

Oil Sands Monitoring: Indigenous Community-Based Monitoring Program (ICBM)

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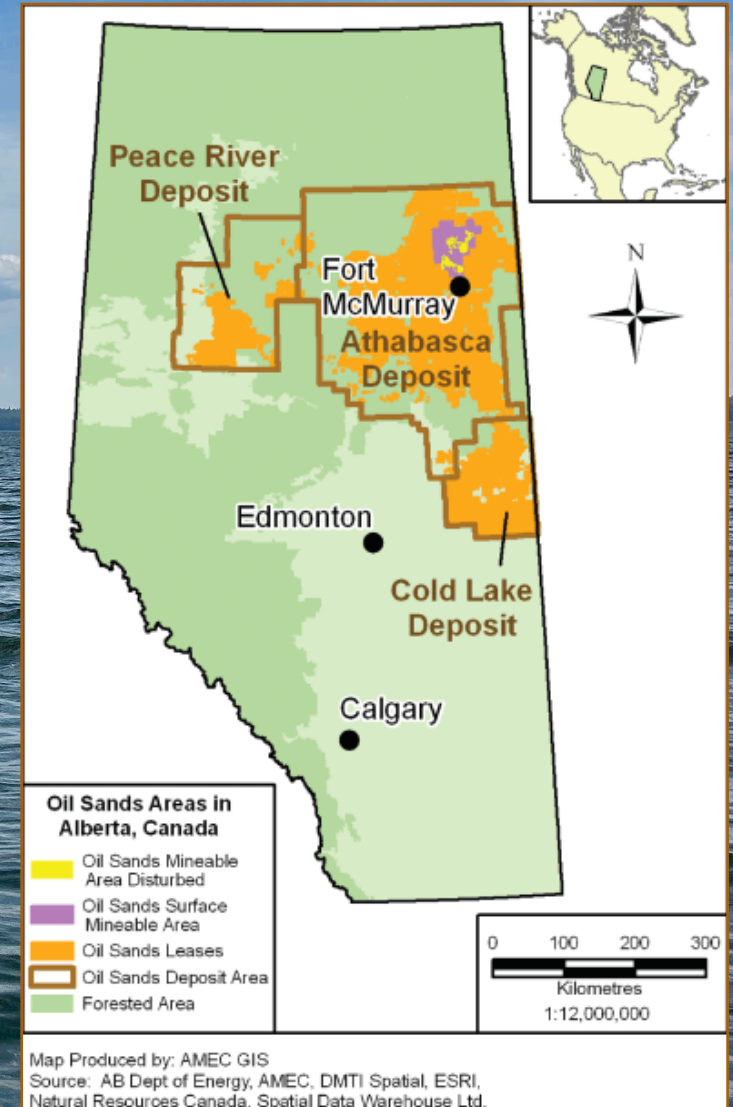
ICBM Program Coordinator

