Ecological Recovery Monitoring of Certified Sites in Alberta

Governance Framework Options and Funding Models

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Executive Summary

The Alberta Biodiversity Monitoring Institute (ABMI) has partnered with Alberta Environment and Sustainable Resource Development to develop an integrated, scientifically robust and financially sustainable monitoring program to enable the assessment of ecological recovery of physical, chemical, and biological indicators at certified wellsites across Alberta.

The purpose of this document is to evaluate potential governance frameworks and funding models essential to support the program described above and to stimulate discussion relating to the models most likely to ensure the sustainability of this program in the long-term. This options analysis serves as an integral component of this new long-term monitoring program. This is one of three documents prepared in 2012/ 13 accessible on the ABMI website; the others are: Selection of Indicators and Indicator Field Data Collection Protocols[1] and Status Report on Existing Data Resources and Initiatives Relevant to Ecological Recovery of Reclaimed Sites on Specified Lands[2]. This document builds on the substantial body of work recently undertaken relating to potential governance and funding models for provincial-scale monitoring programs[3]. The information herein are consistent with those proposed for the development of the new Alberta Environmental Monitoring Agency[4] as well as those for an operating model for the terrestrial biodiversity and habitat monitoring component of the Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring[5].

This discussion paper outlines the strengths and challenges of the following three governance framework options considered: 1) Government of Alberta, 2) ABMI and 3) the Alberta Environmental Monitoring Agency (AEMA).

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[1] ABMI 2013 a.
[2] ABMI 2013 b.
[3] All of the references cited.
[4] Alberta Environmental Monitoring Panel. 2011.
[5] Technical and Governance Working Groups Report. 2012.

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1. Introduction

Over the past several years, there has been a growing recognition at the provincial, national and international levels of the need for a provincial-scale, scientifically credible and effective monitoring system to track "environmental impacts, evaluate causal links to development activities and report in an open and transparent way on the findings of these processes"[6].

After upstream oil and gas facilities or other industrial developments have been decommissioned on specified lands, reclamation is directed through the *Environmental Protection and Enhancement Act* (EPEA) to return the land to equivalent land capability (ELC). "Equivalent land capability" is defined in the EPEA's Conservation and Reclamation Regulation as "the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical." After specified lands have been deemed to have met the legislated requirements, a reclamation certificate is issued.

Recovery of ecological functions at certified wellsites, pipelines and other specified lands in Alberta may continue long after the reclamation certificate issue date. However, the rate of this ecological recovery is currently not documented or monitored. Knowledge of this rate of recovery is essential for accurate forecasting, land use planning, and cumulative effects management.

One of the recommendations from the Alberta Environment Land Monitoring Program Inventory and Needs Analysis report (Alberta Environment, 2006) is the establishment of a long-term reclamation benchmark monitoring program in Alberta to determine if reclaimed and certified site conditions and trajectories perform in a manner that satisfies the legislated mandate of ELC.

The purpose of this document is to stimulate discussion on the evaluation of potential governance frameworks and funding models essential to supporting the long-term monitoring of wellsites and other reclaimed specified lands in Alberta.

2. Background

The ecological recovery monitoring of certified sites program (formerly known as the long-term reclamation benchmark monitoring program) is intended to evaluate and report on soil and

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[6] Environmental Monitoring Management Board. 2012.

vegetation quality trajectories at reclaimed cultivated, prairie and forested lands in Alberta using appropriate and sensitive physical, chemical and biological indicators.

A series of three workshops held between December 2012 and March 2013 with members of the Ecological Recovery Monitoring of Certified Sites in Alberta Advisory Group developed a new set of landscape and site-level indicators that integrated several existing data collection protocols including the Reclamation Criteria Advisory Group, the Long-term Reclamation Benchmark Monitoring Program, and the ABMI for long-term monitoring of certified wellsites and other specified lands.

