

Follow-up programs: How are they implemented on major projects in Canada? [DRAFT]

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Abstract

As part of the Impact Assessment (IA) process, follow-up programs provide a mechanism for evaluating what worked (or is working) when mitigating project-related effects and verifying whether the assessment predictions were accurate. Follow-up programs are required under Canada's *Impact Assessment Act* and some provincial or territorial processes such as the BC *Environmental Assessment Act* or through Nunavut Impact Review Board. The resulting Decision Statements, commitments, and conditions of such assessment processes describe the project's follow-up program and the required elements that it must contain, but the approach of different regulatory agencies to follow-up in Canada varies considerably. Through selected case-study, we evaluated some examples of follow-up programs to determine how effective they have been and considered ways to improve implementation and provide insights for future projects.

Introduction

Follow-up is defined under Canada's *Impact Assessment Act* (IAA) as a program for "verifying the accuracy of the impact assessment of a designated project and determining the effectiveness of any mitigation measures" (Government of Canada 2019). The IAA has accommodations for public participation and requires that the results of the follow-up program must be documented. This facilitates transparency and engagement with independent communities and external agencies. Follow-up as required by IAA and provincial or territorial jurisdictions includes recording data, evaluating against performance targets, adjusting during the project as warranted (adaptive management), and engaging stakeholders and rights holders. Monitoring — one of the key elements of Follow-up (Arts 2022) — includes activities that may fall outside the scope of the follow-up program, such as regulatory compliance activities.

Follow-up programs are important (1) to determine if effects occur as predicted and (2) to determine if mitigation avoids or reduces effects as expected. At the assessment stage, decisions are made on the best available information, possibly meaning that project outcomes are not necessarily predicted accurately (Aarts and Morrison-Saunders 2022, Fitzpatrick and Williams 2020, Morrison-Saunders et al. 2021). Globally, there are indications that mitigation measures prescribed in effects assessments may not achieve their anticipated objectives (Sánchez and Gallardo 2005), and the objectives or intended outcomes for many are only vaguely stated or not stated at all (Tinker et al. 2005). Documentation of Follow-up programs allows practitioners to apply appropriate mitigations demonstrated to be the most effective at avoiding or reducing project-related effects. The purpose of follow-up is to enable improvement of assessment, mitigation, and ultimately, risk minimization for that industry (Aarts and Morrison-Saunders 2022, Fitzpatrick and Williams 2020, Morrison-Saunders et al. 2021, Government of Canada 2019). Without a robust follow-up and monitoring program, Impact Assessment is incomplete and falls short of achieving its core objectives and prohibits continuous improvement.

This paper examines the requirement for and implementation of follow-up programs through case-study of selected major projects in the western Canadian province of British Columbia¹ (western Canada

¹ Where Projects in the province fall under the review of the *BC Environmental Assessment Act* and/or Canada's *Impact Assessment Act*

temperate and coastal mountain) and the territory of Nunavut² (northeastern Arctic Canada). Using a review of publicly accessible information and ‘scorecard’ approach, we provide a systematic account of the number of projects that commit to Follow-up programs, implement follow-up and a select review of how Follow-up is implemented through case study of projects representative of differing jurisdictions.

Regulatory Context

Canada has separate federal, provincial, and territorial statutes and relevant regulations. The Federal *Impact Assessment Act* — IAA (Government of Canada 2019) makes follow-up programs mandatory in impact assessments and the development of approved projects. There are various regulatory statutes in provincial jurisdictions that require review of projects, and a project reviewed under provincial legislation may or may not be designated under the IAA.

The *British Columbia Environmental Assessment Act* — EAA (2018) requires an effects assessment. Follow-up is not mandated by law but is included in Policy that stipulates what should be included in the application. An application undergoes review by a technical advisory group and if the Project successfully receives approval in the form of an Environmental Assessment Certificate (EAC), there are legally binding conditions. Permitting processes coincide or occur after a certificate is issued and result in additional required conditions. Since an audit was conducted by the Auditor General (OAGBC 2011), the BC Environmental Assessment Office has implemented policy resulting in EAC conditions being written with increased clarity, measurability, accountability, and with increased frequency of inspections.

