









STRONG FOUNDATIONS








Recap and recommendations from scientists regarding the federal environmental and regulatory reviews

This report is a collaboration of scholars and practitioners of environmental science, law, and policy from Canadian academic, government, NGOs, and private sectors. It responds to the Government of Canada's request for public input on the Environmental and Regulatory Reviews Discussion Paper. We provide scientific recommendations, approaches, and proposed implementation related to the "Proposed changes to the project assessment system".

PRIORITIES TO BE OPERATIONALIZED AND IMPLEMENTED

-  **Priority 1:** Assessments should account for the impact of a project on climate change
-  **Priority 2:** Assessments should be evidence-based, adaptive, and regional
-  **Priority 3:** Assessments should contain provisions for robust research and monitoring
-  **Priority 4:** Funding should be provided for intervenor and stakeholder-led science
-  **Priority 5:** Assessments and the assessment process should be supported by open science and data
-  **Priority 6:** Assessments should incorporate Indigenous knowledge within the framework of a nation-to-nation relationship
-  **Priority 7:** Assessments should include rigorous, independent peer review
-  **Priority 8:** Assessments should be more comprehensive, efficient, and complete

OUTSTANDING GAPS THAT MUST BE ADDRESSED









-  **Gap 1:** Assessments should have expanded temporal and spatial scope
-  **Gap 2:** There should be clear triggers for assessment as well as designated impact thresholds that should not be exceeded
-  **Gap 3:** The Government should establish clear national objectives and values for decision making, and communicate full rationale behind decisions including risk tolerances and uncertainties
-  **Gap 4:** The precautionary principle should guide the assessment process from the beginning
-  **Gap 5:** The Government should make budgetary commitments to support federal science agencies to conduct environmental research
-  **Gap 6:** Assessments should contain commitments to scientific integrity
-  **Gap 7:** The Government should address issues of professional reliance

Thousands of Canadian scientists and scientific experts have voiced their concern about environmental and regulatory processes. We offer our professional expertise as the Government of Canada seeks strengthen the roles of evidence and scientific rigour in environmental review and decision-making.

SUPPORTING PAPER

Recommendations for modernizing the *Fisheries Act*

ACTIONS FOR FISHERIES ACT

-  **Action 1:** Restore the wording of section 35(1) of the Fisheries Act so that it reads “No person shall carry on any work, undertaking, or activity that results in the harmful alteration or disruption, or the destruction, of fish habitat” and broaden the definition of fish to include *all* fish
-  **Action 2:** Enhance enforcement, recommitting, to the principle of No Net Loss of fish habitat, and establish a public registry of harmful alteration, disruption or destruction of fish habitat (HADD) authorizations
-  **Action 3:** Rebuilding plans should be promptly completed for depleted stocks, based on the best available evidence.
-  **Action 4:** Enhance scientific expertise on fish and fish habitat protection and collaborate with partners to identify key restoration and rebuilding priorities
-  **Action 5:** Transparently assess the health of all Canadian fish stocks, publish the results, and specifically require that overfishing be prohibited.
-  **Action 6:** Adopt a consistent definition of ‘stock assessment’ as informed by internationally accepted best practices
-  **Action 7:** : Incorporate modern resource management and planning principles such as addressing cumulative effects, the implementing the precautionary approach, and ecosystem approach
-  **Action 8:** Establish Terms of Reference for an overarching advisory committee on fish and fish habitat protection with a mandate to convene subcommittees

Strong foundations: Recap and recommendations from scientists regarding the federal environmental and regulatory reviews

Executive Summary of Report

Alana R. Westwood, PhD; Aerin L. Jacob, PhD; David R. Boyd, PhD; Kai M. A. Chan, PhD; Steven J. Cooke, PhD; Rémi M. Daigle, PhD; Meinhard Doelle, JSD; John Dupuis, MLIS; Brett Favaro, PhD; Patricia Fitzpatrick, PhD; Adam T. Ford, PhD; Caroline H. Fox, PhD; Susanna D. Fuller, PhD; Katherine E. Gibbs, PhD; Monica Granados, PhD; Edward J. Gregr, PhD; Petr E. Komers, PhD; Otto Langer, MSc; Jonathan W. Moore, PhD; Sarah P. Otto, PhD; A. John Sinclair, PhD; Ian Stewart, PhD; U. Rashid Sumaila, PhD; Joseph L. Thorley, PhD; Jeannette Whitton, PhD

This document contains the executive summary and companion infographics. Find the complete report at www.y2y.net/strongfoundations.

