

HABITAT 2.0

A new approach to Canada's Fisheries Act



CREATIVE COMMONS





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The prevailing threats in aquatic systems are habitat loss and degradation, invasive species, pollution, over-exploitation and climate change. Unpredictable synergies with climate change greatly complicate the impacts of other stressors that threaten many marine and freshwater fishes. ...Human activities and stressors that increasingly threaten freshwater and marine fishes must be curbed to avoid a wave of extinctions.

Arthington, Angela H., et al. "Fish conservation in freshwater and marine realms: status, threats and management." *Aquatic Conservation: Marine and Freshwater Ecosystems* 26.5 (2016): 838-857.

Habitat protection and restoration are the anchors that sustain and rebuild fisheries that are under threat. As the Minister of Fisheries, Oceans and the Canadian Coast Guard said in his testimony before the Standing Committee of Fisheries and Oceans: "...quite simply put, without fish habitat there will be ultimately no fisheries."¹

Strengthening the *Fisheries Act's* current provisions on fish habitat protection, which are scientifically suspect and legally toothless, is the focus of this brief. Clear enforceable habitat provisions will help the Minister achieve the overarching goal of ensuring that fisheries remain healthy for future generations set out in the mandate letter issued by the Prime Minister. Stronger provisions will also help realize the Government's commitments to 'restore lost protections' and 'introduce modern safeguards' to the *Fisheries Act*.

This important study by the Standing Committee on Fisheries and Oceans is an opportunity to consider how Canada's law has evolved, review lessons from forty years of experience, and consider policies to protect fish habitat employed by other jurisdictions. Jointly presented to the Committee by the West Coast Environmental Law Association and the Forum for Leadership on Water (FLOW), this brief presents recommendations for modernizing fish habitat protection in Canada. A summary of a review of international best practices is included as an appendix. This brief is supplementary to *Scaling Up the Fisheries Act: Restoring Lost Protections and Incorporating Modern Safeguards* published by West Coast Environmental Law Association in March 2016.

We first establish the need for national legal fish habitat protection standards; then characterize the current state of the law as scientifically suspect and legally toothless; and finally set out recommendations for a modern *Fisheries Act* which would:

1. Set *Enforceable Criteria* to determine 'habitat alteration, disturbance or destruction' (HADD)
2. Protect key *Elements* of fish habitat, such as environmental flows
3. Protect key *Areas* of fish habitat
4. Protect fish habitat from key *Activities* that can damage habitat, such as destructive fishing practices and cumulative effects of multiple activities
5. Protect fish habitat from key *Threats*, such as a changing climate
6. Modernize *Governance* of fish habitat: specific provisions on co-governance and co-management of fisheries must be developed collaboratively with First Nations.

1. National Legal Standards for Fish Habitat Protection

Need for National Standards to Protect the Environment

The Supreme Court of Canada's (SCC) rulings on environmental protection law are instructive when considering the need to reform the *Fisheries Act*. It has been recognized for decades that the environment requires strong legal protection. The leading case from 1992 states:

The protection of the environment has become one of the major challenges of our time. To respond to this challenge, governments and international organizations have been engaged in the creation of a wide variety of legislative schemes and administrative structures.²

The SCC cited this passage with approval in 1997,³ stating that the interplay between federal and provincial legislative environmental protection powers was "a public purpose of superordinate importance."

In that decision, the court referred favourably to the need for national environmental standards: "regulations and standards for matters such as air and water pollution and many other topics, which should normally be done at the national level, with local governments being empowered to exceed, but not to lower, national norms."⁴

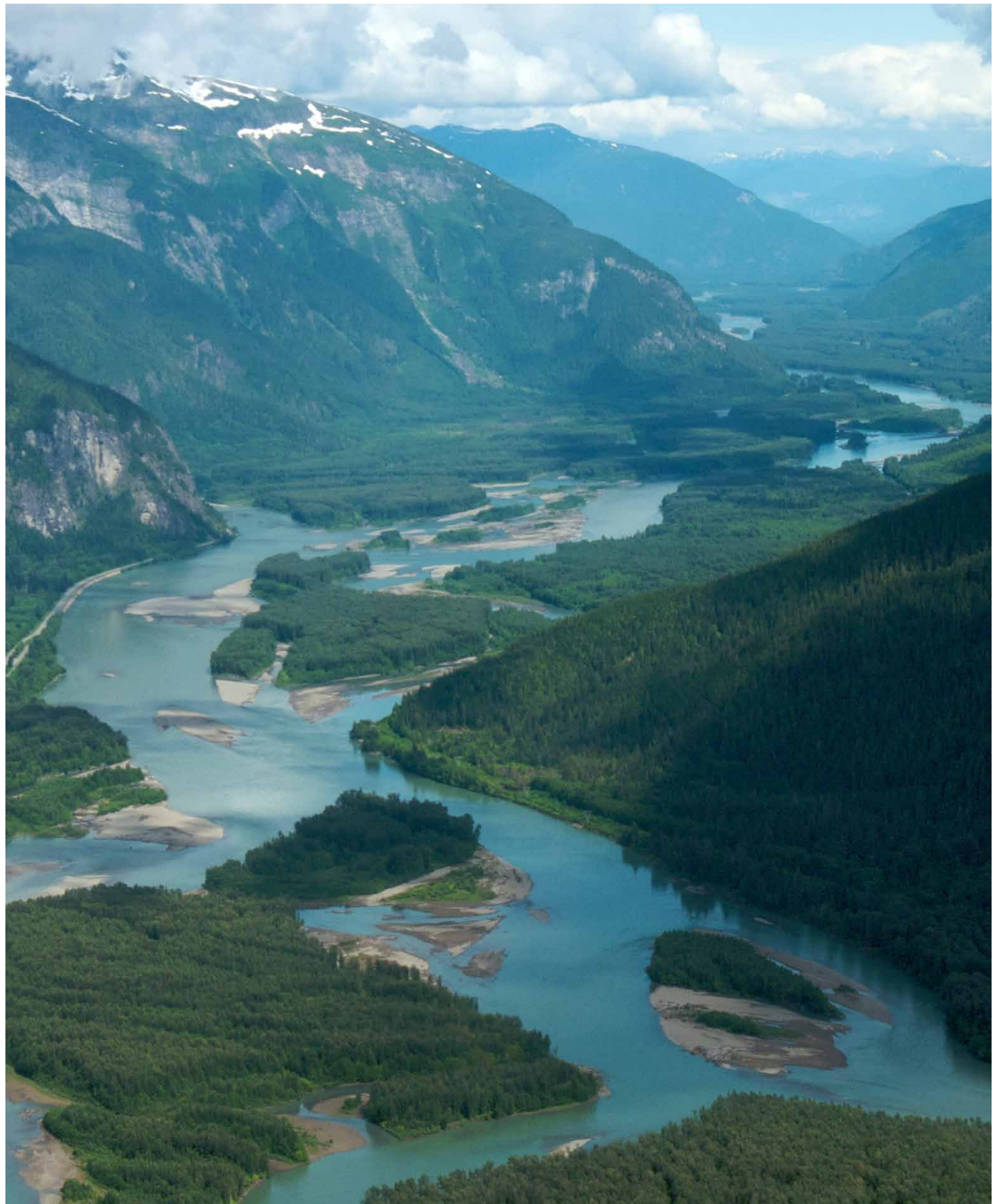
Though that case concerned toxic substances, we submit that the need for national standards similarly exists for fish habitat protection, for similar reasons: the severity of the threats to fish habitat mandates action at a national scale, and the need for clear and common standards exists for industry, all levels of government and the public.⁵

Need for National Standards for Fish Habitat Protection

The need to protect both freshwater and marine fishes has never been greater. Canada's expert body on endangered species, the Committee on the Status of Endangered Wildlife in Canada or COSEWIC, notes that as of May 2015, 711 species have been assessed at some level of risk (extirpated, endangered, threatened, and species of special concern). It goes on to note that 158 of those are fishes (the vast majority are freshwater fishes), second only in assessed risk to vascular plants (198). The leading cause of risk for most of these freshwater fishes is habitat loss and degradation.⁶

In BC, when the Pacific Salmon Foundation assessed habitat in the Skeena river and estuary region, home to BC's second largest salmon run, scientists found that nearly one quarter of assessed Skeena salmon populations are a conservation concern.⁷