The IAA does not apply to the territorial jurisdictions in Canada. Nunavut Impact Review Board (NIRB) has authority through Canada’s Nunavut Agreement and has always required approved projects to have follow-up monitoring. The NIRB plays a review role during the Life of the Project, from project proposal to project approval (and associated terms and conditions) and ultimately monitoring and reporting. While the proponent often takes corrective actions as results show unexpected adverse effects, the NIRB can enforce project conditions to ensure that project monitoring and effects are within acceptable limits.

Approach

Our approach focused on two levels of analysis. First, we conducted a key word search within the Assessment Reports, Decision Statements, and Certificates of approved projects to determine how often follow-up is a legally binding project commitment. Next, we used a selected case study to examine how follow-up is implemented compared to best practices. All information that we reviewed was from publicly accessible sources. No proprietary or information that EDI would have knowledge of due to contractual work on these projects was used during our review.

To answer the first question, we selected all projects that were approved under the BC EAA or NIRB in the last 20 years. We then used the BC Environmental Assessment Office (BCEAO), NIRB, and Impact Assessment Agency of Canada (IAAC) public project registries to search project approvals and their attached schedules (i.e. the lists of conditions). The key words, “follow-up”, “monitoring”, and “adaptive management” were searched in order to determine the proportion of projects that have follow-up as part of their legally binding conditions.

Through case-study, we reviewed three projects (two in BC and one in Nunavut) authorized from 2016 – 2018 that were in the construction or operation phase. We evaluated follow-up programs within these

² Where Projects in the Territory fall under the *Nunavut Planning and Project Assessment Act*.

projects against 5 key questions that encompass the best management practices in Aarts and Morrison-Saunders (2022), Fitzpatrick and Williams (2020) and Morrison-Saunders *et al.* (2021), as follows:

1. Was the follow-up plan designed and planned early in the IA process and followed through?
2. Was it implemented?
3. Was it publicly accessible?
4. Was it well-defined and enforceable?
5. Did it promote learning and adaptive management?

The study did not involve detailed analysis of every project, but rather looked for key words in the conditions and the monitoring reports for the Project. The results would be constrained by ease of availability and accessibility of data. However, accessibility of data is a factor related to effectiveness of follow up; therefore, we believe that any inaccuracies due to not finding evidence of best practice inherently reflects the intended scoring.

Results – Key Word Search

We reviewed 40 projects that were approved under the BC *Environmental Assessment Act* and 5 that were approved by the Nunavut Impact Review Board (NIRB). **Error! Reference source not found.** shows the results for the 45 projects summarized by the type of legislation they were approved under. The projects were approved between August 20, 2007 and October 10, 2023. Of the projects that were approved under the BC *Environmental Assessment Act*, 17 were designated and approved under Canada’s federal legislation. Notably, all the projects under NIRB committed to follow up programs, monitoring, and adaptive management. The majority of projects approved under both BC and federal legislation had evidence of follow up commitments, and a minority of project approved under BC legislation only had follow up commitments.

Table 1. Key word search in projects approved under BC Environmental Assessment Act and Nunavut Impact Review Board (NIRB).

Legislation	Total number of projects	Contained "Follow up"	Contained "Monitoring"	Contained "Adaptive Management"
BC and Canada	17	88%	100%	88%
BC only	23	30%	100%	83%
NIRB	5	100%	100%	100%
Total	45	60%	100%	87%

Results – Case Study

We selected one project in each jurisdiction, Nunavut and BC. The two projects were:

1. Baffinland: Mary River Iron Ore Mine — Nunavut
2. Site C Clean Energy Hydroelectric dam — British Columbia

Results are summarised in **Error! Reference source not found.**

1. Baffinland: Mary River Iron Ore Mine (Nunavut)

This project refers to a 6 Mtpa iron ore mine located in the Canadian High Arctic on the lands and waters of the Qikiqtani Inuit. The Environmental Assessment Certificate (EAC) was issued in 2012 which outlines many terms and commitments [regarding ongoing effects monitoring, mitigations, and adaptive

management]. Numerous project-specific follow-up and effects monitoring plans have been actions across multiple disciplines including marine mammal response to shipping, risk of invasive species introduction, caribou response to disturbance (to name just a few) each with defined schedules and reporting requirement. Although there is some redundancy/overlap among some management (e.g. "Caribou Protection Plan" that is distinct from the broader "Wildlife Protection Plan") these tools are intended to address changing Project needs. Plans published by the proponent are publicly accessible (<https://www.baffinland.com/media-centre/document-portal/>); annual reports are available through government registries and online inventories. In terms of accountability, there are schedules and requirements specific to meeting project terms and conditions. Findings are reported to and within specific Working Groups used as 'sounding-boards' for discussion on adaptive management and program improvements, including ancillary investigations and pilot studies. Although there has been difficulty in achieving consensus and/or shared understanding for certain topics, the Working Groups have been successful forums for improving/enhancing data capture and verifying monitoring assumptions — and facilitating dialogue between Working Group members. More recently, revised terms of reference have shifted the role of the working group towards Oversight Committees which will have authority to impose enforceable commitments.

2. Site C Clean Energy (Hydroelectric Dam)

The Environmental Assessment Certificate (EAC) was issued in October 2014 under the BC Environmental Assessment Act (Government of British Columbia) and was designated under CEAA 2012. The project is in the construction phase.

Documentation going back to August 2011 is available on EPIC. An independent Environmental Monitor (IEM) was appointed prior to construction and the requirement for several different detailed Management Plans was listed. A total of 77 detailed conditions were committed to within the EAC and covered a wide range of mitigation measures. Detailed and specific inspections by EAO Compliance and Enforcement have been undertaken, though the results of monitoring are not publicly available.

Follow-up programs were listed in EAC Schedule B, some of which only come into effect in operational phase. Follow-up reports are based on various plans as required by the EAC Schedule B that are written to be defined and describe requirements. They are available on EPIC. There is a comprehensive library of reports published on BC Hydro's website (<https://www.sitecproject.com/document-library/site-c-project-reports>), including mitigation and monitoring plans, and annual reports.

Table 2. Follow-up scoring against best practices.

Project Name	Jurisdiction	Designed /Planned	Implemented (Y/N)	Publicly Accessible (Y/N)	Well-defined, Enforceable	Promotes Learning
Mary River	NU	Referenced - Clear Plan	Yes	Yes	Clearly Defined	Good
BC Hydro Site-C	BC	Referenced - Clear Plan	Yes	Yes	Clearly Defined	Good

IMPROVING FOLLOW-UP

The process of follow-up has improved over the years, particularly in BC, with more clear, well-defined, and enforceable conditions being written into Environmental Assessment Certificates. The following are opportunities for additional improvements.

1. The focus of inspections is generally during construction.
2. There is no requirement for results of monitoring to be made public in all cases, which does not facilitate continuous learning to improve future practice.
3. There is a tendency towards requiring or producing numerous, lengthy Management Plans with overlapping subject matter, resulting in information overload for managers and difficulty in pinpointing clear follow-up, monitoring, and management requirements. For example, in a description of an Environmental Management System, its discussion of Fish Management refers to 11 Best Management Practices, but does not distill the key issues out of them. It also refers to road management, sediment control, tailings dams, the power line corridor, all of which also overlap with landscapes, soil and vegetation as well as wildlife habitat. Given these kinds of overlaps, with careful planning, the large volume of management plans could be reduced to possibly two or three. In recognition of this problem, EAO are building a management plan team who are developing guidance material.

The goal should therefore be to streamline the follow-up process to make it more holistic, implementable, accessible, and adaptable. Wherever possible, related and overlapping themes should be combined and a section of each management plans should give clear, unambiguous guidelines on follow-up, monitoring, management actions and roles and responsibilities. This would require moving away from the siloed approach and would require more cross-discipline cooperation and ultimately require that consultants coordinating EMPs, and agencies reviewing them, use a more holistic and generalist set of skills.

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