use and enjoyment of private land must be more than trivial. See *Antrim Truck Centre Ltd v Ontario (Transportation)*, 2013 SCC 13 at para 19, [2013] 1 SCR 594. In constitutional law, infringement of section 2(1), freedom of religion, must be non-trivial in order to engage *Charter* protection. See *Multani v Marguerite-Bourgeoys (Commission scolaire)*, 2006 SCC 6 at para 34, [2006] 1 SCR 256, discussing *Canadian Charter of Rights and Freedoms*, s 2(1), Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982 (UK)*, 1982, c 11.

as too complex for the common law to address.<sup>20</sup> A two-step approach is not only more consistent with the foundational jurisprudence, it is also supported when the maxim is considered through the lens of risk-based regulation, where the goal is to identify harms that can truly be disregarded in light of the relevant legislative objectives. Approached this way, the maxim's application also fits more comfortably within the context of statutory interpretation, bearing in mind especially the objectives of environmental legislation. The article concludes with some final observations on the importance of a robust understanding of the maxim in the environmental law context.

## I. *De Minimis* in Canadian Environmental Law

### A. *Confusion as to Whether the Maxim Applies*

The [*de minimis*] doctrine has been recognized as a defence in cases of strict liability. For example: *R. v. St. Paul (Town)*, *R. v. Starosielski*, *R. v. G.(T.)*. Other cases suggest that the doctrine should not apply in a regulatory context . . . For example: *R. v. Petro-Canada*.<sup>21</sup>

It is clear that another discussion of *de minimis*' applicability is necessary when one considers any one of a number of recent regulatory prosecutions in Canada. The above-quoted passage is from *R v Syncrude Canada Ltd*, the relatively high-profile case wherein one of Canada's pioneer oil sands companies raised *de minimis* as a defence to charges

---

20. *Contra* Cindy Chiasson, "The Quandary of Cumulative Effects: Fitting a Science Peg In a Law Hole" (Paper delivered at the Symposium on Environment in the Courtroom (I): Key Environmental Concepts and the Unique Nature of Environmental Damage, March 2012), online: <[www.cirl.ca/files/cirl/cindy\\_chiasson-en.pdf](http://www.cirl.ca/files/cirl/cindy_chiasson-en.pdf)>. For Chiasson:

The Canadian judicial system is one that predominantly focuses on specific incidents and disputes between specific parties, both from a regulatory and common law perspective . . . [T]he rules and proceedings are not well-suited to dealing with preventing and repairing harm to the environment itself and addressing the broad scope and extent of cumulative effects management.

*Ibid* at 8.

21. *R v Syncrude Canada Ltd*, 2010 ABPC 229 at paras 163–64, 489 AR 117 [*Syncrude*] [citations omitted].

under the *Migratory Birds Convention Act, 1994 (MBCA)*<sup>22</sup> for the death of approximately 1,600 birds after they landed in one of its tailings ponds.<sup>23</sup>

Confusion over the maxim's application is on full display in the Ontario Superior Court's decision in *R v Williams Operating Corp.*<sup>24</sup> The accused mining company was charged with several offences under the federal *Fisheries Act*<sup>25</sup> and the associated *Metal Mining Effluent Regulations (MMER)*<sup>26</sup> after one of its sedimentation ponds overflowed, allowing approximately 3,000 gallons of mine and storm water to escape into Moose Lake, a fish-bearing lake in northwestern Ontario.<sup>27</sup> Water samples taken from the sedimentation pond on the day of the spill indicated that although the water's pH was above the permissible limit,<sup>28</sup> levels of cyanide, copper, arsenic and total suspended solids were below authorized limits.<sup>29</sup> At trial, Clarke J invoked *de minimis* to dismiss the charges related to the unlawful deposit of deleterious substances into waters frequented by fish, stating: "I am of the view that . . . any effect the concentration of any of the deposits which occurred would have had no or at the very worst only a very trifling effect on fish and so the ancient principle of *de minimis non curat lex* applies"<sup>30</sup>

On appeal to the Superior Court, the Crown argued that the *MMER* explicitly deemed cyanide, copper, arsenic and total suspended solids to be deleterious at *any* concentration,<sup>31</sup> such that the application of the maxim was inappropriate. In making this argument, the Crown relied on the Nova Scotia Court of Appeal's decision in *R v Croft* where the accused

---

22. SC 1994, c 22, s 5.1(1).

23. The learned judge ultimately resigned himself to concluding that even if *de minimis* did apply, its conditions were not met in that instance. *Synchrude*, *supra* note 21 at para 165.

24. (2008), 39 CELR (3d) 66, 79 WCB (2d) 700 (Sup Ct J) [*Williams Operating Sup Ct J* cited to CELR].

25. RSC 1985, c F-14.

26. SOR/2002-222 [*MMER*].

27. *Williams Operating Sup Ct J*, *supra* note 24 at 70.

28. *MMER*, *supra* note 26, s 4(1)(b).

29. *Ibid*, Schedule 4. The samples contained 0.046 mg/L of cyanide, 0.04 mg/L of copper, 0.0068 mg/L of arsenic and total suspended solids of 7.2 mg/L, and the pH reading was 11.04. See *Williams Operating Sup Ct J*, *supra* note 24 at 71.

30. *R v Williams Operating Corp*, 2007 ONCJ 163 at para 39, 73 WCB (2d) 548 [*Williams Operating Ct J*].

31. *Williams Operating Sup Ct J*, *supra* note 24 at 78 (the authorized limits applying only where the mining operator was otherwise in compliance with the regulations).

was charged with unlawful possession of undersized lobsters, contrary to subsection 57(2) of the *Atlantic Fishery Regulation, 1985*.<sup>32</sup> The Nova Scotia Court of Appeal held that the maxim had no application in the circumstances of that case:

This is, as we have said, a strict liability offence. *Moreover, it is one where compliance is measured in millimetres.* Parliament has decided where it chooses to draw the line. In this sense it is much the same as imposing a limit of 80 mg of alcohol in 100 ml of blood in the *Criminal Code* provisions prohibiting the operation of a motor vehicle, vessel, aircraft or railway equipment while impaired. There is no tolerance or margin extended for “almost” or “close” compliance. The public interest in protecting our commercial fishery is hardly a trifling matter. The maxim has no application here.<sup>33</sup>

The Crown also relied on *R v Goodman*, another prosecution under the *Fisheries Act*, where, in dismissing the defendant’s *de minimis* argument, the Court held that it is not its role “to determine whether [the] prosecution was in the public interest. It is not for this court to find that dredging, both large-scale and small, occurs regularly, and therefore, prosecution of these accused for these offences is unfair.”<sup>34</sup>

Accepting these authorities, the Court in *Williams Operating* declared broadly that “*de minimis* does not apply to public welfare offences or strict liability offences”,<sup>35</sup> a holding that was subsequently followed in *R v Petro-Canada* (one of the cases cited in *R v Syncrude*).<sup>36</sup>

---

32. SOR/86-21 [AFR], cited in *R v Croft*, 2003 NSCA 109 at para 2, 218 NSR (2d) 184.

33. *R v Croft*, *supra* note 32 at para 15 [emphasis added].

34. *R v Goodman*, 2005 BCPC 83 at para 32, 2005 CarswellBC 575 (WL Can). As further discussed in Part II of this article, the regular occurrence of such presumably illegal dredging actually goes against the positive application of the maxim.

35. *Williams Operating* Sup Ct J, *supra* note 24 at 88.

36. *R v Petro-Canada*, 2009 ONCJ 179 at para 94, 82 WCB (2d) 729. Manno J held:

Though one could embark on a lengthy dissertation regarding this argument, including a review of relevant case law, it is sufficient to say that this Court accepts the argument and conclusion reached in [*Williams Operating*] at paragraph 86 that . . . *de minimus* does not apply to public welfare offences or strict liability offences. As such, where matters involve the public interest the *de minimus* defence will fail and does so in this case.

*Ibid.* See also *Syncrude*, *supra* note 21.

