

The Ecological Monitoring Committee for the Lower Athabasca

3-Year Vision and 2012 Work Plan

Purpose

The Ecological Monitoring Committee for the Lower Athabasca (EMCLA) oversees the design, implementation, and management of a coordinated and rationalized ecological monitoring system for the Lower Athabasca region. Initiated in 2010, the Committee's focus is on improving the quality and consistency of monitoring that takes place to fulfill specific wildlife and biodiversity clauses in *Environmental Protection and Enhancement Act* approvals for oil sands developments.

The EMCLA enhances the value of regulated monitoring activities by moving beyond the current focus on individual development projects to the design and implementation of an integrated regional monitoring program. Key priorities include:

- Filling gaps in existing regional monitoring systems
- Coordinating data collection amongst different development projects
- Ensuring the key principles of transparency, scientific credibility, and relevance form the basis of new monitoring programs.

The regional monitoring program will significantly increase the amount of credible scientific information available to support sound environmental management.

Structure and Operations

Members of the EMCLA include companies active in the oil sands industry in the Lower Athabasca, Alberta Environment, Alberta Sustainable Resource Development, and Environment Canada. The Alberta Biodiversity Monitoring Institute (ABMI) is represented in a non-voting capacity to provide unbiased scientific and technical support. The ABMI's Regional Monitoring Coordinator oversees the Committee's administrative functions and serves as Project Manager for the EMCLA's activities.

Each year, the EMCLA evaluates priorities for research and monitoring program development. Most EMCLA projects begin with a scoping year to determine the feasibility of monitoring a given species or aspect of a species. Each project operates independently with a specialized project team guided by project advisors drawn from academia, government, and the private sector that are considered experts in their field. Expert review is a cornerstone of the monitoring designs, monitoring activities, and all other scientific work overseen by the EMCLA.

3-Year Vision (2012-2014):

The EMCLA's aim is that the regional wildlife and biodiversity monitoring required as part of EPEA approvals held by oil sands operators is carried out in a coordinated, efficient way that produces valuable knowledge for wildlife and biodiversity management. The EMCLA will select specific EPEA wildlife and biodiversity clauses and develop projects that improve the quality of monitoring conducted to fulfill these clauses. The EMCLA will not develop projects related to clauses that are being coordinated by other groups (e.g. WHEC – the

Wildlife Habitat Connectivity and Effectiveness Project) or that are largely local in nature (e.g. nest box monitoring), but will focus its resources on clauses that will benefit from regional coordination, in keeping with regulatory requirements.

