

## **Workshop on Adaptive Management, Follow-up, Monitoring, and Enforcement**

### **1) Adaptive Management**

Adaptive management is a tool that is often utilized when conducting environmental assessments. However, it is a term that is susceptible to varying interpretations. As a result, it is a concept that has been “misinterpreted, misused, and abused”.<sup>1</sup>

In simplistic terms, adaptive management is a process that involves the modification of management actions in response to new information. It is generally invoked where there is considerable uncertainty, especially with respect to the effectiveness of a proposed management action.<sup>2</sup>

CEAA 1992 did not define adaptive management, but the concept was referenced in subsection 38(5):<sup>3</sup>

“The results of follow-up programs may be used for implementing adaptive management measures or for improving the quality of future environmental assessments”.

Adaptive management is not referenced in CEAA 2012. However, the *Practitioners Glossary for the Environmental Assessment of Designated Projects Under the Canadian Environmental Assessment Act, 2012*, provides the following definition:

“Adaptive management consists of a planned and systematic process for continuously improving environmental management practices by learning about their outcomes. It involves, among other things, the implementation of new or modified mitigation measures over the life of a project to address unanticipated environmental effects. The need to implement adaptive management measures may be determined through an effective follow-up program.”

It is important that any environmental assessment reform includes a requirement to clearly define adaptive management and set limitations on its use. While adaptive management can be useful in improving processes over time, its application can also be a dangerous counter to the application of the precautionary principle.<sup>4</sup>

Further, the rigour with which adaptive management processes are designed and implemented will affect its ability to effectively manage uncertainty.<sup>5</sup>

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<sup>1</sup> See Martin Z.P. Olszynski, *Adaptive Management in Canadian Environmental Assessment Law: Exploring Uses and Limitations*, 21 J. Env. L. & Prac. 1, 2010 (“Olszynski, 2010”).

<sup>2</sup> *Ibid.*

<sup>3</sup> Note that the Operational Policy Statement, “Adaptive Management Measures under the *Canadian Environmental Assessment Act*” (1992) defined adaptive management as “a planned and systematic process for continuously improving environmental management practices by learning about their outcomes. Adaptive management provides flexibility to identify and implement new mitigation measures or to modify existing ones during the life of a project.”

<sup>4</sup> See *Canadian Parks and Wilderness Society v Canada (Minister of Canadian Heritage)*, 2003 FCA 197, [2003] 4 F.C. 672 and *Pembina Institute for Appropriate Development v Canada (Attorney General)* (2008), 2008 FC 302, as examples. Further discussion can be found in N. J. Chalifour, *Case Comment: A (Pre)Cautionary Tale about the Kearsy Oil Sands Decision. The Significance of Pembina Institute for Appropriate Development et al. v. Canada (Attorney-General) for the Future of Environmental Assessment* (2009) 5 McGill Int'l J Sust Dev L & Pol'y 251 at 267.

<sup>5</sup> Olszynski, 2010, p. 5.

Project proponents are often allowed to rely on the concept of adaptive management to post-pone the design of mitigation measures, or at least the demonstration of their feasibility, until after the environmental assessment process has been completed through follow-up programs or other means. However, adaptive management should not be used as a substitute for proposing specific and certain mitigation measures in an environmental assessment.

Adaptive management should also not be utilized as a means to address uncertainty regarding whether a project is likely to cause significant adverse environmental effects. Decision-makers should not be permitted to rely on adaptive management to permit projects with uncertain, yet potentially significant adverse effects to proceed. Unfortunately, such an approach was affirmed by the Federal Court in *Pembina Institute for Appropriate Development v Canada (Attorney General)* (2008), 2008 FC 302.

***Proposed Recommendations for Discussion:***

1. Adaptive management and its role in environmental assessments should be clearly defined.<sup>6</sup>
2. Adaptive management's role should be limited to the following circumstances:
  - to deal with adverse effects that are not significant
  - when a follow-up program reveals predictions regarding significance of adverse environmental effects or the success of mitigation measures were incorrect
  - to provide information that is relevant to future environmental assessments.
3. Adaptive management should not be used to overcome a situation where there is a lack of scientific data or uncertainty.<sup>7</sup> More specifically, adaptive management should not be used:
  - to lend certainty to uncertain mitigation measures
  - as a substitute to committing to specific mitigation measures
  - to lessen the significance of otherwise significant adverse effect
  - where there is no adaptation response reasonably available to mitigate effects.<sup>8</sup>

Predictions of significant environmental impacts and success of mitigation measures must be certain, on the basis of good and reliable science and other relevant information available at the time when the decision-maker determines whether a project, as mitigated, likely will result in significant environmental impacts. As such, project proponents must be required to propose feasible mitigation measures that will address any significant adverse effects during the environmental assessment.

