Brief submitted to the Senate Standing Committee on Energy, the Environment and Natural Resources, regarding Bill C-69, specifically the Impact Assessment Act provisions.

David W. Mayhood, Aquatic Ecologist & President, FWR Freshwater Research Limited, Calgary, AB

Qualifications

I hold a B.Sc. Honours in Zoology and an M.Sc. in Limnology (i.e., ecology of inland waters), both from the University of Calgary. I have worked and consulted on the inland waters of western Canada for 50 years. Over the last 40 years I have written and reviewed aquatic environmental impact assessments of pipelines, dams, mines, heavy oil operations, logging, fish management activities, gas plants, feedlots, land management plans, railways, roads, and recreational off-highway vehicles for clients in industry, government, environmental non-governmental organizations and ad hoc landowner groups. Further details are available here https://www.fwresearch.ca/Home.html. My full CV is available on request.

Summary

This brief deals only with a few selected elements of environmental assessment. Bill C-69’s Impact Assessment Act (IAA), makes significant improvement to the existing federal environmental assessment process in Canada (CEAA 2012) by adding or enhancing treatment of climate change, indigenous knowledge, the intersection of sex and gender with other identity factors, sustainability, and effects on the government’s environmental commitments, to the factors to be considered in the impact assessment of a designated project (s.22(1)). I do not review these matters here, but their inclusion in the IAA makes possible more holistic assessments. The requirement under s.6(3): “the Government of Canada, the Minister, the Agency and federal authorities must, in the administration of this Act, exercise their powers in a manner that adheres to the principles of scientific integrity, honesty, objectivity, thoroughness and accuracy” is also an important improvement over existing legislation (M. Olszynski, personal communication). Undoubtedly more improvements are possible, but on those grounds alone, Bill C-69’s IAA deserves support. Additional reasons for supporting Bill C-69 have been advanced by others (e.g., Gibson 2019, Gray 2019).

However, as written the IAA fails to deal with three fundamental, long-standing problems with the environmental assessment process. Continuing past mistakes, Bill C-69

1. continues to assign de facto responsibility for environmental impact assessment to the project proponent;
2. fails to insist on using best available science; and
3. fails to set limits to cumulative environmental impact.
It is self-evident that the proposed legislation must address these fundamental problems for the IAA to meet the elected government’s commitments. Among others, they are:

- to regain public trust;
- to introduce new, fair processes;
- to restore robust oversight and thorough environmental assessments of areas under federal jurisdiction; and, most relevantly to this submission
- to ensure that decisions are based on science, facts, and evidence, and serve the public’s interest


**Recommendations**

- Pass the environmental assessment elements of the IAA in Bill C-69 as presently written. The current legislation (CEAA 2012) is inadequate; the IAA needs substantial work, but makes some worthwhile improvements. Rejecting IAA outright, or passing it with major amendments, risks leaving the decidedly worse CEAA 2012 in place into at least the next Parliament, or longer.
- Do not block or substantively change Bill C-69 in the Senate. The Senate may have the constitutional authority to change legislation passed by the House, but as an unelected body it lacks the democratic legitimacy to do so.
- Suggest to the House of Commons amendments to the IAA as passed that address selected major shortcomings 1 through 3, above, as further explained below.

**Introduction**

This submission deals only with certain selected elements of environmental assessment.

In preparing this short brief, I have consulted Bill C-69 (House of Commons 2018), CEAA (2012), and a number of publications in the literature, as cited in the text below. I have presented testimony before environmental assessment panels on ten occasions, and I have decades of experience in conducting and reviewing environmental assessments small and large, as described under *Qualifications*, above, and in more detail for representative projects at https://www.fwresearch.ca/Impact_Assessment.html. These together are the basis of my comments here.
What’s wrong with Bill C-69’s IAA?

For my purposes in this brief, the principle problems with the proposed IAA are these (there are others).

- *De facto* responsibility for environmental impact assessment is assigned to the project proponent;
- best available science is not the standard required in impact assessment; and
- limits to cumulative environmental impact are neither set, nor are they specified as a goal.

Who Does the Assessment?

Who does the environmental impact assessment determines the outcome. Historically, at present, and in the IAA, the project proponent does the assessment. With very few exceptions, the regulator makes its decision to allow the proposed project to go ahead. That decision is based primarily on what the proponent tells it about the project, again with very few exceptions.

Similarly to CEAA (2012, s.40(1-2)), IAA makes the mistake of stating that the impact assessment is “conducted by the Agency or a review panel” (s.22(1)). That is simply not true. The proponent collects the data, analyzes it, judges what the environmental effects of the project will be, and identifies measures to mitigate adverse effects. The regulatory agency or review panel makes its decision after reviewing the proponent’s data, analysis, interpretation, and assessment, ostensibly along with any provided by government agencies and intervenors. Government agencies rarely, if ever, go out and collect their own site-specific data and conduct an independent assessment of a proposed project. Intervenors are severely underfunded relative to the proponents; their environmental, health, and other experts are discriminated against in cost awards (Fluker and Dalke 2017), and so are rarely able to conduct their own independent assessment at anywhere near the scale of that conducted by the proponent. These problems seriously affect the quality of the science available to the decision-makers, as explained below.