However, this holding was explicitly rejected and the maxim was applied in *R v UBA Inc.*<sup>37</sup> In this case, the accused was charged with discharging, or permitting the discharge of, a contaminant—caustic soda—into the natural environment that caused, or was likely to cause, an adverse effect, contrary to subsection 14(1) of Ontario’s *Environmental Protection Act (EPA)*.<sup>38</sup> This is the same prohibition that was at issue in *Ontario v Canadian Pacific Ltd*, a two-decade-old Supreme Court of Canada decision wherein the Court relied on the *de minimis* maxim as an aid in statutory interpretation to narrow the scope of what the defence argued was an unconstitutionally vague provision.<sup>39</sup> In *UBA*, Woodworth JP distinguished *Williams Operating* by noting that the Court there

mentioned the case of [*Canadian Pacific*] but appears neither to have distinguished, analyzed or discussed that case in relation to the principle of *de minimis*. This court can only conclude that the decision of the Superior Court in the [*Williams Operating*] case is limited to the factual situation of that particular case which involved a charge under the *Fisheries Act* with a significantly different wording than the charge before this court and that the *Canadian Pacific* case being a decision of the Supreme Court of Canada remains the binding authority particularly in respect of Section 14.<sup>40</sup>

Turning to the facts before him, Woodworth JP acknowledged that while caustic soda

is corrosive and can pose health risks in situations of acute exposure or respiratory risks where mists are generated . . . the only evidence of any adverse effect is so trivial or minimal that it should not attract penal consequences . . . Therefore *the Crown has not established beyond a reasonable doubt* that the defendant caused or permitted the discharge of a contaminant into the natural environment that caused or was likely to cause an adverse effect in the circumstances.<sup>41</sup>

---

37. 84 WCB (2d) 297, 2009 CarswellOnt 9923 (WL Can) (Prov Off Ct) [*R v UBA* cited to WL Can].

38. RSO 1990, c E.19, s 14(1).

39. [1995] 2 SCR 1031, 125 DLR (4th) 385 [*Canadian Pacific* cited to SCR]. For the American authority for the same, see *Wisconsin Department of Revenue v William Wrigley, Jr*, 505 US 214 (1992). The United States Supreme Court held that “the venerable maxim *de minimis non curat lex* . . . is part of the established background of legal principles against which all enactments are adopted, and which all enactments (absent contrary indication) are deemed to accept”. *Ibid* at 231. As further discussed below, in Canada such contrary indication can be said to arise where the legislature has chosen to enact detailed, often quantitative, provisions.

40. *R v UBA*, *supra* note 37 at para 21.

41. *Ibid* at paras 29, 31 [emphasis added].

Finally, in another recent Ontario case, *Ontario (Ministry of Natural Resources) v 819743 Ontario Inc*,<sup>42</sup> the Court cited with approval recent commentary that “arguments about *de minimis* effects ought to be viewed with scepticism”, and that the Crown—here at the sentencing stage—“may rely on the analogy of ‘death by a thousand cuts’, to illustrate the cumulative nature of environmental damage”.<sup>43</sup>

This brief survey demonstrates that there is currently considerable disagreement in the jurisprudence about what role—if any—*de minimis* should play in environmental law. In rejecting its application, some courts, like the court in *Croft*, have seized on the “strict liability” nature of environmental offences, presumably alluding to the restricted defences available in this context.<sup>44</sup> Others, exemplified by *Goodman*, have expressed concern that the maxim’s use stretches the proper role of the judiciary within the separation of powers.<sup>45</sup> Courts have also expressed concern about cumulative effects.<sup>46</sup> In its most recent environmental law decision, *Castonguay Blasting Ltd v Ontario (Environment)*, the Supreme Court simply reaffirmed “non-triviality” as an essential element of both the principal prohibition (section 14) and the duty to report occurrences out of the normal course of events (section 15) under Ontario’s *EPA*.<sup>47</sup>

---

42. 2013 ONCJ 128, 2012 CarswellOnt 17212 (WL Can) [819743 Ontario].

43. The Honourable Todd L Archibald, Kenneth E Jull & Kent W Roach, *Regulatory and Corporate Liability: From Due Diligence to Risk Management* (Toronto: Canada Law Book, 2004) (loose-leaf updated 2014, release 22), ch 12 at 37, citing *R v Panarctic Oils Ltd*, 12 CELR 29, [1983] NWTR 47, sentencing reasons at 12 CELR 80 (Terr Ct) [cited to CELR]. In *R v Panarctic*, Bourassa J said at sentencing:

In my view, the destruction of any ecosystem or environment is a gradual process, effected by cumulative acts—a death by a thousand cuts, as it were. Each offender is as responsible for the total harm as the last one, who visibly triggers the end. The first offender can’t be allowed to escape with only nominal consequences because his input is not as readily apparent.

*R v Panarctic*, *supra* note 43 at 85–86.

44. *Supra* note 32. The strict liability defences generally fall into one of two categories: (i) due diligence and (ii) mistake of fact. See Elaine Hughes, “The Reasonable Care Defences” (1992) 2:2 J Env L & Prac 214.

45. *Supra* note 34.

46. See *819743 Ontario*, *supra* note 42.

47. 2013 SCC 52, [2013] 3 SCR 323 [*Castonguay Blasting*] (“[i]n summary, the requirement to report ‘forthwith’ in s. 15(1) of the *EPA* is engaged where the following elements are established[.] . . . the adverse effect or effects are not trivial or minimal” at para 36).

*B. Two Distinct and Mutually Exclusive Roles for De Minimis*

At least some of the confusion in the case law could be resolved by recognizing the two separate and distinct roles that *de minimis* has come to play.<sup>48</sup> The first and relatively well-settled role is as an aid in statutory interpretation, which as noted above, is rooted in the Supreme Court's decision in *Canadian Pacific*. The second and less settled role is as a defence.<sup>49</sup> These two roles are mutually exclusive. The maxim's application in the statutory interpretation context identifies conduct that is not captured by the relevant statutory provision (i.e., does not meet the *actus reus*). Where the maxim places the impugned conduct outside the scope of the *actus reus*, its availability as a defence is rendered redundant. Where, however, the maxim is not applicable as an interpretative aid, its availability—if any—is restricted to the defence stage.

The applicability of the maxim as a matter of statutory interpretation in some instances and not others and the current uncertainty as to its availability as a defence would appear sufficient to justify distinguishing between these two roles, but there are additional reasons. As part of the statutory interpretation exercise, *de minimis* plays an important role not just in the courts but also in the offices of regulator and industry counsel, as these advise their clients on their respective regulatory burdens (e.g., whether a permit should be required or sought for a certain work or undertaking, respectively). Inside the courtroom, the maxim's role in delineating the *actus reus* of any given offence means that the burden will be on the Crown to prove this element—or rather its absence—beyond a reasonable doubt. In its role as a defence, and assuming it is available

---

48. See Paule Halley, “La règle de *de minimis non curat lex* en droit de l'environnement”, *Développements récents en droit de l'environnement*, vol 214 (Cowansville, Que: Yvon Blais, 2004) at 4. Halley notes that the maxim has been used in some form in the context of statutory interpretation, as a defence, in sentencing and, finally, in the exercise of prosecutorial discretion. This article considers the first and second applications. At the third (sentencing) stage, an accused will have gone through the time, cost and effort of a trial, all of which has resulted in a conviction, such that it seems contradictory to speak of the maxim; at this stage the law clearly *has* concerned itself with “the matter”. As for prosecutorial discretion, whatever role *de minimis* plays here would seem dictated by its consideration in the first two contexts.

49. For uncertainty surrounding the role of *de minimis* in the broader criminal context, see *Canadian Foundation for Children, Youth and the Law v Canada (Attorney General)*, 2004 SCC 4, [2004] 1 SCR 76 [*Canadian Foundation for Children*].

in the strict liability context, the accused would have the burden of persuading the court on a balance of probabilities that the conduct should be considered too trivial to warrant penal consequences—the same burden imposed with respect to the reasonable care defences.<sup>50</sup> Finally, as a principle of statutory interpretation, the maxim sits relatively comfortably within the judiciary’s conventional role under the separation of powers.<sup>51</sup> As a defence, it invites the courts to second-guess the executive branch on matters of public interest by deliberately overlooking expressly prohibited conduct.