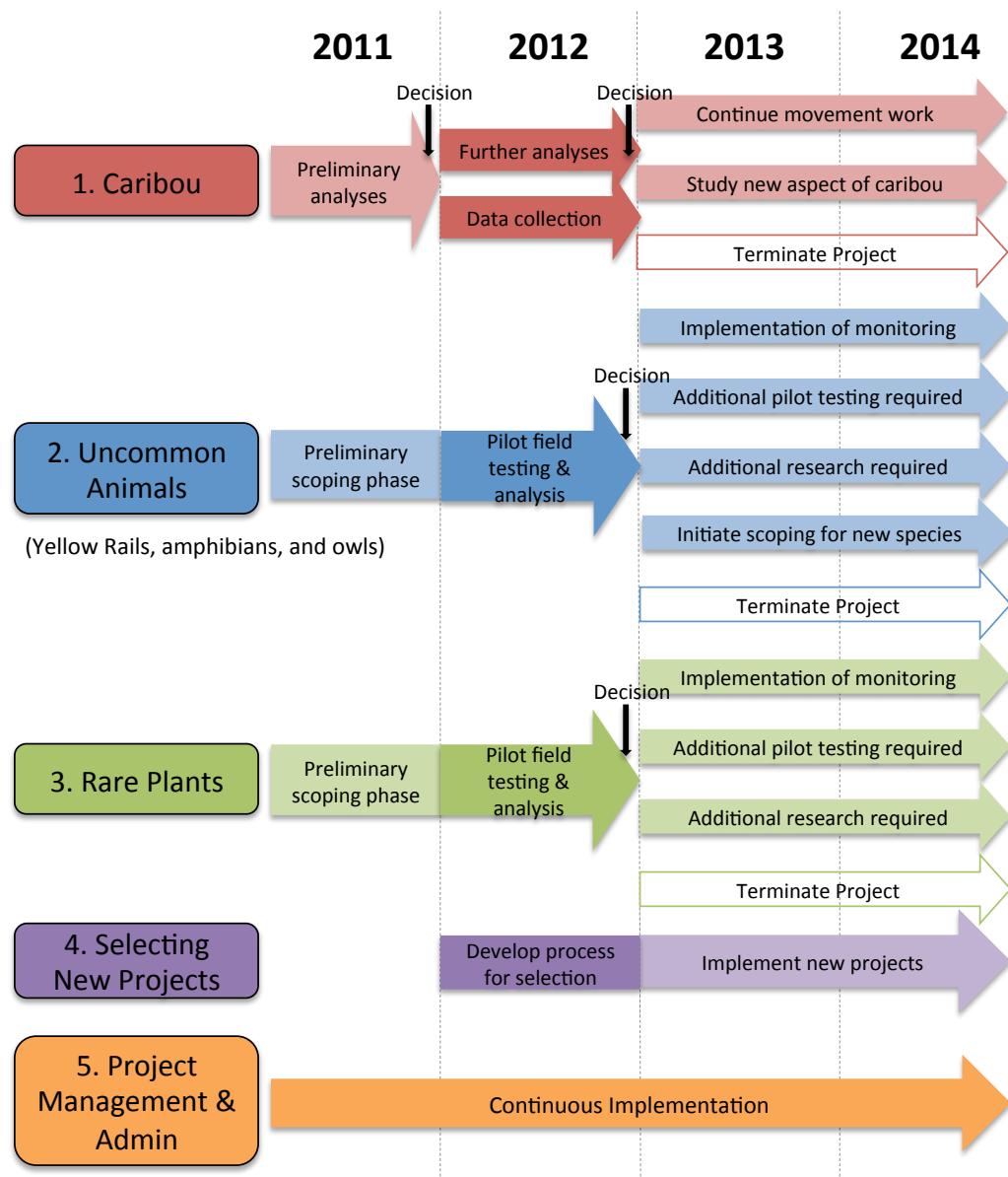
Prior to the development of the EMCLA, individual oil sands operators created wildlife and biodiversity plans for their lease sites and complied with other wildlife monitoring clauses set out in their *EPEA* approval, often with little coordination between operators. This results in information that fulfills government requirements, but cannot necessarily be used to address questions relating to long-term trends in species abundance and distribution or develop suitable management options, because the methods used and data collected are not comparable.

Through individual monitoring and research projects, the EMCLA will ensure that specific wildlife and biodiversity monitoring carried out under *EPEA* clauses is coordinated between operators using standardized protocols, and provides regional context (off-lease monitoring) as necessary.

The governments of Alberta and Canada are currently examining options for establishing long-term coordinated monitoring programs for northeastern Alberta. The Government of Alberta appointed the Alberta Environmental Monitoring Panel to make recommendations on monitoring. Their report was released in early July 2011, and recommends that the government establish an Environmental Monitoring Commission to design, implement, and manage a province-wide system that monitors air, water, land, and biodiversity. Simultaneously, the Government of Canada has also been developing monitoring programs for the oil sands, which were also publically released in July 2011. At this time, it is not clear precisely how the two levels of government will move towards implementation of the recommendations in these reports, but it is clear that more effective provincial and regional monitoring systems would be beneficial for all Albertans and are likely to be formalized in the coming years.

While the larger provincial monitoring system takes shape, the EMCLA will move ahead with its current activities, remaining focused on specific *EPEA* approval clauses. The EMCLA will monitor the government's progress in creating a province-wide monitoring system, and be prepared to contribute to a successful transition.

In 2012, the EMCLA will continue the three 2011 projects into a second phase (see Figure One). In 2013 and 2014, the existing projects from 2012 may or may not continue, depending on the outcome of work in 2012. In addition, the EMCLA will likely initiate new projects, in keeping with the EMCLA's purpose and in order of priority.