ALMS Annual Conference 2023

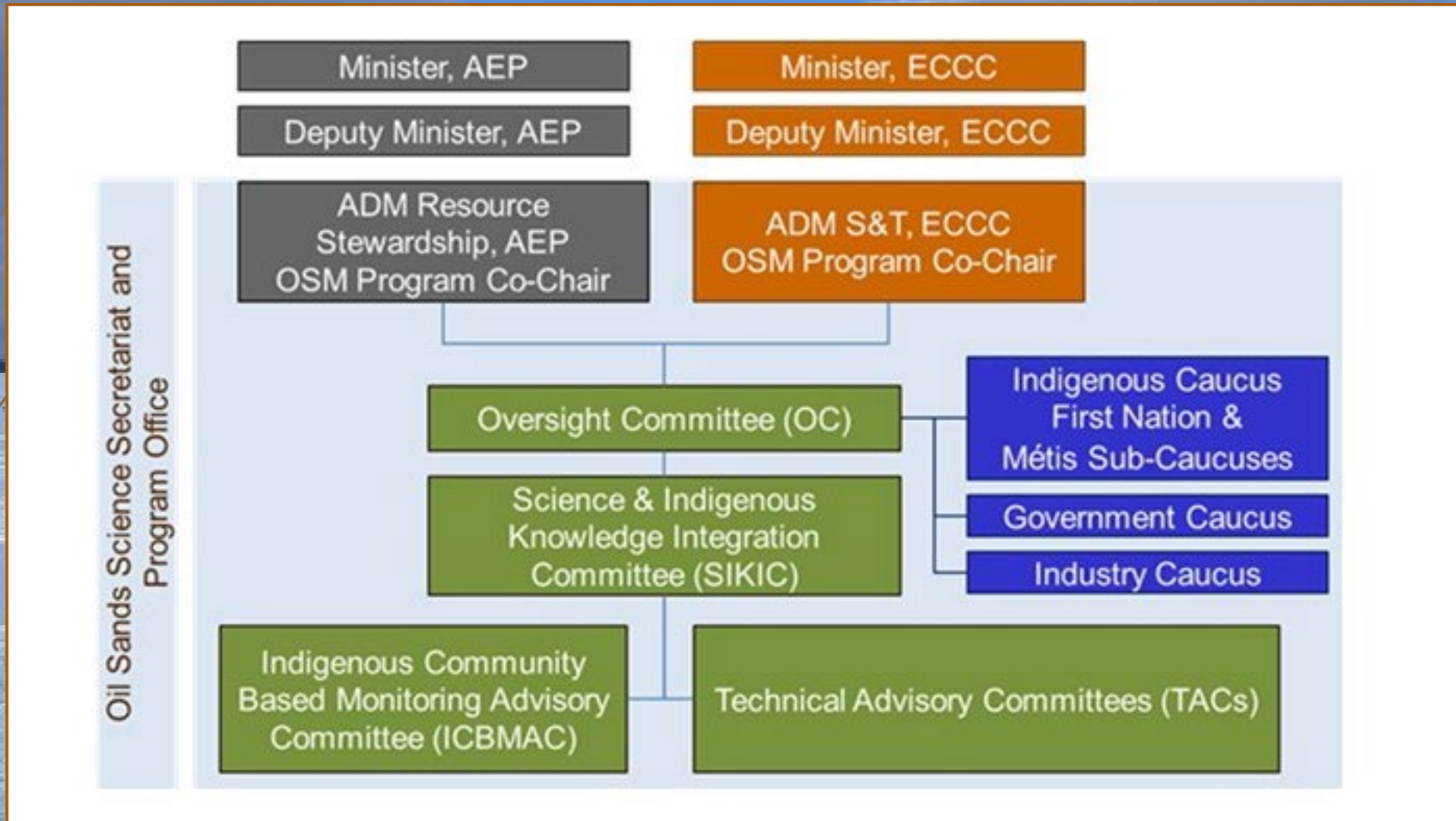


Oil Sands Monitoring Program (OSMP)

- Partnership between the federal and provincial agencies (EPA, ECCC, Indigenous communities, NGOs, industry stakeholders)
- Previously known as JOSM (Joint Oil Sands Monitoring) in 2012, became the OSM Program in 2020
- Integrated monitoring & assessment of cumulative impacts from oil sands development with the purpose to inform management decisions, regulatory action, and potential impacts on Section 35 treaty rights
- CBM is meant to fill the gaps left by existing environmental monitoring programs and create Indigenous-led initiatives
- Different thematic areas within the OSM CBM Program (Water, Terrestrial, Changes in Food Harvest...)



OSM Governance Structure



ALMS Role in ICBM

- Offered a contract to support and deliver the lake monitoring side of the ICBM Program
- ICBM was modelled after our existing citizen science monitoring program, LakeKeepers
- Provide online and in person training with water quality sampling equipment and sampling procedure
- Process and deliver samples to various analytical labs
- Deliver a data report, provide support with data management and offer technical advice
- Conduct community visits for additional training



Participating Communities

- Athabasca Landing Métis Association
- Beaver Lake Cree Nation
- Chipewyan Prairie Dene First Nation
- Cold Lake First Nations
- Conklin Métis Local 193
- Peavine Métis Settlement Association
- Willow Lake Métis Nation



