Protecting the environment from GE organisms: Proposed Amendments to Part 6, Canadian Environmental Protection Act

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Overview

At a time when the environment has never been under greater duress, Canada is permitting the proliferation of genetically engineered ("GE") organisms that pose serious risks to biodiversity and Indigenous rights.

Canada was the first country in the world to permit the commercial production of a GE animal and Canadians were the first people to consume (unwittingly) a GE animal.[1] The advent of AquAdvantage Salmon, a GE Atlantic salmon containing genetic material from two other fish species, demonstrates that the Canadian Environmental Protection Act, 1999 ("CEPA" or "the Act") does not protect nature from the dangers and unintended consequences of genetic engineering. Nature Canada and others are available to describe the problems with the permitting of GE salmon.[2]

Part 6 of CEPA[3] aims to regulate "animate products of biotechnology," including GE animals. However, the Act fails to provide adequate oversight of the rapid advances in the technology, such as CRISPR or gene drives. In particular, the lack of public involvement means that new GE organisms may appear at any moment and be permitted with little or no public acceptance or input or Indigenous Peoples' consent.

Once GE organisms enter the environment and successfully reproduce, their impact is not only irreversible; it will grow over time as they spread. In effect, GE organisms are living pollution. Commercialization, which in the case of fish involves the production of hundreds of millions of individuals at numerous facilities, greatly increases the probability of escapes and genetic pollution. As stewards of the Earth's natural heritage, Canadians, particularly Indigenous Peoples, need the opportunity to consider the safety, efficacy, and public acceptability of GE organisms before irreversible decisions are made.

1 The Canadian Biotechnology Action Network provides a comprehensive chronology of the development of GE salmon in Canada including the unlabeled sale of the world's first GE food animal to Canadians: CBAN, "GE Fish Market Status: GM Food Alert," online: https://cban.ca/gmos/products/ge-animals/ge-fish/.

2 The Ecology Action Centre and Living Oceans Society, represented by Ecojustice lawyers, challenged in court the Government of Canada's permitting of AquAdvantage salmon: 2015 FC 1412 (CanLII); aff'd 2016 FCA 258 (CanLII).

3 This Government of Canada site provides a timeline with links to reports of CEPA review.

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Indigenous Peoples' rights must be respected as the patenting and use of GE organisms with heritable traits has serious implications for Indigenous self-determination, including implications for food sovereignty and security. There is a growing body of scholarly legal writing on this topic.[4]

Genetic engineering is now being promoted as a way to reverse biodiversity loss and save nature. As with any proposal to engineer the genome of a living species, whether the risk is from the accidental or intentional introduction of GE organisms, the approach should be one of great caution and even humility, and should require the consent of Indigenous Peoples.

Nature Canada has considered two approaches for addressing the inadequacies of CEPA: overhaul Part 6, or enact a new law. Given the current mandates of the Ministers of Environment and Climate Change and Health to strengthen CEPA,[5] Nature Canada is focusing on reforming Part 6 of CEPA.

Reforming Part 6 of CEPA

The federal government's basic approach to regulating toxic chemicals now found in CEPA was formulated in the early 1970s.[6] Part 6 of CEPA is meant to deal with "animate products of biotechnology" or GE organisms separately from, but in a manner that is procedurally similar to the treatment of other "substances." Public and parliamentary attention to biotechnology in federal law has never matched the attention paid to chemical regulation, and has been outpaced by accelerating developments and applications in biotechnology.

While the House of Commons Standing Committee on the Environment and Sustainable Development ("ENVI" or "the Committee") made a number of recommendations regarding Part 6 in its 2016-2017 study,[7] the relative lack of attention by the Committee and Government to Part 6[8] reflects a continued and outdated understanding of the field of biotechnology and its implications for nature and society. CEPA cannot be considered "modernized" until Part 6 has been overhauled.

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4 See e.g. Zahra Meghani, "The Autonomy of Nations and Indigenous Peoples and the Environmental Release of Genetically Engineered Animals with Gene Drives" in (2019) 10 *Global Policy*, 554-568, online: https://doi.org/10.1111/1758-5899.12699; and Cassandia Bellevue, *"GMOs, International Law and Indigenous Peoples" in (2017) 30 Pace International Law Review 1,* online: https://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1371&context=pilr.