Figure One. Timeline for all EMCLA projects (2011-2014)

2012 Work Plan:

In 2011, the EMCLA initiated three monitoring projects that will continue into 2012 and likely beyond (see Figure One):

- 1) Woodland Caribou: Use existing caribou movement data to evaluate range-scale movements and support the development of effective mitigation strategies.
- 2) Rare Plants: Summarize the current state of rare plant information in the Lower Athabasca region and develop a coordinated regional plan for assessing and monitoring rare plants.
- 3) Uncommon Animal Species: Evaluate the potential to implement new regional monitoring programs for amphibians, owls, and the Yellow Rail.

These three projects all began with a scoping phase. In 2012, the Rare Plants and Uncommon Animal Species projects will move into a pilot field-testing phase. The Caribou project will likely build on analyses conducted in 2011. Details of each of these projects are provided on pages 4-7.

Also in 2012, the EMCLA will formalize the processes that it uses to select future projects, and to determine when regional monitoring is appropriate for a given species or topic. In addition, the EMCLA will continue to support a Project Management function, with support for the Regional Monitoring Coordinator, supplied by ABMI. At the end of 2012, the committee will re-evaluate its membership, in keeping with the EMCLA's Terms of Reference.

The total budget for the EMCLA's work in 2012 is **\$763,875.00**. This includes funding for all three projects, as well as salary, benefits, and expenses for the Regional Monitoring Coordinator, and a small budget to run the EMCLA's monthly meetings.

I) Caribou: Assessing the Influence of Industrial Development on Woodland Caribou (*Rangifer tarandus*) in the Lower Athabasca Planning Region of Alberta

In 2011, the EMCLA's goal is to document and understand the influence of natural features and industrial development on caribou movement. The work will provide an overview of the influence of above-ground pipelines on caribou movement, and develop a spatial model of caribou movement that incorporates environmental data and existing human development. The model will provide information on habitat selected by caribou during movement and location of preferred caribou movement pathways that may be useful for future planning and mitigation strategies to facilitate caribou movement at the range-scale.

In 2011, the project team will complete the following objectives:

- Review and summarize the current state-of-knowledge regarding the influence of linear features on caribou movement in northeastern Alberta.
- Develop a spatially explicit model of range-scale caribou movements.
- Provide options for mitigating the effects of industrial activities on caribou movement pathways compatible with the findings of the movement model.

The spatial model of caribou movement pathways may or may not show that caribou move along pathways that are influenced by habitat and/or human development. It is also possible that the existing telemetry and/or habitat data is insufficient to fully understand how caribou move across their landscape. The findings of the movement model will determine the course of action for 2012.

2012 Scope of Work

The scope of work that will be initiated for 2012 depends on the outcomes of the movement analysis currently being conducted.

If data are sufficient to model caribou movement patterns with reasonable certainty, then in 2012, modeling work will continue and focus on:

- Applying the caribou movement model to additional caribou populations.
- Further modeling of other aspects of caribou space use (e.g. occupancy during breeding and calving seasons, feeding areas).
- Further development of mitigation options and strategies aimed at improving the ability of caribou to move unencumbered through their range, in keeping with the results of movement modeling.

If the results demonstrate that there is insufficient data available to model caribou movement patterns, then the focus of work in 2012 will shift to:

- Additional data collection to better document caribou movement (e.g. telemetry collars). This would require substantial financial resources and would require cooperation and collaboration with Alberta Sustainable Resource Development.

2) Uncommon Animal Species: A Program for Monitoring Select Wildlife Species in the Lower Athabasca Planning Region of Alberta

The goal of this project is to design and implement effective, long-term animal monitoring programs for species that are at risk, or threatened in the LAPR. Monitoring programs should provide data that can improve management and help to ensure the sustainability of populations in this region. In 2011, the EMCLA selected the following three species or groups of species for preliminary assessment:

- The Yellow Rail
- Amphibians
- Owls

In the first year of the program, the project teams conducted a ‘scoping’ study to determine if a regional-scale monitoring program is required and can feasibly be implemented, by addressing the following objectives:

- Determined and prioritized specific management and research questions that regional species-specific monitoring programs need to address.
- Reviewed and compiled existing information on the distribution and abundance of the Year I species.
- Developed appropriate monitoring designs that take into account: (i) capacity to detect specified changes in distribution and abundance; (ii) capacity to address specific questions (see objective 1); and (iii) program cost.

