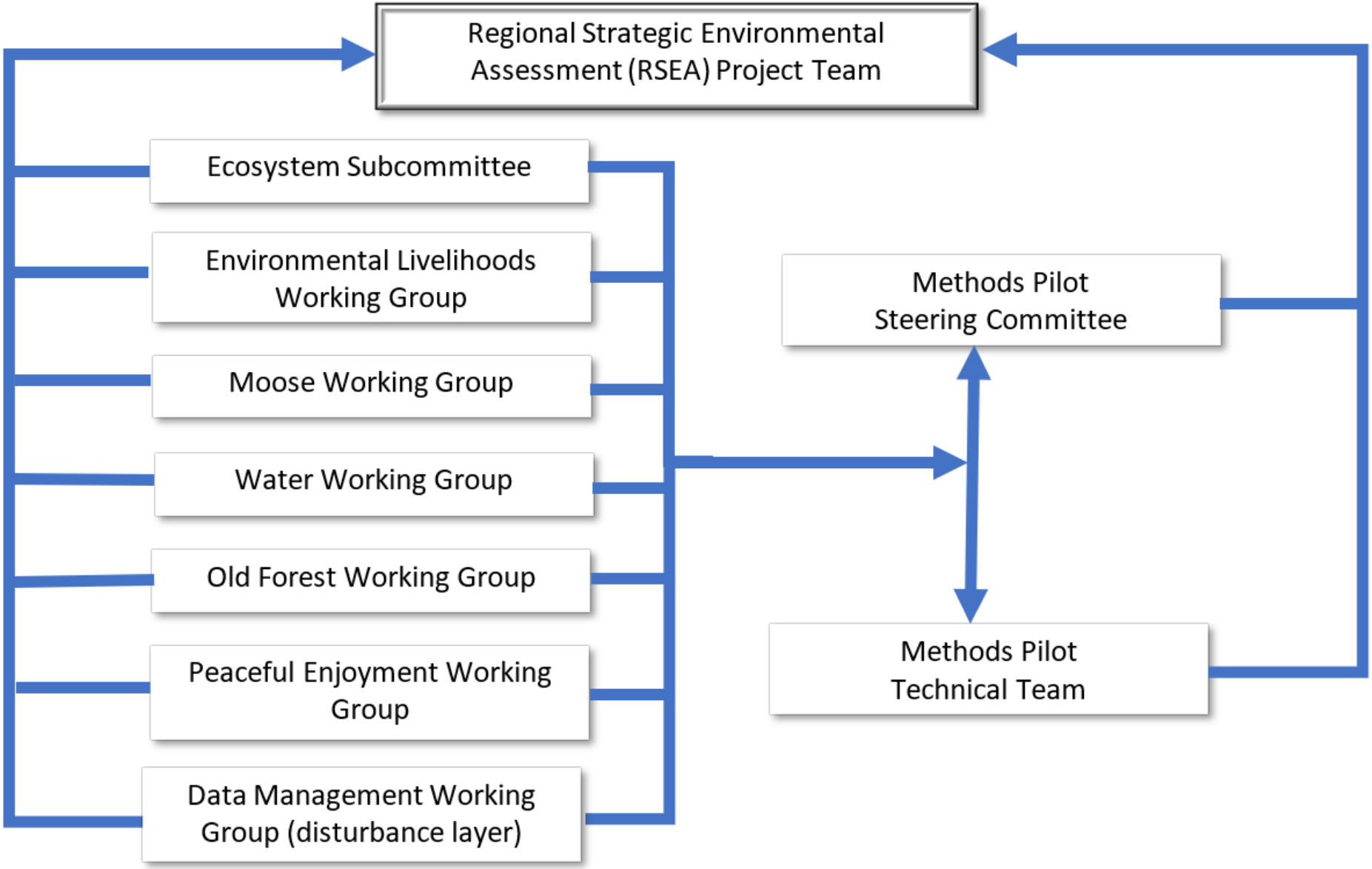
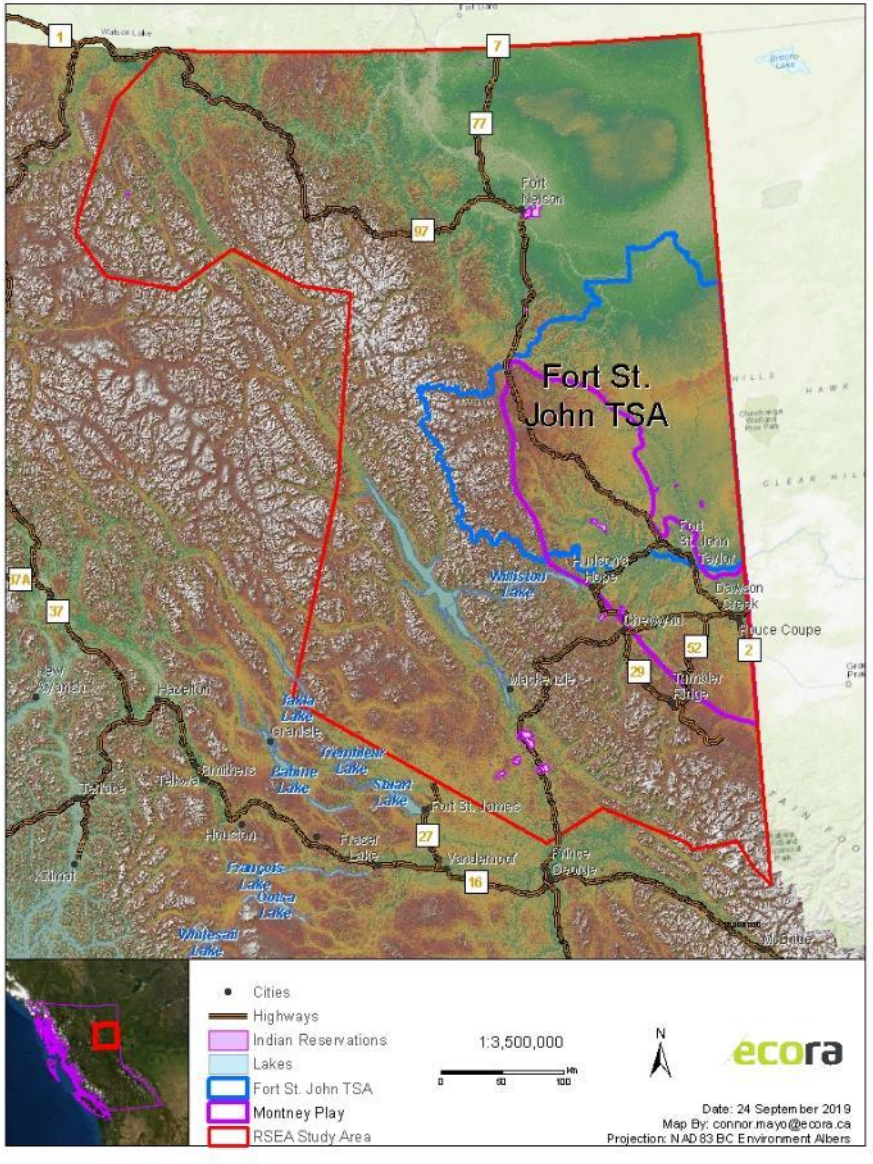
Regional Strategic Environmental Assessment for Northeast BC