Robust science in the public interest is critical to the welfare, health, and prosperity of Canadians. Science is an essential part of the environmental review: scientific methods provide the data used to determine whether a proposed project may have significant adverse effects and forms the basis of follow-up, monitoring, and adaptive management. In Canada, concerns have been raised repeatedly by academic, government, non-government, industry, and Indigenous sectors, as well as members of the public, about the quantity, quality, and independence of scientific data and methods used in the environmental review process. There is also concern about how scientific evidence factors into decision-making and the lack of transparency with which this information is considered or shared. It is clear that the role of science in Canadian environmental review processes needs a major overhaul.

In June 2017, the Government of Canada released the *Environmental and Regulatory Reviews Discussion Paper*¹ (hereafter ‘Discussion Paper’), which provides an overview of guiding principles and steps being considered to modernize environmental review. The Discussion Paper addresses in part some of the concerns regarding science in Canada’s environmental review process.

In this report, we provide recommendations to Government about how to strengthen the evidentiary basis and scientific rigour of environmental assessments. The authors of this report have nationally and internationally recognized expertise in environmental science, law, policy, and practice in academic, non-profit, government, and private sectors. We provide scientific recommendations, approaches, and proposed implementation related to the Discussion Paper’s “Proposed changes to the project assessment system”. Specifically, we outline priorities and gaps within the seven cross-cutting areas of change (Sections 2.1-2.7). In addition, we provide a companion paper specifically about modernizing the *Fisheries Act*.

¹ www.discussionpaper.ca

We **identify eight priorities** related to science and available evidence, and offer recommendations to inform how they can be operationalized and implemented:

- **Priority 1:** Assessments should account for the impact of a project on climate change
- **Priority 2:** Assessments should be evidence-based and emphasize a focus at the regional level
- **Priority 3:** Assessments should contain provisions for robust research and monitoring
- **Priority 4:** Funding should be provided for intervenor and stakeholder-led science
- **Priority 5:** Assessments and the assessment process should be supported by open science and data
- **Priority 6:** Assessments should incorporate Indigenous knowledge within the framework of a nation-to-nation relationship
- **Priority 7:** Assessments should include rigorous, independent peer review
- **Priority 8:** Assessments should be more comprehensive, efficient, and complete

A number of critical aspects of environmental and regulatory processes related to the evidentiary basis of assessments were not described in the Discussion Paper. We **identify seven gaps**, explain their importance, and provide recommendations on how our suggestions can be operationalized and implemented:

- **Gap 1:** Assessments should have expanded temporal and spatial scope
- **Gap 2:** There should be clear triggers for assessment as well as designated impact thresholds that should not be exceeded
- **Gap 3:** The Government should establish clear national objectives and values for decision-making, and communicate full rationale behind decisions including risk tolerances and uncertainties
- **Gap 4:** The precautionary principle should guide the assessment process from the start
- **Gap 5:** The Government should make budgetary commitments to support federal science agencies to conduct environmental research
- **Gap 6:** Assessments should contain commitments to scientific integrity
- **Gap 7:** The Government should address issues of professional reliance

We hope this report is useful as the Government of Canada considers how to strengthen federal environment and regulatory processes. Thousands of Canadian scientists and scientific experts have demonstrated their concern and interest in these matters and would likely be willing to lend their professional expertise in this regard. Through parallel processes, the Government of Canada has shown its commitment to strong scientific foundations for decision-making, innovation, and prosperity (e.g., the Fundamental Science Review, appointing a Chief Science Advisors, and others). We are hopeful that the same commitment will be extended to robust science in the environmental review process by including our recommendations when drafting related legislation, policies, and regulations.