The project teams recommended that the EMCLA continue all three of these projects into 2012. This recommendation was accepted by the EMCLA.

2012 Scope of Work

Building on the work accomplished in 2011, in 2012, the project team will:

- Conduct pilot fieldwork. The purpose of fieldwork is to:
 - Determine the appropriate locations, time of day, and time of year for monitoring in the LAPR (yellow rail)
 - Collect data to refine targeted (stratified) sampling designs (all species)
 - Conduct feasibility assessments on the use of audio-recorders to collect rare species data (all species)
- Conduct an analysis of how best to integrate programs with each other and with other regional monitoring initiatives such as the ABMI.
- Based on the results of pilot fieldwork, present the EMCLA with options for varying levels of monitoring implementation in 2013 and beyond.

Timeline for Implementation

Jan-Feb- preparation for fieldwork, sampling design

Mar- April- owl fieldwork

April-July- amphibian fieldwork

May-July- Yellow Rail fieldwork

July-Oct- analysis of field data, report writing

3) Rare Plants: Developing a systematic rare plant monitoring system for the Lower Athabasca Planning Region of Alberta

The goal of this program is to design and implement an informative and appropriate rare plant monitoring program for the Lower Athabasca Planning Region (LAPR). The monitoring program will provide high-quality, credible information on the abundance and distribution of plant species that are rare or of conservation concern, as well as information on threats to individual species and habitats.

In 2011, the Rare Plants project completed the following objectives:

- Assembled existing data on rare vascular plant, moss, and lichen distribution and abundance in the LAPR.
- Analyzed existing plant data for the LAPR to determine its suitability for assessing current status and detecting trends over time.
- Generated regional lists of plant taxa that are of interest for monitoring and built habitat suitability models for these species.
- Began planning for developing a rare plant monitoring system for the LAPR.

2012 Scope of Work

Building on the work accomplished in 2011, in 2012, the project team will:

- Begin mapping of rare habitat types in the LAPR, to help target field efforts. This will be coordinated with ABMI's ongoing detailed vegetation mapping for Alberta.
- Further refine habitat suitability models that give expected distributions for specific rare plant species
- Conduct pilot fieldwork. The purpose of fieldwork is:
 - To test and improve habitat suitability models developed in 2011
 - Gather data in data deficient areas of the LAPR, including rare habitats
 - Pilot test standardized protocols
- Conduct an assessment of ways to maximize efficiency in the monitoring system including potential integration with other regional monitoring initiatives such as the ABMI.
- Lead a dialogue with government, industry, and environmental consultants to encourage coordination in field protocols, sampling design, and data management for on-lease rare plant monitoring.

4) Committee Processes: Developing a systematic approach to selecting and evaluation potential projects and project outcomes for the EMCLA

Each year, the EMCLA will support and implement several projects. Projects can be new, or can continue from the previous year. The EMCLA will focus its resources on the most important needs, as identified through a priority setting process.

The current Terms of Reference for the EMCLA states “further work is needed to refine the criteria that the EMCLA uses to set priorities and select new projects”. The 2011 projects were selected through a process of dialogue amongst Committee representatives, and in consultation with subject matter experts. In the future, a more structured procedure for priority setting that includes a systematic way of evaluating, ranking, and selecting future monitoring and research projects, and also for deciding whether monitoring projects should continue past a scoping and pilot testing phase into full implementation, will be implemented.

5) Project Management: Coordination, administration, and management of EMCLA activities

The ABMI’s Regional Monitoring Coordinator will serve as the coordinator for the EMCLA. The Regional Monitoring Coordinator’s duties for the EMCLA include:

- Administrative functions: organize EMCLA meetings; maintain proper communication with EMCLA members and committee representatives, and the financial management of EMCLA funds.
- Project Management: The coordinator serves as the project manager for the EMCLA’s projects. This includes managing contracts, project budgets, supporting communication between the EMCLA and the project team, and ensuring that projects are delivered on time and on budget.
- Coordination: helps to ensure that the EMCLA’s activities are coordinated with those of the ABMI, government, and other organizations. This includes developing communication materials on behalf of the EMCLA. When necessary, the coordinator may represent the EMCLA at relevant workshops and conferences.