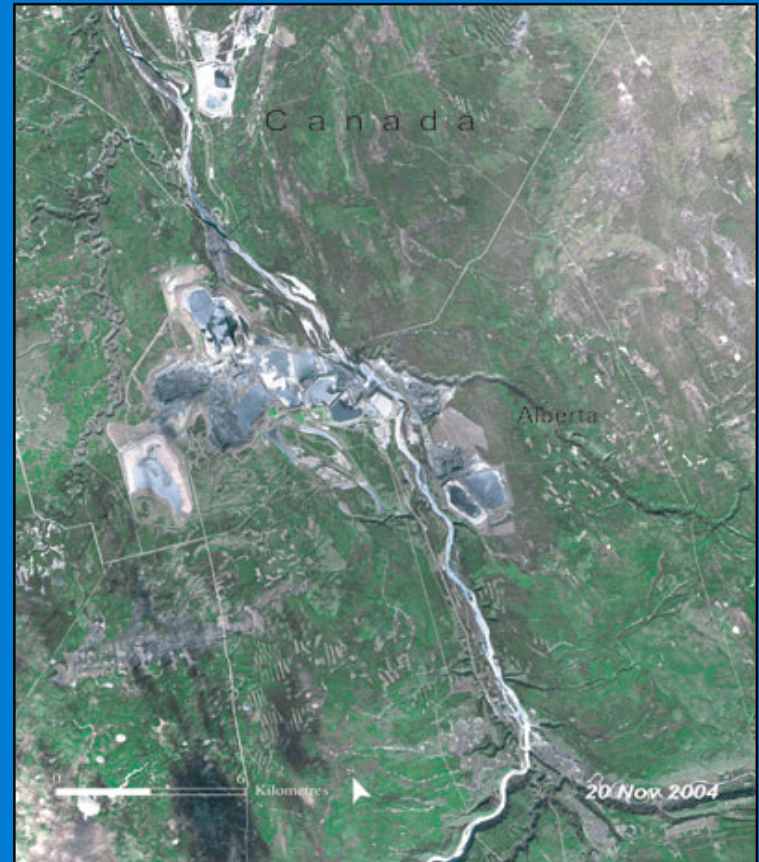
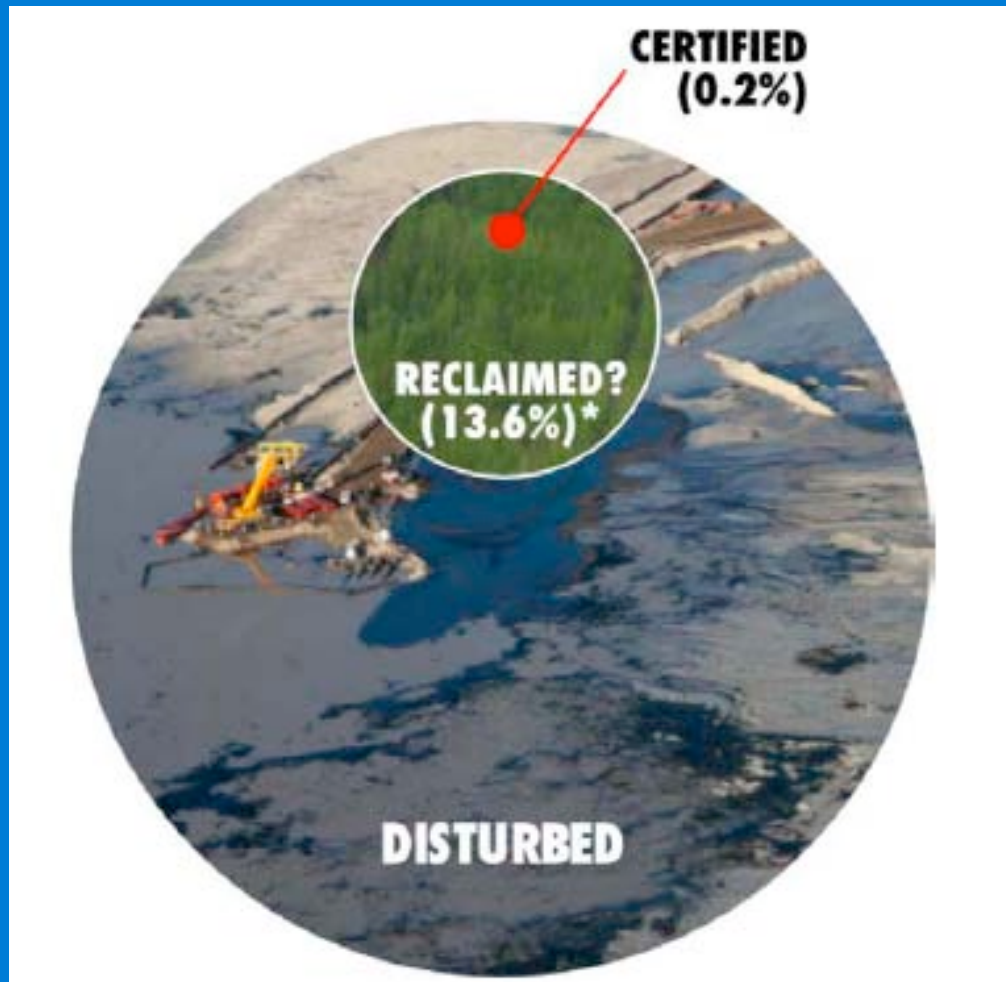


Radical Change



Athabasca oil sands listed as UNEP “hot spot” of environmental change.