In Lake Ontario, Atlantic salmon were extirpated over 100 years ago.⁸ According to the COSEWIC, "The Lake Ontario Atlantic salmon was extinguished through habitat destruction and through overexploitation by a food and commercial fishery."⁹ Efforts are underway to restore Atlantic Salmon populations in the Great Lakes.¹⁰



A range of examples from published cases across the country further illustrates the need for strong national legal standards to deter harmful activities such as:

- Land development, or 'death by a thousand cuts', such as:
 - changing 2,400 square metres of rare shoreline habitat for salmonids in Kamloops Lake to 'a moonscape' while renovating a vacation home¹¹
 - backfilling and infilling the shoreline next to a lake in the Northwest Territories¹²
 - bulldozing habitat in New Brunswick¹³
 - construction of a trailer park on the banks of a wetland adjacent to the Thompson River in BC, a salmon river, which allowed silt to enter the salmon inhabited river¹⁴
 - removal of a great number of trees and vegetation near a creek, causing a loss of shade and decreased soil and bank stability, all harmful to the fish habitat.¹⁵

And, at a larger scale:

- numerous cases involving dams and their impacts on fish habitat¹⁶
- logging and road construction¹⁷
- bottom trawling allegedly damaging to fish habitat, though this case was an unsuccessful attempt to limit harmful impacts from this fishing activity¹⁸
- construction of a seaplane ramp on Kennisis Lake, near Algonquin Park, Ontario which attracted a fine of \$30,000, and an order to remove the ramp and dock in 2009. Nearly twelve years after it was constructed and more than four years after it was ordered removed, the matter reached a final resolution.¹⁹

These cases demonstrate the ongoing destruction of important fish habitat across Canada. Without clear, enforceable standards for habitat protection, land developments and industrial activities will continue to destroy irreplaceable fish habitat.

Many fish habitat prosecutions are unsuccessful, but still send a strong signal to those carrying out activities in fish habitat that prosecution is a risk. The threat of convictions and fines also warn potential violators that their actions carry consequences. Without convictions and fines, the strength of the *Fisheries Act* protection for fish habitat is seriously diminished.

Intent of Parliament to Create National Legal Standards for Fish Habitat Protection

The legislative history of the *Fisheries Act* shows Parliament's intent to give substantial authority to the federal government to create national standards for the protection of fish and fish habitat.

The federal power to protect fish and fish habitat is set out directly in the Constitution. Parliament saw fit to give exclusive legislative authority over 'Sea Coast and Inland Fisheries' as one of the "great questions which affect the general interests of the Confederacy as a whole" to the national Parliament, as John A. Macdonald stated during the Debates on Confederation of the Canadian Parliament in 1865.²⁰

When Parliament passed the 1868 *Fisheries Act*, the legislators included provisions about a broad range of pollution sources, as well as provisions regarding fish obstruction, in recognition that pollution was not the only source of harm to fish habitat.²¹

Over the years there has been interplay between the federal power over 'Sea Coast and Inland Fisheries' and the provincial power over property and civil rights. While the SCC has held that there is no 'bright jurisdictional line' between these two powers,²² the Court has confirmed the wide scope of federal jurisdiction to include environmental protection provisions such as habitat protection in the *Fisheries Act*.

All fish are important, not just the "fisheries fish" whose habitat the Act currently protects. The SCC expressly upheld the constitutionality of the Act's wide definition of fish in *Northwest Falling Contractors v The Queen*:

"Shellfish, crustaceans and marine animals, which are included in the definition of 'fish' by s. 2 of the Act, are all part of the system which constitutes the fisheries resource. The power to control and regulate that resource must include the authority to protect all those creatures which form a part of that system."²³

The leading Canadian constitutional scholar notes that the federal power over 'Sea Coast and Inland Fisheries' "(s. 91 (12)) authorizes federal legislation for the protection of waters in which fish spawn or live, and this includes the regulation of onshore activities that would pollute fish habitats."²⁴

Canada's numerous international obligations to protect fish habitat are another critical reason why the Parliament of Canada has comprehensive legislative authority in this area. Three select examples from treaties that Canada has ratified demonstrate this point:

- The UN *Convention on the Law of the Sea* governs all aspects of the sea and obligates states to protect fish habitat. The country in which an anadromous fish species originates has the primary interest in and responsibility for that species, meaning that Canada must protect habitat for, among others, salmon species which originate in Canada.²⁵
- The UN *Fish Stocks Agreement* requires states to protect habitats of special concern.²⁶
- The UN *Convention on Biological Diversity* (CBD) requires states to take many actions to conserve ecosystems and natural habitats and maintain and recover species in their natural surroundings. More specific targets developed by the state parties to the CBD include timelines and percentages for preservation of coastal and marine areas, and more detailed obligations to preserve habitat and reduce habitat degradation and fragmentation.²⁷

Fish habitat protection is not only a national concern, but an internationally agreed upon obligation.

Since the Act was first passed, it has been amended over forty times, resulting in a patchwork of sections. In recent years, as set out in *Scaling Up the Fisheries Act*, the federal government started but did not complete comprehensive reforms. The current review is an opportunity to undertake the comprehensive reform required to ensure this Act adequately protects fish habitat from destruction.





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2. Current State of Law – Scientifically Suspect and Legally Toothless

There is wide agreement that the 2012 amendments weakened the *Fisheries Act*, and produced a law that was both scientifically suspect and legally toothless.

Scientifically Suspect

As many witnesses to this Committee have testified, changing the Act's prohibition (unless authorized) on causing fish habitat alteration, disturbance, and destruction (HADD) to a prohibition on causing 'serious harm to fish' defined to mean 'the death of fish or any permanent alteration to, or destruction of, fish habitat' provided a weaker level of protection for habitat. The 2012 amendments reduced federal oversight as the Act applied to fewer species and less fish habitat.

Scientists said that this new constrained application of habitat protection was 'biologically indefensible'²⁸ and predicted it would have numerous likely negative consequences on: (i) the persistence and viability of fish that are neither part nor supportive of a fishery; (ii) the protection of native aquatic species at risk;²⁹ (iii) Canada's ability to implement an ecosystem approach to sustainable management; (iv) DFO's ability to evaluate the scientific validity of applications for habitat alteration and destruction; and (v) Canada's commitments to fulfill national and international obligations to sustain and conserve biodiversity.³⁰

The three year judicial inquiry, the *Commission on Missing Sockeye Salmon in the Fraser River*, had completed its hearings and started to write its report when Bill C-38 was introduced. Mr. Justice Cohen, who led the inquiry, reconvened the hearings to allow counsel to make submissions on the Bill's impact. The Commission's final report stated that Bill C-38's amendments to the *Fisheries Act* 'collectively appeared to narrow the Act from protecting fish habitat to protecting fisheries'³¹ and could possibly 'undermine an ecosystem-based approach to fisheries management.' Mr. Justice Cohen commented on both the legal flaws and the suspect scientific nature of the *Fisheries Act* amendments as follows:

Because habitat is so important to Fraser River sockeye productivity, expanding the circumstances in which harm to fish habitat may be authorized (including giving the minister more discretion to authorize these exceptions) concerns me. Also, allowing damage to Fraser River sockeye habitat, where there is no permanent negative impact on habitat or death of fish, appears to lower the threshold of protection for these stocks. It presupposes that one can assess whether damage is permanent – if one cannot, then the prohibition will not apply. It also presupposes that the only way fish can be negatively affected by stressors in their habitat is if these stressors have a direct, lethal effect. This assumption is contrary to the evidence I heard from many science witnesses, as well as to my finding that sublethal, delayed, and cumulative effects can all act to reduce Fraser River sockeye productivity.³²

Legally Toothless

Legal experts expressed concern over how the amended law would work.³³ The Assembly of First Nations pointed out that selecting resources to protect based on current economic use was contrary to the spirit of the *Fisheries Act*.³⁴ One legal expert prophetically commented that the provision would "likely result in no protection of fish habitat at all as it appears the provision may be practically unenforceable" due to the requirement for a finding of permanent damage and the difficulty of deciding what that is, and removal of the prohibition against disruption of habitat.³⁵

Below we outline two ways in which the current Act is not an effective legal tool to protect fish habitat.

Sole Judgment Offering Interpretation of New Standard Finds it Weak

There has not yet been any judicial interpretation of the new prohibition – the duty not to cause 'serious harm' to fish – which replaced the prohibition on causing HADD.

