Delivering on the Lower Athabasca Regional Plan

First Nation and Métis
Information Sessions
March 3 & 4, 2014

Presentation Outline

- LARP Implementation
- Biodiversity Management Framework
- South Athabasca Oil Sands Regional Strategic Assessment and Sub-regional Plan
- Landscape Management Plan
- Consultation Process

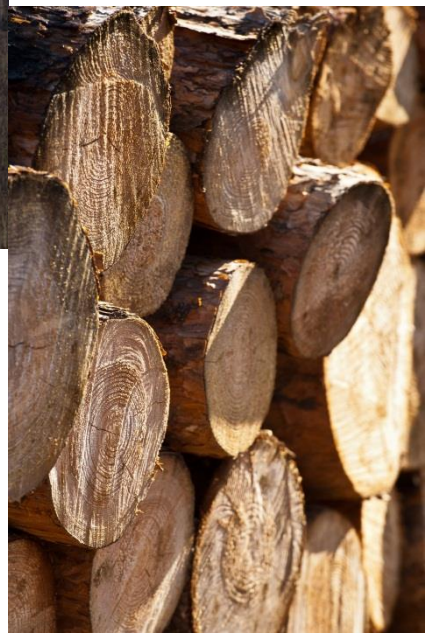
Lower Athabasca Regional Plan Implementation

Project Development Phases

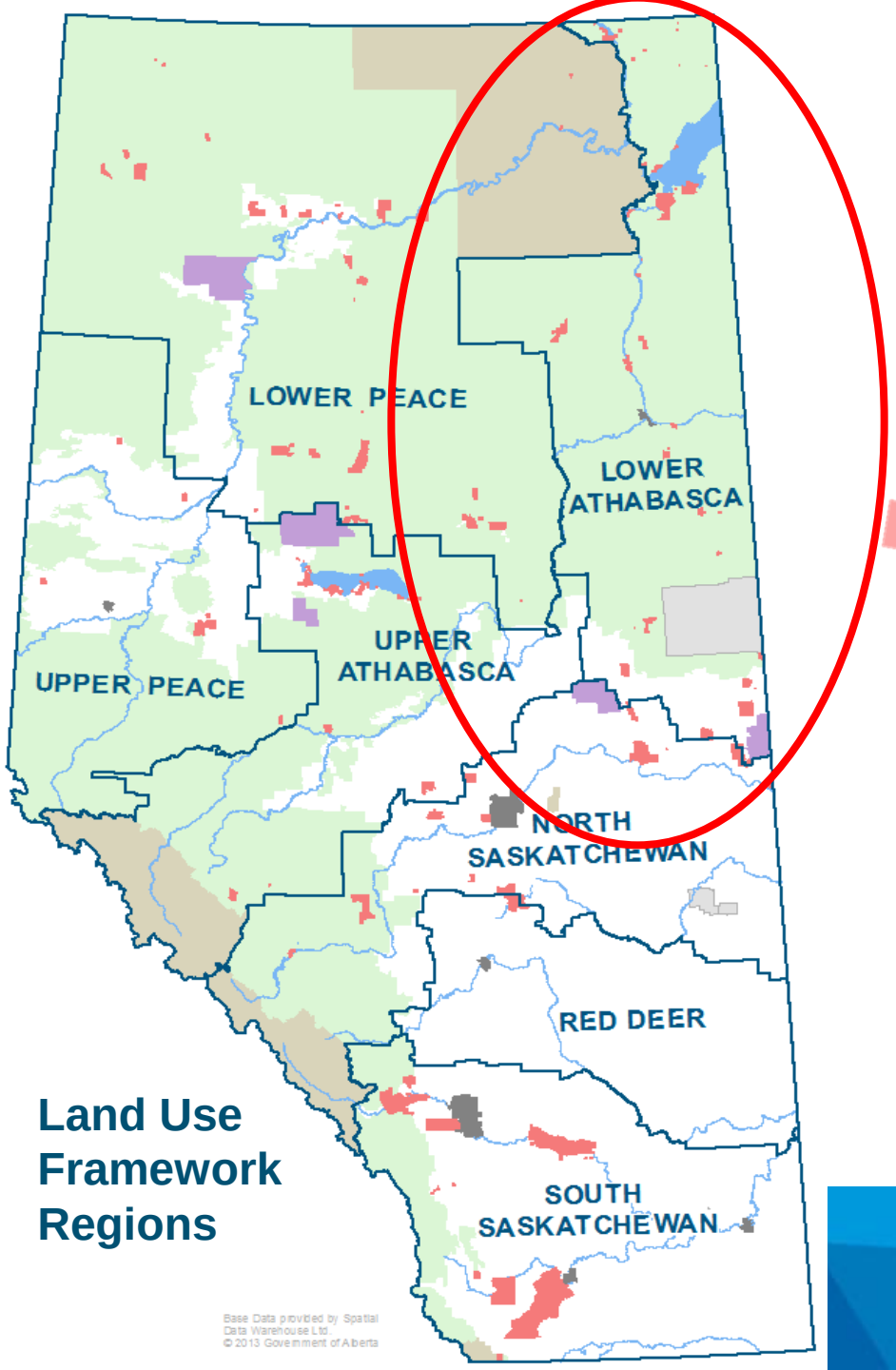
- **Phase 1 - Awareness building (Winter 2014)**
- **Phase 2** – Building the BMF, LMP and understanding the SAOS RSA (Spring/Summer 2014)
- **Phase 3** – Feedback on Draft documents (Fall 2014)
- **Phase 4** – Distribution of Final Documents

Consultation Process: for Discussion

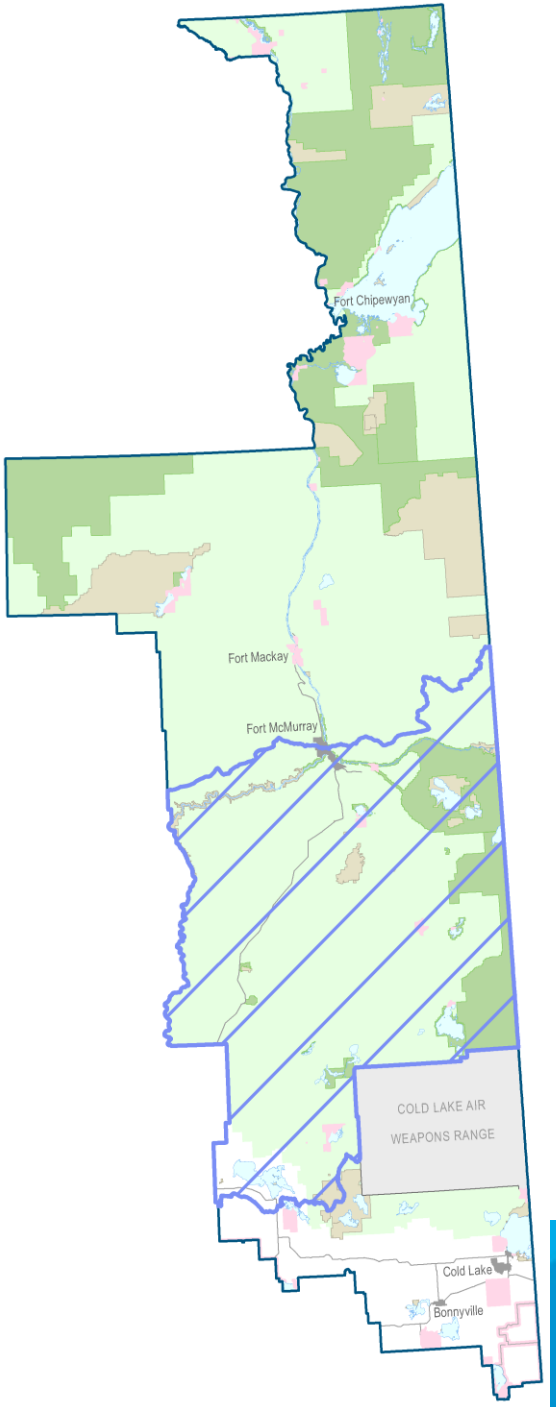
The Lower Athabasca Region



Photos by Regional Municipality of Wood Buffalo, Surmont Lodge and Amy Thede



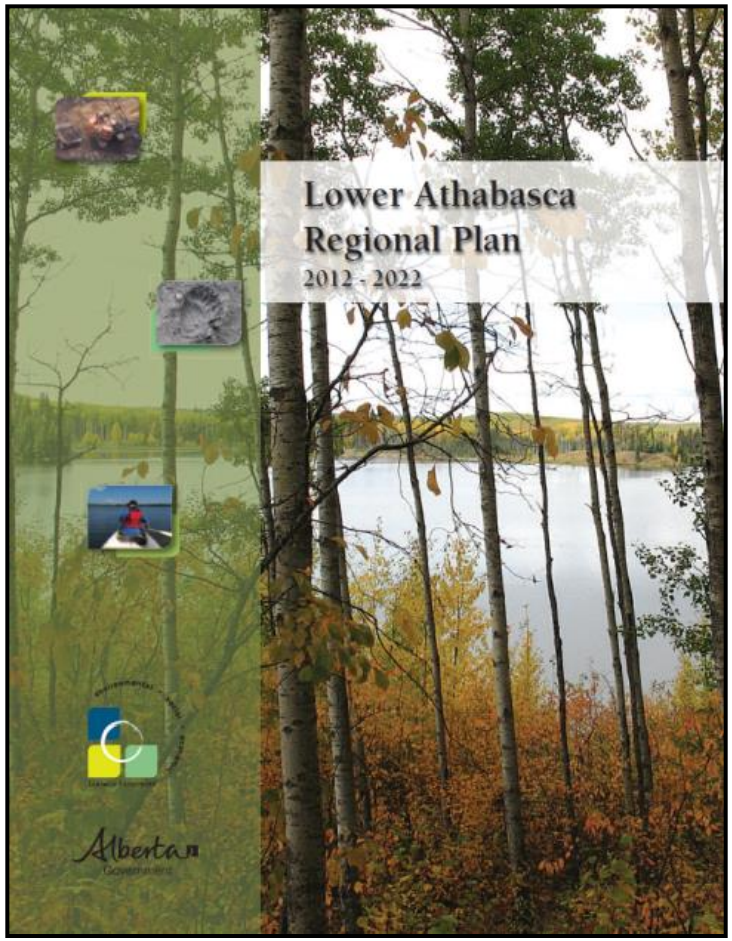
Land Use Framework Regions



LUF Regional Plans are

- Regulations which provide both public policy for a region and regulatory details to support implementation
- Enforceable; the Crown, government departments, local authorities, decision-makers, the public must align plans and decisions with regional plan
- Subject to regular reviews and public reporting
  - Evaluation and public report on plan implementation – after 5 years
  - Complete plan reviews – every 10 years