Reclamation ≠ Restoration



Troubled Waters

- Athabasca River:
 - Licensed oil sands withdrawals = to a city of 2 million
 - Industry use takes precedence over protecting the fishery
 - Water quality impacts poorly understood
 - >15 % of low flows
- Alberta/DFO water management:
 - Management response based upon flow rates (green, yellow, red)
 - But “red” ≠ STOP: no absolute limits on withdrawals



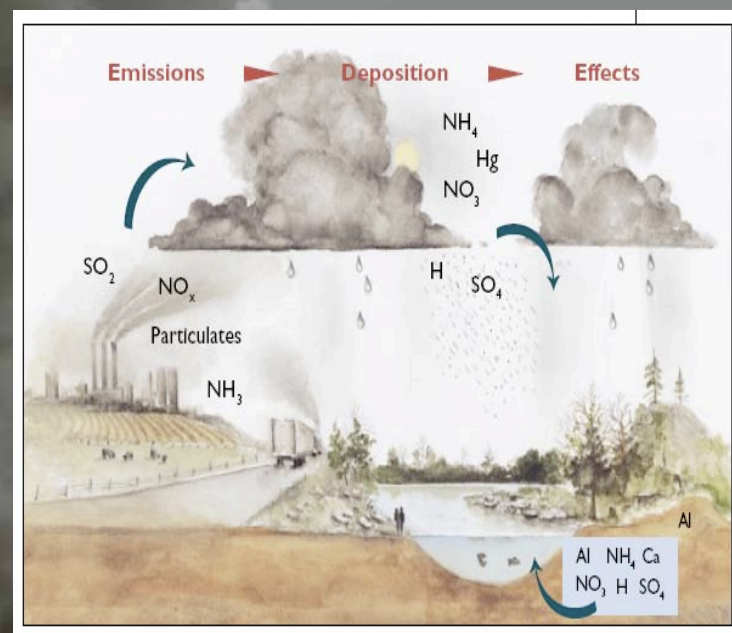
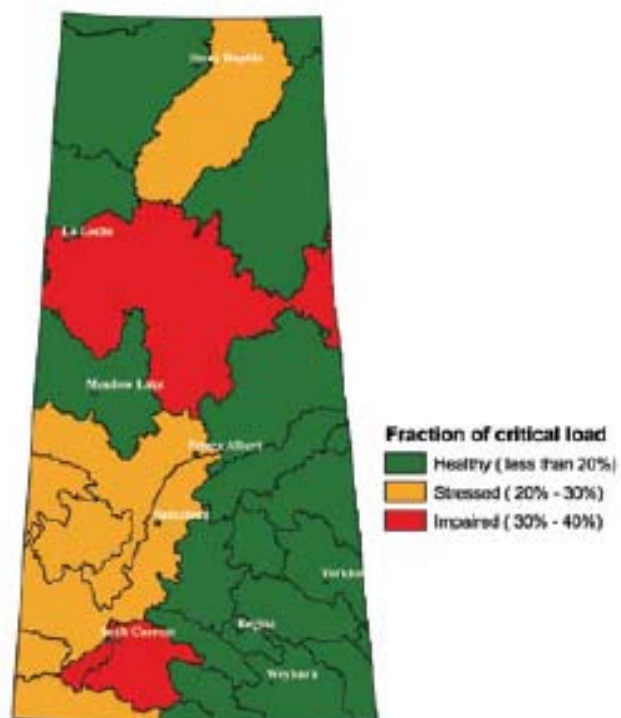
Toxic Tailings

- 40 years = 720 million m³ of toxic waste
- Tailings production = 1.8 billion liters per day
- Stored in “ponds” that already cover 130 km²
- Leaching into groundwater & Athabasca River + risk of catastrophic discharge
- Theoretical reclamation
- Unresolved health concerns downstream