It appears that the sole case commenting on this provision is *Courtoreille v. Canada*³⁶, the Mikisew Cree First Nation's successful judicial review action challenging the inadequate consultation with First Nations on Bill C-38 which amended the *Fisheries Act*, among other matters, and substantially affected Aboriginal rights. The Federal Court pronounced on the Act as follows:

[91] Hence the amendments to the *Fisheries Act* **removed the protection to fish habitat** from section 35(1) of that Act. The Applicant submitted that this amendment shifted the focus from fish habitat protection to fisheries protection which offers substantially less protection to fish habitat and the term "serious harm" permits the disruption and non-permanent alteration of habitat.

[101] ... In addition, for the reasons the Applicant expressed above, the amendment to s. 35(1) of the *Fisheries Act* **clearly increases the risk of harm to fish**. These are matters in respect of which notice should have been given to the Misikew together with a reasonable opportunity to make submissions. [emphasis added]

Enforcement Not Occurring

Professor Martin Olszynski's submission to this Committee and his peer reviewed published research vividly illustrate the decline in enforcement of fish habitat offences over the past decade, which has continued unabated since Bill C-38 in 2012.





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No reported case interprets the new 'serious harm to fish' habitat protection provision in relation to a charge. It is not clear whether there has been a single charge laid related to a violation of the new s. 35 (2) since the amendments came into force in November, 2013. The *DFO Annual Report to Parliament* for 2013-14 and 2014-15 contain these numbers:

- Table 7 Summary of DFO Enforcement Activities Fiscal Year 2014-15 shows zero charges laid.³⁷
- Table 11 Summary of DFO Fish Habitat/Fisheries Enforcement Activities Fiscal Year 2013-2014 shows two charges laid in Newfoundland and Labrador, and zero charges laid for the rest of the country. It is not clear if the two charges in Newfoundland and Labrador were laid before or after the amendments to s. 35 came into force.³⁸

The *DFO Annual Report to Parliament* for 2015-16 has not yet been issued.

The reason for the lack of charges is unclear, but could reasonably be explained by the uncertainty of the meaning of the new statutory language, which limits its effectiveness as a legal instrument, particularly in a criminal context. As noted by one established practitioner at a symposium on environmental law in Halifax, Nova Scotia, "Perhaps it can be speculated based on the lack of any reported enforcement proceedings in the nearly three years since the amendment came into force that officials are in fact declining to prosecute under this section – either for policy reasons or because of perceived proof problems associated with the amended statutory language."³⁹

Contrast this record of fish habitat prosecutions with the recent convictions and fines levied against offenders for pollution under s. 36 (3) of the Act, the prohibition on depositing 'deleterious substances' into fish-bearing waters. In 2014-15, 92 charges were laid under that provision with a further 28 charges laid for violation of the *Metal Mining Effluent Regulations*.⁴⁰ One guilty plea by a Quebec mine operator to pollution charges resulted in a fine of \$7.5 million, the largest ever imposed for environmental violations in Canada.

While prosecutions are time consuming, expensive, and involve a high burden of proof – 'beyond a reasonable doubt' – they are an essential part of the regulatory toolbox.

This statement was made at an October 2016 conference organized by the Canadian Institute of Resources Law and Environment Canada:

"In summary given passage of time since coming into force of these amendments it may be submitted based on lack of reported convictions and substantial reductions in scope of application that the former HADD prohibition, once a very vigorous environmental protection element of the *Fisheries Act*, has indeed lost much of its historic effectiveness."⁴¹

The higher number of prosecutions under s. 35 (6) – the prohibition of deleterious substances – suggests that clear language is one way to increase enforcement of the *Fisheries Act*. Another way to bolster enforcement is to have more nimble enforcement tools, such as administrative monetary penalties or AMPs. We adopt Prof. Olszynski's submissions on that point.

3. Recommendations for Strengthening Habitat Protection

A strong national legal safety net for fish habitat will include the 6 key elements described below.

RECOMMENDATION 1:

Set Enforceable Criteria for determining what constitutes 'habitat alteration, disturbance or destruction' (HADD)

Though the *Fisheries Act* applies across the country, it currently lacks guidance for those entrusted with enforcing it, and those who interpret the Act in the courts. The Act has no Preamble, purpose statement, or principles, unlike other modern environmental laws. *Scaling Up the Fisheries Act* recommended Guiding Principles and purposes and those recommendations will not be repeated here.

Canadians want, and fish deserve, binding standards for fish habitat protection rather than unenforceable guidelines and policies.

Incorporating relevant sections of DFO's numerous policies on habitat protection, such as the *Policy for Conservation of Wild Pacific Salmon*, *Wild Atlantic Salmon Conservation Policy*, *Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas*, and *Ecological Risk Assessment Framework for Coldwater Corals and Sponge Dominated Communities* directly into the Act will provide a stronger safety net for all fish in the country, and help fill the 'legislative vacuum' noted by leading marine law expert David Vanderzwaag.⁴²

A HADD Prohibition will "Restore Lost Protections"

In *Scaling up the Fisheries Act*, we advocated a return to the prohibition, unless authorized, on causing habitat alteration, disturbance or destruction (HADD). We repeat this recommendation with the inclusion of 'activities' in the prohibition. Most other witnesses to this Committee, such as Professor Martin Olszynski, made similar recommendations.⁴³

DFO itself supports strong habitat protection. Many examples demonstrate the Department's adherence to the inextricable link between habitat and fisheries from the "No Habitat, No Fish" buttons worn by DFO officers, to statements in Canadian Scientific Advisory Secretariat (CSAS) reports, to this summary in a 1991 DFO Guide:

"fish habitats are vital assets to Canadians – in fact money in the bank. They are essential to the survival of fish and represent the bedrock of our commercial and recreational fisheries. They are as essential to those industries as topsoil is to farming."⁴⁴

Strong federal habitat protection is a necessary backstop to protection at the local level. In BC, the provincial regulatory regime for riparian protection was assembled around the strong core of federal fish habitat protection. For local governments, the federal legislation provided a counterbalance to the pressures of developers and property owners to weaken protection, acting as a third party that stood above the fray and outside local development pressures.

Prior to the limited amendments made in the omnibus budget bills in 2012 and 2013, the federal government made a number of efforts to modernize the Act. The most recent *comprehensive* reform attempt in 2007, Bill C-32, "An Act Respecting the Sustainable Development of Canada's Seacoast and Inland Fisheries", nonetheless proposed to keep the general prohibition on harmful alteration, disruption or the destruction of fish habitat unchanged.

A Stronger HADD Prohibition will "Introduce Modern Safeguards"

To modernize the Act we recommend reinstating HADD, with these features:

- An expanded modern definition of fish habitat

Fish habitat needs are broad, and science changes. To reflect this broad concept, we recommend amending the definition in the Act as follows:

"fish habitat" means any area on which fish depend directly or indirectly in order to carry out their life processes, including spawning grounds, nursery areas, rearing areas, food supply areas, migration areas, **environmental flows and any other areas on which fish depend directly or indirectly.** (emphasis added).

We recommend also defining the indirect impacts: "Indirectly" will include, but is not limited to, ecosystem function at the appropriate scale. This scale could be, for example, watersheds, coastal sediment transport compartments, or other relevant scales. Scientists and practitioners should be consulted before finalizing any new definitions.

Clear enforceable criteria for determination of what constitutes 'harmful alteration, disturbance, or destruction' of fish habitat are one hallmark of a modern *Fisheries Act*.

- A defined threshold for harmful alteration, disturbance and destruction (HADD) of fish habitat.

Restoring the terms 'alteration', 'disruption' and 'destruction' will provide guidance due to the existence of forty years of judicial interpretation of those terms.