3. Governance Framework Options

The three main components of any successful corporate program are operations, governance and funding. In the case of a monitoring program, operations include such activities as acquiring data, managing the monitoring program and applying knowledge to meet stakeholder needs. Governance is the control or authority, actions, manner or system of governing[7] which involves performance measures, management, policies and processes associated with the monitoring system and funding is the provision of financial resources to support the entire monitoring program in the long-term.

The first step in determining which governance framework is most appropriate, involves evaluating the scope of the governance framework, which includes the following five principles:

1. Strategic vision: The ability to define a purpose and outcome for an organization and seek buy-in for these from political leaders and stakeholders;
2. Values and ethics: The organization must not only act, but must also be seen to act, in an ethical manner consistent with the broader values of society, mindful of legal and other obligations.
3. Transparency in decision-making: An ideal state rather than a necessity given that public sector decision-making requires varying degrees of confidentiality (either imposed by law or practice). However, efforts to promote transparency through outward communication activities aimed at stakeholders and the public should be a key activity of any public-sector organization.
4. Collaboration: For public sector organizations, collaboration that enhances the realization of public-policy ends should be encouraged and fostered.
5. Clear accountability: For decisions to be made and accepted, accountability needs to be laid out.

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[7] Dictionary.com 2013

Governance and funding are foundational to any effective monitoring system as they are integral in allowing the operational cycle of the system to occur (Fig. 1.).
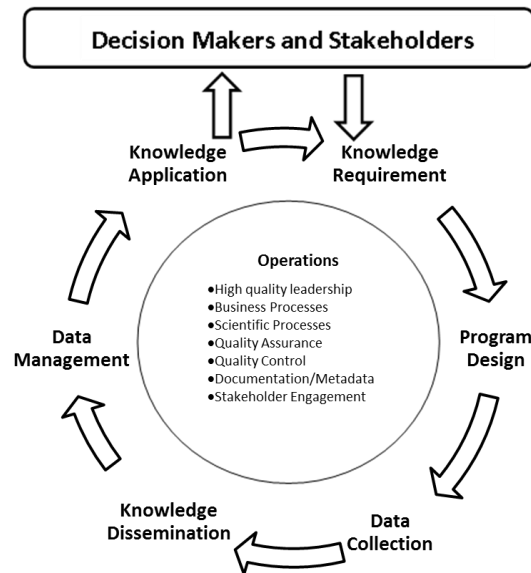

Fig. 1. The operational cycle of a continually improving monitoring program[8].

A functioning and adaptive monitoring program operational cycle consists of the following seven essential phases:

1. Knowledge Requirement - Understanding the information needs and desired outcomes that the monitoring system is being built to support.
2. Monitoring Program Design - Developing sampling programs and protocols to achieve desired monitoring outcomes.
3. Data Acquisition - Implementing data acquisition protocols, including protocols for data acquisition through primary field work.
4. Data Management - Receiving and storing data.
5. Data Evaluation - Generating information and methodological feedback through data analysis.
6. Knowledge Dissemination - Making monitoring results available.
7. Knowledge Application - Supporting integration of results back to stakeholders and the monitoring system

Each of the three pertinent governance framework options were assessed against its' ability to satisfy the guiding principles of legitimacy, credibility, relevance and operational excellence[910].

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[8] ABMI 2012.
[9] Technical and Governance Working Groups. 2012.

To achieve legitimacy, the monitoring, evaluation and reporting system must be viewed as trustworthy by the public and stakeholders including industry, non-government organizations, Aboriginal communities and governments. For the monitoring program to be credible, science must drive its' design, execution, evaluation and reporting and all activities have to be undertaken in an open and transparent manner. Relevance is attained if the information provided by the monitoring program meets the information required by stakeholders and a governance framework that not only supports the needs of operations but permits excellence in all aspects of field monitoring, evaluation and reporting is required.