(i) *De Minimis* in Statutory Interpretation

As an aid in statutory interpretation, the maxim is most clearly applicable where a legislature (with respect to a statute) or its chosen delegate (with respect to subordinate regulations) has drafted the relevant provisions in general terms. Here, *de minimis* acts alongside other principles of interpretation as a part of the purposive approach to resolving legislative ambiguities.<sup>52</sup>

It was in the context of precisely such legislation that the Supreme Court endorsed reliance on *de minimis* in *Canadian Pacific*. As noted above, the relevant provision in that case prohibited the discharge of contaminants that cause, or are likely to cause, an “adverse effect”, which the legislation defined as including “impairment of the quality of the natural environment for any use that can be made of it”.<sup>53</sup> Counsel for

---

50. The Canadian Bar Association once recommended that the former approach be adopted for criminal offences generally: “Where the Crown has proved all of the essential elements of an offence the Court may, before a finding of guilt is entered, stay the proceedings against the accused with respect to that offence, where the accused satisfies the Court on the balance of probabilities that . . . the violation was too trivial to warrant a finding of guilt.” Canadian Bar Association, “Principles of Criminal Liability: Proposals for New General Part of the *Criminal Code* of Canada”, by Criminal Recodification Task Force (Ottawa: CBA, 1992) at 123. However, there is some confusion with respect to the applicable burden of proof for the non-reasonable care defences in the strict liability context. See *Syncrude*, *supra* note 21 at paras 163–64.

51. See *Ontario v Criminal Lawyers’ Association of Ontario*, 2013 SCC 43 at paras 27–29, [2013] 3 SCR 3.

52. For other principles of statutory interpretation, see *Rizzo & Rizzo Shoes Ltd (Re)*, [1998] 1 SCR 27 at paras 20–22, 154 DLR (4th) 193.

53. *Canadian Pacific*, *supra* note 39 at para 39.



Canadian Pacific argued that the expression “for any use that can be made of it” was so “vague and broad that it fails to provide an intelligible standard that would enable citizens to regulate their conduct”,<sup>54</sup> thus contravening section 7 of the *Canadian Charter of Rights and Freedoms*.<sup>55</sup> Writing for the Court, Gonthier J held that, properly interpreted, the prohibition was not unconstitutionally vague:

[I]nterpreting the concept of “use” in s. 13(1)(a) in a restrictive manner is supported not only by its place in the legislative scheme, but also by the principle that a statute should be interpreted to avoid absurd results. . . . In particular, because the legislature is presumed not to have intended to attach penal consequences to trivial or minimal violations of a provision, the absurdity principle allows for the narrowing of the scope of the provision. In this respect, the absurdity principle is closely related to the maxim, *de minimis non curat lex* (the law does not concern itself with trifles). The rationale of this doctrine was explained by Sir William Scott in the case of *The “Reward”* (1818):

The Court is not bound to a strictness at once harsh and pedantic in the application of statutes. The law permits the qualification implied in the ancient maxim *De minimis non curat lex*.—Where there are irregularities of very slight consequence, it does not intend that the infliction of penalties should be inflexibly severe. If the deviation were a mere trifle, which, if continued in practice, would weigh little or nothing on the public interest, it might properly be overlooked.

The absurdity, strict interpretation and *de minimis* principles assist in narrowing the scope of the expression “for any use that can be made of [the natural environment]”, and determining the area of risk created by s. 13(1)(a) EPA.<sup>56</sup>

Subsequently, several commentators suggested that the maxim’s role as an interpretive aid be limited to those instances where the general wording of the prohibition in the legislation “invites an interpretation restricting its scope”.<sup>57</sup> In fact, this position was articulated well before *Canadian Pacific*. As early as 1978, one commentator observed that the maxim “comes into its own when the legislature has not attempted mathematical precision but has used ordinary language, the application of which

---

54. *Ibid.*

55. *Supra* note 19, s 7.

56. *Canadian Pacific*, *supra* note 39 at para 65 [citations omitted].

57. Simon Roy & Julie Vincent, “La place du concept de *minimis non curat lex* en droit pénal canadien” (2006) 66:2 R du B 211 [translated by author] (“libellé de l’infraction donne ouverture à une interprétation restrictive de sa portée” at 217). See also Halley, *supra* note 48 at 21.

involves questions of the little less and the little more”.<sup>58</sup> This observation is particularly appropriate in the environmental law context where, as noted in the *Canadian Pacific* decision, “mathematical precision” is not always possible nor desirable:

In the context of environmental protection legislation, a strict requirement of drafting precision might well undermine the ability of the legislature to provide for a comprehensive and flexible regime. As the Law Reform Commission suggests, then, generally framed pollution prohibitions are desirable from a public policy perspective. . . . In my view, the generality of s. 13(1)(a) ensures flexibility in the law, so that the EPA may respond to a wide range of environmentally harmful scenarios which could not have been foreseen at the time of its enactment.

...

In the area of environmental protection, legislators have two choices. They may enact detailed provisions which prohibit the release of particular quantities of enumerated substances into the natural environment. Alternatively, they may choose a more general prohibition of “pollution”, and rely on the courts to determine whether, in a particular case, the release of a substance into the natural environment is of sufficient magnitude to attract legislative sanction.<sup>59</sup>

This reasoning actually fits well with—and provides a defensible explanation for—most of those cases discussed above where the maxim’s application was rejected. In *Croft*, for example, the accused were charged with possessing undersized lobsters (less than 82 millimetres from carapace to carapace) contrary to subsection 57(2) of the *Atlantic Fishery Regulation, 1985*, a prohibition whose parameters are plain on its face.<sup>60</sup> Similarly, *Williams Operating* involved a detailed regulatory scheme that authorized only certain deposits from mining operations and only under

---

58. Glanville Williams, *Textbook of Criminal Law*, 1st ed (London, UK: Stevens & Sons, 1978) at 574. More recently, Stanley Berger has observed that “the *de minimis* defence has been less successful in circumstances where legislative authorities have imposed concentrations limits or other specific conditions in regulations or licensing documents”. Stanley Berger, *The Prosecution and Defence of Environmental Offences* (Aurora, Ont: Canada Law Book, 2009) (loose-leaf revision 2), s 2.8, citing *R v Wood Mountain (Village)*, 2007 SKPC 47, 29 CELR (3d) 210.

59. *Canadian Pacific*, *supra* note 39 at paras 52–53. See also *Castonguay Blasting*, *supra* note 47 at para 9. As further discussed in Part II of this article, this intended flexibility would seem to capture within its scope concerns with respect to cumulative effects.

60. *Supra* note 32, s 57(2).

specified conditions.<sup>61</sup> Neither of these schemes require application of the *de minimis* maxim to assist in carving out the “area of risk”.<sup>62</sup>

By comparison, the *EPA* provisions in question in *UBA*—the same provisions considered in *Canadian Pacific*—do not employ “mathematical precision”, making the maxim’s application hard to avoid. The same was true for a previous version of subsection 35(1) of the *Fisheries Act*, which prohibited the “harmful alteration, disruption or destruction [HADD] of fish habitat”.<sup>63</sup> Contrary to the holding in *Goodman*, courts had consistently employed the *de minimis* maxim to interpret section 35’s prior iteration.<sup>64</sup> For example, in *R v Levesque*, which also involved a section 7 vagueness challenge, the Court held that:

[T]he scope of the legal debate around the carrying out of any work or undertaking that results in [HADD] is narrowed, to the extent that trivial, non-permanent, passing or minimal alterations or disruptions of fish habitat do not bring with them penal consequences. . . . [A]bsurdity, and *de minimis* principle . . . restrict a disruption of fish habitat to something that is more than a minimal, or trivial disruption.<sup>65</sup>

Setting aside for the moment the manner in which the maxim was applied in *Levesque*, it is plain that not every centimetre of altered or disrupted habitat warranted penal consequences. Reliance on the *de minimis* principle in this context was therefore appropriate, as it will be in the future when courts interpret the prohibition against “the death of fish or the permanent alteration of, or destruction to, fish habitat” in the current section 35, under the revised version of the *Fisheries Act*.<sup>66</sup>

(ii) *De Minimis* as a Defence

Where the legislature has chosen to “enact detailed provisions”,<sup>67</sup> application of the *de minimis* maxim as an interpretive aid is unnecessary;

---

61. *Williams Operating Ct J*, *supra* note 30. See also *MMER*, *supra* note 26, s 4(1).

62. See *Canadian Foundation for Children*, *supra* note 49 at para 15.

63. RSC 1985, c F-14, s 35(1) as it appeared on 29 June 2012.

64. This contradiction may be explained by the invocation of *de minimis* as a defence rather than as part of the statutory interpretation exercise.

65. *R v Levesque* (2001), 90 CRR (2d) 137 at 147, 43 CELR (NS) 294 (Ont Sup Ct J), cited with approval in *R v Zuber* (2004), 122 CRR (2d) 82, 62 WCB (2d) 345 (Ont Ct J).