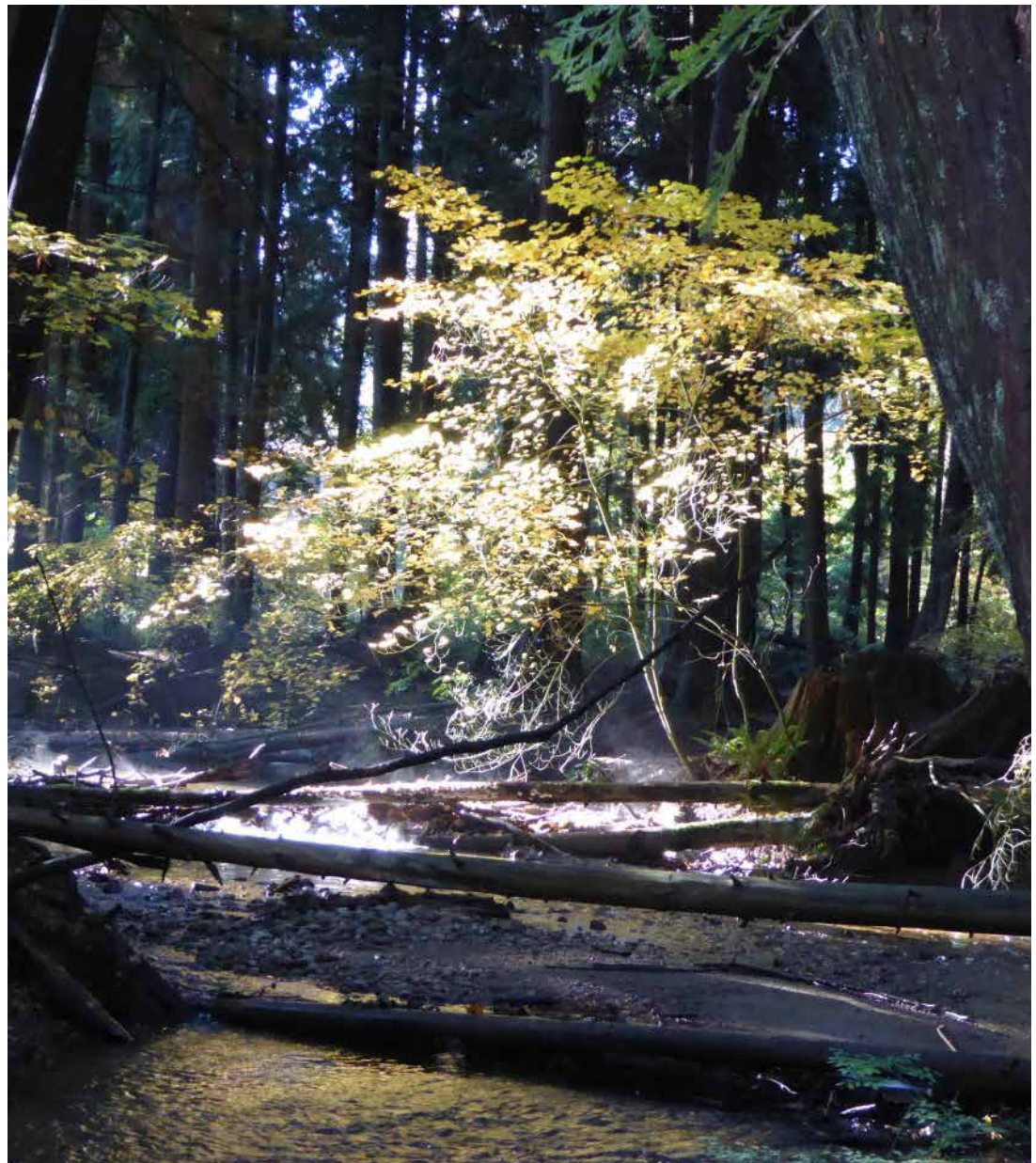
We recommend defining HADD as "a change in the physical, chemical or biological attributes of fish habitat which is of a type and magnitude likely to render the habitat less suitable, or unsuitable, for supporting one or more life processes of fish."

Other jurisdictions define habitat in more detail. For example, the US *Magnuson-Stevens Act* provides a broad definition of adverse impacts on habitat, which includes both direct and indirect modification to habitat, and also requires proof of change in habitat quality and quantity.

- A requirement for proponents to follow the mitigation hierarchy and demonstrate the steps taken to first avoid, then mitigate, and finally offset any serious harm to fish that are part of or support a fishery.
- Factors which must be considered when authorizing HADD.

In *Scaling Up the Fisheries Act*, we recommended a number of factors that should guide decision-makers and criticized the new factors added in the 2012 amendments. We expand on that recommendation here: factors could include some of those listed in the 2013 *Fisheries Protection Policy*⁴⁵ and/or the related 1998 *Decision Framework for the Determination and Authorization of Harmful Alteration, Disruption or Destruction of Fish Habitat*, such as, for example: importance of the habitat (is the impacted habitat type in low supply and/or of high value to fish production?) and short- and long-term impacts to key habitat components and life processes of fish.

In particular, the ecosystem approach must be a factor for fish habitat protection decisions.⁴⁶ Protecting habitat with an ecosystem approach is critical if we are to avoid increasing the cumulative stressors on fish habitat. An ecosystem approach means we are less likely to inadvertently damage or destroy fish habitat, because we can assess ecosystem function at the necessary scale. For example, in BC we are still in the early stages of mapping forage fish habitat. Forage fish provide essential food for salmon, ling cod and rockfish, for example, and lay their eggs on sand and pebble beaches. Without considering both ecosystem function and extent as well as the coastal processes that create and maintain sand and pebble beaches we cannot make adequately informed decisions about the protection of fish habitat for these species.



RECOMMENDATION 2:

Protect key *Elements* of fish habitat, including environmental flows

This section describes environmental flows, makes the case for a national standard and proposes how the Act can be changed to incorporate this concept.

The preservation of fish communities and their habitats requires conserving the quantity, timing, and quality of water flows. The federal *Fisheries Act* should provide a legally binding national flows standard.

This is a key change, and if enacted, will demonstrate the government's commitment to modernization of the Act. Scientists point to the lack of a national environmental flow standard as a deficiency in the habitat framework:

"The fact that there is no existing national framework to set environmental flow standards has led to a situation where fisheries resources, fish habitat and the supporting freshwater ecosystems may not be consistently protected across Canada. With increasing water demand, and potentially changing background levels in water availability (as predicted by the Intergovernmental Panel on Climate Change and current scientific consensus on the long-term effects of global climate change), there is an urgent need to establish such an environmental flows framework in Canada."⁴⁷

What are Environmental Flows?

The *Brisbane Declaration* provides the most widely accepted and applied definition: Environmental flows describe the quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on these ecosystems.⁴⁸ Environmental flows are essential for providing both direct and indirect benefits on which current and future generations rely.⁴⁹

The DFO Canadian Science Advisory Secretariat (CSAS) notes that the scientific literature supports natural flow regimes as essential to sustaining the health of riverine ecosystems and the fisheries dependent on them, and that riverine ecosystems and the fisheries they sustain are placed at increasing risk with increasing alteration of natural flow regimes.⁵⁰

Many countries and states have environmental flow protection laws.⁵¹ The Scottish law regulates environmental flow protection in a water abundant jurisdiction.⁵² Australia's Commonwealth water law provides a framework regulatory structure that requires the scheduling and delivery of 'environmental water' (equivalent to environmental flows) to maintain ecosystem functions and biodiversity.⁵³

How Can the Fisheries Act Protect Environmental Flows?

There are a number of ways the Act could explicitly protect environmental flows. For example, the Act could:

- Define the term environmental flow, using the *Brisbane Declaration* definition.
- Define conditions of flow alteration that constitute HADD, based on science advice from the CSAS:

A HADD will be presumed when either an individual project or a project in combination with other existing projects on the same river results in

- Cumulative flow alterations <10% in amplitude of the actual (instantaneous) flow in the river relative to a “natural flow regime” have a low probability of detectable impacts to ecosystems that support commercial, recreational or Aboriginal fisheries. Such projects can be assessed with “desktop” methodologies.
- Cumulative flow alterations that result in instantaneous flows <30% of the mean annual discharge (MAD) have a heightened risk of impacts to fisheries.⁵⁴
- List ‘environmental flow protection’ as a goal for fish habitat protection in a Purposes or Preamble section of a renewed Act.
- Require the maintenance of environmental flows in listed transboundary rivers of national significance.⁵⁵
- Establish national regulations on flow.⁵⁶

In addition, the Act can protect environmental flows through reform of the provisions related to orders for the free passage of fish. The amendment to s. 20 of the *Fisheries Act* in 2013 resulted in a loss of potential protection to fish and fish habitat. The current version of s. 20 has narrowed the Minister’s discretion to make orders and has weakened the impact that those orders have.