The abilities of the following three governance frameworks to sustain this monitoring program over the long-term were assessed:

1) Government of Alberta (GOA)
2) ABMI
3) AEMA

3.1. Governance Framework - GOA

Other authors[11][12] have reported challenges with following a GOA governance framework because monitoring priorities have the potential to change with changing government priorities. Although a benefit of a GOA-based governance framework would ensure that the GOA was directly accountable for it, additional limitations to this type of governance framework would be that some stakeholders may perceive a monitoring initiative lead by government as biased, industry would have little to no input and adequate staff capacity would have to be attained. Work undertaken by the Working Group on Environmental Monitoring, Evaluation and Reporting, concluded that "the arm's length model best meets the critical tests of legitimacy, credibility and stakeholder support"[13].

3.2. Governance Framework - ABMI

Incorporated in 2007 under the Alberta Societies Act, the ABMI is an arm's-length, value-neutral, scientific organization that measures and reports on the health of Alberta's wildlife and biodiversity (Fig. 2). The purpose of the ABMI is to provide scientifically credible information to management systems in order to establish baselines and regional outcomes for biodiversity. The ABMI also provides the tools to track performance against these regional outcomes. Notable applications of the ABMI include: forest stewardship, oil sands stewardship, and land-use planning.

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[10] Alberta Biodiversity Monitoring Institute. 2012.
[11] Technical and Governance Working Group. 2012.
[12] Environmental Monitoring Management Board. 2012
[13] Working Group on Environmental Monitoring, Evaluation and Reporting. 2012.

Organizational strengths of the ABMI include a proven record of development and operation of monitoring programs for Alberta. Monitoring programs run by the ABMI are cost-effective, relevant, scientifically credible and, as a result, broadly recognized as a reliable source of information about the status of our environment. This professionalism in biodiversity monitoring has resulted in considerable support and respect within government, industry, and the environmental community.

The ABMI is effectively positioned to contribute to provincial-scale monitoring and it has been designed to monitor in perpetuity using relevant indicators of environmental health. Effective accountability mechanisms have already been developed, the staff capacity for this type of monitoring has already been established and the ABMI has demonstrated effective multi-year financial planning. Additionally, if the ABMI governed this program, both industry and government would have input. Additional monitoring parameters would have to be added to the existing ABMI Terrestrial Monitoring Protocols however. The ABMI would have to work closely with the AEMA to ensure that duplication in monitoring efforts would not occur.
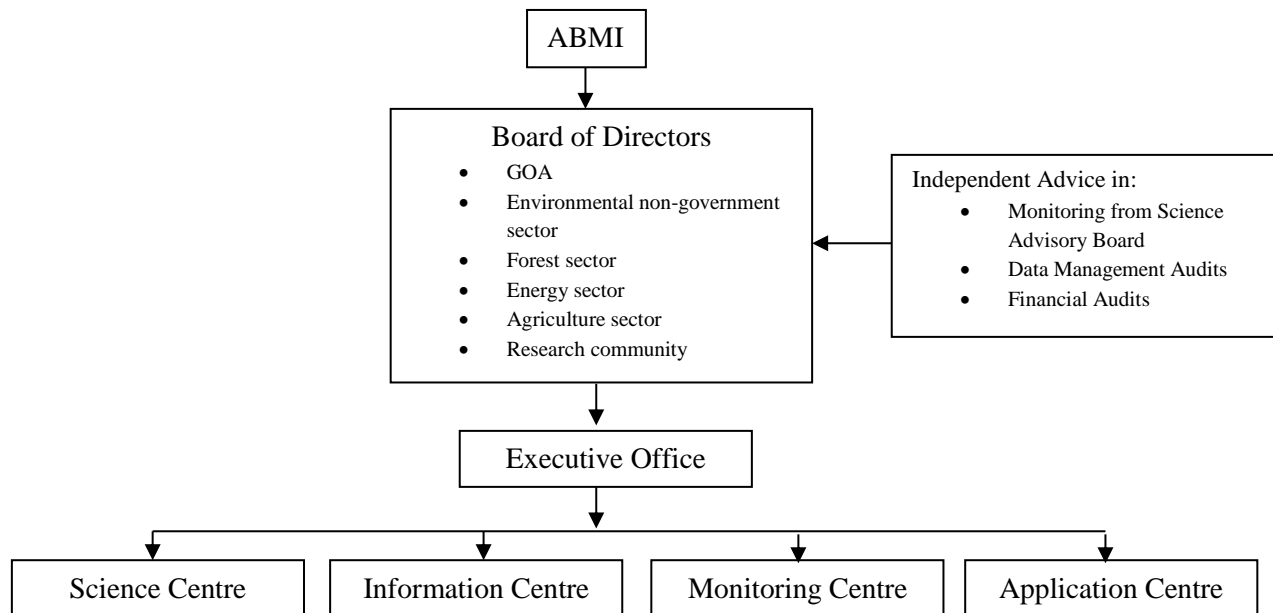
Fig. 2. Organizational structure of the ABMI.