66. See *supra* note 11, ss 2(2), 35(1).

67. *Canadian Pacific*, *supra* note 39 at para 53.

the area of risk is clear. Nevertheless, the maxim may still be available in the form of a defence, as it appears to be for certain criminal offences.<sup>68</sup>

At least three objections have been raised against the maxim's availability as a defence, the second and third of which are arguably equally applicable to its role in statutory interpretation. The first objection is of a "separation of powers" variety, and questions whether the judiciary ought to "second-guess" the other (democratically elected) branches of government in matters of public interest, whether in choosing the relevant regulatory parameters (for example, requiring effluent to have a pH between 6.0 and 9.5 pursuant to section 4 of the *MMER*)<sup>69</sup> or in deciding whether the offending conduct warrants prosecution.<sup>70</sup> Reasoning along the lines of the first category is discernable in *Croft* ("Parliament [*sic*] has decided where it chooses to draw the line"<sup>71</sup>) while the second is evident in *Goodman* ("it is not for the Court to determine whether [the] prosecution was in the public interest"<sup>72</sup>). This objection does not apply to the maxim's application in statutory interpretation because, as already explained, there should be no specific regulatory standards and therefore no second-guessing by the judiciary, the matter being one of the correct interpretation of the provisions in play.

The second argument against the maxim's use as a defence is that it is too uncertain. In *Canadian Foundation for Children, Youth and the Law v Canada (Attorney General)*, the last word from the Supreme Court of

---

68. See Patrick J Knoll, *Criminal Law Defences*, 4th ed (Scarborough, Ont: Carswell, 2013) at 193–94. See also cases cited by Arbour J, in *Canadian Foundation for Children, supra* note 49 at para 205.

69. Bearing in mind especially that regulatory standards are informed by scientific evidence, expert advice and consultation with both the public and specific stakeholders. See e.g. Chris Tollefson, Fred Gale & David Haley, *Setting the Standard: Certification, Governance, and the Forest Stewardship Council* (Vancouver: UBC Press, 2008); Malcolm L Hunter Jr et al, "Thresholds and the Mismatch Between Environmental Laws and Ecosystems" (2009) 23:4 *Conservation Biology* 1053.

70. See Halley, *supra* note 48 at 4 (prosecutors consider the triviality of the offence as part of a broader consideration as to whether a prosecution is in the "public interest"). See also Public Prosecution Service of Canada, *Public Prosecution Service of Canada Deskbook*, online: < [www.ppsc-sppc.gc.ca/eng/pub/fpsd-sfpg/index.html](http://www.ppsc-sppc.gc.ca/eng/pub/fpsd-sfpg/index.html) >.

71. *Supra* note 32 at para 15 (readers should note that in fact, it is Parliament's delegate, the Governor in Council, that "decided where it chooses to draw the line" with respect to undersized lobsters).

72. *Supra* note 34 at para 32.

Canada on the use of the maxim as a defence generally, McLachlin CJC described *de minimis* as “vague and difficult in application”.<sup>73</sup> It has been suggested that “[w]hat is or is not trifling, in a specific situation, will be difficult to agree upon.”<sup>74</sup>

The third and final objection is that the maxim overlooks cumulative effects. This concern was expressed in *R v Kelsey*, where the accused was convicted of contravening the previous section 31 of the *Fisheries Act* (the prohibition against HADD) for having installed metal culverts in fish-bearing waters without authorization.<sup>75</sup> On appeal, counsel argued that *de minimis* should be applied. The Court disagreed:

In the words of the expert witness Mr. McCuvvin, when commenting on the installation of the culverts, “I am saying that actions like that, that go unchecked, will basically spell the death knell of the productivity of the system”.

...  
The destruction of any environment or ecosystem is indeed a gradual process effected by cumulative acts.<sup>76</sup>

A similar observation was made in *R v Canadian Forest Products Ltd*<sup>77</sup> which dealt with the *Fisheries Act* section 36 prohibition against the deposit of deleterious substances.<sup>78</sup> The Court held that “[a]ll pollution legislation is concerned not only with the immediate damage of a pollutant but also by *the cumulative effect* of any substance.”<sup>79</sup>

---

73. *Canadian Foundation for Children*, *supra* note 49 at para 44.

74. *R v Gale* (2010), 2009 CanLII 73900 at para 33 (Nfld Prov Ct). *Contra R v Murphy*, 2010 NBPC 40, 367 NBR (2d) 133 (where the defence was successfully applied). Both of these cases are from the criminal law context.

75. (1985), 55 Nfld & PEIR 154, 162 APR 154 (Nfld Dist Ct) [cited to Nfld & PEIR].

76. *Ibid* at 160–61.

77. (1978), 7 CELR 113, 2 FPR 168 (BC Prov Ct) [*Canadian Forest Products* cited to CELR].

78. *Fisheries Act*, *supra* note 11, s 36(3). The Act states:

Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

*Ibid*.

79. *Canadian Forest Products*, *supra* note 77 at 119 [emphasis added].

Returning to the first objection, and with respect to the setting of regulatory standards in particular, this is probably the strongest argument against the maxim's availability as a defence and one to which there appears no obvious counter-argument. With respect to the exercise of prosecutorial discretion, perhaps the best response is the one given by Arbour J, dissenting, in *Canadian Foundation for Children*: "The good judgment of prosecutors in eliminating trivial cases is necessary but not sufficient to the workings of the criminal law."<sup>80</sup> It is therefore appropriate—indeed necessary—for the courts to have a means of exculpating the accused.

With respect to the second and third objections, which, as noted above, appear equally applicable to the maxim's application in statutory interpretation as to its role as a defence, one potential answer—and the focus of Part II—is to reconsider how the maxim is applied. Properly construed, *de minimis* is no less certain than many other judicial frameworks, nor should it give rise to harm through cumulative effects.

## II. The *De Minimis* Maxim Properly Construed

### A. *De Minimis* as a Two-Part Test

When applying the *de minimis* principle, courts tend to consider only a single variable, namely the degree to which the impugned conduct deviates from the prescribed standard, often expressed in terms of the amount of environmental harm incurred. In *Williams Operating*, the trial judge applied the maxim because in his view the deposits at issue would have "no or at the very worst only a very trifling effect on fish".<sup>81</sup> In *UBA*, the Court applied the maxim because "the only evidence of any adverse effect is so trivial or minimal that it should not attract penal consequences".<sup>82</sup> Similarly, in *Castonguay Blasting*, the Supreme Court focused on the magnitude of harm from the specific incident in question to determine that it was not trivial: "The force of the blast, and the rocks it produced, were so powerful they caused extensive and significant property damage."<sup>83</sup>

---

80. *Canadian Foundation for Children*, *supra* note 49 at para 200.

81. *Williams Operating* Ct J, *supra* note 30 at para 39.

82. *Supra* note 37 at para 31.

83. *Supra* note 47 at para 39.

If one considers the *de minimis* maxim's foundational case, *The Reward*,<sup>84</sup> however, the test actually involves two related inquiries: "If the deviation were a mere trifle, which, if continued in practice, would weigh little or nothing on the public interest, it might properly be overlooked."<sup>85</sup>

Broken down into parts, the first part of the maxim asks whether the offence ("the deviation") seems minimal ("a mere trifle"). If not, the inquiry is at an end. If it does, however, then the analysis turns to the potential for the combined or cumulative effects of such deviations ("if continued in practice") to interfere or undermine ("weigh . . . on") the legislature's objectives in promulgating the relevant regulatory regime ("the public interest"). The goal is to identify conduct that the regulatory regime may ignore ("might properly be overlooked") while still attaining its objective(s).

Although the reference to continuity arguably pertains to the specific offence before the court (and the potential effect if *it* were to continue in practice), any ambiguity on this front is resolved by the maxim's actual application in *The Reward*. In finding the accused guilty of exporting Jamaican logwood, the Court stated:

In the present case, the exact quantity is not easily ascertained. . . . Three tons of fraud perhaps would not be what the Court could regard as a mere trifle. . . . I think it exceeds that amount; *but I must look a little further. What is here alleged is, that this is the usual practice of Jamaica.* Now, in my mind, this, instead of alleviating the strictness to be exercised, ought to augment it; for, *if a practice so abusive prevails generally at that island; if every ship that sails from Jamaica may take three, four, five or six tons of an article, the exportation of which is absolutely prohibited by law, what becomes of the prohibition? . . .* If it be true [that the law is unduly burdensome], this may be a very proper ground for an application to the Legislature to relax the prohibition, but cannot justify the individuals in taking on themselves a breach of the law as their general custom.<sup>86</sup>

Thus, the Court was not satisfied to consider simply the extent of the deviation in the specific offence before it (i.e., the amount of

---

84. *The Reward* (1818), 2 Dods 265. The maxim's application has actually been traced back to an even earlier case, *Taverner v Dominum Cromwell*, but *The Reward* is most often referred to as the authority for the maxim in Canadian law. See *Taverner v Dominum Cromwell* (1594), 78 ER 601, cited in *R v Kubassek* (1998), 188 CCC (3d) 307 at para 19, 25 CR (6th) 340 (Ont CA).