Lower Athabasca Regional Plan



Strategies include:

- Improving integration of industrial activities
- Managing effects of development on air, water, land and biodiversity
- Encouraging timely and progressive reclamation
- Creating new conservation areas
- Strengthening infrastructure planning
- Providing new recreation and tourism opportunities
- Inclusion of Aboriginal peoples in land-use planning

LARP Commitments

Environment and Sustainable Resource Development

South Athabasca Oil Sands Regional Strategic Assessment Sub-regional Plan

Biodiversity Management Framework

Landscape Management Plan

Complete and Implement Groundwater Management Framework

Surface Water Quantity Management Framework

Improved Regulatory Process

Implement Air Quality and Surface Water Quality Management Frameworks

Wildfire Management Planning

Create and manage conservation areas

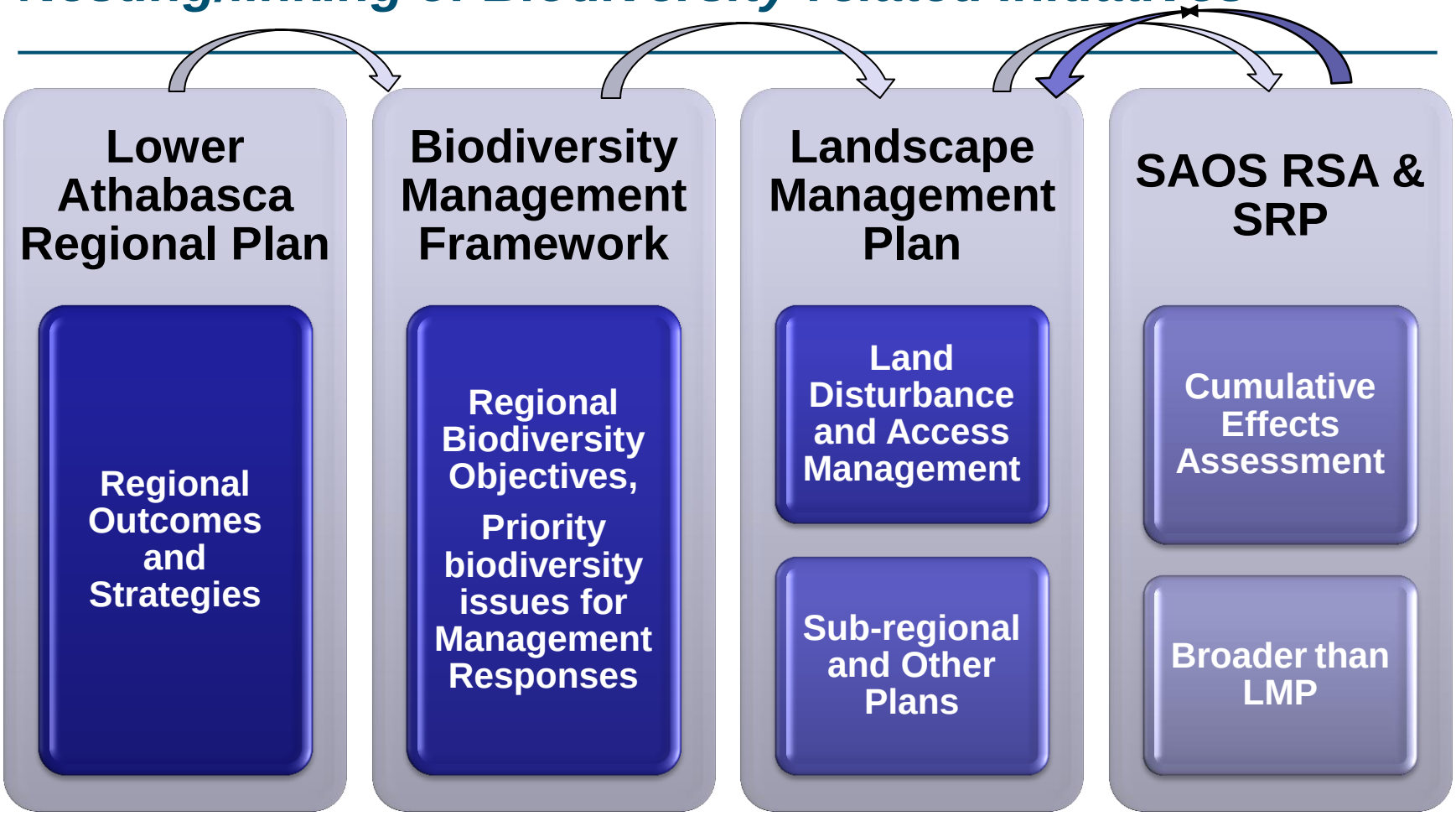
Implement Progressive Reclamation

Alberta Forest Products Roadmap to 2020

Create public land areas for recreation and tourism

Regional Plan Implementation

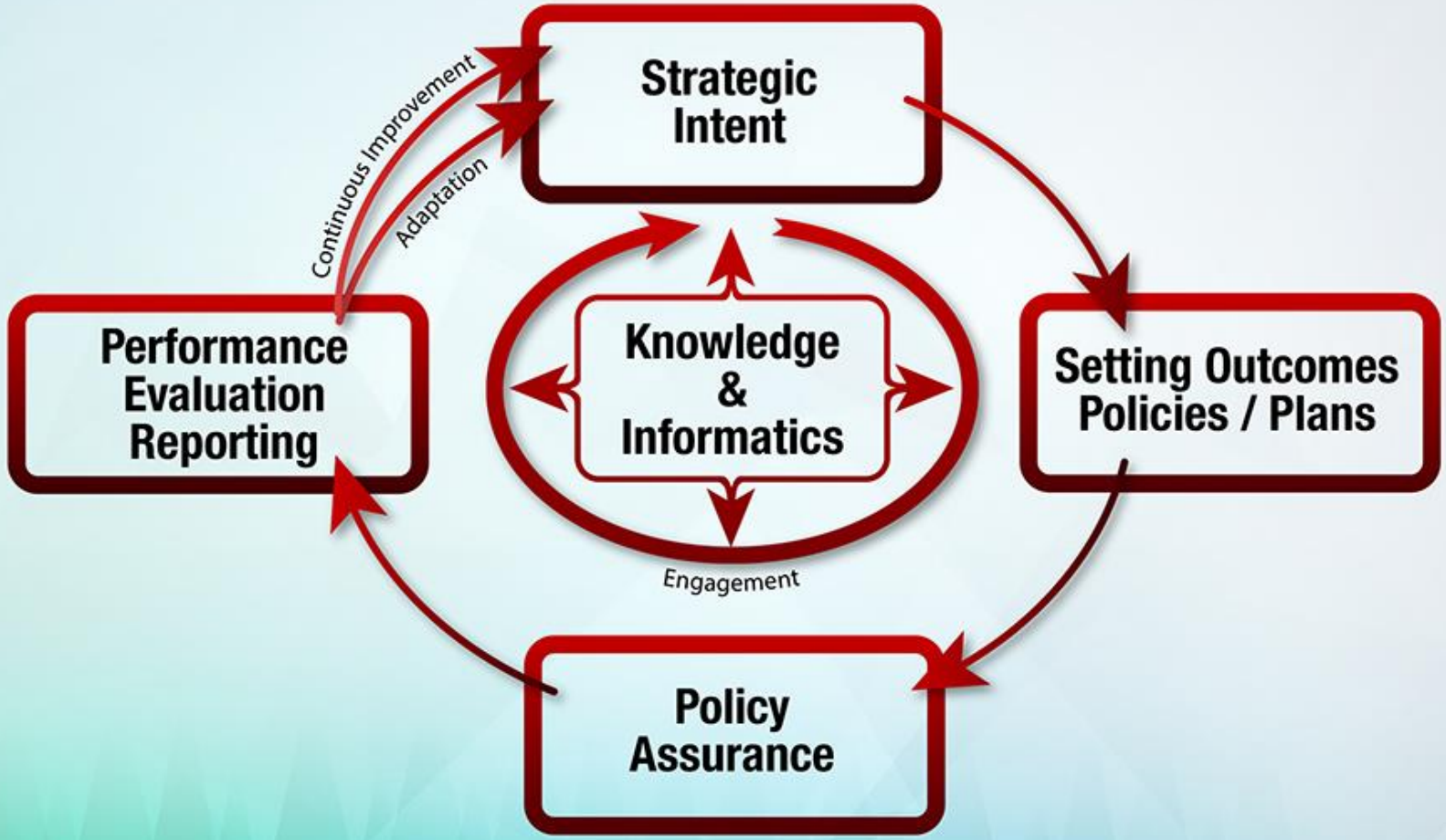
Nesting/linking of Biodiversity-related Initiatives



Integrated Resource Management System (IRMS)

- The IRMS is the means by which Alberta will achieve responsible resource stewardship.
- The System is broadly defined, incorporating the management, conservation and wise use of all resources.
- Founded upon principles of cumulative effects management.