December 19, 2019


Regional Strategic Environmental Assessment (RSEA) Project Team
Ecosystem Subcommittee
Environmental Livelihoods Working Group
Moose Working Group
Water Working Group
Old Forest Working Group
Peaceful Enjoyment Working Group
Data Management Working Group (disturbance layer)
Methods Pilot Steering Committee
Methods Pilot Technical Team

What is the RSEA Methods Pilot?

- A proof of concept project
- To test methodology to quantitatively assess the cumulative impact of the footprint
- FSJ TSA
- PNG model for the BC Montney play
- Optimization of the meaningful exercise of Treaty 8 Rights with the development interests of the parties



Participating Treaty 8 First Nations:

- West Moberly First Nations
- Saulteau First Nations
- Halfway River First Nation
- Doig River First Nation
- Prophet River First Nation
- McLeod Lake Indian Band
- Blueberry River First Nations

Participation

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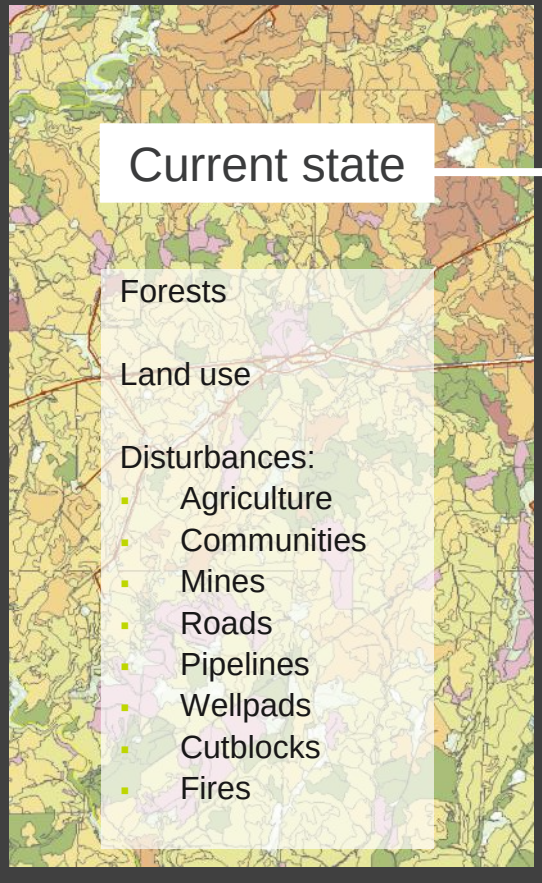
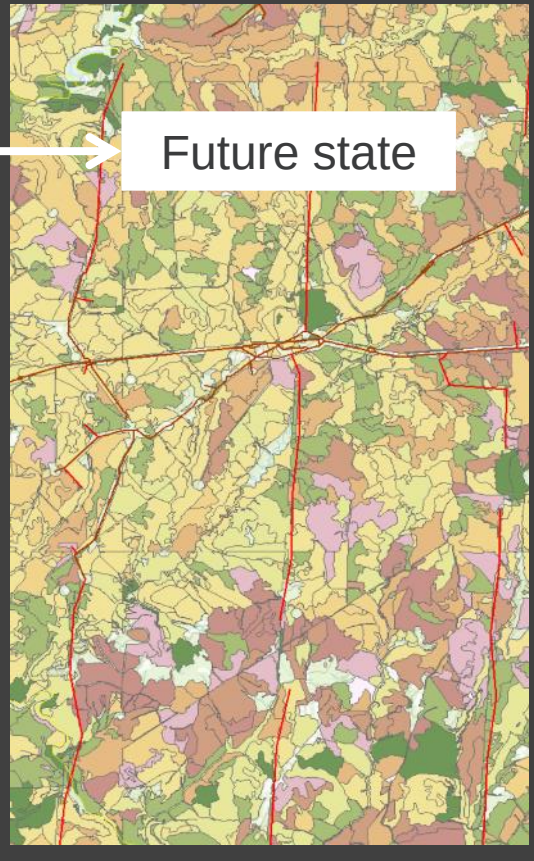


Use management assumptions and models to spatially project future disturbances and growth



What is the RSEA Methods Pilot?