3.3. Governance Framework - AEMA

The purpose of the Alberta Environmental Monitoring Agency (AEMA) is to operate a world class effects monitoring system for Alberta including data collection, analyses and reporting on the state of the air, water, land and biodiversity to support responsible stewardship of the environment[1415]. It is being developed as an arms-length, scientifically credible monitoring system, designed to measure and report on long-term, broad-scale cumulative changes in the environment and human land use activities in Alberta. It is expected to contribute to the fulfillment of the environmental monitoring needs and priorities of government, industry, and the general public of Alberta, supporting management of risks to the environment by providing a consistent province-wide monitoring program in Alberta, based on the unbiased collection of a broad range of information.

Because this Agency is currently in the process of being developed, there will be a period of transition of multiple years during which the legal entity is established, staff capacity is attained and detailed policies and processes are developed. The ABMI could not only assist in this transition but also contribute to the AEMA's mandate by serving as a service delivery organization with respect to this long-term monitoring program.

Although independent to the government, industry, Aboriginal and non-government organizations, the AEMA would be accountable to the government and stakeholders in the following ways:

1. The responsible Minister will appoint the chair of the AEMA's Board of Directors
2. The Board of Directors will be comprised of no more than 14 members from both industry and the government.
3. An annual business and work plan will be provided to the Minister responsible for review in advance of the release of funds.
4. An annual performance report will be provided to the responsible Minister.

4. Funding Models

Adequate and predictable financial support is crucial to ensure the success and sustainability of a monitoring program, as even the best program is destined to fail without it. The principles considered in this assessment of potential funding models were: simplicity, accountability, cost sharing and consistency and predictability.