IRMS Functions



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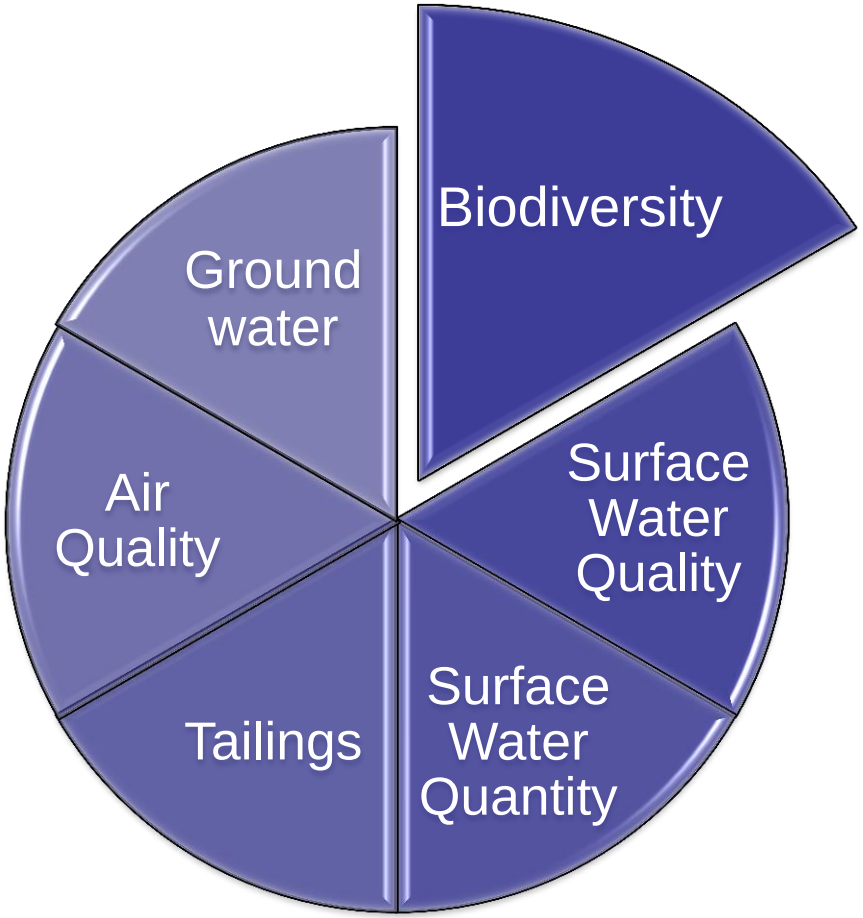
Biodiversity Management Framework

LARP Management Frameworks



Why a Biodiversity Management Framework?

- Land-use Framework enables cumulative effects management

- Biodiversity outcomes and objectives established in LARP
  - **Outcome 3** – *Landscapes are managed to maintain ecosystem function and biodiversity*
    - **Objective**:
      - *Regional biodiversity objectives are developed for various indicators of terrestrial and aquatic biodiversity in the region*

- Regional approach to managing cumulative effects in order to support biodiversity

What the Biodiversity Management Framework will do?

- A systematic, credible approach to biodiversity management
- Support continued economic and community growth in the Lower Athabasca Region
- Drive improved practice (industry and other land users) in a region to minimize the extent and duration of human footprint
- Avoid new ‘species at risk’ through proactive system for biodiversity management.

Photo by Lac La Biche Tourism

Biodiversity Management Framework
Key Elements

Indicators for Specific Outcomes

- ❑ Identification of indicators highly correlated with biodiversity outcomes & objectives
- ❑ Set specific objectives or thresholds (triggers, targets) for key elements of biodiversity

Monitoring And Modelling

- ❑ Monitor current conditions
- ❑ Model scenarios to evaluate projected future trends

Evaluate, report and respond

- ❑ Pro-active management response in place to manage land disturbance
- ❑ Evaluate the effectiveness of the response

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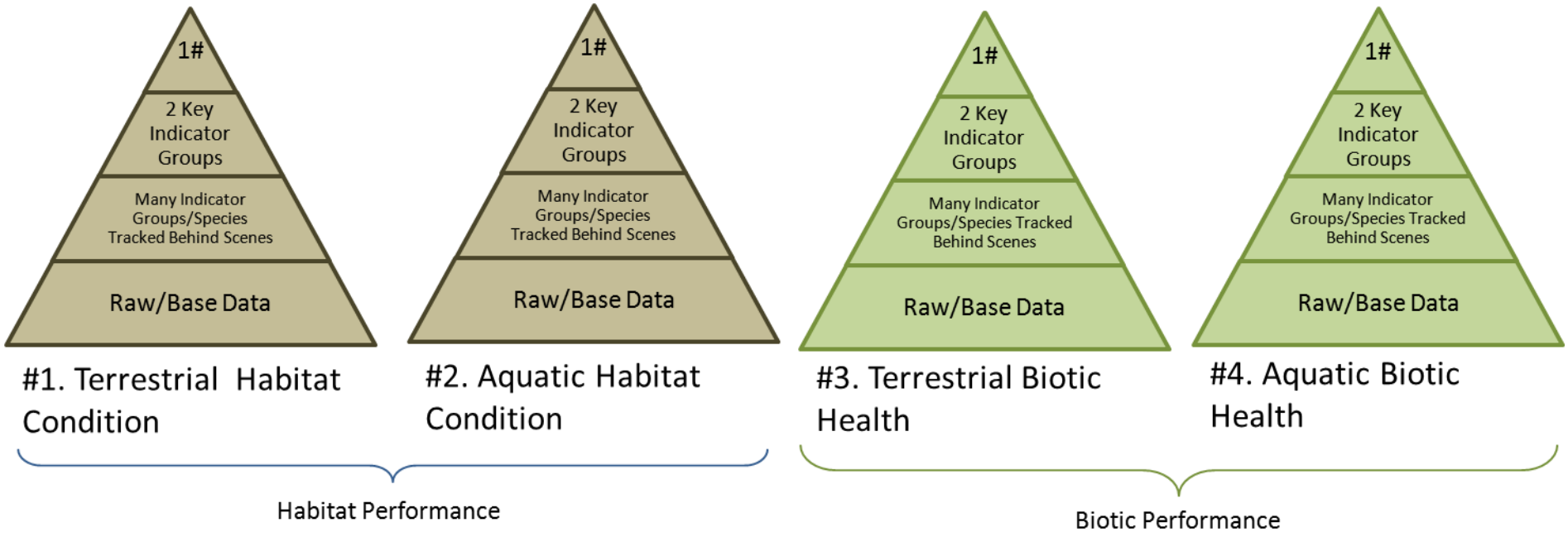
Biodiversity Management Framework
Indicators

- Indicators track whether we're meeting objectives
- Mix of terrestrial and aquatic
- Incorporate coarse filter (e.g., variety of land cover types – forest, wetlands, landscape patterns) and fine filter (e.g., caribou)

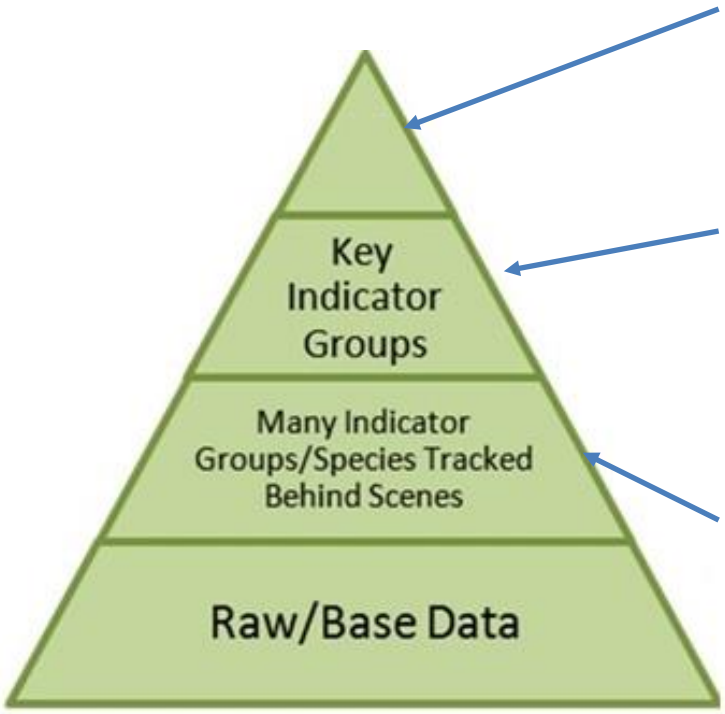
Biodiversity Indicators – Criteria for Selection

- *Relevant to Plan Objectives* – support management decisions or need management attention
- *Representative* of regional scale biodiversity – both terrestrial (land) and aquatic
- *Ecologically relevant* – reflect biodiversity interactions and ecosystem functions in the region at multiple scales
- *Responsive* to land-use
  - Provide 'early warning' signals
- *Feasible* to measure and monitor
  - Cost-effective

Four Categories of Indicators
'Pyramid' approach



Biodiversity Management Framework
Levels of Indicators



- **Level 1** - Composite indicator to report on overall state of biodiversity (e.g., how much native land cover exists in a region)
- **Level 2** –Key indicators of regional biodiversity (e.g. invasive plant species, caribou) will be selected; Thresholds (triggers, targets) will be established and actions will be taken
- **Level 3** – Numerous indicators that will be monitored and that 'roll up' to levels 1 and 2. Long term trend will be monitored.
  - Includes species important to people for hunting, fishing, trapping

Approach to Setting Thresholds (*triggers/targets*)

- Assess ABMI Results/ trends, consider modelling forecasts, department monitoring information
- Incorporate information from engagement and consultations
- Land disturbance level that manages risk to biodiversity indicators but also continued economic development in the applicable region.
- Incorporate concepts from the IUCN ‘breakpoints’ to assess risk in potential for development of species at risk:
  - Stable/Low Risk – 70-100% biodiversity
  - Moderate Risk – 50-70% biodiversity
  - High Risk – 20-50% biodiversity
  - Very High Risk – 0-20% biodiversity

Biodiversity Management Framework
Monitoring

- Monitoring will be undertaken by Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) and ESRD

- Monitoring results will present both a general view of biodiversity in the region and specific information for key indicators of interest.