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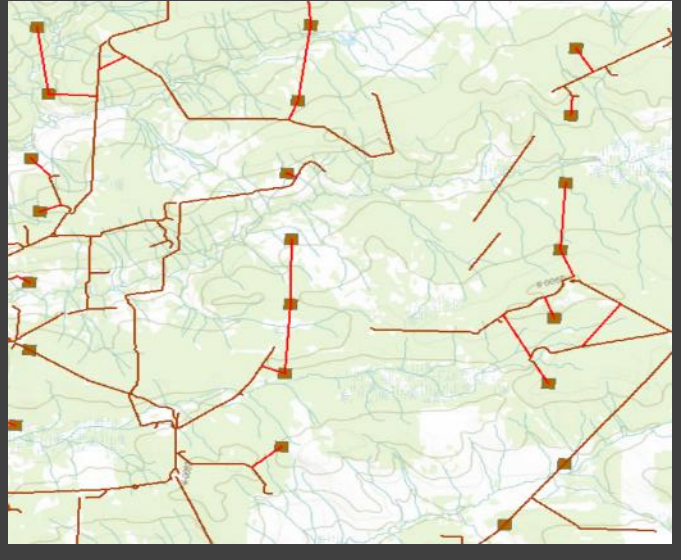
PNG

- Wellpads
- Pipeline ROWs (pipeline and roads)



Forestry

- Cutblocks
- Roads

What activity are we projecting?

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- Moose
- **Grizzly**
- Caribou

- Ecosystem representation
- **Old forest**
- Old forest patch size
- **Functional forest**
- Riparian functional forest

- Water quality
- Water use by O&G
- Stream crossings

- Harvest level
- PNG production
- Wells built
- Area and linear footprint

- **Peaceful enjoyment**
- BRFN zones
- HRFN zones
- Culturally significant plants

Methods Pilot values

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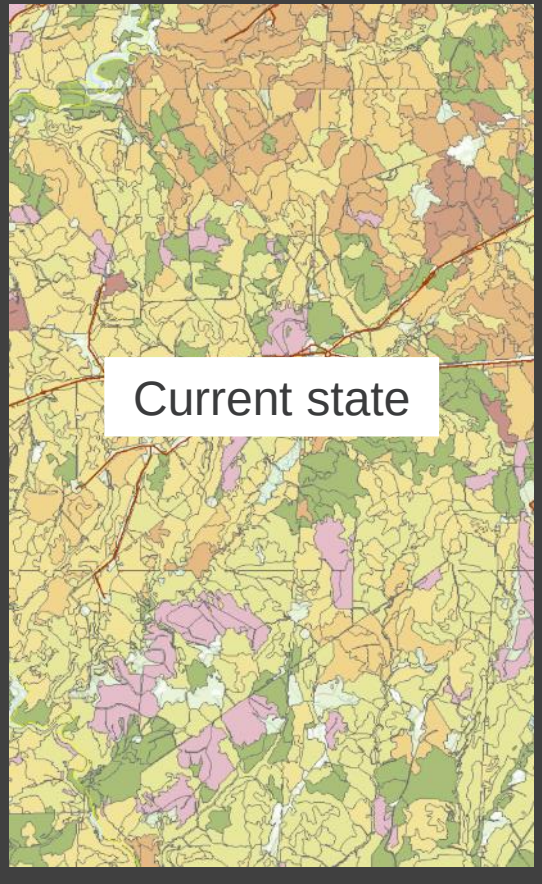