Section 20 (2) (f) of the Act currently provides the authority for orders to maintain the flow of water that the Minister considers sufficient to permit the free passage of fish. In practice these orders are rarely used, as the departmental policy is to issue such orders only after all opportunities for negotiating with proponents have failed.⁵⁷ However, there are circumstances when these orders are necessary.⁵⁸

Amending s. 20 would allow for the incorporation of modern safeguards. The section should be updated to provide criteria for the issuance of flow orders to increase legal certainty.

The Minister should have the authority to make flow orders to protect environmental flows required for fish habitat needs, in addition to the power to make these orders for the passage of fish. The key criteria of authorizing these orders “for the public interest” should also be restored.

RECOMMENDATION 3: Protect key Areas of fish habitat

As recommended in *Scaling up the Fisheries Act*, some habitats should not be subject to the authorization regime that permits alteration, disturbance and/or destruction of fish habitat. We provide more detail on this recommendation here.

The Act contains a new mechanism to designate ‘ecologically significant areas’ (ESA) by regulations. These provisions (s. 37 (3) (c) and 37 (1.1)) have not yet been used, and should be.



DFO's 2013 *Fisheries Protection Policy Statement* envisions that when these areas are designated, proponents may be required to provide additional project information to the Minister, who may then require modifications or restrict or stop the project for as long as necessary if s/he determines that the project is likely to result in harm to fish.

We submit that a preferable approach for this type of ESA is to restrict projects in these sensitive areas altogether. For example, eelgrass beds of particular significance could be designated as essential fish habitat and therefore off limits to development. Flora Bank is an example of this type of habitat.⁵⁹

Types of Habitat Warranting Enhanced Protection

Below are illustrative examples of habitat types that require more protection from damaging human activities than they now receive. This is not a comprehensive list.

Various DFO Policies indicate that some habitat areas should be off-limits to development:

- The *Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas*, which aims to mitigate "serious or irreversible harm to sensitive marine habitat",⁶⁰ can provide further guidance when designating ecologically sensitive areas or essential fish habitat to protect from fishing and other activities.
- The *Ecological Risk Assessment Framework for Coldwater Corals and Sponge Dominated Communities* can provide additional guidance.
- When a Conservation Unit (CU) is coded red under the *Pacific Wild Salmon Policy* (WSP), that means it is the most threatened type of habitat, a risk of extirpation exists, and warrants a policy response, though the suggested response is somewhat vague: "The presence of a CU in the Red zone will initiate an immediate consideration of ways to protect the fish, increase their abundance, and reduce the potential risk of loss."⁶¹ However, no policy response has yet been initiated for any Red CUs. Unfortunately, in the 11 years the WSP has been the core DFO policy, staged implementation from Strategy 1 (classification) up to Strategy 4 (Integrated strategic planning) has occurred in only one instance (south coast chinook) and that is incomplete. A reformed Act will give effect to the intent of the WSP to better protect and in fact restore Red coded CUs.

Another potential 'no-go' zone is limited and imperiled spawning habitat for marine shore spawning forage fishes (Surf smelt, Capelin, Pacific sand lance). In Washington State, such beach habitats are listed and protected as "critical wild salmon habitat".⁶²

Classification of Fish Habitats to Target Protection Efforts

Habitat protection goals could be easier to achieve through a systematic approach that determines where higher risks of harm to fish habitat exists.⁶³ CSAS recommends further discussion of a system to categorize Canadian rivers into ecological management classes in order to design different environmental flow standards based on the ecological or societal “value” of various rivers.⁶⁴

Examples of existing Canadian programs that identify and classify fish habitat include DFO's WSP which uses CU classification to designate a habitat unit as red, amber, or green, based on the abundance and distribution of spawners or their proxies in the Unit, and Ecologically and Biologically Significant Areas (EBSAs) for marine areas.

Ideas on classifying habitats from other jurisdictions include:

- The United States' *Magnuson-Stevens Act* requires designation and mapping of Essential Fish Habitat for each fishery management plan established by the National Marine Fisheries Service.⁶⁵
- The New South Wales Department of Primary Industries uses classification schemes for key fish habitat based on the water body type and sensitivity to impacts.
- The UK has assigned each of its rivers to one of 10 classes, based on physical watershed characteristics, to facilitate application of withdrawal thresholds.

RECOMMENDATION 4:

Protect fish habitat from key *Activities* that can damage habitat, such as destructive fishing practices and cumulative effects of multiple activities

Impacts from the activity of fishing are a major cause of habitat damage for marine fisheries. In *Scaling Up the Fisheries Act* we recommended ending the exemption of fishing from activities that cause habitat damage. Canada recognizes that destructive fishing practices such as bottom trawling need to be restricted so that fragile marine ecosystems that provide important fish habitat are protected.

Through the *Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas* DFO is already protecting some areas. Habitat also needs to be taken into account in the Act's provisions on fisheries management. Integrated Fishery Management Plans (IFMPs) could include habitat requirements for fish species within their synopses, and habitat protection measures.⁶⁶ Establishing a requirement of habitat identification and designation of key habitat areas or types in IFMPs through the *Fisheries Act* habitat

provisions should draw attention to threatened or vulnerable fish habitat, or habitat for fish species considered threatened or endangered.⁶⁷

Cumulative and synergistic impacts occur where small-scale changes can add up to produce larger impacts.⁶⁸ These effects are one of the most complex and urgent topics environmental law needs to address. Fish habitat protection law must also tackle this challenge.

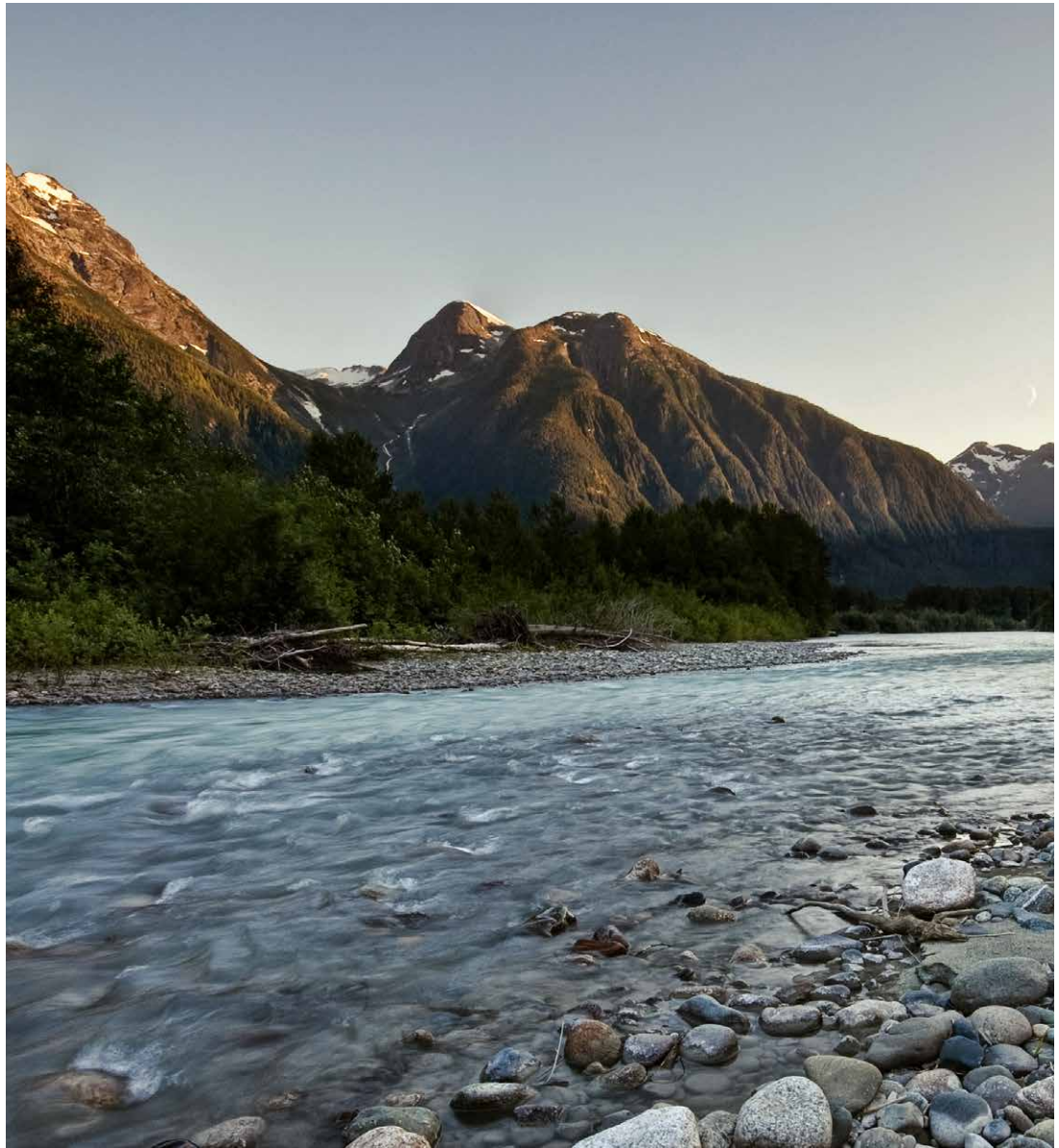
Currently, the *Fisheries Act* does not provide a mechanism for the assessment of cumulative impacts, though they are considered as part of the principle of 'ecosystem context' within the *Fisheries Protection Policy* statement.⁶⁹