85. *The Reward*, *supra* note 84 at 270.

86. *Ibid* at 270–71 [emphasis added].

Jamaican logwood illegally exported by the accused). It also considered the potential for such conduct, if allowed to be widespread, to undermine the public interest as expressed in the relevant prohibition.

There are several Canadian cases that apply a similar approach. In *Synchrude*, for example, the Court held that even if *de minimis* did apply to the prohibition at issue (a matter which it left undecided), it was inapplicable in that case because:

Synchrude's conduct in connection with the offences is not minimal or trivial. *Unfortunately some waterfowl will die in the tar sands tailings ponds regardless of deterrent efforts. More birds will die without effective deterrents.* I have no doubt that, in this context, the failure to take all reasonable steps to deter waterfowl from the Aurora Settling Basin was not at all trivial.<sup>87</sup>

Justice Tjosvold's references to "tar sands tailings ponds" and "deterrent efforts" in the plural, along with his reference to "context" suggest that he had turned his mind to the potential cumulative effect of insufficient efforts to deter migratory birds in the oil sands region generally. This is not surprising given Tjosvold J's earlier characterization of the prohibition: "As with most regulatory offences, the legislation is not just directed at the immediate and direct effect of the proscribed conduct but also at the potential harm if that conduct was widespread."<sup>88</sup>

Another Alberta case worth noting, this time involving a HADD violation under the *Fisheries Act*, is *R v Jackson*:

In my opinion the defence of *de minimis* . . . is not available to assist the Appellant. Granted, the trial Judge found that the work was insignificant when compared to the vast area of the lake and shoreline itself. That, I think, is not the test . . . this was a major channel dredging, a substantial piece of work. In my view, a *de minimis* defence would only be available if the work was *in the nature of a shovelful or two of digging, or something in the nature of clam or mussel digging on the foreshore on a casual basis.* It would not cover an operation such as that described here. It should not be calculated by a comparison of an area of work compared to area of total lake or body of water.<sup>89</sup>

Thus, although the trial judge made a *prima facie* finding of triviality, Wilson J rejected the *de minimis* defence. While the Court did not

---

87. *Synchrude*, *supra* note 21 at para 165 [emphasis added].

88. *Ibid* at para 106.

89. *R v Jackson* (1994), 22 Alta LR (3d) 438 at para 6, 10 WWR 609 (QB) [emphasis added].



expressly mention cumulative effects, such a concern can be seen in Wilson J's contrasting of a dredging operation with clam or mussel digging on "a casual basis". Casual digging conveys the idea of randomness or infrequency, in contrast to the relatively routine requirements of dredging. Similarly, Wilson J's refusal to view the harm in the context of the entire lake is consistent with a recognition that few harms would be captured under such an approach.

Beyond these few examples, however, the case law is inconstant as to how to characterize the "deviation" that is the focus of the maxim. In *Canadian Pacific*, the focus is on the amount of pollution released or the amount of environmental harm caused. This approach is also adopted by the trial judges in *Williams Operating* and *UBA*. In contrast, the courts in *Jackson*, *Syncrude* and *Kelsey* considered not only the amount of harm caused, but also the nature of the conduct giving rise to the offence (dredging, tailings ponds and culverts, respectively), an approach that finds support in the commentary.<sup>90</sup>

In my view, both the amount of environmental harm and the nature of the conduct are relevant, but at different stages of the analysis. Evidence as to the amount of environmental harm caused can be used to establish prima facie triviality (the first part of the *de minimis* test), but this information alone is insufficient to reach a conclusion on its potential to "weigh on the public interest" (the second part of the *de minimis* test). Of course, if widespread, the destruction of ten square metres of fish habitat, or the release of 3,000 gallons of mine water, or the death of 1,500 birds would weigh on the public interest, but simply assuming such widespread harm would render the maxim's availability illusory. What is needed, instead, is some basis for assessing whether such a risk is real. It is here

---

90. See e.g. *Model Penal Code and Commentaries*, § 2.12 (1985) [*Model Penal Code*]. The American Law Institute defines the doctrine of *de minimis non curat lex* as follows:

The Court shall dismiss a prosecution if, *having regard to the nature of the conduct charged to constitute an offence and the nature of the attendant circumstances*, it finds that the defendant's conduct:

...

(2) did not actually cause or threaten the harm or evil sought to be prevented by the law defining the offense or did so only to an extent too trivial to warrant the condemnation of a conviction.

*Ibid* [emphasis added].

that the conduct giving rise to the offence is relevant, as it sheds light on the actual potential for cumulative harm.

Most obviously, if the conduct is common, then there is clear potential for cumulative effects and any *prima facie* finding of triviality will be defeated unless the harm is so miniscule that even cumulatively it can “properly be overlooked”.<sup>91</sup> At the other end of the spectrum sits conduct that is rare and often unintentional (i.e., accidental).<sup>92</sup> Intention, after all, is not a requisite element for regulatory (strict liability) offences.<sup>93</sup> Here the maxim has the potential to bleed into the defence of due diligence, in that a finding of due diligence suggests that the harm was the result of a fluke or bad luck, and thus any potential for cumulative effects is low. There will, however, be instances of unintentional conduct where the potential for cumulative harm remains significant.<sup>94</sup> Ultimately, neither the amount of harm, nor the conduct giving rise to it, are on their own sufficiently reliable metrics for potential cumulative effects. The proper approach takes both into account.

At this stage of the discussion, it is useful to return to the concepts and principles of modern cumulative effects analysis and risk-based regulation. I am not arguing that cumulative effects analysis, as predominantly practiced in the environmental assessment context, ought now to be incorporated into the *de minimis* test. As explained above, the maxim’s concern for cumulative effects has deep roots. Similarly, the maxim has always been risk oriented. The goal here is simply to provide additional insight into its application before considering whether the approach proposed herein is consistent with the maxim’s role in interpreting environmental legislation.

### *B. De Minimis as Simplified Cumulative Effects Analysis*

As stated at the outset of this article, the problem of cumulative environmental effects is both widespread and widely understood. While the problem is increasingly being addressed on a regional basis through

---

91. See *The Reward*, *supra* note 84 at 270.

92. See *R v Williams Operating* Sup Ct J, *supra* note 24.

93. See *R v Sault Ste Marie (City)*, [1978] 2 SCR 1299 at 1325–26, 85 DLR (3d) 161.

94. See *Syncrude*, *supra* note 21 (the potential for cumulative harm was arguably rooted in the cost savings for oil sands producers associated with a reduced and ultimately less effective bird deterrent program).

land-use planning frameworks, most of the advances in cumulative effects analysis have been in the environmental assessment context.<sup>95</sup> In Canada, environmental assessment is predominantly used for proposed physical works, such as mines, dams and pipelines, and it has been described as “a planning tool [with] both an information-gathering and a decision-making component which provide the decision maker with an objective basis for granting or denying approval for a proposed development”.<sup>96</sup> Recognizing that projects cannot be assessed in isolation, specific procedures for identifying and analyzing cumulative environmental effects have been developed. These procedures are variously referred to as “cumulative effects analysis” or “cumulative effects assessment”:

Cumulative Effects Assessment (CEA) is done to ensure the incremental effects resulting from the combined influences of various actions are assessed. These incremental effects may be significant even though the effects of each action, when independently assessed, are considered insignificant.<sup>97</sup>

The Canadian CEA literature identifies four ways in which cumulative effects of individually minor acts may result in environmental degradation, three of which are useful to consider here:

- Physical-chemical transport: a physical or chemical constituent is transported away from the action under review where it then interacts with another action (e.g., air emissions, waste water effluent, sediment).
- Nibbling loss: the gradual disturbance and loss of land and habitat (e.g., clearing of land for a new sub-division and roads into a forested area).
- Spatial and temporal crowding: Cumulative effects can occur when too much is happening within too small an area and in too brief a period of time. A threshold may be exceeded and the environment may not be able to recover to pre-disturbance conditions . . . Spatial crowding results in an overlap of effects among actions.<sup>98</sup>

---

95. See e.g. Courtney A Schultz, “History of the Cumulative Effects Analysis Requirement Under NEPA and Its Interpretation in U.S. Forest Service Case Law” (2012) 27:1 J Envtl L & Litig 125; Jessica T Dales, “Death by a Thousand Cuts: Incorporating Cumulative Effects in Australia’s Environment Protection and Biodiversity Conservation Act” (2011) 20:1 Pac Rim L & Pol’y J 149.