4. Clarify that adaptive management and the precautionary principle play distinct roles in environmental assessment. While both concepts are intended to address uncertainty surrounding environmental effects caused by human activity, adaptive management is not a "set off" or counter to the precautionary principle.<sup>9</sup> The precautionary principle should be

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<sup>6</sup> For possible wording see Environmental Law Centre publication entitled "A Model Environmental and Sustainability Assessment Law", Brenda Heelan Powell, 2013.

<sup>7</sup> This position is supported by *Greenpeace Canada v Canada*, 2014 FC 463.

<sup>8</sup> See A. Kwasniak, Use and Abuse of Adaptive Management in Environmental Assessment Law and Practice: A Canadian Example and General Lessons, *Journal of Environmental Assessment Policy and Management*, Vol. 12, No. 4 (December 2010), pp. 425–468 ("Kwasniak, 2010").

<sup>9</sup> See *Pembina Institute for Appropriate Development v. Canada (Attorney General)* (2008), 2008 FC 302; Kwasniak, 2010.

paramount as it applies to all aspects of environmental assessment whereas adaptive management should be limited in its application to follow-up measures.

5. The responsibility to implement adaptive management and the situations where an adaptive management response is appropriate and/or required should be clearly defined.
6. Where adaptive management is deemed appropriate, requirements for its use should be included as a project condition.
7. Specific and strong adaptive management design requirements should be established to ensure rigorous and effective application of the principle.

## **2) Follow-up programs and monitoring**

While there is no single definition of follow-up programs, it is generally concerned with the post-decision stage of a project or plan as it relates to the various components of the project life-cycle after the consent decision for development action has been taken.<sup>10</sup>

Section 19(1)(e) of *CEAA 2012* sets out two components of follow-up programs: a) verifying the accuracy of the EA predictions, and b) determining the effectiveness of proposed mitigation.

It has been suggested that environmental assessment follow-up is comprised of four activities:

- Monitoring (the collection of data; measurement of specific phenomena to document change),
- Evaluation (the appraisal of the conformance with standards, predictions or expectations as well as the environmental performance of the activity),
- Management (making decisions and taking appropriate action in response to issues arising from monitoring and evaluation activities), and
- Communication (informing the stakeholders as well as the general public about the results of the EA follow-up).<sup>11</sup>

Monitoring is essential to follow-up programs because it provides the information necessary to confirm predicted effects and assess effectiveness of mitigation measures. When follow-up monitoring detects unpredicted effects or that mitigation is not effective, adaptive management can be implemented to address such effects. In this way, adaptive management can be highly relevant to follow-up programs and associated monitoring.

Although *CEAA 2012* defines and mandates follow-up programs, legislative gaps remain. Some of the deficiencies are:

- No requirement that follow-up programs be reviewed by independent sources to ensure adequacy of design and ability to achieve intended purpose.
- No requirement for proponents to report on the status and/or results of follow-up programs and make that information available to the public and the regulatory decision-makers.
- No requirement that proponents demonstrate efficacy of follow-up programs.

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<sup>10</sup> Sarah Macharia, *A Framework for Best Practice Environmental Impact Assessment Follow-up: A Case Study of the Ekati Diamond Mine, Canada* (Saskatoon: University of Saskatchewan, 2005).

<sup>11</sup> *Ibid.*

- No requirement that proponents use adaptive management to address issues that follow-up programs identify (where appropriate).
- The regulatory decision-maker is not authorized to take regulatory action (e.g. shut down project, amend conditions) to address issues that follow-up programs identify in cases where adaptive management is not appropriate or effective.
- No requirement that the results of follow-up measures be considered by subsequent decision-makers to inform the conduct of future EAs or other decision-making processes.

