



Fact or FICTION

Oil Sands Reclamation



FACT SHEET

ENVIRONMENTAL IMPLICATIONS OF ALBERTA'S OIL SANDS RUSH

0.2% Reclaimed in 41 Years



Toxic Tailings Produced at Rate of 1.8 Billion Litres a Day

By the end of 2007, oil sands companies had cleared or mined over 470 square kilometres of northeastern Alberta to support the global demand for oil.

Oil sands mining has transformed the Athabasca region of northeastern Alberta, and every year the lack of effective reclamation standards and the poor reclamation record of the oil sands mining industry becomes a bigger and bigger problem.

Companies have leased 3,000 square kilometres for similar oil sands mining operations.

Oil sands companies report that they have reclaimed 13.6% (about 65 square kilometres) of the area they have cleared in their operations since 1967. But to date the province has certified only 0.2% (about 1 square kilometre) as reclaimed.

The current policies and practices governing oil sands reclamation present many challenges and uncertainties that need immediate attention:

- There are few mechanisms to make sure reclamation occurs at an appropriate pace and scale.
- The reclamation of the toxic, liquid tailings has never been proven.
- Reclamation can't replace the substantial and likely permanent losses of wetlands.
- There is a lack of publicly available data on oil sands reclamation performance.

All these factors point towards major problems with oil sands reclamation that are not being adequately addressed by governments and industry.

▲ Toxic tailings pond (top), mining operations (centre) and attempted reclamation (inset) at Syncrude.

PHOTOS: DAVID DODGE, THE PEMBINA INSTITUTE

THE FACTS

- Oil sands mines have already cleared, dug up or flooded with toxic waste more than 478 square kilometres in the boreal forest. That's just the beginning – 3,000 square kilometres have been leased for mining operations.
- In 2008, after 41 years of oil sands development, the Government of Alberta has certified as reclaimed only a one-square-kilometre parcel of land, representing only about 0.2% of the land disturbed by oil sands mining.
- The oil sands industry is producing toxic liquid wastes, called tailings, at the rate of 1.8 billion litres per day, with no known way to reclaim them.
- Tailings lakes already cover more than 50 square kilometers, and they are among the largest human-made structures in the world. Factoring in new approvals and planned projects, tailings lakes will eventually cover more than 220 square kilometres – an area five times the size of Alberta's Sylvan Lake.
- In a natural boreal forest, about 40% of the landscape is wetlands, with bogs and fens as the dominant wetland types. The reclamation of these peat-forming wetlands has never been demonstrated.
- The "reclamation security" held by the Government of Alberta is currently \$468 million for all projects. At only about \$11,000 per hectare, this security is probably inadequate to cover true reclamation costs. It places Canadians at financial risk and creates an environmental burden for future generations.

Toxic Tailings

Tailings waste consists of water, sand, silt, clay and unrecovered hydrocarbons

When 500 waterfowl became oiled and died after landing on a Syncrude tailings lake in April 2008 it made headlines around the world.



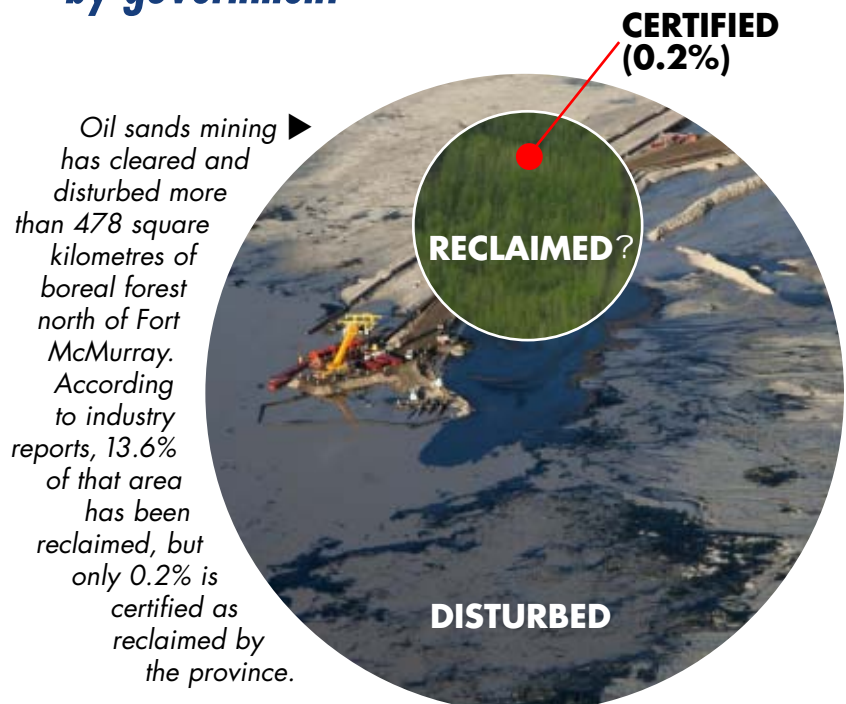
The event also exposed a little-known and unsustainable practice of the oil sands industry – the production of toxic waste materials called tailings at a rate of 1.8 billion litres a day.