- This monitoring system, and related data, will support the improvement of thresholds and signal the potential need for future management responses

Biodiversity Management Framework
Management Response

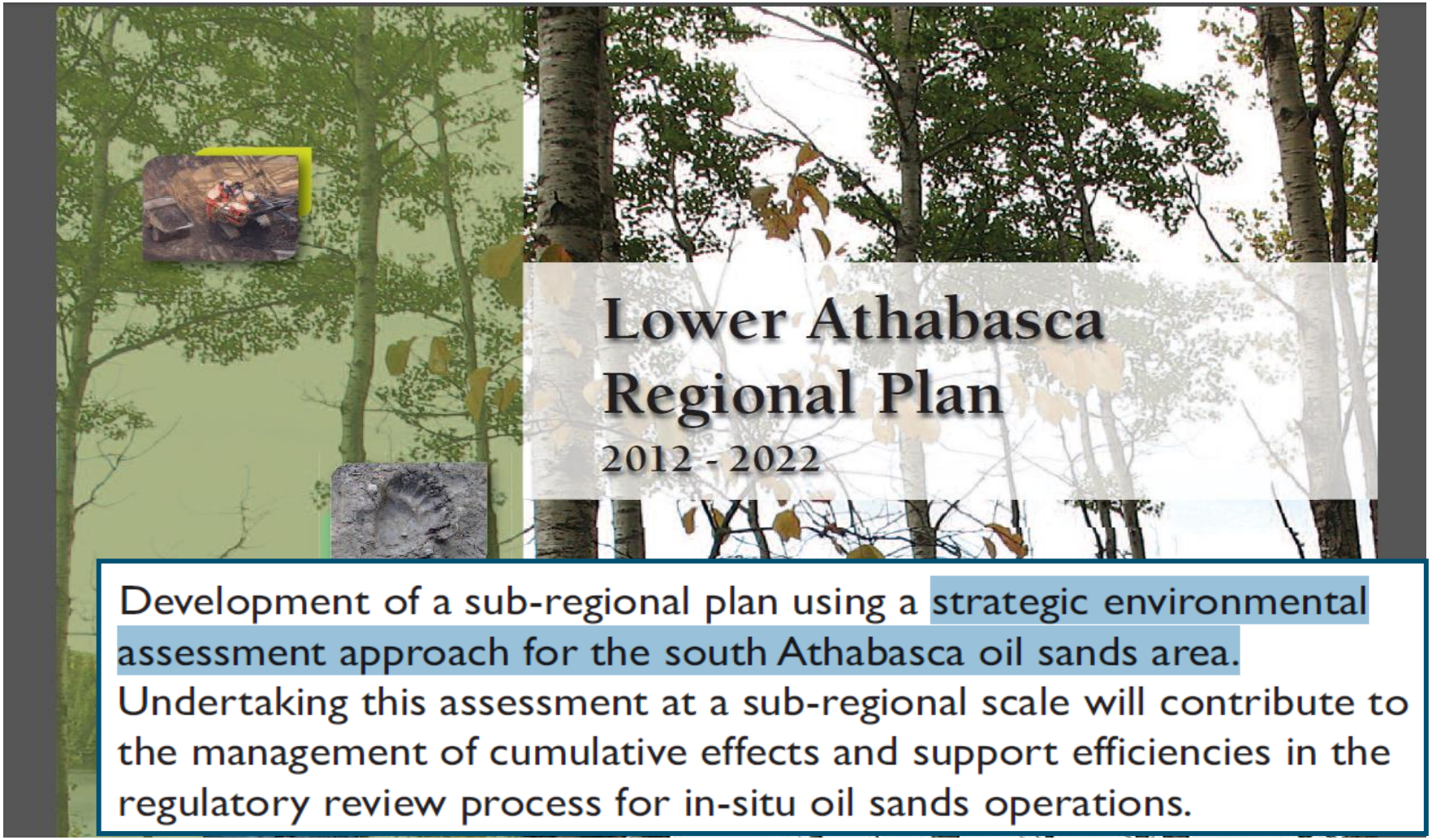
- Focus for management actions needed to maintain biodiversity will be to limit extent and duration of human disturbance footprint

- Key management tools:
  - new conservation areas under regional plans
  - conservation/reclamation offsets
  - Integrated Land Management (e.g. sharing of roads between energy and forest industry)

- The Landscape Management Plan and the South Athabasca Oil Sands sub-regional plan are two key tools for implementing the guidance outlined in the BMF (“proactive management response”).

South Athabasca Oil Sands Regional Strategic Assessment and Sub-regional Plan

Lower Athabasca Regional Plan Direction



Development of a sub-regional plan using a strategic environmental assessment approach for the south Athabasca oil sands area.

Undertaking this assessment at a sub-regional scale will contribute to the management of cumulative effects and support efficiencies in the regulatory review process for in-situ oil sands operations.

What are cumulative effects? Why regional strategic assessment?

- Cumulative effects result from a combination of past, present and future development activities.

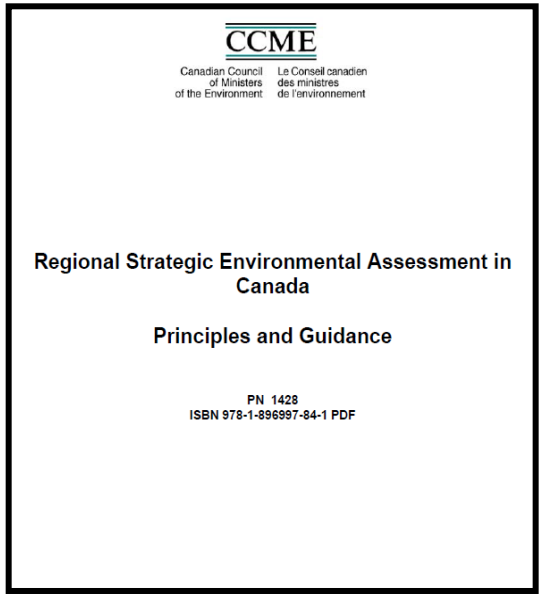
- Regional strategic assessment is a suitable approach because it has the geographic and temporal breadth to encompass all/most interacting pressures that contribute to cumulative effects.

- Regional strategic assessment is a valuable approach when:
  - Rapid development across a broader region is anticipated
  - Strategic decisions to manage this development require a full consideration of cumulative effects

Foundation

‘A process designed to systematically assess the potential environmental effects, including cumulative effects, of alternative strategic initiatives, policies, plans or programs for a particular area’.

Canadian Council of Ministers of the Environment (CCME), 2009

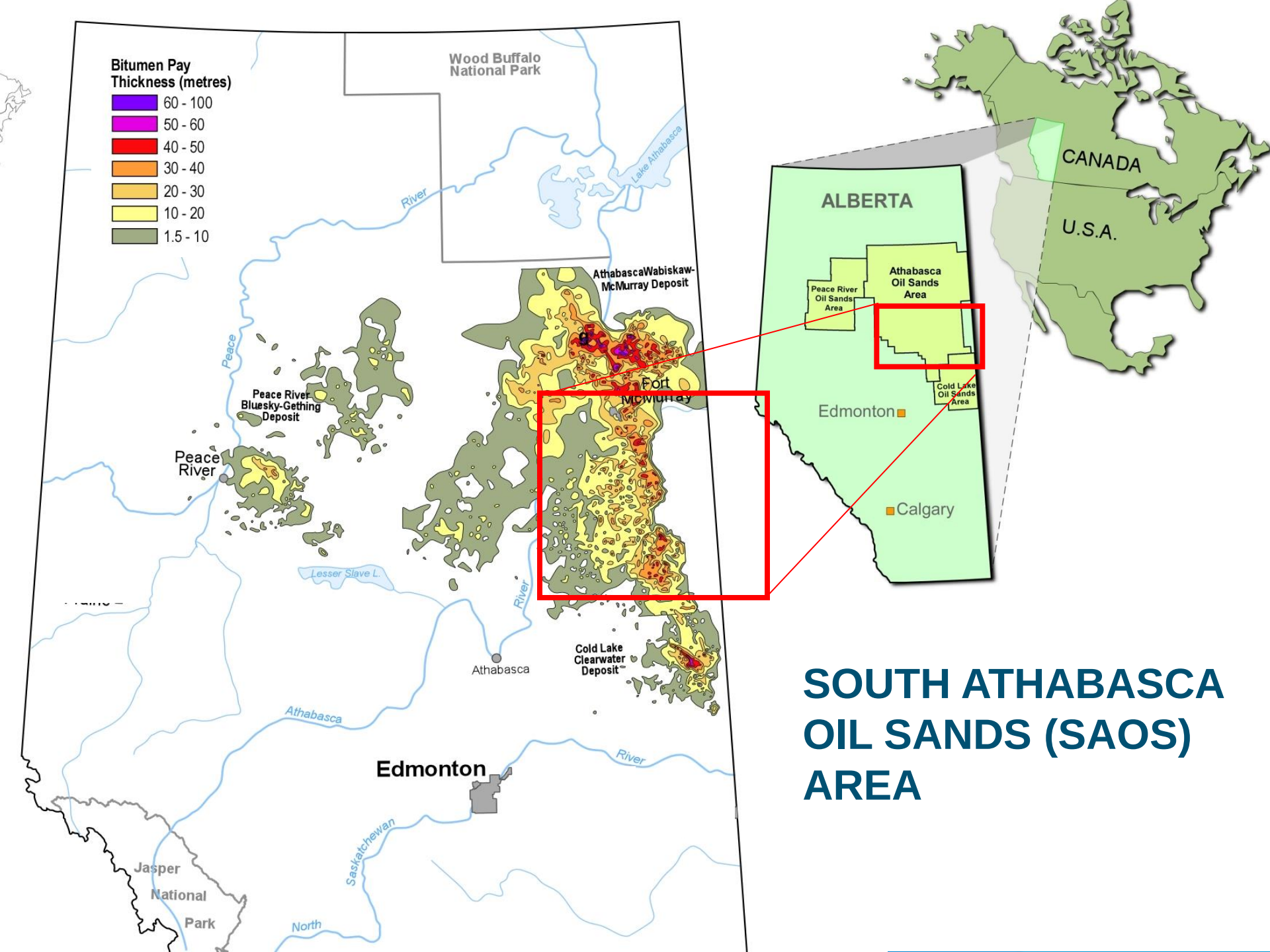

CCME

Canadian Council of Ministers of the Environment | Le Conseil canadien des ministres de l'environnement