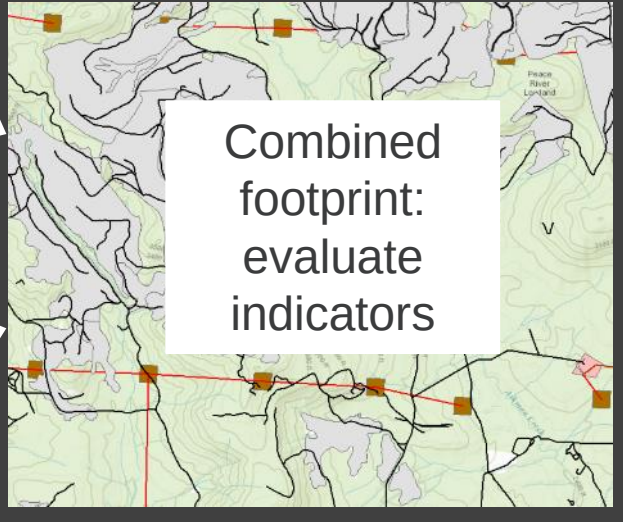

Modeling framework - overview

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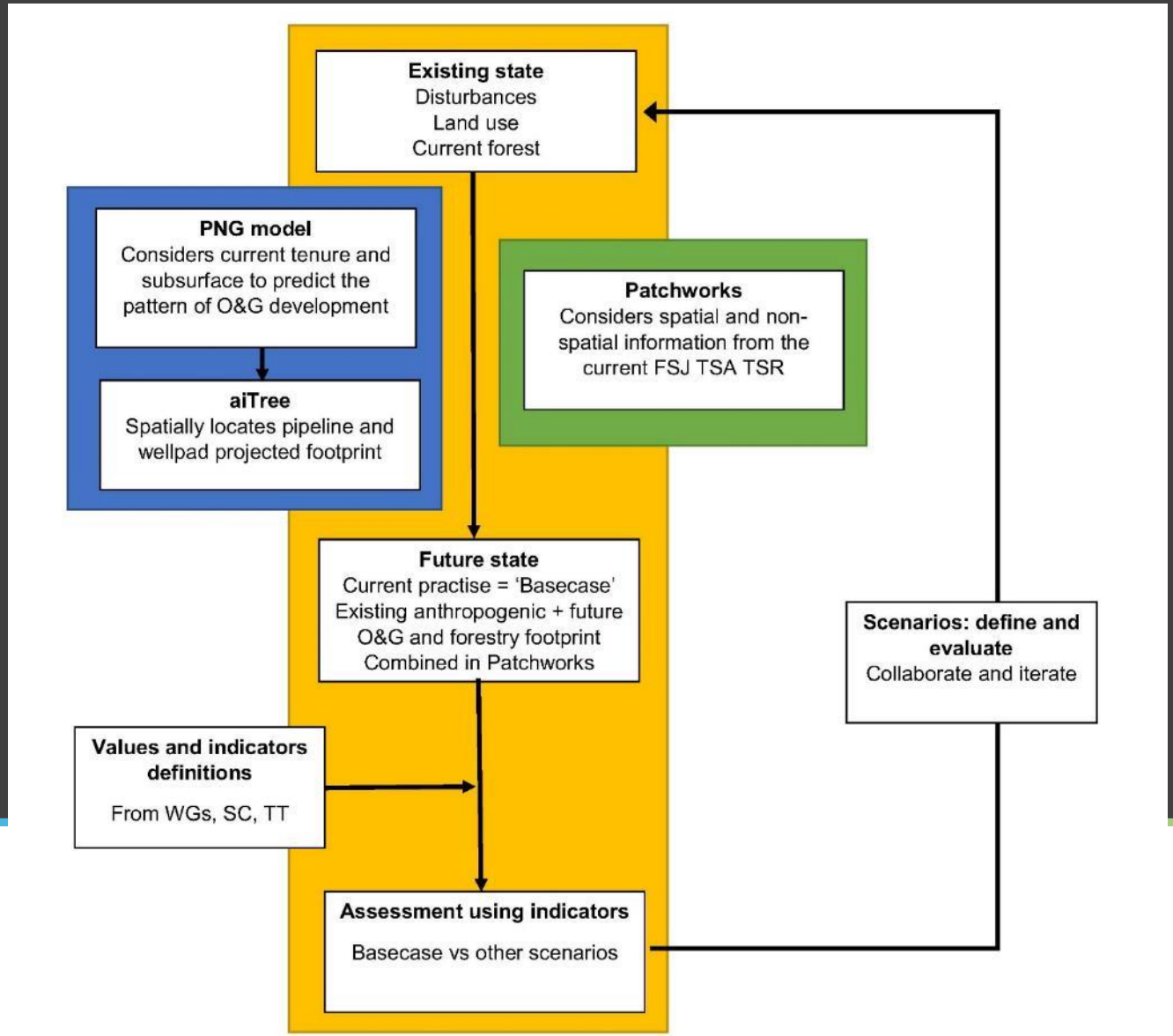

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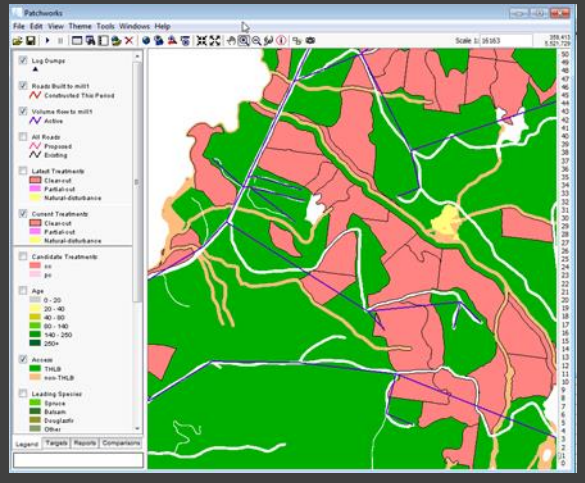
- *Patchworks* model
- Follow TSR assumptions
- Spatial optimization
- Benchmarked the TSR model, govt reviewed
- Data package, signed off on basecase Aug 2019



Modeling Framework: 1. Forestry

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- A 3-step process:

1. **Predict the pattern of subsurface development: PNG model**
2. Place wellpads and pipelines on the surface: aiTree
3. Combine with other types of disturbance: Patchworks