***Potential Recommendations for Discussion:***

1. Key elements for inclusion in follow-up programs should be specified in order to provide clear and consistent direction to proponents.
2. Follow-up programs must be proposed and assessed in the course of the environmental assessment process and reviewed by independent sources.
3. Include mechanism to ensure results of any follow-up measures are made available to the public and regulatory decision-makers.
4. Require proponents to complete follow-up programs and demonstrate their efficacy as project conditions.
5. Require an adaptive management response where follow-up programs identify issues or impacts that need to be addressed (e.g. mitigation measures are not working as predicted, project effects are actually significant).
6. If adaptive management cannot adequately address issues identified through follow-up programs, the Agency should be authorized to utilize other mechanism to address the issues.
7. Require consideration of follow-up program results from previous, similar undertakings when designing and approving new follow-up programs.

**Compliance/Enforcement**

Compliance and enforcement provisions are necessary for EA laws to be effective. However, in *Beyond Bill C-9*, the House of Commons Environment and Sustainable Development Committee found that “departmental compliance with CEAA requirements [has] been unimpressive”.<sup>12</sup>

Unlike CEAA 1992, CEAA 2012 includes some compliance and enforcement provisions. The Minister of the Environment designates enforcement officers to verify compliance. They are authorized to:

- carry out inspections in relation to verify compliance with CEAA 2012 and decision statements;
- issue orders directing corrective measures where there is an alleged contravention of CEAA 2012, its accompanying regulations, and/or the conditions in a decision statement;
- take other measures to compel compliance, such as issuing written warnings, issuing orders, directions and prohibitions under section 90 and 94 of CEAA 2012;
- investigate suspected contraventions; and
- undertake measures to compel compliance through injunctions and prosecutions.

Offences under CEAA 2012 include:

- failure to comply with CEAA 2012 or fulfil the conditions in a decision statement;
- obstruction of enforcement officers ability to exercise their powers or perform their duties;

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<sup>12</sup> Sustainable Development Environmental Assessment: Beyond Bill C-9, Report of the Standing Committee on Environment and Sustainable Development, June 2003.

- making false statements; and
- failure to comply with an order issued by an enforcement officer.

Contraventions of CEAA 2012 can result in fines ranging from \$100,000 to \$400,000.

The Canadian Environmental Assessment Agency also recently released the Compliance and Enforcement Policy under the *Canadian Environmental Assessment Act, 2012*. It reaffirms that “[c]ompliance with CEAA 2012, its regulations and decision statements is mandatory.”<sup>13</sup>

***Potential Recommendations for Discussion:***

1. The requirement to implement mitigation measures, follow-up programs and adaptive management (where appropriate) should be included as project conditions.
2. Failure to comply with project conditions should be a prohibited offense.
3. Provide the Agency with broad powers to monitor compliance and take action in cases of non-compliance. This should include powers to ensure that follow-up programs, mitigation measures, and adaptive management processes are implemented effectively.
4. Project proponents must be required to publically report on its compliance with project conditions and the results of any follow-up programs (e.g. posting on registry).
5. When determining whether project effects will be insignificant due to sufficient mitigation the regulator should only be able to rely on specific and certain mitigation measures that: a) form binding project conditions (as opposed to non-binding recommendations), and b) have mechanisms to ensure accountability (i.e. responsibility to implement the mitigation measures is given to an entity that can be held accountable for the outcomes or lack thereof).
6. Authorize decision-makers to issue time-limited or conditional authorizations and/or amend or revoke authorizations where follow-up programs demonstrate that effects are not insignificant and/or mitigation measures did not perform as predicted, and where adaptive management is not an appropriate or effective mechanism to address the effects.

**Suggested questions for workshop discussion:**

- What role should adaptive management play in EAs and how should it be defined?
- How should the relationship between adaptive management and the Precautionary Principle be defined?
- What role should follow-up programs and monitoring play in EAs? How should those terms be defined?
- What mechanisms should be implemented to ensure that follow-up programs are adequate?
- What mechanisms should be implemented to ensure that project proponents comply with follow-up program requirements?
- What mechanisms should be implemented to ensure that follow-up program results are publically available and taken into account by regulatory decision-makers?
- What mechanisms should be implemented to improve compliance/enforcement in environmental assessments?

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<sup>13</sup> Available at: <http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=429A25E6-1>.

- Who should be responsible for addressing the issues raised in the proceeding bullets (e.g. who should define adaptive management? Who should oversee/ensure follow-up and monitoring? Who should ensure enforcement action is taken?)