The key point to be understood under this heading is that, in consequence of the fact that the proponent does the environmental assessment, decisions are nearly always made in the proponents’ favour. That the favourable decisions are often accompanied by conditions intended to mitigate projected adverse effects does not change this fact. The mitigation measures are primarily those offered by the proponent; furthermore, there is often little evidence that proposed mitigation measures work. All of this remains true in the IAA.

Where’s the Science?

Science is a process for finding out how the world works. It is not applicable for every purpose, but where it is, it’s a powerful way to uncover what is true and what is not.
Top-quality science needs to be an important part of impact assessment. Because impacts of major projects are highly contentious, with large consequences whether a proposed project goes ahead or not, the standard for science in impact assessment must be the best available. That decidedly has not been the case to date (Schindler 1976, Nikiforuk 1997, Clarke Murray et al. 2018, Singh et al. 2018), and it is not the standard specified in the IAA. It’s mentioned in the preamble (paragraph 4) as an aspirational goal, but nowhere does it specify that it is the standard.

“Best available science” is the necessary standard, and the IAA needs to say so throughout.

Scientists are self-interested human beings. They have themselves and families to support. They are naturally beholden to their employers for their incomes. Understandably, they behave accordingly. When we rely on industry-funded scientists hired directly by the proponent for the science in impact assessment, it’s not at all surprising that we get industry’s point of view.

But that’s not the only scientific point of view. Science advances through a kind of survival of the fittest (Hull 1988). Sometimes it’s a downright battle, red in tooth and claw, figuratively speaking. Contesting ideas are asserted with vigour, and the proponents of each view are not always polite, even-handed or honest. You can see this being played out, for example, in the climate change battle, where the last few scientific holdouts/deniers are fighting a rearguard action against overwhelming scientific consensus (Oreskes and Conway 2010). Still, all of the nonsense gets sorted out in the end through the discipline administered by peers in the scientific community testing claims with their own data (Oreskes 2007). But that sorting typically takes many years (Oreskes 2013, Cook et al. 2016).

The best available science must include contest. Contest, reasonably equal contest, is not possible in such a biased situation as we have now, where the proponent is the source of virtually all of the data, analysis, interpretation, assessment, and mitigation proposals; where the proponent has sole authority to decide what work is relevant, and what work it will do; where the proponent will do only that work that meets its interests; where governments don’t do the necessary research to test that work; and where intervenors lack the means to do their own relevant science. In such a case, we must have something as close to an even-handed arbiter and scientific assessment team as we can get, because time is short, and there’s only one chance to get it right. The solution is a body of the type recommended in the analysis leading up to Bill C-69.

The development of the Impact Statement would be led by the Commission using a team of consultants and experts (the “assessment team”) retained by the Commission that is free of any conflict of interest and chosen through a collaborative process involving the project committee and government expert committee (Expert Panel 2017:62).

This proposal lacks any role for intervenors in scientist selection, a serious omission that should be corrected in any future implementation, but it is otherwise reasonable. Under such a regime, many of the sources of non-scientific contention can be sorted out in the deliberations where consultants and experts are chosen. Government scientists, and those of
the intervenors, can then prepare to analyze and critique the resulting science on a somewhat more equitable footing, and have some confidence of having high-quality science to review.

**What Are the Limits?**

Environmental impact assessment is worthless without set limits to the cumulative adverse effects that will be tolerated. The entire point of doing an environmental assessment is to limit environmental damage to tolerable levels. Surely it is obvious that without setting limits to cumulative adverse effects, and adhering to them, environmental assessment becomes nothing more than documenting the destruction. It is hard to imagine a more wasteful use of the proponent’s, the government’s, and the people’s time and money.

The *IAA* sets limits only on the time to complete certain actions, on access to a place, on liability and on statutory issues. It does not mention limits on environmental damage. It needs to direct the regulator or panel for each assessed project to set such limits on cumulative adverse effects as are defensible by the best available science *prior to* the assessment.

In this, however, the *IAA* continues to follow current practice. From a study of ten projects in British Columbia, Clarke Murray *et al.* (2018) provide good examples of how things actually work on the ground to (fail to) limit damaging environmental effects. They concluded:

> Our analysis reveals troubling trends of threshold exceedance and the opportunity for biased assessments that will need to be corrected if environmental assessment processes are to be anything more than a rubber stamp. All projects in BC were approved by regulators demonstrating that threshold exceedances are not a barrier to project approval.