96. See *Friends of the Oldman River Society v Canada (Minister of Transport)*, [1992] 1 SCR 3 at 71, 88 DLR (4th) 1.

97. Canadian Environmental Assessment Agency, *Cumulative Effects Assessment Practitioners Guide*, by G Hegmann et al (Ottawa: Minister of Public Works and Government Services, 1999) at 1 [*CEA Guide*].

98. *Ibid* at 6.

Each of these mechanisms is illustrated by the cases considered thus far. The accidental deposit of 3,000 gallons of mine and storm water in *Williams Operating* could fall into both the first and third categories depending on the circumstances. As described by the expert witness in *Kelsey*, the unauthorized construction of culverts could fall into the second and third categories. The potential cumulative danger posed by the death of 1,600 birds in *Syncrude* also fits into the third category, bearing in mind the proximity of numerous other tailings ponds in the area.<sup>99</sup>

In light of the many ways in which cumulative environmental harm manifests, it is not surprising that CEA can be complex. In an effort to avoid “assessing everything”, project proponents and environmental assessment consultants must determine the scope of the assessment at the outset.<sup>100</sup> The starting point is to identify the subject of the analysis.<sup>101</sup> In the environmental assessment context, this is often referred to as the valued ecosystem component (VEC): “Any part of the environment that is considered important by the proponent, public, scientists and government involved in the assessment process.”<sup>102</sup> The next task is to determine the spatial and temporal boundaries for the assessment. The purpose of this exercise is to determine which other activities or conduct—current and future—should be considered in the assessment. Generally speaking, CEA involves a consideration of “certain” future activities (those that will definitely happen) and those that are “reasonably foreseeable”.<sup>103</sup>

Each of these steps sheds light on the *de minimis* test. The VEC is closely analogous to the public interest that is the guidepost of the *de minimis* test. In *Syncrude*, or more generally under section 5.1 of the

---

99. See *supra* note 21 at para 45. There are approximately 180 square kilometres of oil sands tailings ponds in Alberta. See Government of Alberta, “Tailings”, online: <[oilsands.alberta.ca/tailings.html](http://oilsands.alberta.ca/tailings.html)>. Moreover, a recent study suggests that up to 200,000 birds land on these tailings ponds yearly. Alberta Justice, “Final Report of the Research on Avian Protection Project (2010–2014)”, by Colleen Cassidy St Clair (Edmonton: University of Alberta, 2014) at 50, online: <[rapp.biology.ualberta.ca/wp-content/uploads/sites/13/2014/05/RAPP-Final-Report-7-May-2014.pdf](http://rapp.biology.ualberta.ca/wp-content/uploads/sites/13/2014/05/RAPP-Final-Report-7-May-2014.pdf)>.

100. See *CEA Guide*, *supra* note 97 at 11. See also Schultz, *supra* note 95 at 135. Schultz states: “The most difficult aspect of CEA . . . is defining the scope of analysis. If it is too large, the CEA analysis will become unwieldy; if it is too small, the analysis will miss important considerations.” *Ibid*.

101. See *CEA Guide*, *supra* note 97 at 11.

102. *Ibid* at 4.

103. *Ibid* at 18–19.

*MBCA*,<sup>104</sup> the public interest or VEC at stake is migratory birds, recognized in the Act “for their nutritional, social, cultural, spiritual, ecological, economic, and aesthetic values”.<sup>105</sup> In *Croft, Williams Operating* and all situations involving the *Fisheries Act*, the public interest or VEC is the fisheries resource, which the Supreme Court has described as a “common property resource” to be managed in the public interest on behalf of all Canadians.<sup>106</sup>

With respect to the demarcation of spatial and temporal boundaries, and the selection of relevant activities in particular, the *de minimis* test is fortunately considerably simpler than actual CEA. This is because there is only one activity relevant to the *de minimis* inquiry: either the past conduct that brought an accused before the court or the future conduct that is being contemplated by the regulated community. Nevertheless, the emphasis in CEA on “certain” and “reasonably foreseeable” activities is useful because it underscores the importance of assessing the actual potential for cumulative effects. This lends additional support to an approach to *de minimis* that looks beyond the harm caused in the abstract to consider the originating conduct. This aspect of CEA is also useful in that it suggests regard should be given not just to conduct that is certain to be widespread, but also to conduct whose widespread adoption is reasonably foreseeable.<sup>107</sup>

---

104. *Supra* note 22 (the Act states that “[n]o person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area”, s 5.1(1)).

105. *Ibid*, Schedule, art IX.

106. *Ward v Canada (Attorney General)*, 2002 SCC 17 at para 41, [2002] 1 SCR 569.

“[F]isheries” under s. 91(12) of the *Constitution Act, 1867* refers to the fisheries as a resource; “a source of national or provincial wealth”; a “common property resource” to be managed for the good of all Canadians. The fisheries resource includes the animals that inhabit the seas. But it also embraces commercial and economic interests, aboriginal rights and interests, and the public interest in sport and recreation.

*Ibid* [citations omitted].

107. Bearing in mind that the information required to have certain knowledge will not generally be available to the public or even private industry.

### C. De Minimis in Risk-Based Regulation

Additional insight into the maxim can also be gained by situating *de minimis* within a modern risk-based regulatory regime. The Alberta Energy Regulator's "Compliance Assurance Risk Assessment Matrix" groups all enforcement activities into either a high-risk or low-risk category.<sup>108</sup> The high-risk category is described as representing "an unacceptable level of risk requiring the inclusion of mitigation measures", while the low-risk category represents "an acceptable level of risk that requires mitigative measures within an acceptable time frame".<sup>109</sup> In other words, high-risk conduct requires an immediate response, while low-risk conduct can wait. In this kind of framework, there is no space reserved for *de minimis* level risks. Rather, the *de minimis* maxim serves to identify conduct irrelevant to the regime's regulatory purpose. Therefore, when applying the maxim, it is useful to ask the following relatively simple question: Is the conduct in question irrelevant to the legislature's purpose in promulgating the relevant regime? If not, then it is likely not *de minimis*.<sup>110</sup>

This is not to suggest that all pollution or environmental damage ought to be prohibited outright. The reality is that many so-called prohibitions are simply gateways to negotiation and further regulation.<sup>111</sup> Section 35 of the *Fisheries Act*—still widely regarded as Canada's most important federal environmental law—is a classic example. In its most recent iteration, subsection 35(1) prohibits works, undertakings and activities that result in the death of fish, or that permanently alter or destroy their habitat, that are part of or support commercial, recreational or Aboriginal fisheries.<sup>112</sup>

108. Alberta Energy Regulator, "Compliance Assurance Risk Assessment Matrix", Document No 19676, Table 4, online: <[www.aer.ca/documents/enforcement/cai\\_RiskMatrix.pdf](http://www.aer.ca/documents/enforcement/cai_RiskMatrix.pdf)>.

109. *Ibid.*

110. Such a question is consistent with the formulation of the maxim advanced in the American Law Institute's *Model Penal Code*. See *supra* note 90, § 2.12.

111. See Pardy, *supra* note 1 (observing that some environmental statutes, such as Ontario's *EPA* "include provisions that appear to be substantive rules of wide application" but which upon closer analysis allow "government administrators to make inexact policy decisions that no one can predict ahead of time" at 34).

112. *Fisheries Act*, *supra* note 11 ("[n]o person shall carry on any work, undertaking or activity that results in serious harm", s 35(1)). The Act defines "serious harm" as "the death of fish and the permanent alteration to, or destruction of, fish habitat". *Ibid.*, s 2(2).