Regional Strategic Environmental Assessment in Canada

Principles and Guidance

PN 1428
ISBN 978-1-896997-84-1 PDF



SOUTH ATHABASCA OIL SANDS (SAOS) AREA

In Situ oil sands production: steam-assisted gravity drainage (SAGD)

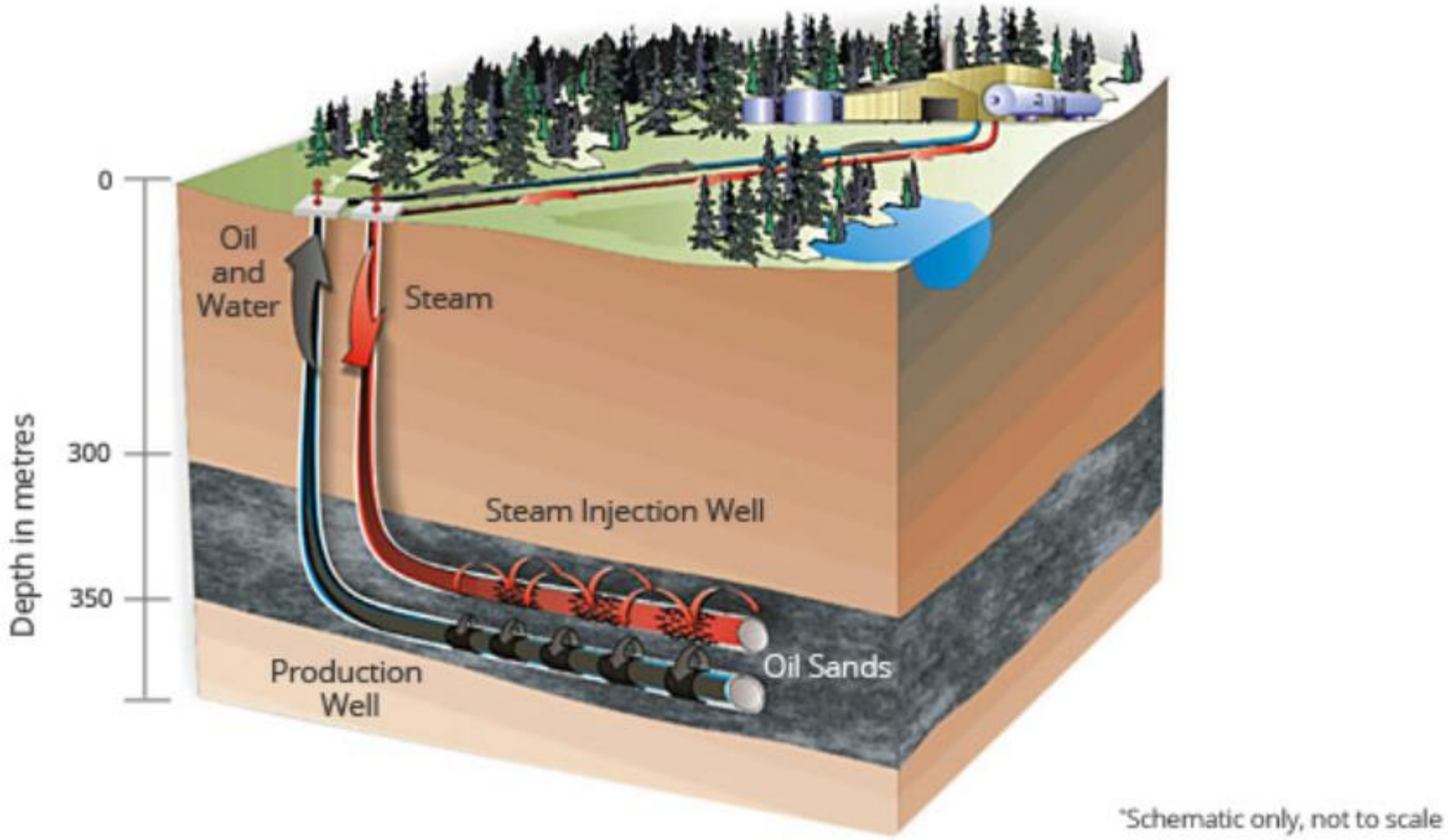


Image Source: MEG Energy
http://www.megenergy.com/operations/steam-assisted-gravity-drainage-


© 2014 Cnes/Spot Image
Image © 2014 DigitalGlobe
©2010 Google
Imagery Date: 4/9/2013
2008
55°33'16.45" N 110°55'46.16" W elev 1942 ft
Eye alt 18251 ft
In Situ Oil Sands Development
© 2013 Google
Image Regional Municipality of Wood Buffalo
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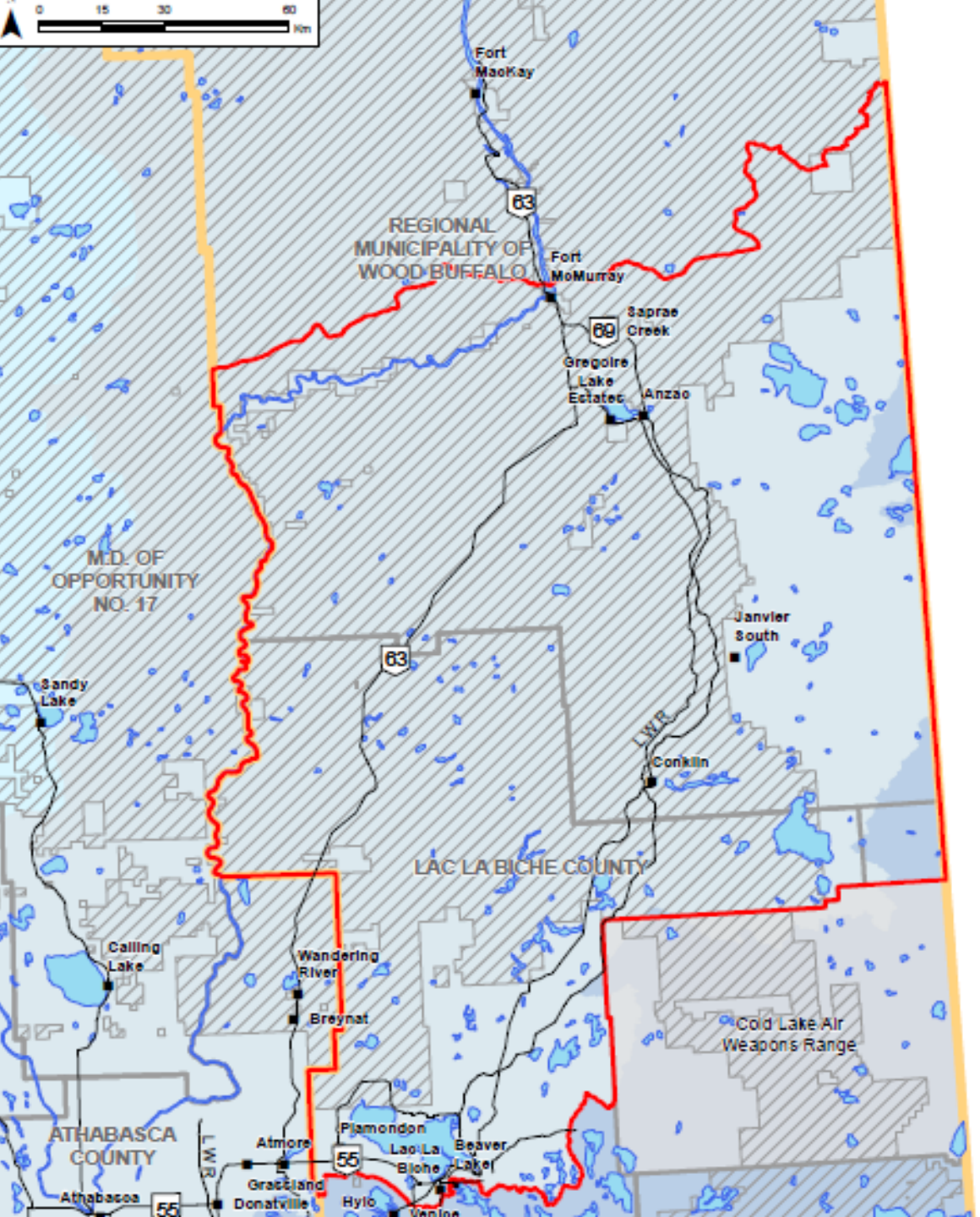
Regional Strategic Assessment Approach

(i) Establish a baseline for the subregion

(ii) Analytical approach is taken to explore cumulative effects of alternative development scenarios by assessing performance of key indicators using models

(iii) Identify management options for each scenario that will support optimal achievement of environmental, social and economic outcomes articulated in the Lower Athabasca Regional Plan and subregional outcomes that may emerge.