Cumulatively, minor works are considered to pose the greatest threat to fish habitat.⁷⁰ However, since the adoption of its Risk Management Framework more than a decade ago, DFO policy has been to issue Letters of Advice and Operational Statements for 'low-risk' changes to fish habitat. In other words, DFO blanket-exempted certain works and activities from the requirement to obtain authorization to harm fish habitat, removing important review and oversight mechanisms.

To ensure that the cumulative impacts of minor works and activities are understood and considered, the Act should require creation of an accessible database and require proponents of all projects to send DFO notification that contains such basic information as location, potential effects and cumulative impacts and their significance, and proposed mitigation measures.⁷¹ The database should also capture all habitat referrals, authorizations, charges, warnings, and other regulatory activities. Cumulative effects must be considered in the assessment of whether a HADD of fish habitat has occurred. For example, assessments of alterations to a river's flow regime should be considered cumulatively, not only on a localized, project-by-project basis.⁷²

Integrated watershed plans are one of the best ways to manage cumulative impacts, and the Act should encourage and promote the development and implementation of such plans, as well as the need for habitat decision making to be undertaken in the context of such plans.⁷³

Assessment of cumulative effects is required by the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). However, the replacement of the original *Canadian Environmental Assessment Act* (CEAA) by CEAA 2012 did away with an essential component of our ability to understand and base decisions on cumulative impacts to fish and fish habitat: while CEAA "triggered" environmental assessments of a broad range of projects and activities within federal jurisdiction, CEAA 2012 only requires environmental assessments of less than 1% of projects and activities that have the potential to impact areas within federal jurisdiction.



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Neither the *Navigation Protection Act* nor the *Fisheries Act* require an assessment of the cumulative impacts of projects and activities on fish or fish habitat. Consequently, the vast majority of cumulative impacts on fish and fish habitat are neither tracked nor assessed. Without environmental assessments of the majority of projects and activities that impact fish and fish habitat, we are unable to understand the spectrum and accumulation of effects on, and plan for the protection of, Canada's fisheries.

Moreover, CEAA 2012 weakened environmental assessments through a variety of changes to how federal environmental assessments are conducted. Limiting public participation opportunities, imposing arbitrary timelines, restricting the factors that get considered, allowing the federal government to substitute provincial processes (which risks reducing the involvement of such federal departments as DFO in environmental assessments), are among the fish habitat protections that were lost with the enactment of CEAA 2012.

Combined, the loss of a strong section 35 protection, the loss of environmental assessment triggering when a section 35 authorization is required, and the weakening of federal environmental assessments that do occur, amount to significant lost protections of fish habitat. For the Minister to fulfill his mandate to restore lost protections under the *Fisheries Act*, environmental assessment triggering needs to be restored.

As recommended in *Scaling Up the Fisheries Act*, sections 32, 35, and 36 should be re-established as triggers for environmental assessment. Federal environmental assessment legislation should require environmental assessments of any undertaking that requires a *Fisheries Act* permit, and require cumulative effects assessments on a regional scale to ease the burden on proponents while better enabling understanding of the cumulative impacts of human activities on fish habitat and the aquatic ecosystem.

RECOMMENDATION 5:

Protect fish habitat from key *Threats*, such as a changing climate

We know that climate change will affect fish populations and in some cases cause them to move away from current habitats towards cooler waters.⁷⁴ As well, coastal habitat in developed areas is imperiled by sea level rise. The landward migration of coastal ecosystems will be prevented by development, a phenomenon sometimes referred to as “coastal squeeze.” These and other impacts on fish habitat need to be regularly assessed and monitored. Projections of future fish habitat need to be factored into current decision making around fish habitat, otherwise we risk significant long-term losses.⁷⁵ The critical issue of how the *Fisheries Act* should address climate change impacts in fish habitat decision-making deserves further research and consideration.

RECOMMENDATION 6:

Modernize *Governance* of fish habitat – specific provisions on co-governance and co-management of fisheries must be developed collaboratively with First Nations

In keeping with the federal government's commitment to building a "nation-to-nation relationship with Indigenous peoples, based on recognition of rights, respect, co-operation, and partnership"⁷⁶, the Act must acknowledge Indigenous rights and strengthen provisions for co-governance and co-management. Acknowledging Indigenous laws is an important element of any co-governance and co-management regime. First Nations governments should be empowered through the Act as a level of government that can support better approaches to monitoring and enforcement work. Canada should partner with and provide resourcing to First Nations to deliver effective habitat protection services in their territories.

Enhancement of existing programs like the Guardian Network can be part of the solution to delivering the needed on-the-ground resources.

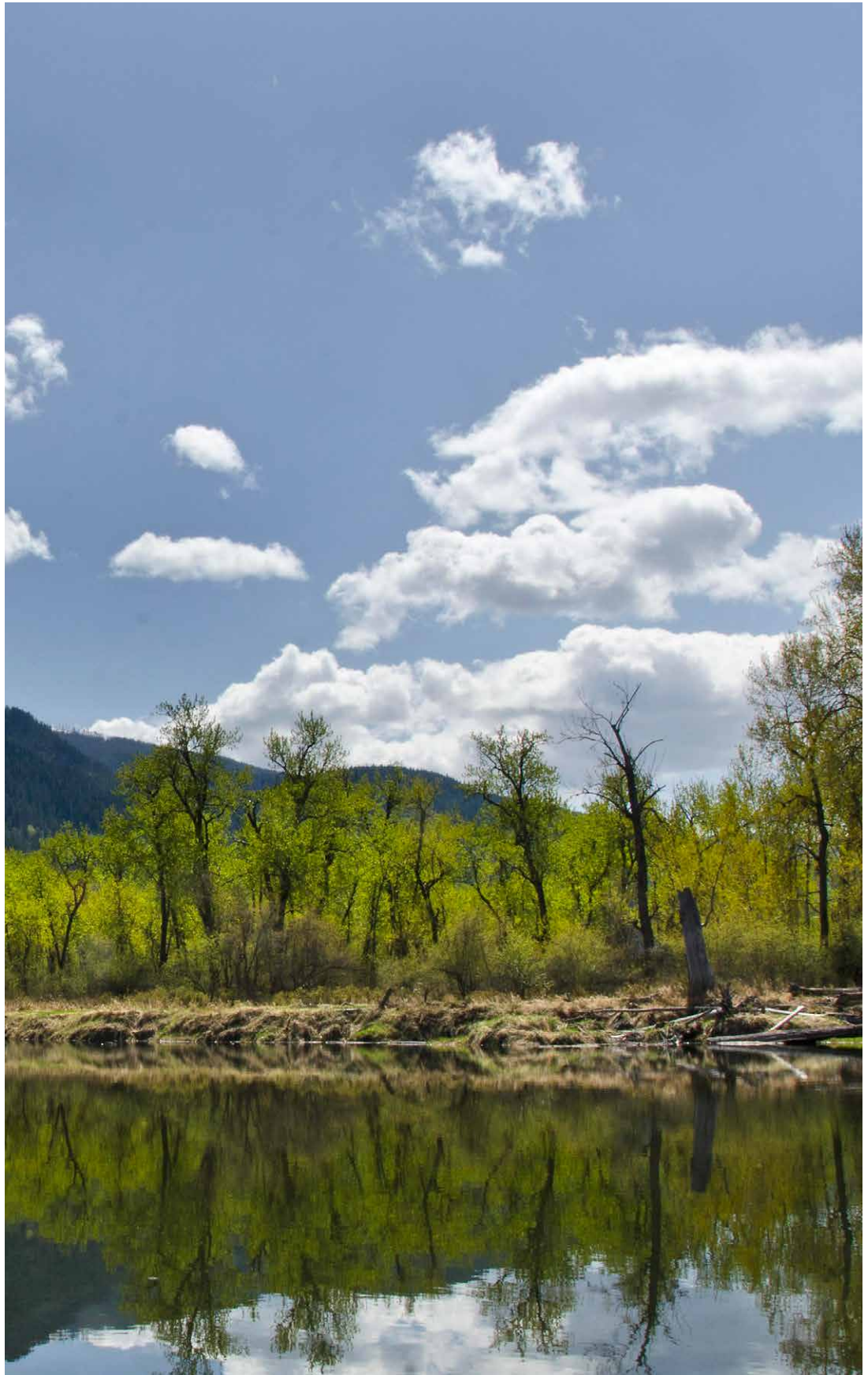
As recommended in *Scaling Up the Fisheries Act*, specific provisions on co-governance and co-management of fisheries are an essential component of a modernized *Fisheries Act*. These provisions must be developed collaboratively with First Nations. This limited Committee consultation process is not the appropriate forum to develop those detailed specific provisions, which must be done through nation-to-nation consultations.