So far there are two primary initiatives proposed to deal with liquid tailings:

- end pit lakes – tailings would be disposed of permanently at the bottom of mine pits and capped with fresh water
- consolidated tailings – tailings would be converted to a solid form and then incorporated into reclaimed landscapes

Neither process has been demonstrated as being able to meet Albertans' expectations for long-term reclamation.

Land disturbed, reported as reclaimed by industry, and certified as reclaimed by government





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After 41 years of mining only about 13.6% is reclaimed and 0.2% is certified as reclaimed. There is little resemblance to the boreal forest and wetlands that once covered the area.

PHOTO: DAVID DODGE, THE PEMBINA INSTITUTE

Are Canadians Adequately Protected?

Public will carry financial and environmental burden of reclamation failure

A reclamation security program is supposed to ensure that industry, not the public, is responsible for any unforeseen reclamation liabilities.

Alberta requires all oil sands operators to post a security deposit with the provincial government to fund any unforeseen events that may arise during the life cycle of an oil sands mine. However, because of the lack of transparency about the true costs of reclamation, the public doesn't know whether or not the current security deposits are adequate. If the current deposits prove inadequate, Albertans and potentially all Canadians are at risk of footing the future reclamation bill for thousands of square kilometres of mine pits and toxic tailings lakes using taxpayer dollars.

Since 1967, Suncor has disturbed approximately 13,000 hectares of land through oil sands mining. At the end of 2006, Suncor's records showed about 7% of that land as reclaimed. None of Suncor's reclamation has been certified by the Alberta government.

PHOTO: DAN WOYNILLOWICZ, THE PEMBINA INSTITUTE



What does success look like?

Alberta's guidelines do not require disturbed lands to be returned to their former condition. Reclamation is based on the vague concept of "equivalent land capability," which supports the economic productivity and forestry values of the landscape and will result in the permanent loss of wetlands. Because wetlands make up about 40% of these complex boreal forest ecosystems, the shift to a reclaimed landscape dominated by upland habitat could have far-reaching negative effects.

Summary of Recommendations

The governments of Alberta and Canada should suspend new approvals for oil sands mines until they implement sound reclamation policies and practices and address the most significant risks and uncertainties.

To protect Canadians from potential environmental liabilities and to ensure that the Athabasca Boreal region can be recovered, the Government of Alberta needs to

- require the restoration of oil sands mines to functioning boreal forest
- establish a set of transparent reclamation standards
- prohibit the creation of liquid tailings
- reform the reclamation security policy to protect Canadians
- set a cap for the total disturbance area for each project to ensure that reclamation progresses at the same time as development
- increase the public transparency of corporate reclamation performance
- require environmental compensation to offset mining impacts.



- ▲ *The three oil sands mines currently operating in the Athabasca Boreal region have disturbed 478 square kilometres of boreal forest. They are only the beginning because 3,000 square kilometres have been leased for mining operations.*

PHOTO: DAVID DODGE, CPAWS

Want more information?

For more information and a complete list of recommendations, download our full report, *Fact or Fiction: Oil Sands Reclamation*.

It is available from www.oilsandswatch.org, where you will also find more photographs and reports, videos and other information about oil sands.

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