Modeling Framework: 2. Oil and Gas modeling

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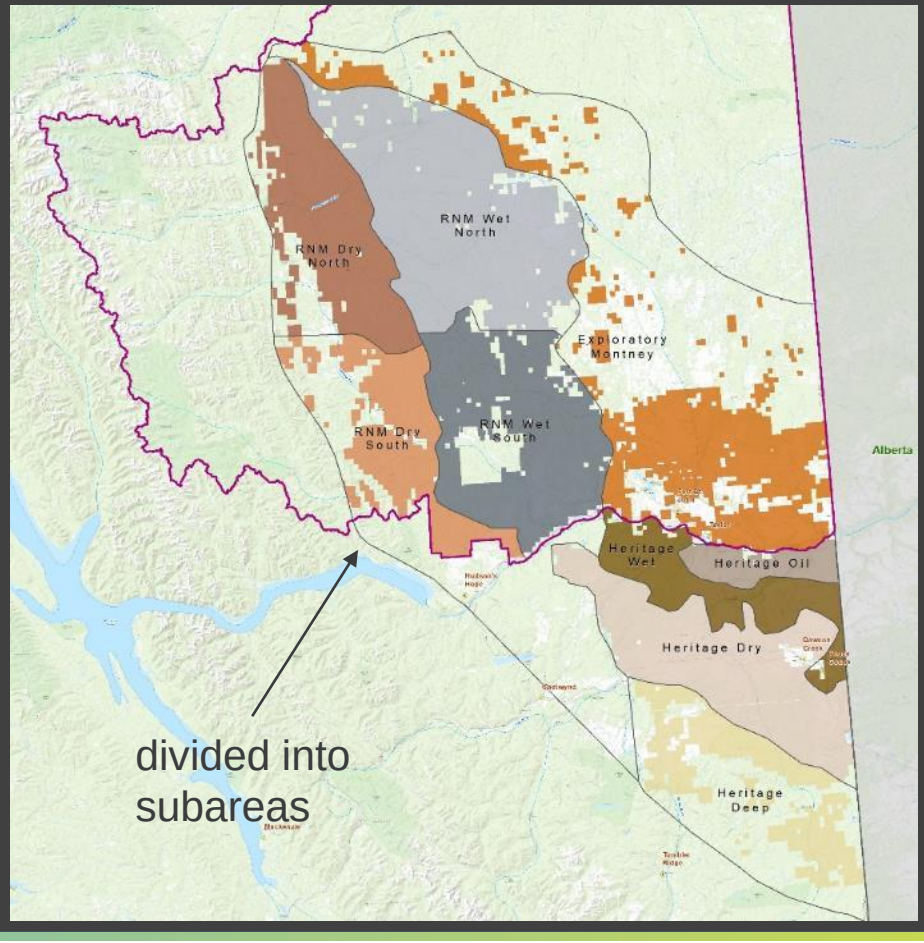
- Where can it develop?
- Depends on subsurface

- BC Montney play & ‘tenured’

Ecological reserves
Federal lands
Low value resource
Inoperable
Peace Moberly Tract
Resource review areas
Already accessed subsurface

= un-tenured



Step 1: pattern of subsurface development

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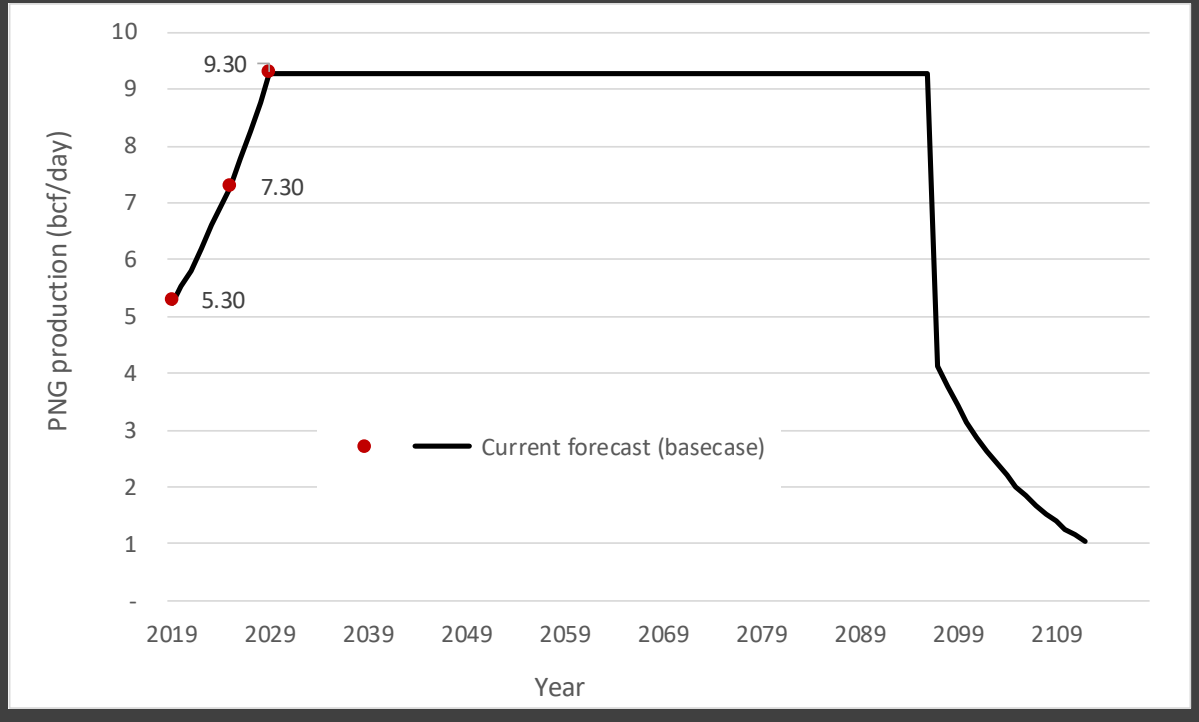
- PNG model
- Provincial production targets
- Translate into a wells forecast
- Drives drainage area schedule