Conclusion

A new approach to habitat, Habitat 2.0, will ensure healthy fisheries for generations to come. Implementing these six key Recommendations in a modern *Fisheries Act* will help achieve that goal.

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Assistance from Tony Maas, FLOW Canada, and Deborah Carlson, Anna Johnston, Georgia Lloyd-Smith, and Erica Stahl, WCELA, and research assistance from Annie Macdonald and Maryann Watson is gratefully acknowledged.



Appendix 1

TABLE 1

A summary of legislation and policy measures and definitions relating to fish habitat protection.

	Canada's Fisheries Act	US Magnuson-Stevens Act	NSW Fisheries Management Act (State-level)	Queensland Fisheries Act (State Level) and operational Policy for FHAs	EU Water Framework Directive (and previous Freshwater Fish Directive)	Ramsar Convention on Wetlands
Application	Applies to all fishing zones, territorial seas, and inland waters of Canada, and is binding to the Federal, Provincial, and Territorial Governments.	Federally managed fish species only.	Applies to land and waters within the limits of the Queensland State, not including those activities for which the Australian Commonwealth law applies.	Applies to land and waters within the limits of the Queensland State, not including those activities for which the Australian Commonwealth law applies. Declared Fish Habitat Areas must be designated under the state's Fisheries Act.	Member States of the EU required to adopt Directives into their State legislation.	Applies to all Contracting Parties to the Convention, their designated Wetlands of International Importance, and all wetlands within their territories.
Fish definition	Fish includes parts and all life stages of fish, shellfish, crustaceans, marine animals.	Finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds.	Any part of marine, estuarine or freshwater fish or other aquatic animal life at any stage of their life history (whether alive or dead), including aquatic molluscs, crustaceans, echinoderms, beachworms and other polychaetes. Does not include whales, mammals, reptiles, birds, or amphibians.	Fish is an animal (whether living or dead) of a species that throughout its life cycle usually lives - in water (whether freshwater or saltwater; or in or on foreshores; or in or onland, or under water.	Focus on fish belonging to salmonids (Atlantic salmon, trout, grayling and whitefish), and/or cyprinids (fish of the family Cyprinidae, or pike, perch and eel).	Any finfish, including jawless fishes (hagfishes and lampreys), cartilaginous fishes (sharks, rays, skates and their allies, Chondrichthyes) and bony fishes (Osteichthyes) as well as certain shellfish or other aquatic invertebrates.

TABLE 1 (cont'd)

A summary of legislation and policy measures and definitions relating to fish habitat protection.

	Canada's Fisheries Act	US Magnuson-Stevens Act	NSW Fisheries Management Act (State-level)	Queensland Fisheries Act (State Level) and operational Policy for FHAs	EU Water Framework Directive (and previous Freshwater Fish Directive)	Ramsar Convention on Wetlands
Fish Habitat	Fish habitat means spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.	Essential Fish Habitat includes waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity, and Habitat Areas of Particular Concern (HAPCs) Specific to fishery actions, HAPCs are areas within EFH that are ecologically important, sensitive to disturbance, or rare.	Fish Habitat is any area occupied, or periodically or occasionally occupied, by fish or marine vegetation (or both), and includes any biotic or abiotic component'' and key fish habitats' include those habitats that are crucial to the survival of native fish stocks.	Declared Fish Habitat Areas are geographically defined areas of critical inshore and estuarine fish habitats which play a key role in sustaining fish stocks for recreational, commercial and traditional fisheries both locally and regionally.	Specific designation of waters which support of may become capable of supporting salmonid and/or cyprinid fishes.	A wetland area that is an important source of food, spawning ground, nursery and/or migration path on which fish stock, either within the wetland or elsewhere depend.
Identification of fish habitat	Water bodies containing fish or fish habitat that are part of or support commercial, recreational or Aboriginal fisheries. Inclusion or exclusion from this definition is determined on a case-by-case basis when projects are proposed.	Essential Fish Habitat and Habitat Areas of Particular Concern identified in Fisheries management plans by Fisheries Management Councils	Management plans may make provisions for protections of the habitat of the species of fish that may be taken in the fishery (including habitats at all stages of the life history of any such species). Classification of key fish habitat types outlined in Policy.	Fish Habitat Areas may be declared under the Fisheries Act to manage development.	By the States designation of Salmonid or Cyprinid Waters	Wetlands of International Importance can be designated using nine criteria including specific criteria based on fish and important fish habitat (Criterion 4).

TABLE 1 (cont'd)

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Threshold	"Serious Harm" : the death of fish or any permanent alteration to, or destruction of, fish habitat.	"Adverse effect" : any impact that reduces quality and/or quantity of EFH. Including direct or indirect impacts to waters or substrate and impacts to prey species and other ecosystem components. Encompasses activities occurring within or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.	Activity and development proposals that impact key fish habitat are assessed in consideration for the sensitivity of fish habitat (including the importance of the habitat and ability to recover from disturbances).	Once declared, any development activity within a FHA must gain approval to proceed.	Imperative and Guideline values for 14 physical and chemical water quality parameters by which States must create their own parameters and monitoring programs.	"Adverse changes in ecological character" : Impairment or imbalance in any processes and functions which maintain the wetland and its products, attributes and values" "Wise use" of wetlands : maintaining ecological character, through the implementation of ecosystem approaches, and sustainable development.
Power/ Authority	Fisheries and Oceans Canada (DFO) management authority over all federal waters and fisheries.	EFH consultations do not give the NMFS any veto authority over federal projects which may adversely affect EFH, but instead enable NMFS to provide guidance to Federal agencies on ways to minimize harm to EFH.	New South Wales Government, Department of Primary Industries responsible for assessing activities and development proposals within key fish habitat.	A two-approval process for interference in FHAs from the Queensland Department of National Parks, Sport and Racing, and from the Department of Infrastructure, Local Government and Planning.	Member States and relevant authorities within the States to conduct designation and monitoring of waters.	Contracting Parties are responsible for designating, managing and monitoring listed wetlands, and also agree to supporting the wise use of all wetlands within their territory.

TABLE 1 (cont'd)

A summary of legislation and policy measures and definitions relating to fish habitat protection.

	Canada's Fisheries Act	US Magnuson-Stevens Act	NSW Fisheries Management Act (State-level)	Queensland Fisheries Act (State Level) and operational Policy for FHAs	EU Water Framework Directive (and previous Freshwater Fish Directive)	Ramsar Convention on Wetlands
Responsibilities of Activity Proponents	Activity proponents are responsible for the assessment and documentation of the fish habitat and potential impacts of the activity and providing this information for analysis by DFO.	Federal agencies must consult with the Secretary on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH).	Activity proponents are required to submit proposals including information on the development activity, and detailed assessments on the fish habitats and fish species present.	Two separate approvals are required to conduct development works or to 'interfere' in declared FHAs.	Relevant authorities within Member States responsible for monitoring and sampling of designated waters, and ensuring that water quality stays within the established guideline values.	Where the ecological character of a listed wetland is determined to be at risk of adverse changes, Contracting Parties or other interested parties can call listed Wetlands to attention to be placed onto the Montreux Record.