Air Quality
Economic
Water
Traditional Land Use
RSA
Human & Environmental Health
Quality of Life
Land & Biodiversity
Emergency Preparedness

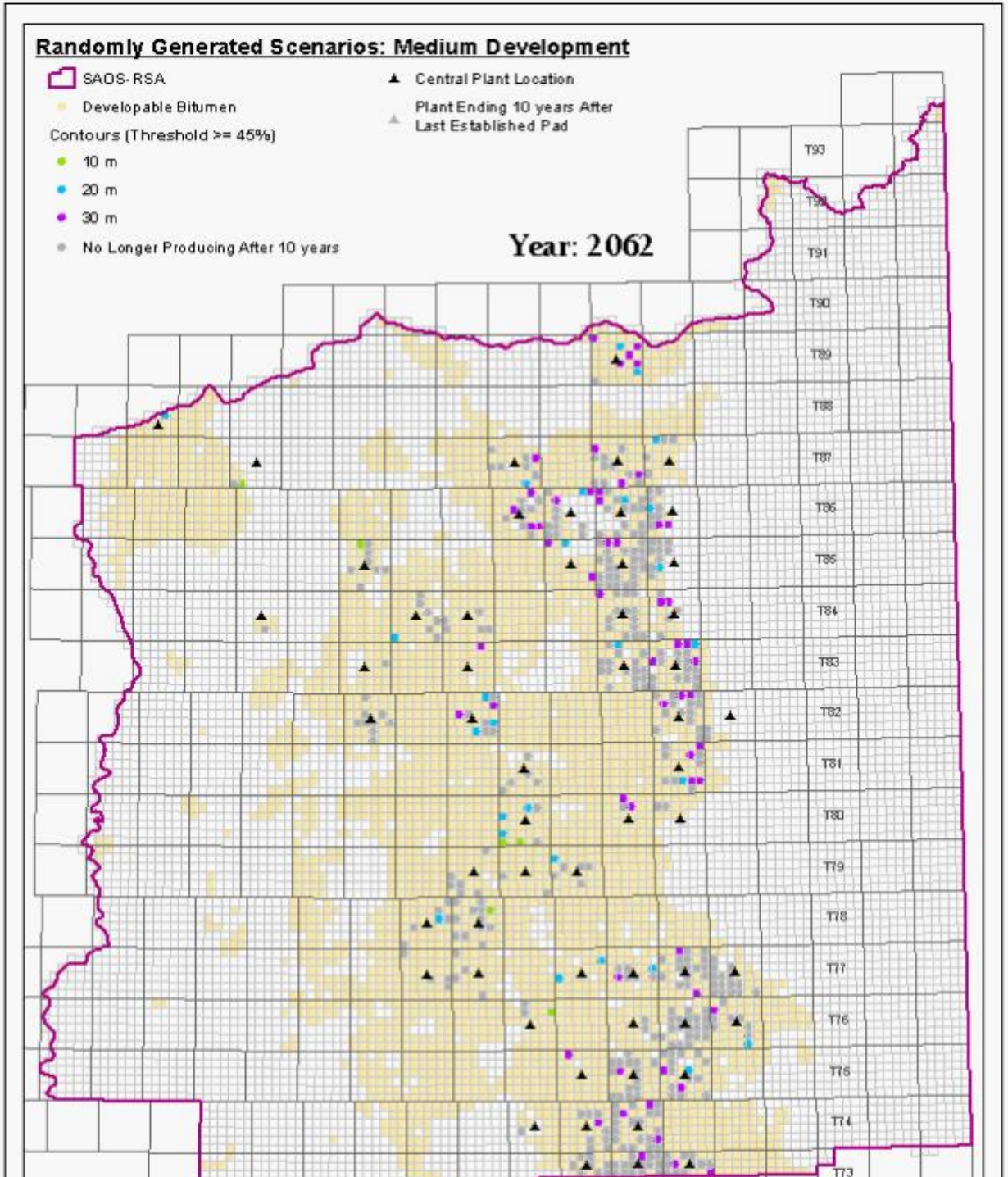


Scenario Analysis:
South Athabasca
Oil Sands Area

Scenario 1:
Low Development
6 pad-pairs /year
~400 000 bbl/day

Scenario 2:
Medium Development
9 pad-pairs /year
~600 000 bbl/day

Scenario 3:
High Development
12 pad-pairs /year
~800 000 bbl/day


Randomly Generated Scenarios: Medium Development
SAOS-RSA
Developable Bitumen
Contours (Threshold >= 45%)
10 m
20 m
30 m
No Longer Producing After 10 years
Central Plant Location
Plant Ending 10 years After Last Established Pad
Year: 2062
T93
T92
T91
T90
T89
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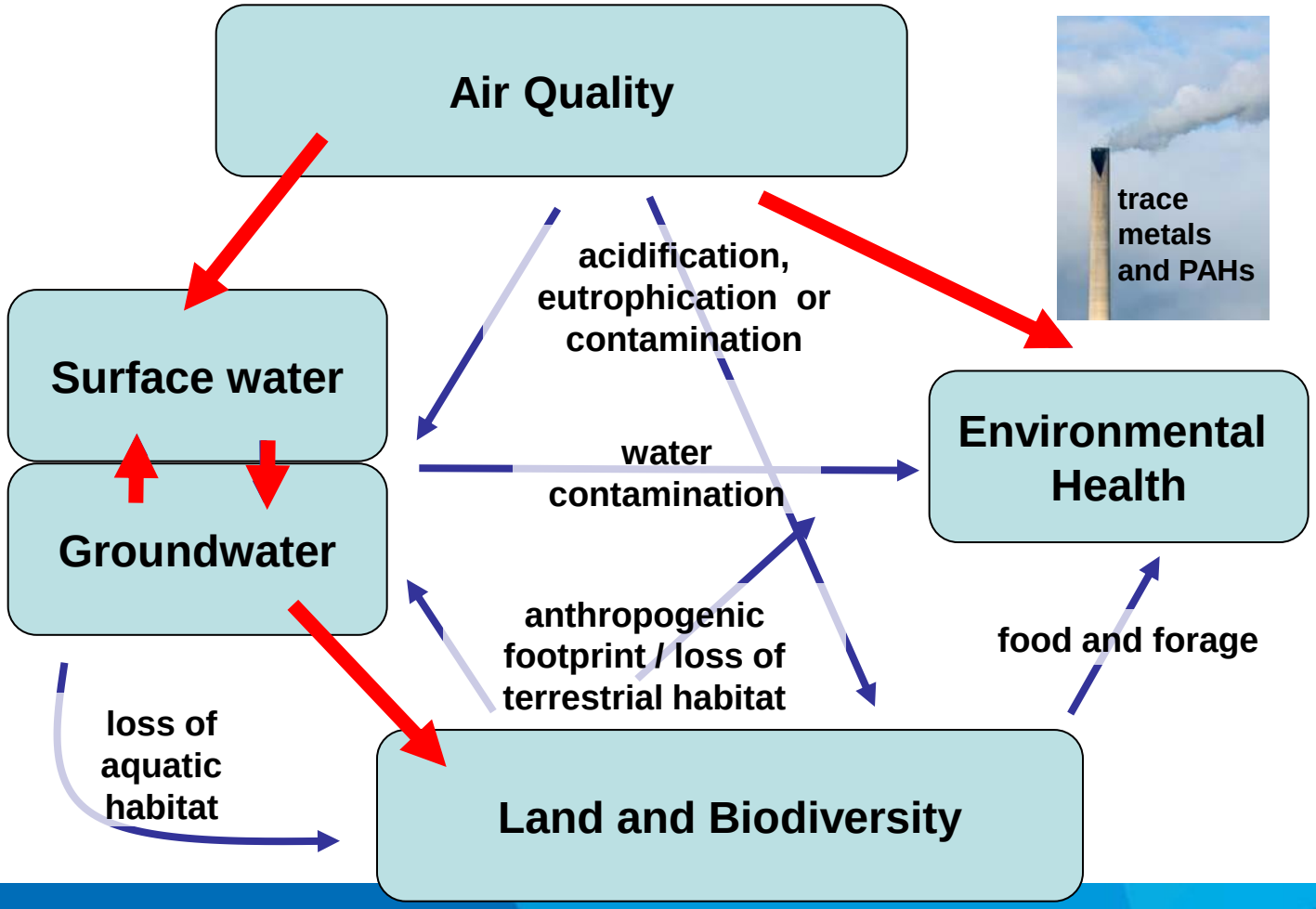
Model Integration



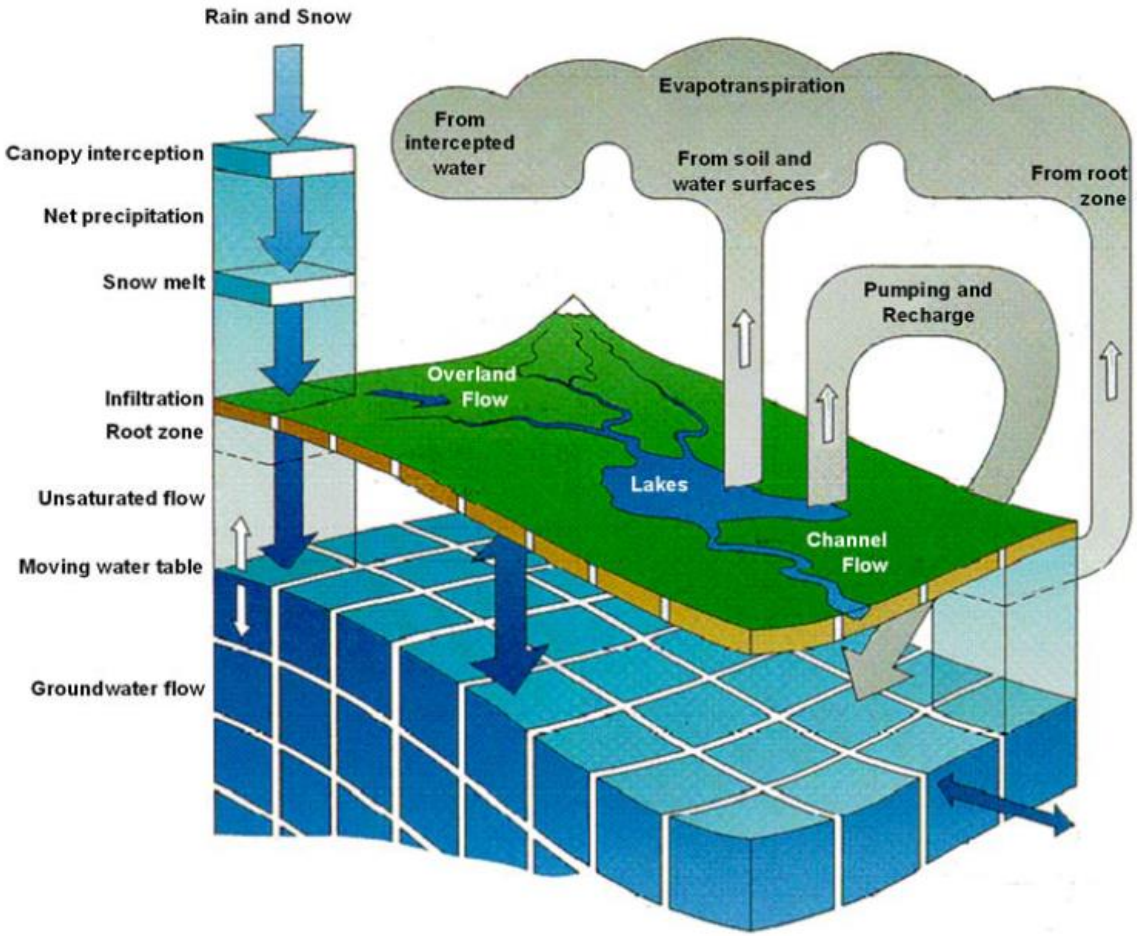
Water Modelling

Currently using three models:

- FEFLOW – Advanced Groundwater Modelling
- Mike SHE – Integrated Catchment Modelling
- Mike 11 – River Modelling

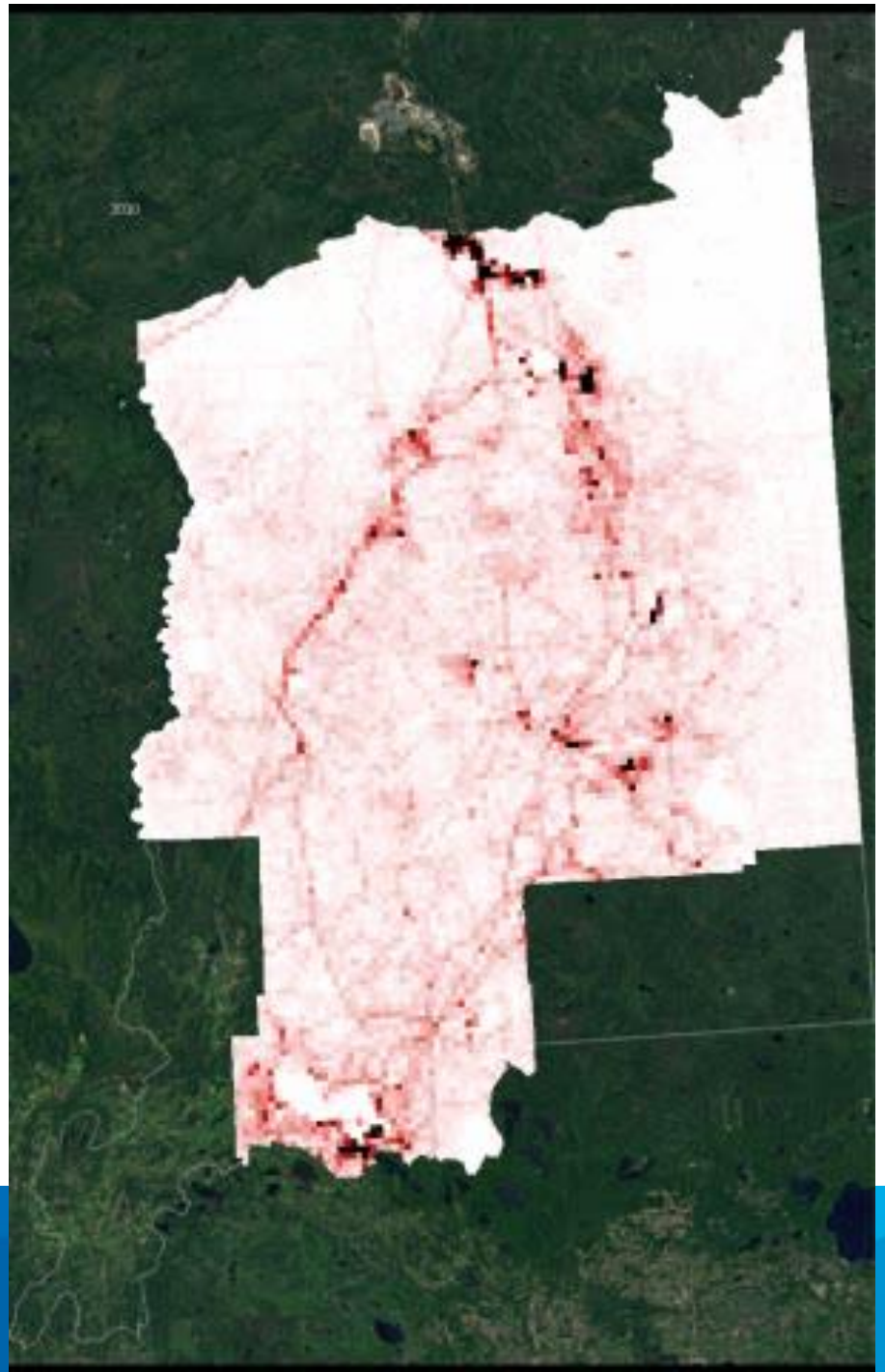
Building on:

- Groundwater Flow Model for the Athabasca Oil Sands (In Situ) Area South of Fort McMurray (Worley Parsons, 2010)



Source: Worley Parsons (2010)

In situ
Build out
Over 50 Years



Quality of Life & Environmental Health

- Health Impact Assessment
- Human Heath Risk Assessment
- Quality of Life Assessment
  - Focused on three valued components
    - Social Infrastructure
    - Outdoor Recreation
    - Community Resilience
- These assessments are unique to the RSA SAOS and land-use planning approaches to date
- The assessments utilize a
  - Quantitative component (models); and,
  - Qualitative component: surveys, interviews, community workshops and narrative inquiry to inform and provide a richer understanding from the perspective of people who live and work in the region

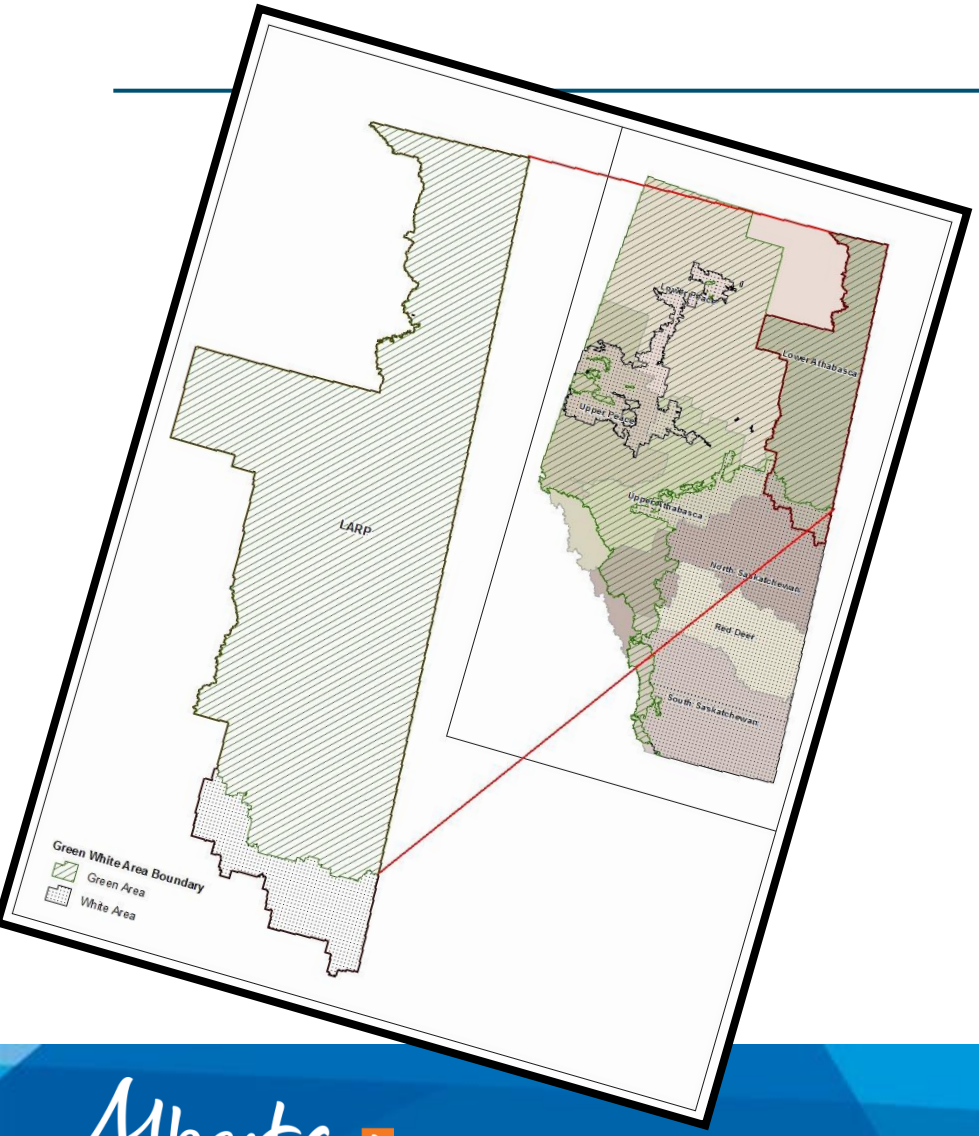
South Athabasca Oil Sands Sub-regional Plan

- SRP scope and planning process are currently being finalized
  - RSA results will determine the scope of the subregional plan and will set the stage for discussion of anticipated development-related cumulative effects
  - Process will use assessment tools/models to test effectiveness of plan strategies that have been identified
  - Will build on direction in the LARP and will integrate with/complement other LARP initiatives (e.g. LMP, management frameworks)
  - The plan will provide direction to both regulators and proponents.

- SAOS RSA and SRP is piloting a future approach to planning.