Pursuant to subsection 35(2), however, a person may carry on a work, undertaking or activity without contravening subsection 35(1) if they are authorized by the Minister or pursuant to regulations.<sup>113</sup>

This reality was reflected in DFO's "risk assessment matrix" under the previous HADD regime, where risks to fish habitat were ranked high-, medium-, low- and no-risk as a function of the scale of negative effects and the sensitivity of the affected habitat.<sup>114</sup> High-risk activities were subject to a site-specific review and authorization, medium-risk activities to a streamlined authorization processes and low-risk activities to site-specific advice and guidelines.<sup>115</sup> As with the AER example above, no-risk (i.e., *de minimis*) harms received no attention whatsoever.

By incorporating a risk-based framework within their regulatory programs, the AER and DFO examples illustrate the important implications of deeming something to be *de minimis*: The regulatory regime essentially becomes blind to it. These frameworks also illustrate that low-risk conduct is different from *de minimis* conduct, an important distinction that Canadian regulators occasionally overlook.

---

113. *Ibid*, s 35(2). According to the Act:

A person may carry on a work, undertaking or activity without contravening subsection (1) if

- (a) the work, undertaking or activity is a prescribed work, undertaking or activity, or is carried on in or around prescribed Canadian fisheries waters, and the work, undertaking or activity is carried on in accordance with the prescribed conditions;
- (b) the carrying on of the work, undertaking or activity is authorized by the Minister and the work, undertaking or activity is carried on in accordance with the conditions established by the Minister;
- (c) the carrying on of the work, undertaking or activity is authorized by a prescribed person or entity and the work, undertaking or activity is carried on in accordance with the prescribed conditions;
- (d) the serious harm is produced as a result of doing anything that is authorized, otherwise permitted or required under this Act; or
- (e) the work, undertaking or activity is carried on in accordance with the regulations.

*Ibid*.

114. "DFO Practitioners Guide", *supra* note 11 at 17-18.

115. *Ibid*.

*D. A Two-Part De Minimis as a Presumption of Statutory Interpretation*

In *Canadian Pacific*, Gonthier J described *de minimis* as a presumption in statutory interpretation: “[T]he legislature is *presumed* not to have intended to attach *penal* consequences to trivial or minimal violations”.<sup>116</sup> Bearing in mind the important distinction made above between prohibition and regulation (i.e., that the balancing act is generally not against penal consequences but rather some degree of regulation, as illustrated in DFO’s risk framework), an approach to *de minimis* that takes cumulative effects into account is more consistent with most environmental legislation than an approach that fails to do so.

In *Castonguay Blasting*, the Supreme Court described the *EPA* as Ontario’s principal environmental protection statute, entitled to a generous interpretation:

Moreover, as this Court recognized in *Canadian Pacific*, environmental protection is a complex subject matter—the environment itself and the wide range of activities which might harm it are not easily conducive to precise codification. As a result, *environmental legislation embraces an expansive approach* to ensure that it can adequately respond “to a wide variety of environmentally harmful scenarios, including ones which might not have been foreseen by the drafters of the legislation”. Because the legislature is pursuing the objective of environmental protection, *its intended reach is wide and deep*.<sup>117</sup>

The potential for cumulative harm fits comfortably within the rubric of harms “not easily conducive to precise codification”, as does its inclusion as part of the *de minimis* test with legislation whose “intended reach is wide

---

116. *Supra* note 39 at para 61. For a more recent case in the criminal law context, see *R v Gale*, *supra* note 74. The Court there stated:

As can be seen, this case does not stand for the broad proposition for which it has so long been cited: that any matter a Court finds trifling can be dismissed. Rather *The Reward* involved a *question of statutory interpretation and a desire to avoid the application of statutes in a pedantic manner* so as to avoid the “infliction” of “inflexibly severe” penalties. . . . This principle allows a court to narrowly interpret a statute so as to avoid its application to trifling matters.

*Ibid* at para 28 [emphasis added]. The Court goes on to cite the Supreme Court’s decision in *Canadian Pacific*, which suggests that the approach suggested herein may be equally applicable to the broader criminal law context. *Supra* note 39.

117. *Castonguay Blasting*, *supra* note 47 at para 9 [emphasis added, citations omitted].



and deep”. Quite simply, it is seldom possible to define broadly applicable, ecologically relevant thresholds: “In a perfect world regulatory thresholds would correspond to clear ecological thresholds, but in practice, this is difficult to achieve because ecosystems are highly variable.”<sup>118</sup> It is of some significance, then, that where the legislature (or its delegate) has enacted laws or regulations with “mathematical precision”, such as the *MMER*, these are often accompanied with requirements to monitor and report ambient environmental effects as a way of verifying that the applicable limits are in fact protective.<sup>119</sup>

A cumulative effects approach to the maxim is also consistent with the Supreme Court’s reasoning regarding the duty to report under the Ontario *EPA*, which it bears stressing is only triggered by non-trivial (i.e., above *de minimis*) harm:

The purpose of the reporting requirement in s. 15(1) is to ensure that it is the Ministry of the Environment, and not the discharger, who decides what, if any, further steps are required. . . . Moreover, many potential harms . . . may be difficult to detect without the expertise and resources of the Ministry. As a result, the statute places both the obligation to investigate and the decision about what further steps are necessary with the Ministry and not the discharger. Notification provides the Ministry with the opportunity to conduct an inspection . . . and to fulfill its statutory mandate. This enables the Ministry . . . to be involved in determining what, if any, preventative or remedial measures are appropriate.<sup>120</sup>

This reasoning fully supports a cumulative effects approach to the *de minimis* test, as only government regulators have the ability and authority to aggregate and manage these effects. It is also applicable to a long list of provincial<sup>121</sup> and federal environmental statutes, including the *Fisheries*

---

118. Hunter et al, *supra* note 69 at 1053.

119. For the requirements for “environmental effects monitoring”, see *MMER*, *supra* note 26, Schedule 5. For similar requirements, see *Regulations Establishing Conditions for Making Regulations Under Subsection 36(5.2) of the Fisheries Act*, SOR/2014-91, s 4(c).

120. *Castonguay Blasting*, *supra* note 47 at paras 18–19. According to the Court, such an approach was 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.” *Ibid* at para 20. To the extent that the precautionary principle informs the interpretation of Canadian environmental law, then it too supports a cumulative effects approach to *de minimis*.

121. For a survey of environmental protections laws in other provinces that contain similarly broad pollution prohibitions, see *Canadian Pacific*, *supra* note 39 at para 42.

*Act*. Indeed, and perhaps surprisingly to those following its recent amendment,<sup>122</sup> the latter's support for a cumulative effects approach to *de minimis* would appear stronger in its amended form, and in particular as a result of the addition of the section 6 factors and the section 6.1 purpose clause, both of which are intended to guide regulatory decision making under the Act.<sup>123</sup> The first two factors are (a) the contribution of the affected fish to commercial, recreational or Aboriginal fisheries and (b) any relevant fisheries management objectives. These factors suggest that whether given conduct could be considered trivial, even at the prima facie level, will be largely dependent on context and may require considerable fisheries-related knowledge and expertise. Further, in making her decisions, the Minister must "provide for the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries".<sup>124</sup> It is difficult to see how the Minister could achieve this objective if she is blinded to cumulative effects by the workings of a maxim that fails to take these into account. Unsurprisingly, DFO's most recent policy suggests the opposite: "The consideration of cumulative effects on the

---

122. The *Fisheries Act* was amended as part of the 2012 omnibus budget bills. See Canada, Bill C-38, *An Act to implement certain provisions of the budget tabled in Parliament on March 29, 2012 and other measures*, 1st Sess, 41st Parl, 2012 (assented to 29 June 2012), SC 2012, c 19; Canada, Bill C-45, *A second Act to implement certain provisions of the budget tabled in Parliament on March 29, 2012 and other measures*, 1st Sess, 41st Parl, 2012 (assented to 14 December 2012), SC 2012, c 31. These bills also repealed the 1992 *Canadian Environmental Assessment Act*, which was replaced by a more restricted version and significantly amended the *Navigable Waters Protection Act*, since renamed the *Navigation Protection Act*. See *Canadian Environmental Assessment Act*, SC 1992, c 37; *Canadian Environmental Assessment Act, 2012*, SC 2012, c 19, s 52; *Navigation Protection Act*, RSC 1985, c N-22. Various commentators viewed most of these changes negatively. See e.g. Meinhard Doelle, "CEAA 2012: The End of Federal EA as We Know It?" (2012) 24:1 *J Envtl L & Prac* 1; David R Boyd, *The Right to a Healthy Environment: Revitalizing Canada's Constitution* (Vancouver: UBC Press, 2012) (describing recent federal changes as "environmental rollbacks" at 150-51); Oil Sands Research and Information Network, "Application of Federal Legislation to Alberta's Mineable Oil Sands", by M Howlett & J Craft, OSRIN Report No TR-33 (Edmonton: University of Alberta, 2013), online: <hdl.handle.net/10402/era.17507> .