5 The Prime Minister's mandate letter asks the Minister of Environment and Climate Change Canada, as a "top priority," to "Work with the Minister of Health to better protect people and the environment from toxins and other pollution, including by strengthening the *Canadian Environmental Protection Act, 1999*:" https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-environment-and-climate-change-mandate-letter.

6 *The Environmental Contaminants Act* came into force in 1976 and eventually became Part 2 of the first CEPA in 1988. The current version is Part 5 of CEPA, 1999.

7 ENVI recommendations 25, 26 and 64 are the most relevant here:

"25. that CEPA be amended to **require notice** in the Canada Gazette for a 30-day comment period when a person submits a new substance or living organism notification under subsection 81(1) or subsection 106(1);

"26. that CEPA be amended to **establish a more open, inclusive and transparent risk assessment process that better enables public participation** in the evaluation of new living modified organisms.

"64. that the Minister of Environment and Climate Change lead a process involving other relevant federal departments and including meaningful public consultation to **put in place an effective and transparent regulatory regime for genetically modified organisms."**

8 Part of the challenge with Part 6 and CEPA is that very few Canadians are even aware that CEPA regulates GE organisms.

In response to the Committee's recommendation 64, which called for an improved regulatory regime for genetically modified organisms, the Government said that it "supports the intent of this recommendation and ECCC is working with other federal departments and agencies to address these issues through administrative changes."[9]

Nature Canada, other groups and many Canadians strongly support strong action on ENVI recommendations 25, 26, and 64. We also call for action on the Government's commitment to strengthen procedural rights and otherwise put in place an effective and transparent system. However, **legislative rather than administrative changes must be made** in order to achieve these objectives, including correcting the imbalance between private and public interests.

Below are our recommendations for modernizing CEPA. The opening recommendations are based on principles, while the concluding recommendations are more procedural in nature. In most cases the recommendations mirror or expand on recommendations made by other organizations and agencies for Part 5 and chemical substances.

RECOMMENDATION #1:

Align CEPA reform with Indigenous rights, including harmonization of CEPA with section 35 of the Constitution Act, 1982[10] and the United Nations Declaration on the Rights of Indigenous Peoples.[11]

A majority of the House of Commons and most of the federal political parties have consistently supported this direction.[12] Other federal acts, such as the Species at Risk Act as well as the recently amended Fisheries Act and new Impact Assessment Act, although they have yet to be 'put to the test,' might provide guidance on how to align CEPA with Indigenous Peoples' rights. Any review and reform of CEPA should address the "regulatory gap" with respect to environmental protection on Indigenous lands.[13]

RECOMMENDATION #2:

Recognize all Canadians' right to a healthy environment.

ENVI recommendations 3, 4, and 5 supported Canadians' right to a healthy environment as did the government's response at sections 5.1 and 5.2.

9 Minister of Environment and Climate Change, "Follow-Up Report to the House of Commons Standing Committee on Environment and Sustainable Development on the *Canadian Environmental Protection Act, 1999"* (Government of Canada, 2018) ("follow-up report"), at page 26.

10 *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11.

11 UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples : resolution / adopted by the General Assembly*, 2 October 2007, A/RES/61/295, online: https://www.refworld.org/docid/471355a82.html.

12 See for example Justin Brake, "... Liberals promise, again, to legislate UNDRIP" in APTN News (June 24, 2019), online: https://www.aptnnews.ca/national-news/let-us-rise-with-more-energy-saganash-responds-to-senate-death-of-c-262-as-liberals-promise-again-to-legislate-undrip/.

13 https://www.afn.ca/uploads/files/env/cepa.pdf.

RECOMMENDATION #3:

Reverse the burden of proof: Until a proponent can demonstrate that a living organism can be used safely, its development, manufacture, import or use is prohibited. Similar recommendations have been made for chemical substances of very high concern.

