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Using the ABMI Data

The **Alberta Biodiversity Monitoring Institute** measures and reports on the state of biodiversity, habitat, and human footprint across the province using scientifically credible indicators of environmental health.

Using Biodiversity Data

The ABMI monitors and reports on the state of Alberta's biodiversity. To demonstrate the use of biodiversity data in environmental management and land-use decisions, the ABMI has an active research and development program.

Current projects incorporate biodiversity data on species distribution and abundance, land cover, and human footprint to take on big challenges such as:

- Managing species at risk in a changing climate
- Monitoring the response of Woodland Caribou to industrial development
- Measuring the value of ecosystem services such as pollination, water filtration, and rangeland forage production

The ABMI is continually looking for new opportunities to apply biodiversity data to real-world land management challenges. Projects are sponsored by organizations with a mandate to improve environmental stewardship and championed by people with a passion to make a difference.

Biodiversity Management and Climate Change Adaptation

Climate change is globally recognized as a threat to biodiversity. To deal with this threat and develop appropriate policies for the Alberta context, the relationship between climate and Alberta biodiversity needs to be better understood.

This project addresses:

1. The effect of climate change on individual species and landscapes
2. The response of invasive species to climate change
3. Whether interventions can mitigate the impact of climate change on species of interest
4. What policies to manage Alberta biodiversity under a future climate would look like

Core funding for this project is provided by the Climate Change and Emissions Management Corporation (CCEMC).

The Northern Blazing Star is a test subject to determine whether assisted migration is a viable approach to expand plant species' ranges in concert with climate change

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Advancing Regional Monitoring Capacity in the Lower Athabasca

The Lower Athabasca Land-Use Planning Region of northeastern Alberta covers an area of over 90,000 square kilometres, and contains the majority of the province's oil sands deposits and industrial activity. The Ecological Monitoring Committee for the Lower Athabasca (EMCLA) brings together industry and government to develop, implement and manage a coordinated regional biological monitoring system for this area. Regional monitoring is critical to provide appropriate biological information to inform regional land management decision-making.

The EMCLA has developed new protocols for:

- Monitoring rare plants, such as lady's slipper orchids
- Monitoring rare animals, such as the Yellow Rail, a rare marsh bird
- Evaluating caribou movement patterns in relation to industrial installations

Core funding for this project is provided by Alberta's oil sands industry.

The Woodland Caribou of the boreal forest

Ecosystem Services Assessment for Environmental Innovation and Competitiveness

Ecosystem services are the range of benefits we get from nature that sustain us and contribute to our wellbeing. Think of food, fuel, and fibre (provisioning services) and water purification and pest control (regulating services), among others. Unlike food and fibre, however, many ecosystem services are difficult to measure, and their economic value is difficult to assess. With a clearer understanding of the role and value of ecosystems in our daily lives, we can make better and more informed land management and conservation decisions.

This project has two main goals:

1. Develop a credible system for measuring, valuing and mapping ecosystem services – specifically, forest and rangeland production, carbon sequestration and storage, water purification, pollination, and biodiversity – across Alberta
2. Demonstrate how this new system could support environmental performance reporting, conservation offsets, and regional land-use planning

This project is funded by Alberta Innovates – Bio Solutions and the Alberta Livestock and Meat Agency (ALMA).

Bee pollination increases canola yield.

ALMA Alberta Livestock and Meat Agency Ltd.

Alberta Innovates Bio Solutions

Ecological Recovery Monitoring at Certified Sites in Alberta

Upstream oil and gas wellsites and pipelines are part of Alberta's landscape, but what happens to these sites when they're no longer active? Currently, the Government of Alberta requires them to be reclaimed to achieve "equivalent land capability": decommissioned lands should be returned to a state similar to that prior to development. Once a wellsite meets the legislated requirements for reclamation, a certificate is issued; however, ecological recovery of these sites may continue long after the certificate's issue date. The nature and rate of this ecological recovery is currently not documented or monitored. Knowledge of this recovery is essential for accurate forecasting, land-use planning, and cumulative effects management.

The main purpose of this project is to develop an integrated, scientifically robust and financially sustainable monitoring program to track the long-term ecological recovery of Alberta's reclaimed upstream oil and gas facilities.

This project is funded by Alberta Environment and Sustainable Resource Development and the Alberta Upstream Petroleum Research Fund.

A typical oil wellsite in Alberta

Alberta Innovates Technology Futures

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