Landscape Management Plan

Landscape Management Plan



- One of six strategies in the LARP Implementation Plan to achieve Outcome #3:

  "Landscapes are managed to maintain ecosystem function and biodiversity"

- Applies to the Green Area in the Region

- A good first step towards sub-regional integrated resource planning

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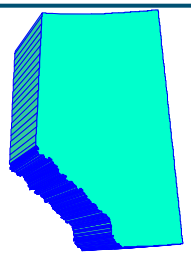
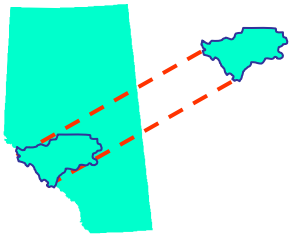
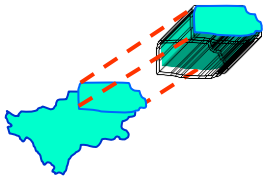
Hierarchy of Planning



Provincial



Regional



Sub-Regional & Operational

Provincial Policy & Legislation

Regional Plans

Municipal Plans

Sub-regional Plans

Operational and Sectoral Plans and Regulatory Decisions

Strategic Intent

Place-based rules & decisions

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Levels of Planning

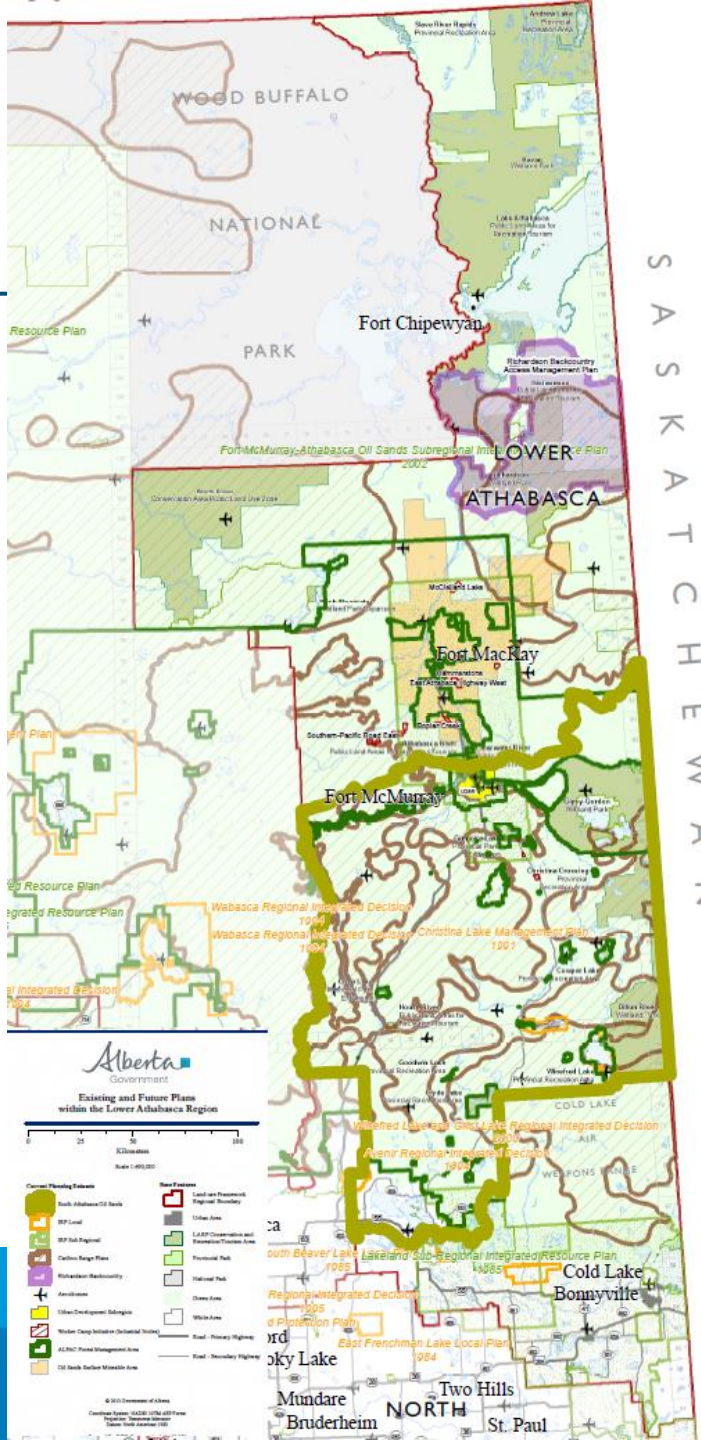
Regional and Sub-regional

- At the regional planning level, broad provincial policy, land use goals and strategies are identified which provide essential direction to subsequent orders of planning and decision-making.

- The sub-regional planning level is typically where the rubber starts to meet the road
  - Still at a meaningful scale that allows consideration of full resource values
  - The intent is to provide a framework that allows lower levels of planning, day-to-day decision-making and approvals to occur with some confidence that broader strategic objectives (e.g., cumulative effects and biodiversity) can be met.

A Busy Planning Landscape

- Forest Management Planning
- Wildlife/Habitat Plans e.g., Caribou Range Plans
- Access Management Plans
- Conservation and Protected Area Planning
- Recreation and Tourism Destination Planning
- SAOS RSA & Sub-Regional Plan
- Water and Watershed Planning
- Comprehensive Regional Infrastructure Sustainability Plan (CRISP)



Lower Athabasca
Landscape Management Plan will

- Support the achievement of the objectives of the LAR Biodiversity Management Framework, and other relevant provincial policy outcomes, by defining specific actions for managing the cumulative effects of human activities on air, land, water and biodiversity
- Include strategies to coordinate and manage linear footprint, land disturbance and motorized public access in key sub-regional areas
- Align and coordinate resource management

Landscape Management Plan

Approach

- Build upon valuable work from other organizations (e.g., Cumulative Environmental Management Association – Terrestrial Ecosystem Management Framework and linear footprint)

- Over time will reduce need for single purpose plans
  - Resulting in greater planning efficiency, reduced stakeholder fatigue, enhanced integration, better management of cumulative effects.
- Updated as appropriate - changed circumstances (natural disasters, new opportunities, policy and legislation changes)

Landscape Management Plan – *Management Challenges*

- Plan covers the entire LARP area – not a traditional sub-regional plan per se

- Modular approach to concurrent sub-regional planning initiatives within the LMP area will require strong coordination to ensure policy integration and alignment is achieved:
  - Forest Management Planning (ALPAC)
  - Access planning in Richardson Backcountry
  - South Athabasca Oil Sands Sub-Regional Plan
  - Woodland Caribou Range Plans
  - Planning for regional parks, recreation and tourism opportunities and a regional trails system
  - Comprehensive Regional Infrastructure Sustainability Plan (CRISP)

Next Steps

Project Development Phases

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THANK YOU

Questions?

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Bob Savage – (780) 644 4918 or bob.savage@gov.ab.ca

Website: http://environment.alberta.ca/03422.html

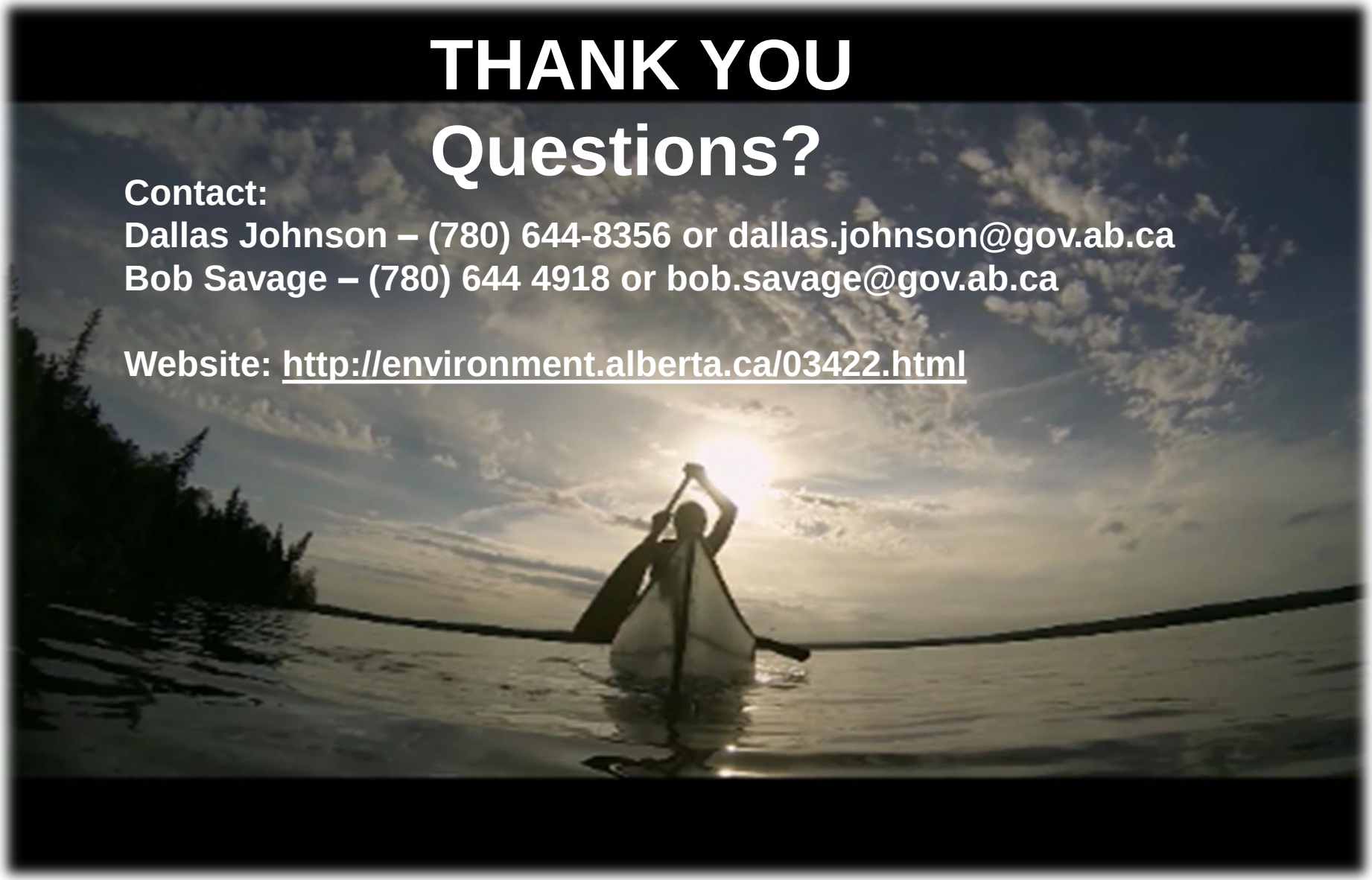

Photo by Lac La Biche Tourism

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