
The ABMI's Ecological Recovery Monitoring (ERM) Project



WHAT IS THE ECOLOGICAL RECOVERY MONITORING PROJECT?

The Alberta Biodiversity Monitoring Institute's (ABMI) Ecological Recovery Monitoring (ERM) project is establishing a long-term monitoring program to assess ecological recovery at reclaimed oil and gas wellsites across Alberta.

HOW ARE WELLSITES CURRENTLY RECLAIMED IN ALBERTA?

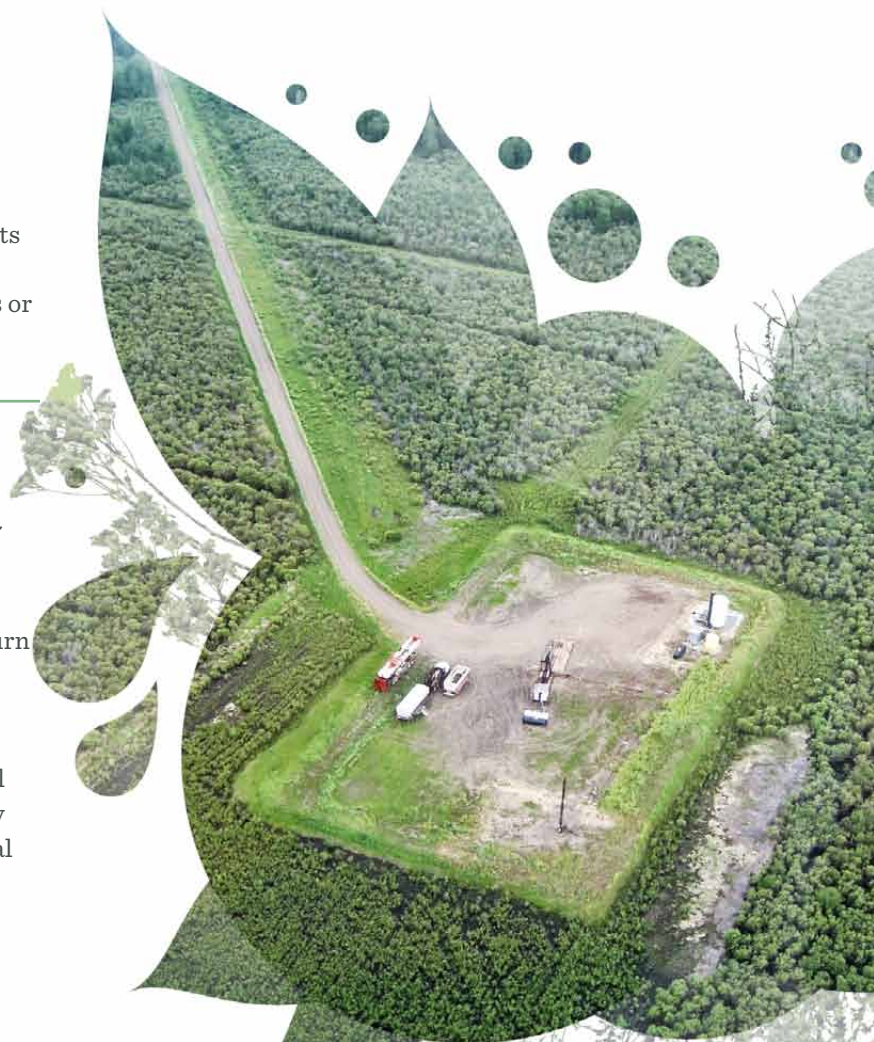
After oil and gas facilities have been permanently closed, the company leasing the land undertakes various activities to reclaim the wellsite. When the land has met the Government of Alberta's (GOA) legislated requirements for reclamation, the company is issued a reclamation certificate.

DOES COMPLETING RECLAMATION MEAN THE SITE HAS RECOVERED?

Although reclamation activities are intended to re-establish the capability of the land, important elements like plant and bird communities, soil properties, and nutrient cycling may not be fully established for years or even decades.

HOW LONG DOES IT TAKE FOR WELLSITES TO RECOVER AFTER RECLAMATION?

No one really knows how long it takes for a site to return to a condition similar to what it was prior to being disturbed. Until the ERM project, there hasn't been a program to revisit these sites to collect ecological information. Also, there are oil and gas wellsites on all types of landscapes in Alberta and ecological recovery in grasslands differs from ecological recovery in boreal forests or parklands.



WHY SHOULD WE CARE ABOUT ECOLOGICAL RECOVERY AT WELLSITES?

In just under 50 years, from 1963 to 2012, over 350,000 wellsites have been drilled in Alberta. The absence of information on the ecological condition of Alberta's reclaimed industrial footprint is a potential liability that detracts from GOA's land stewardship commitments, and from industries' social license to operate on public and private land. To effectively manage Alberta's land use and to ensure that reclamation is meeting the goal of returning the land to a productive state, it's essential to have an understanding of ecological recovery of wellsites. This is where the ERM project comes in.



HOW DO WE ASSESS ECOLOGICAL RECOVERY?

We monitor numerous soil (bulk density, electrical conductivity, organic carbon, pH) and vegetation (species cover and structure) indicators at certified wellsites and compare them with nearby reference sites that have not experienced any industrial activity. In the future we will also be using unmanned aerial vehicles to remotely assess vegetation and acoustic recording units to monitor bird (and other audible species) communities between wellsites and reference sites across the landscape.

WHO SUPPORTS THIS PROJECT?

The ERM project is led by the Alberta Biodiversity Monitoring Institute in collaboration with Alberta Innovates - Technology Futures. Funding is provided by Alberta Environment and Sustainable Resource Development's Land Monitoring Team with additional funding from the Alberta Upstream Petroleum Research Fund.



For more information contact:

Delinda Ryerson
Project Manager
delinda@ualberta.ca

or

Dr. Anne McIntosh
Ecologist
anne.mcintosh@ualberta.ca