Similarly, Singh *et al.* (2018) concluded

> We find that in all jurisdictions, the number of identified significant adverse impacts was consistently small (or nonexistent), regardless of context. Likely contributing to this uniformity, we find that the scopes of analyses are consistently narrower than warranted ecologically and toxicologically, many proposed mitigation measures are assumed to be effective with little to no justification, and that the professional judgement of developer-paid consultants is overwhelmingly the determinant of impact significance, with no transparent account of the reasoning processes involved.

> …

> Our findings suggest that in the seven jurisdictions we address, EISs [environmental impact statements] often contain questionable analysis and lack transparency, which may bias their conclusions against determinations of significant negative impacts. While there are other regulatory processes and considerations that affect final decisions, EISs ostensibly give scientific credibility for decisions, so sound research practices are important.
How Can Environmental Impact Assessment be Done Right?

I commend Clarke Murray et al. (2018) and Singh et al. (2018) to this Committee for detailed reading, to see stark illustrations of what confronts it in its deliberations, and how the IAA must be changed if it is to do its job of limiting cumulative environmental damage from large projects to tolerable levels.

Much better approaches to environmental impact assessment exist, and have been used successfully in Canada. As just one example, consider the procedure used in 1985-1988 to settle a sensitive dispute over a proposed thermal coal mine in the Flathead River valley of southeastern BC, an international river flowing from BC into Montana. The BC government had granted approval in principal for the mine, but Montana expressed concern for potential effects downstream in Montana. The US and Canadian governments referred the concerns to the International Joint Commission (IJC), which administers the US-Canada Boundary Waters Treaty between the two countries.

The IJC (1988) appointed a six-member board, the Flathead River International Study Board, comprised of three members from each country, charging it with studying and reporting back on the relevant issues. That board chose technical experts in the relevant fields to undertake scientific reviews of existing data and studies to assess the environmental impacts of the planned mine on the river. The board reviewed the findings, summarized them, and drew their conclusions, passing them on to the IJC for its decision.

Several features of this environmental impact assessment make it superior to the usual form practiced in Canada presently.

- The technical experts were chosen by consensus of study board representatives, most or all of them experts in relevant fields, equally representing each party;
- the technical work was done by recognized independent experts, many of them directly familiar with the river or actively studying it at the time;
- the authors of the reports were identified by name, taking responsibility for their work;
- the reports by the technical committees in each subject area were reviewed by independent recognized experts;
- technical experts and the board considered what the experience was in BC with the actual behaviour of existing coal mines, and the actual regulatory behaviour of the government, as opposed to what was claimed; and
- clear limits were set with respect to water quality changes, and were implied (zero decline in prized populations of two trout species) in the decision.

Cumulative effects were not addressed explicitly in this assessment, probably because existing human uses in the Flathead drainage in BC at the time were limited, thus the incremental effects constituted the cumulative effects to that point. An expert in cumulative effects assessment, J. O’Riordan, was a member of the board.
Perhaps the greatest incentive for making the changes we advocate here are the consequences of not doing so. The fundamental rationale for doing EIA is to prevent unacceptable impacts to the environment to help society achieve a sustainable pattern of development. Sound science is a necessary, if indeed wholly insufficient, component of EIA endeavours. To raise the quality of science in EIA to what is needed, two key things must occur. First, there must be acceptance that the situation needs to change: regulators, proponents, and other practitioners have to want improvement (Greig and Duinker 2011).

Much better approaches to environmental impact assessment are possible. They should be designed into the IAA (Moore et al. 2018).

**Conclusion**

In this brief I considered how Bill C-69’s IAA deals with three fundamental, longstanding problems currently facing environmental impact assessment in Canada. I found

1. *de facto* responsibility for environmental impact assessment still remains with the project proponent;
2. as is the case currently, the best available science is not the standard required in IAA impact assessment; and
3. as always, limits to cumulative adverse environmental impact are neither set, nor is the regulator or review panel directed to set and enforce limits on cumulative adverse environmental impacts.

These problems in the IAA as presently written need to be fixed. The means to do so are readily available. If they are not corrected, we will continue to waste the money, time and patience of proponents, governments, and the people of Canada in useless environmental work that does next to nothing to resolve increasing environment-related conflicts.

I understand that the Standing Senate Committee is travelling across Canada to hear perspectives on Bill C-69. I would be pleased to discuss these issues with you in person, through video conference, or by other means.

**Acknowledgements**

Aerin Jacob suggested that I comment on the proposed legislation before the Standing Senate Committee. She also provided helpful criticisms of an earlier version of this brief. Shaun Fluker, in a blog post (Fluker 2018), drew my attention to the recommendation in the Expert Panel report providing for a more independent selection procedure for specialists conducting the impact assessment. Martin Olszynski pointed out the value of the improvement at section 6(3) in Bill C-69. Any errors, however, are mine.
References