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[14] Alberta Environmental Monitoring Panel. 2011.
[15] Working Group on Environmental Monitoring, Evaluation and Reporting. 2012
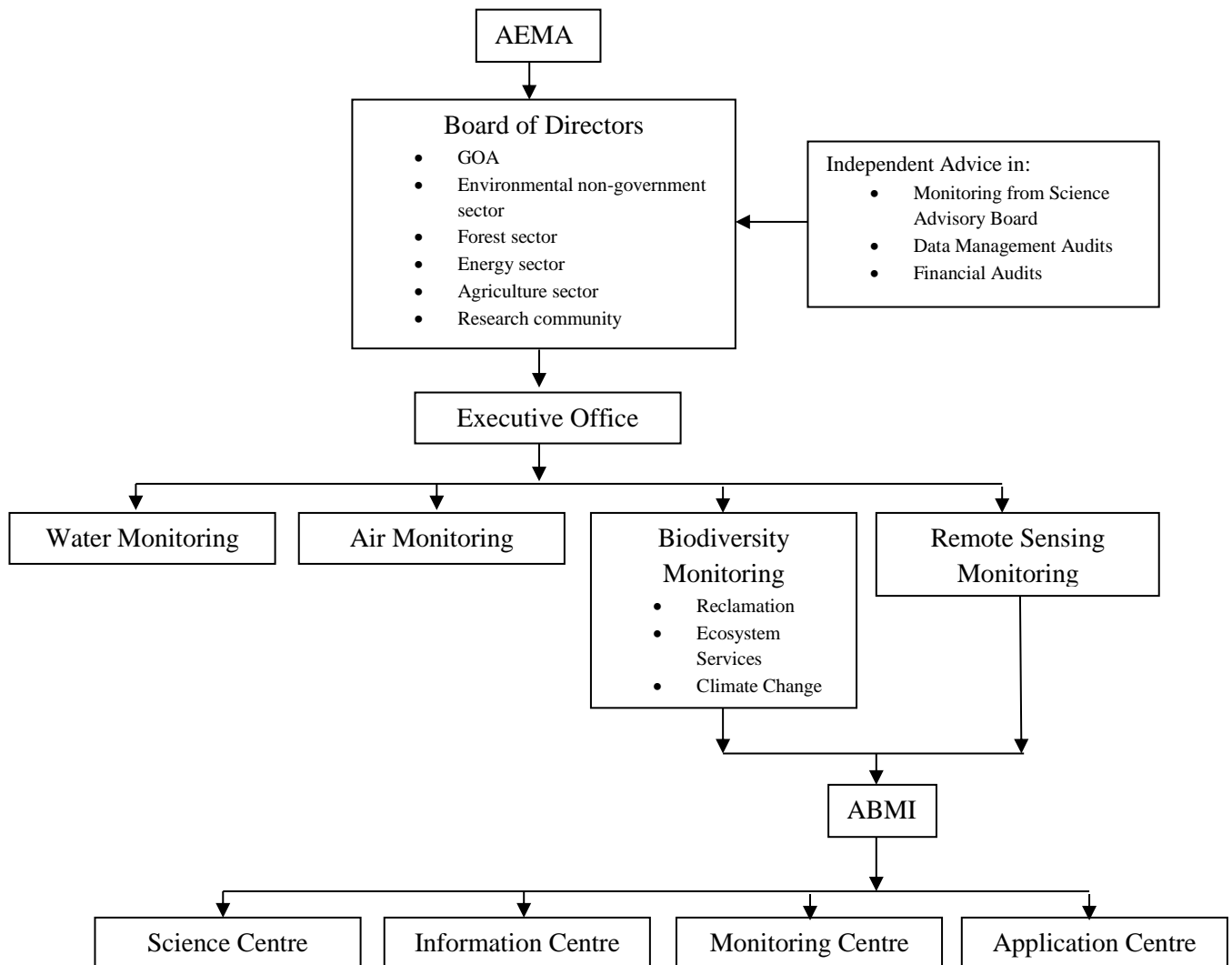
Fig. 3. The organizational structure of an AEMA governance framework with the ABMI as the monitoring entity.

When any one organization provides all of the funding to a particular program, obviously cost sharing is not possible and input into a program may not be possible for an organization not contributing financially.

Challenges associated with government funding are most severe in cases where funds go through general revenue. This would mean that funding commitments would have the potential to change with changing government priorities, making it very difficult to plan financially on a multi-year basis. Additionally, the lack of simplicity, consistency and predictability in funding when the government is solely responsible for a program's financial support, are legitimate challenges detrimental to the sustainability of any monitoring program. Table 1 illustrates the assessment of the type of funding against simplicity, cost sharing, accountability and consistency and predictability from financial sources.

Table 1. Funding model considerations compared with the type of funding.

Funding Model Considerations	100% GOA	100% Industry	Blended Funding
Simplicity		X	X
Cost Sharing			X
Accountability	X	X	X
Consistency & Predictability		X	X

5. Conclusions

This is clearly an important program, particularly in the current political climate that acknowledges the importance of first-rate environmental monitoring. It would most certainly serve to inform provincial policy and as a result, will undoubtedly assist in showcasing Alberta as a leader in informed stewardship. A strong governance framework (Fig. 3.) could involve the ABMI serving as a service delivery organization by undertaking or otherwise directly supporting the monitoring, analysis and reporting functions for the AEMA. The appropriate funding model to sustain this important program in the long-term is that of a blended contribution between industry and government.

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