End Notes

- ¹ <http://www.parl.gc.ca/HousePublications/Publication.aspx?Language=e&Mode=1&Parl=42&Ses=1&DocId=8573504>
- ² *Friends of the Oldman River Society v. Canada (Minister of Transport)*, [1992] 1 S.C.R. 3, at pp. 16-17.
- ³ *R. v. Hydro Québec*, [1997] 3 S.C.R. 213.
- ⁴ *R. v. Hydro Québec*, [1997] 3 S.C.R. 213, para 126
- ⁵ Ibid citing The World Commission on Environment and Development (the Brundtland Commission) in its report *Our Common Future* (1987) (see at pp. 219-20, and pp. 224-25
- ⁶ Personal Communication, Nov. 15, 2016, from Dr. Eric Taylor, Chair of COSEWIC, Professor of Zoology at the University of British Columbia.
- ⁷ Of the 32 salmon populations assess, the biological status of 7 populations was identified as 'poor' or of conservation concern, 7 as 'fair' and 18 as 'good.' The biological status of a further 23 populations was unknown due to insufficient data. Pacific Salmon Foundation, Skeena Salmon Explorer <http://www.salmonexplorer.ca/#skeena§ion=key-findings&habitat=development&estuary=state>
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- ⁹ *Ibid*, at p iii.
- ¹⁰ <http://www.bringbackthesalmon.ca>
- ¹¹ *R. v. Northland Properties Corporation*, 2015 BCSC 1571.
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- ¹³ *R. v. Paget*, 1998 CanLII 15164 (NB PC)
- ¹⁴ *R v Denault* [1998] PCJ No. 3364 (BCPC)
- ¹⁵ *R. v. Larsen and Mission Western Developments Ltd.*, 2013 BCPC 309 (CanLII), varied 2015 BCSC 1334 (CanLII)
- ¹⁶ In a complaint to the tri-state Commission on Environmental Cooperation, the Submitters alleged that Canada failed to effectively enforce s. 35(1) of the federal Fisheries Act against BC Hydro and Power Authority which permitted and condoned the ongoing destruction of fish and fish habitat in B.C. based on the fact that Canada has only laid two charges against BC Hydro since 1990. The Factual Record was published by the CEC in 2000. BC Hydro: Factual Record; North American Environmental Law and Policy, Volume 6; (Submissions on Enforcement Matters SEM-97-001). A series of private prosecutions was launched over the impact of the Oldman River dam in AB on fish habitat, but were ultimately unsuccessful: *Kostuch v. Alberta*, 1995 CanLII 6244 (AB CA). In *Lavoie v Canada* (Min of the Environment) 2002 FCA 268 the operation of a dam on a NS river caused flow fluctuation to extent that it caused HADD; however the court made no decision as it found the issue moot since the dam was constructed.
- ¹⁷ *Northwest Falling Contractors Ltd. v. The Queen*, [1980] 2 S.C.R. 292, *R. v. Fowler* [1980] 2 S.C.R. 213, *R. v. Gwaii Wood Products Ltd. et al*, 2015 BCPC 292 (CanLII).
- ¹⁸ *Ecology Action Centre Society v. Canada (Attorney General)*, 2004 FC 1087 (CanLII)
- ¹⁹ *R v. Montgomery*, 2014 ONSC 2775 (CanLII).
- ²⁰ Fairley, H. Scott. "Canadian Federalism, Fisheries and the Constitution: External Constraints on Internal Ordering." *Ottawa L. Rev.* 12 (1980): 257, at 316 citing the Statement by John A. Macdonald, Parliamentary Debates on the Subject of the Confederation of the British North American Provinces, Quebec, 6 Feb. 1865, reprinted in STATUTES, TREATIES AND DOCUMENTS OF THE CANADIAN CONSTITUTION 1713-1929, at 565.
- ²¹ Wenig, Michael Moers. *The Fisheries Act as a legal framework for watershed management*. LL.M. Diss. University of Calgary, 1999, at 117.
- ²² *Ward v. Canada (Attorney General)*, [2002] 1 S.C.R. 569, 2002 SCC 17
- ²³ *Northwest Falling Contractors Ltd. v. The Queen*, [1980] 2 S.C.R. 292
- ²⁴ Hogg, Peter W. *Constitutional law of Canada*. Thomson Carswell, 2007.30.4.(f)
- ²⁵ LOSC, Article 66(1).
- ²⁶ United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001), Article 6 (3) (d).
- ²⁷ In 2010 the Conference of the Parties to the CBD established a series of goals known as the Aichi Targets (after the location where the meeting took place: Aichi Prefecture, Japan.) CBD "COP 10 – Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity. Nagoya, Japan 18–29 October 2010. Decision X/2. Strategic Plan for Biodiversity 2011–2020." (United Nations Environment Programme), 2010. Aichi target 5 states that by 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced. Target 6 requires that by 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits. Target 11 calls on states to protect at least 10 per cent of their coastal and marine areas.
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- ²⁹ Jeffrey A. Hutchings and John R. Post, "Gutting Canada's Fisheries Act; No Fishery, No Fish Habitat Protection" (2013) *Fisheries* 38:11, 497 at 497-98.
- ³⁰ Dr Jeffrey A. Hutchings "Potential consequences of a perceived relaxation of the habitat-protection provisions of the *Fisheries Act*", Petition 361 to Commissioner of Environment and Sustainable Development, 2014, online at http://www.oag-bvg.gc.ca/internet/English/pet_361_e_39680.html. See also McDevitt-Irwin, Jamie Marie, et al. "Missing the safety net: evidence for inconsistent and insufficient management of at-risk marine fishes in Canada." *Canadian Journal of Fisheries and Aquatic Sciences* 72.10 (2015): 1596-1608. Favaro, Brett, John D. Reynolds, and Isabelle M. Côté. "Canada's weakening aquatic protection." *Science* 337.6091 (2012): 154. Bailey, Megan, et al. "Canada at a crossroad: The imperative for realigning ocean policy with ocean science." *Marine Policy* 63 (2016): 53-60.
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- ³⁵ Jason Unger, "Fish out of Water: Fisheries Act Changes Reflect Divergence of Science and Law" ELC News Brief, vol. 27, no.3, 2012.
- ³⁶ 2014 FC 1244.
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- ⁴¹ A. William Moreira, QC, FCI Arb, Partner, Stewart McKelvey, Halifax. The Fisheries Act as an Environmental Protection Statute, Symposium , Environment in the Courtroom (VI): Protection of the Marine Environment, Halifax October 2016.
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- ⁵² Water Environment and Water Services (Scotland) Act 2003 ASP3 (WEWS), Water Environment (Controlled Activities) (Scotland) Regulations, 2005 (CAR 2005), No 348 Sch 3, Scotland River Basin District (Surface Water Typology, Environmental Standards, Condition Limits and Groundwater Threshold Values) Directions 2009 (SRBDD 2009).
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- (a) for the proper management and control of the sea-coast and inland fisheries;
- (b) respecting the conservation and protection of fish; . . .
- ⁵⁷ DFO, *Practitioners Guide to Fish Passage*, (Department of Fisheries and Oceans: Ottawa) 2007.
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- ⁷⁶ Minister of Natural Resources Mandate Letter, December 2015. <http://pm.gc.ca/end/minister-natural-resources-mandate-letter>.





West Coast is a non-profit group of environmental law strategists and analysts dedicated to safeguarding the environment through law. We believe in a just and sustainable society where people are empowered to protect the environment and where environmental protection is law. For more than 40 years, we have played a role in shaping BC and Canada's most significant environmental laws, and have provided support to citizens, First Nations, and communities on practically every environmental law issue imaginable.



Bringing together past political leaders, former officials with federal and provincial governments, and senior staff of respected research institutes and non-governmental organizations, the Forum for Leadership on Water (FLOW) has been working for over a decade to secure the health of Canada's fresh water. FLOW convenes leading thinkers, provides critical analysis and commentary, and engages with governments to advance progressive public policies and influence important decisions about the future of our most precious resource. Find out more about FLOW's work at www.flowcanada.org.