Step 1: pattern of subsurface development

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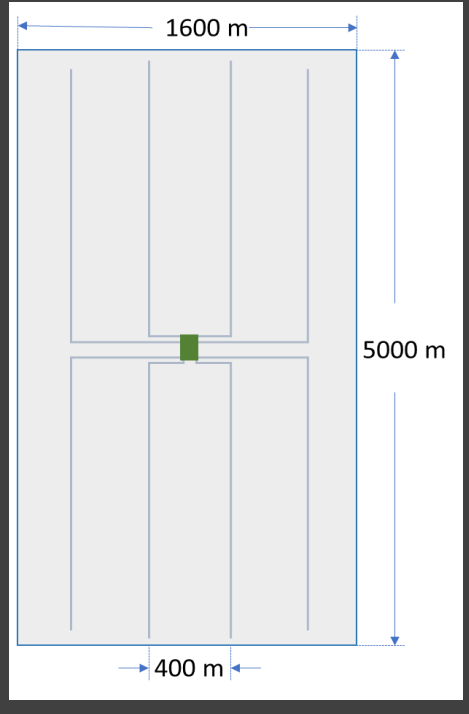
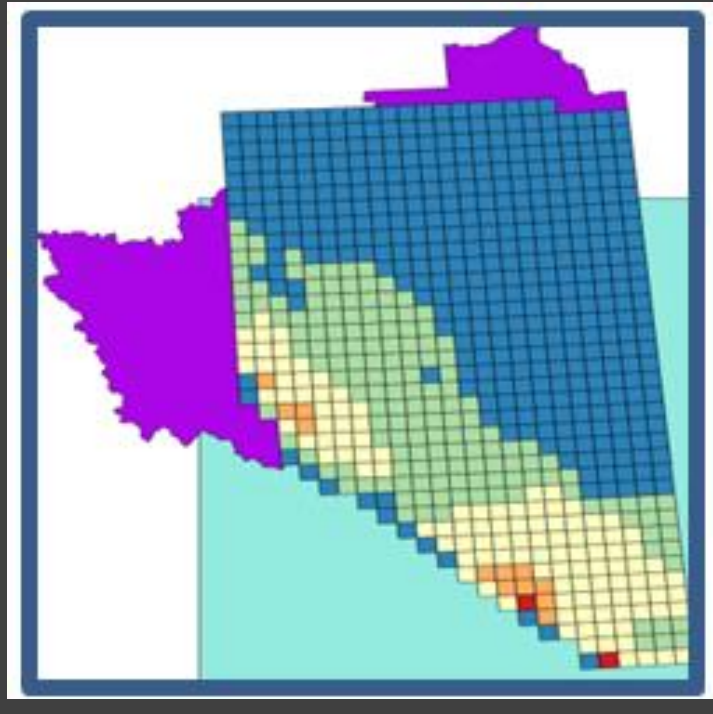
- PNG model

- Starts with the tenured area
- 1 ha raster
- Creates 8 km2 (800 ha) drainage areas
- Assumes that one 6ha wellpad accesses all the gas in the drainage area





Step 1: pattern of subsurface development

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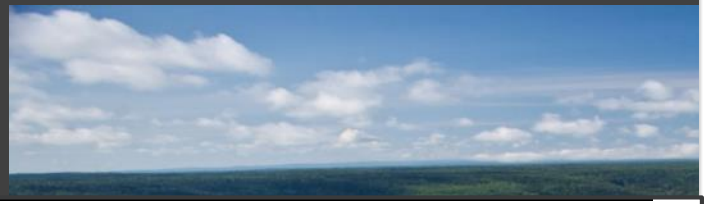
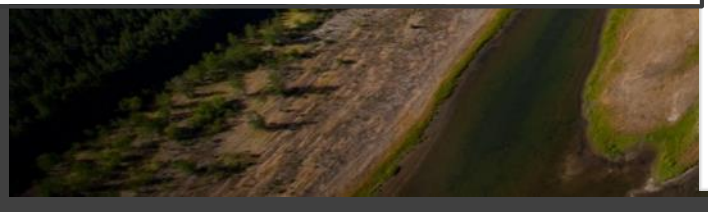
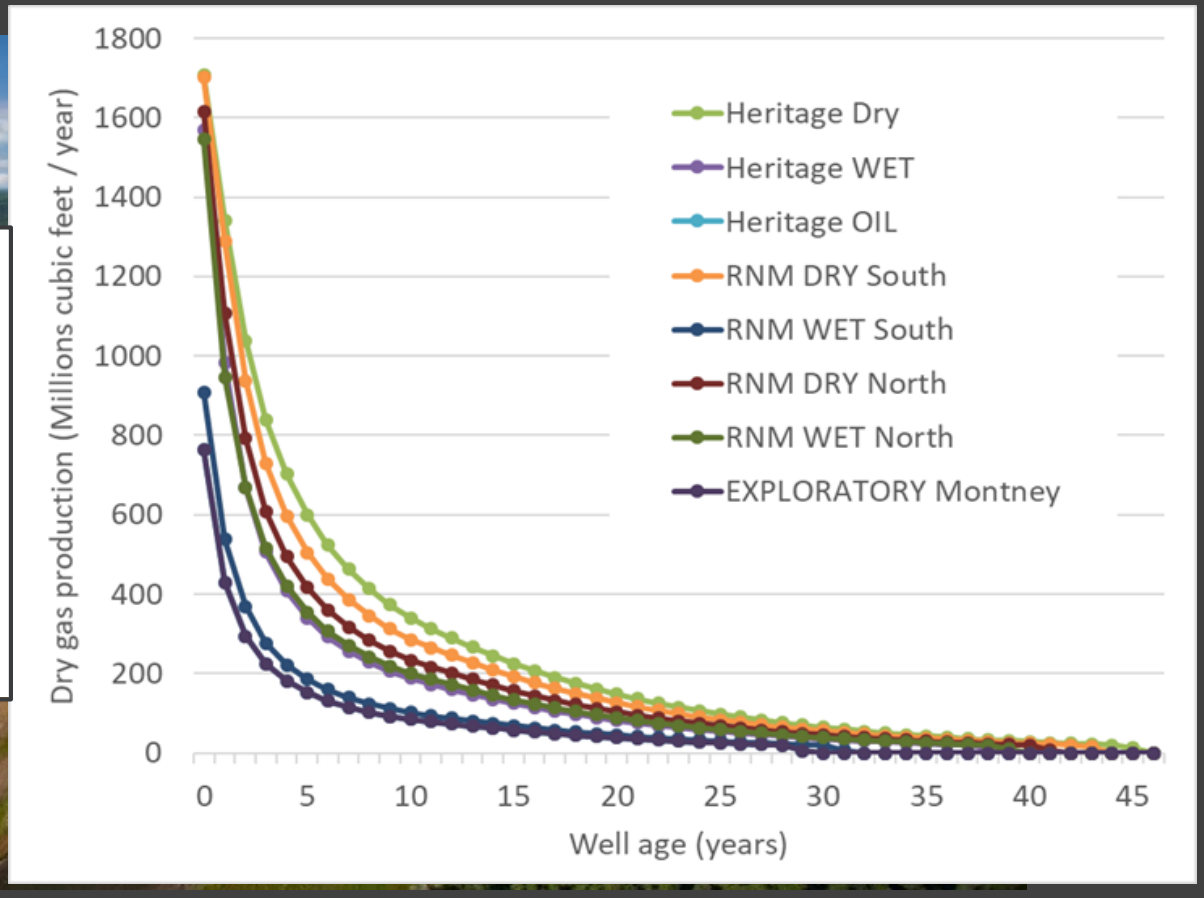