ENVI recommended a reverse burden of proof for substances of very high concern (rec. #41) and the government agreed to consider this recommendation (section 3.5.2). We are recommending a similar approach for GE organisms.

RECOMMENDATION #4:

Reform risk assessment and ensure better use of science in decision-making: Currently, scientists from ECCC or DFO are required to conduct risk assessments of GE organisms as part of the approval process. Risk is expressed as "hazard x exposure." In the two risk assessments DFO scientists conducted on GE salmon, they ranked the environmental hazard as high because of invasiveness, but exposure as low because most of the fish were triploid and grown in a land-based facility, thus concluding that overall, risk was low. However, we know that with widespread commercialization, the risk of exposure will increase with more facilities and fish, approaching 100% probability of genetic contamination of wild stocks over time. Any risk assessment must recognize cumulative risks, particularly those associated with commercialization and widespread use over time.

Adopting a more comprehensive approach to risk assessment was supported by ENVI in recommendations 45 and 46 and in the government response in sections 3.4.3 and 4.4.2. No reference was made to GE organisms in these recommendations.

RECOMMENDATION #5:

Make labelling of foods and consumer products containing GE organisms ("animate products of biotechnology") mandatory. CEPA currently contains provisions for labelling.[14]

ENVI recommended mandatory hazard labelling for toxic substances. This could be expanded to products containing GE animals.

RECOMMENDATION #6:

Embed transparent processes that include meaningful public involvement and informed acceptance in Part 6. We support the advice of others that to bring CEPA into the 21st century, CEPA needs significantly improved accountability and transparency.[15]

14 See CEPA paragraph 93 (1)(q) or 209(2)(p).

15 We agree with the statement of Ecojustice, Environmental Defence and Équiterre in 2016 that Part 6 is "excessively opaque and complex" in practice. Submission: https://www.ourcommons.ca/Content/Committee/421/ENVI/Brief/BR8693959/br-external/Ecojustice-e.pdf, at page 2.

Recommendation #6 is based on the need for a "bottom line" for Part 6 that protects and puts people and nature first.

RECOMMENDATION #7:

When a person provides the prescribed information to the Minister under either paragraphs 106(1), (3), or (4) in relation to a living organism, **require a period of at least 150 days during which members of the public have an opportunity to review and comment before the commencement of any assessment.** When a person requests any waiver of information requirements **require a period of a least 150 days during which members of the public have an opportunity to review and comment, prior to the commencement of any assessment.**

RECOMMENDATION #8:

Require that all details of the information provided to the Minister(s), including as part of any waiver request, also **be provided to the public, in order to allow the public to participate meaningfully in the assessment.**

RECOMMENDATION #9:

When the Minister proposes to publish a significant new activity ("SNAc") notice in relation to a living organism, or when the Minister proposes to add a living organism to the Domestic Substances List ("DSL"), **require a period of at least 150 days during which members of the public have an opportunity to review and comment on the proposal. The information provided to the public should include all details** provided to the Ministers concerning the living organism and the manufacture, import or use that have been permitted to date.

RECOMMENDATION #10:

Require opportunities to comment on each of the above steps being taken before decisions are made, including opportunities for informed participation in any assessments.

RECOMMENDATION #11:

Require every person who transfers a substance or living organism that is subject to a significant new activity notice and that is on the DSL to **notify all persons to whom the substance or living organism is transferred of an obligation to comply with the significant new activity notice.**

This was Recommendation #51 of the Committee. It would make the process for substances and living organisms that are listed on the DSL similar to that for substances and living organisms not listed on the DSL. The Government agreed with the Committee[16] and said that this recommendation would "inform its work to reform CEPA."[17]

16 See Discussion Paper at 2.7.
17 Follow-up report, at page 25.

Our Recommendations generally support the Committee's Recommendation #63, which pointed out the need for clear rules on how and under which circumstances a new substance or organism is transferable, and clear rules on the approval process for new uses proposed by the party introducing the substance or organism, and new uses proposed by others to whom that party may transfer the substance or organism. Here again, the implementation of these recommendations requires legislative change rather than mere "guidance."

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