Willow Lake Métis Nation



**COLD LAKE
FIRST NATIONS**



**BEAVER LAKE
CREE NATION**



Cold Lake Fish Camp 2022



Sampling Procedure



Lakes and sample sites are chosen by each community



Each community receives a YSI probe, sampling equipment, bottle sets and Chlorophyll-a filter kit



Sampling occurs from December-March & June-September



Lake profile measurements and water chemistry samples are collected monthly



Samples are shipped to the ALMS office and then delivered to various analytical labs



Winter Observations

Air Temperature (°C)

Ice Thickness (m)

White Ice Thickness (m)

Snow/Slush Coverage

Water Colour & Clarity

Routine (Lentic A)

Chlorophyll-a

Conductivity (SPC $\mu\text{S}/\text{cm}$)

*Total & Dissolved Methylmercury

Microcystin

*Total Recoverable Metals

ICBM Parameters

Dissolved Oxygen (mg/L)

Temperature (°C)

*Total & Dissolved Mercury

Isotopes (Hydrogen & Oxygen)

*Polycyclic Aromatic Compounds (PACs)

Summer Observations

Air Temperature (°C)

Wind Speed (km/hr)

Sechhi Depth

Cyanobacteria Blooms

Water Colour

Data Management & Reporting

- Data collected is uploaded to the Kisters Data Portal
- The data will be publicly available on the OSMP Data Catalogue
- Annual summary report will be compiled each fiscal year
- The report for the 2022/23 sampling season will be available in the spring 2024

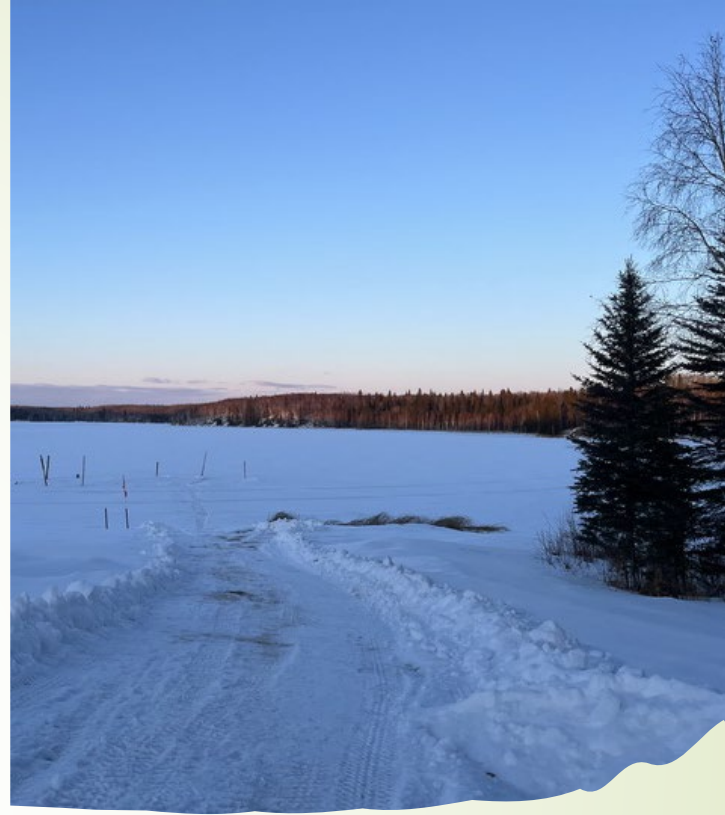
Kisters Data Portal:

<https://aws.kisters.net/OSM/applications/public.html?publicuser=Guest#watertextdata/stationoverview>



Community Visits





Narrow Lake Spring Gathering 2023



Ongoing Considerations & Challenges

- ▶ How to respond to community requests for additional sampling?
- ▶ How to respond to community requests outside of OSM?
- ▶ How to incorporate TEK (is it appropriate?)
- ▶ Changing traditional reporting methods?
- ▶ Responding to questions about drinking water?
- ▶ Recognizing avoidance behaviours vs empirical data.
- ▶ Understanding cultural uses of lakes (medicine harvesting, hunting...etc).
- ▶ Data sharing rules and ethics

Mahsi cho!
Miigwetch!
Marrsi!
Thank You!

Please visit us at www.alms.ca

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