Sub-area name	Sub-area number	Wells per full pad
Heritage Deep	1	8
Heritage Dry	2	24
Heritage WET	3	24
Heritage OIL	4	16
RNM DRY South	5	16
RNM WET South	6	16
RNM DRY North	7	16
RNM WET North	8	16
EXPLORATORY Montney	9	8





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- A 3-step process:

1. Predict the pattern of subsurface development: PNG model
2. **Place wellpads and pipelines on the surface: aiTree**
3. Combine with other types of disturbance: Patchworks

Oil and Gas modeling

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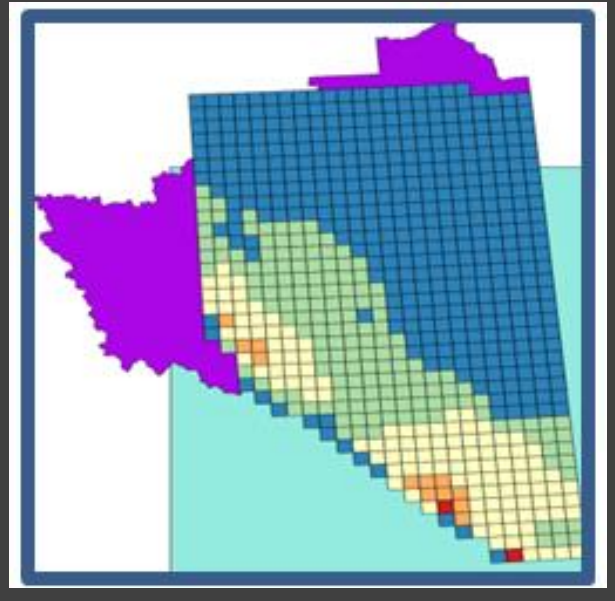
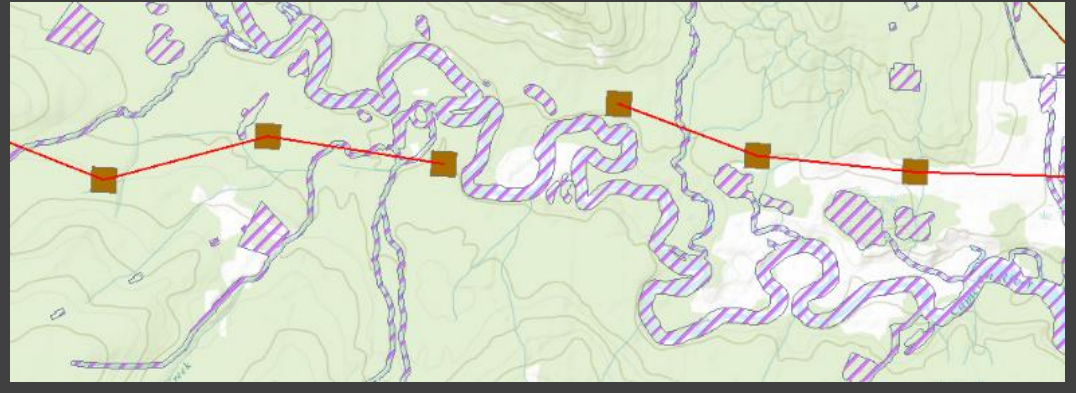
Drainage area schedule
from the PNG model



Wellpads and pipelines
aiTree model



Step 2: locate wellpads and pipelines on the surface

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- A 3-step process:

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Oil and Gas modeling

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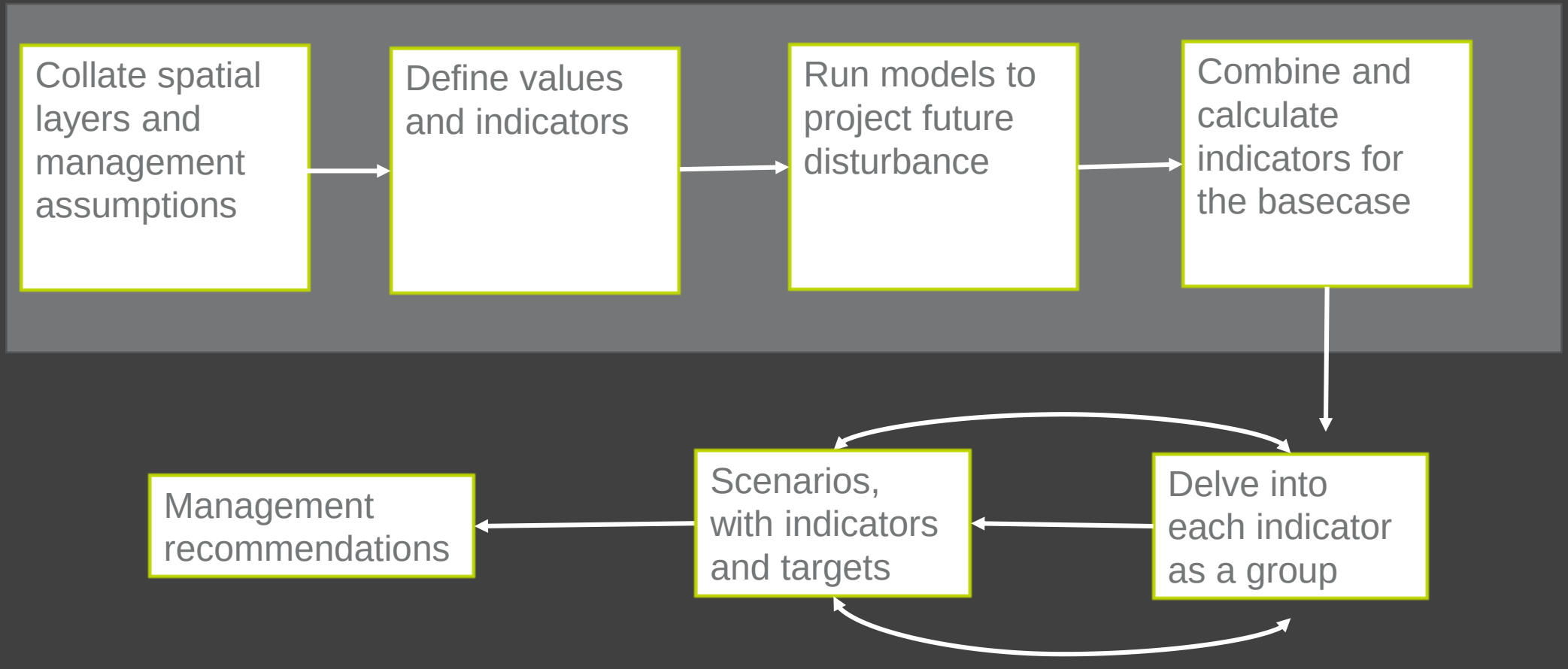

The Methods Pilot process

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- Two web-based portals:
  - Spatial
  - Data summaries

Basecase results

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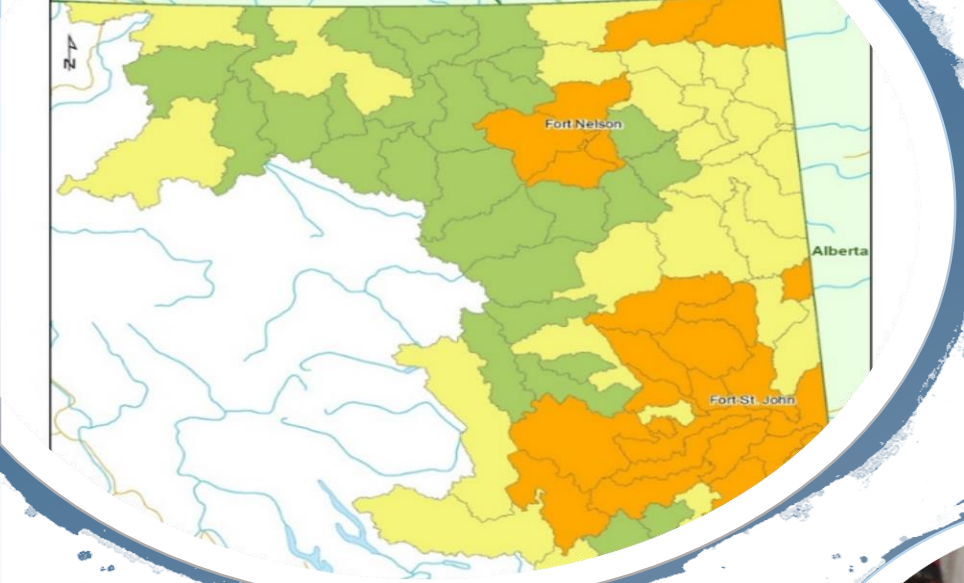

Next Steps

- Continue to develop and test models
- Continue to engage industry and stakeholders
- Prepare and package products (e.g., current condition reports)

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