Oil Sands Mining (Athabasca River) Water Use and Management

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- Alberta Environment
- Oil Sands Developers Group (OSDG)
- Canadian Association of Petroleum Producers (CAPP)

Canadian oil sands mining operations

Typical oil sands mine-site water balance

- ~4:1 ratio of tailings recycle to river makeup.
- Additional recycle within extraction plant (80%).
- Mine drainage increases over time.
- Licensed withdrawal from river.
- Seasonal limits on river withdrawal due to IFN.
- Separate licensing for other water uses/diversions.
- Tailings porewater depends on selected tailings products.

Typical oil sands mine life water requirements

Historical oil sands mining water use

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Athabasca River Water Management Framework (IFN)

Future oil sands mine water use

- Future oil sands mining development
  - Continued reliance on Athabasca River for water supply
  - Additional mines, bitumen production, water use
  - Short-term increases due to startup conditions
  - 7.6 m³/s by 2025, based on 1.8 Mbpd production

- Key water management topics
  - Potential changes to the IFN in 2011 - may affect seasonal water use
  - Potential changes to tailings products to meet ERCB Directive 074 for landscape reclamation - may impact the mine site water balance
  - Water release criteria (currently being developed) - may affect the return flow volume to the river