123. *Fisheries Act*, *supra* note 11, ss 6, 6.1.

124. *Ibid*, s 6.1.

state, resiliency, and natural biodiversity of the ecosystem will guide the Department in achieving the objectives.”<sup>125</sup>

### *E. De Minimis Summarized*

Properly construed in its historical jurisprudential context, the *de minimis* test directly accounts for—rather than ignores—the potential for cumulative effects. Applied as an aid in the course of statutory interpretation, the result is a practicable and predictable framework for identifying conduct that should, or should not be, subject to a given regulatory regime.

When applying the *de minimis* maxim, courts, regulators and those subject to regulation should adopt the following steps. First, does the environmental harm seem trivial or minor on its face? If not, the *de minimis* maxim does not apply. If the harm seems trivial, is the conduct giving rise to such harm of a kind that, if allowed, it could undermine a regulator’s objectives through cumulative environmental effects? If the conduct is known to be widespread, or it is reasonably foreseeable that it might be, then the potential for cumulative harm exists and the maxim does not apply. Alternatively, if the conduct is infrequent or if the harm would be negligible even if it were widespread, then the maxim applies and the conduct may be properly overlooked.

## Conclusion

In a 2006 position paper on the *Fisheries Act*, the British Columbia Business Council advocated for “incorporating a *de minimis* component . . . to make clear that *small-scale activities which do not significantly affect fish habitat* will not be captured by the prohibitions in ss. 35(1) of the Act”.<sup>126</sup>

---

125. Fisheries and Oceans Canada, “Fisheries Protection”, *supra* note 11.

126. Meinhard Doelle & Chris Tollefson, *Environmental Law: Cases and Materials*, 2nd ed (Toronto: Carswell, 2013) at 318 [emphasis added] (discussing the BC Business Council’s 2006 position paper).

While the amended *Fisheries Act* suffered a different—if still not entirely comprehensible—fate,<sup>127</sup> the Business Council’s proposal warrants further consideration. Not only is the Business Council’s interpretation the polar opposite of the one advanced here, it goes beyond even the current case law, substituting minor harms with all harms that are not in and of themselves significant. Quite simply, such an approach would fundamentally undermine all of the environmental laws to which the maxim applies; a tyranny not of small decisions but rather all but the largest ones. While it is true that a cumulative effects approach is likely to narrow the circumstances shielded by the maxim’s scope, such an approach has the distinct advantage of providing consistency and certainty to the task of identifying conduct subject to a given regulatory regime.

No doubt industry, and even some regulators, will argue that a cumulative effects approach to the *de minimis* analysis sets the bar too high and is overly burdensome. However, such an approach is clearly more in line with the foundational jurisprudence (*The Reward*) than one that fails to take cumulative effects into account. In addition, managing incremental harms to prevent cumulative effects need not be burdensome; it simply requires some creative regulatory thinking.

For example, where the enabling legislation so provides, regulators could and should adopt “minor work” regulations, the primary purpose of which would be to *inform* departmental officials of environmental impacts (perhaps also setting out some standard mitigation measures where these are known). Returning one last time to the *Fisheries Act*, what were known as section 35 “Operational Statements” developed

---

127. Although industry initially expected that the new “serious harm” regime would be considerably narrower than the previous one, commentators have since noted that DFO, through its *Fisheries Protection Policy Statement*, appears to have taken a different view. See Janice Walton, “*Fisheries Act* Changes Effective November 25, 2013”, *Blakes Bulletin* (12 November 2013), online: < [www.blakes.com/English/Resources/Bulletins/Pages/Details.aspx?BulletinID=1832#page=1](http://www.blakes.com/English/Resources/Bulletins/Pages/Details.aspx?BulletinID=1832#page=1) > (“[w]hat does appear to be clear, is that the DFO does not view *serious harm to fish* as being significantly different from HADD” [emphasis added]).

by DFO were essentially such a regulation except that they were policy based and functioned as an exemption to the Act,<sup>128</sup> such that proponent notification was voluntary only.<sup>129</sup> Once gathered, significant advances in information technologies and geospatial mapping would allow this information to be dynamically mapped, giving industry and regulators a sense of which areas may require additional mitigation and where the department should focus its compliance efforts.<sup>130</sup> Similar maps have already been made available by the United States Fish and Wildlife

---

128. See e.g. Fisheries and Oceans Canada, “Beaver Dam Removal: Ontario Operational Statement”, version 3.0, DFO/2007-1329 (Burlington, Ont: Fisheries and Oceans Canada, 2007). This statement describes its purposes as setting out “the conditions under which [the Operational Statement] is applicable to [a] project and the measures to incorporate into [that] project in order to avoid negative impacts to fish habitat”, which is to say, to avoid contravention of the Act. *Ibid* at 1. These Operational Statements were previously available on DFO’s website, but with the coming into effect of the new Fisheries Protection Regime have been replaced with a web-based “self-assessment” tool that is intended to obviate the need for departmental review of projects being carried out in certain classes of waters or within certain categories of works. See Fisheries and Oceans Canada, “Projects Near Water” (14 November 2014), online: <[www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html](http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html)>.

129. See Eric Biber & JB Ruhl, “The Permit Power Revisited: The Theory and Practice of Regulatory Permits in the Administrative State” (2014) 64:2 Duke LJ 133. The authors note the practical differences between an exemption and a permit: “Under the exemption approach, Type X sources simply do not register in the agency’s regulatory program—the agency will not know how many there are, where they are, who owns them, and so on. Under the permit approach, the agency knows all that, and thus can make something out of that universe of information.” *Ibid* at 17.

130. There is actually a growing body of scholarship about the potential for such technologies to dramatically alter environmental law. See e.g. Robert Puterski, “The Global Positioning System: Just Another Tool?” (1997) 6:1 NYU Envtl LJ 93; Kenneth J Markowitz, “Legal Challenges and Market Rewards to the Use and Acceptance of Remote Sensing and Digital Information as Evidence” (2002) 12:2 Duke Envtl L & Pol’y F 219; Ray Purdy, “Satellites: A New Era for Environmental Compliance?” (2005) 3:5 J European Environmental & Planning L 406; Ray Purdy, “Using Earth Observation Technologies for Better Regulatory Compliance and Enforcement of Environmental Laws” (2010) 22:1 J Envtl L 59.

Service,<sup>131</sup> and recent American scholarship suggests that such an approach to regulation is the future of the modern environmental state.<sup>132</sup>

Finally, and most importantly, the continuing trend in Canada (as elsewhere) of environmental degradation makes plain that no department or agency in the environmental or natural resources context will succeed in its mandate if it fails to consider and manage the thousands of seemingly minor but cumulatively significant impacts to the environment.

---

131. See United States, Department of the Interior, *US Fish and Wildlife Service: Geospatial Services*, online: < [www.fws.gov/gis/data/national/](http://www.fws.gov/gis/data/national/) > .

132. See Biber & Ruhl, *supra* note 129. The authors argue:

General permits are likely also superior to the two other options (specific permits and exemptions) in managing the environmental harms from the accumulation of thousands or millions of individual activities. Currently, many of these activities are exempt from government regulation. But as noted above, general permits—even if they impose minimal substantive and procedural burdens—can have significant advantages over an exemption. First, the general permit can allow the collection of information that can be used to design a more effective and politically sustainable regulatory program in the future. Second, it may be more feasible to, over time, increase regulatory standards if one begins with a general permit program rather than with an exemption. General permits also might make it more feasible for a regulatory agency to respond to emerging harms—for instance, an activity that previously was harmless because it was limited might become more widespread and begin causing significant damage. A general permit with minimal burdens might be relatively easily expanded into a general permit with some teeth that can more effectively combat the growing damage from the activity. In contrast, eliminating an exemption by imposing regulation where none existed at all may be much more difficult to accomplish, particularly when it requires legislative action. Finally, general permits might allow more public participation and accountability than a legislative exemption, given that there is at least a rulemaking process for the public to participate in and for courts to review.

*Ibid* at 217–18.