Photo: Jiri Rezac, WWF-UK

Environmental Acidification Indicator in Saskatchewan



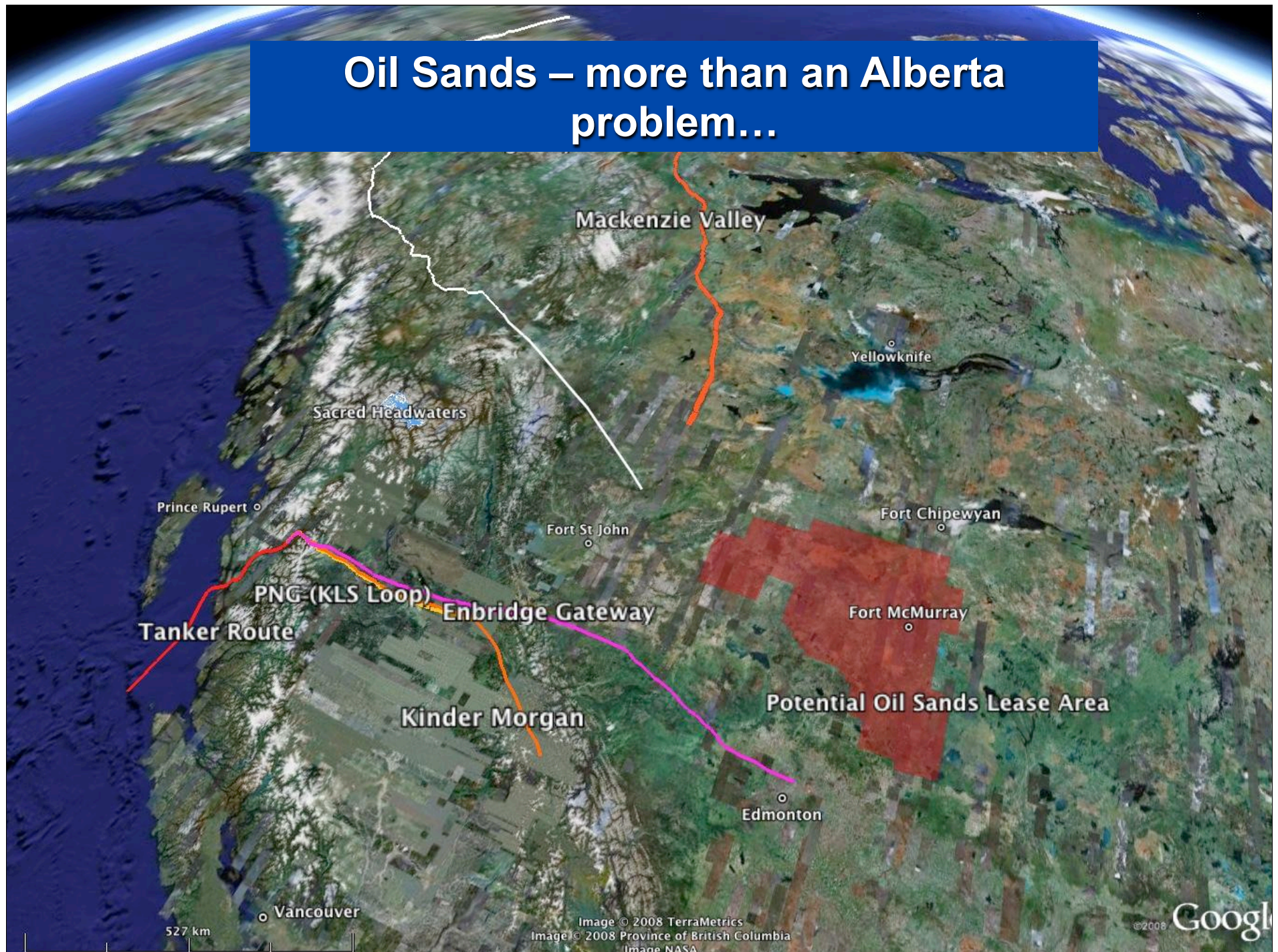
Industry Not Implementing Best Practices



Operation	Percentage Score
Albian Existing (Muskeg River Mine)	56
<p><i>Potential annual environmental benefit through oil sands operations meeting performance standards of current industry leaders</i></p> <p>15,000 tonnes of NOx 8,500 tonnes of SO₂ 50,000 tonnes VOCs 6,000,000 tonnes GHGs 73,500,000 cubic metres of water</p>	
Albian Expansion (Muskeg River Mine Expansion)	26
Syncrude	18
Synenco	18
AVERAGE SCORE	33

Existing Projects
 Proposed and Approved Projects

Oil Sands – more than an Alberta problem...



Policy & Performance Gaps

- Federal & provincial GHG regs:
 - Do not require (or will achieve) absolute reductions in the near term
 - Do not set a sufficiently high carbon price to compel investment in CCS
 - Are overly complex and full of loopholes
- Federal government dodging responsibility
 - Species at risk, climate change, transboundary impacts
- Government of Alberta
 - No science-based limits to inform decisions
 - “We just need to communicate better”

Key Policy Gaps

- Land Use Plan
- Consultation before lease sales
- **Protective** limits on the Athabasca River
- Prohibition of liquid tailings
- Comprehensive health study
- Mandatory Carbon Capture
- Best Available Technology for acidification

Conclusions

- Highest impact unconventional oil
 - Very intensive on a per-barrel basis
 - Absence of regulatory frameworks to protect the environment
 - Pace and scale of development is unsustainable
- Weak voluntary efforts by companies
 - Potential solutions not being implemented
- Situation/risk is worsening
 - Improvements outstripped by increases in production

For more information:

- Visit www.oilsandswatch.org

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