

# Landscape Planning in Alberta

**John Stadt**

Forest Ecologist

Alberta Sustainable Resource  
Development

Forest Management  
Planning Standard

Alberta Biodiversity  
Monitoring Institute

Access Management  
Plans

Land-use Framework

Grizzly Bear  
Program

Natural Disturbance  
Program

Integrated Resource  
Plans (IRPs)

Forest Management  
Planning Standard

Alberta Biodiversity  
Monitoring Institute

Access Management  
Plans

Land-use Framework

Grizzly Bear  
Program

Natural Disturbance  
Program

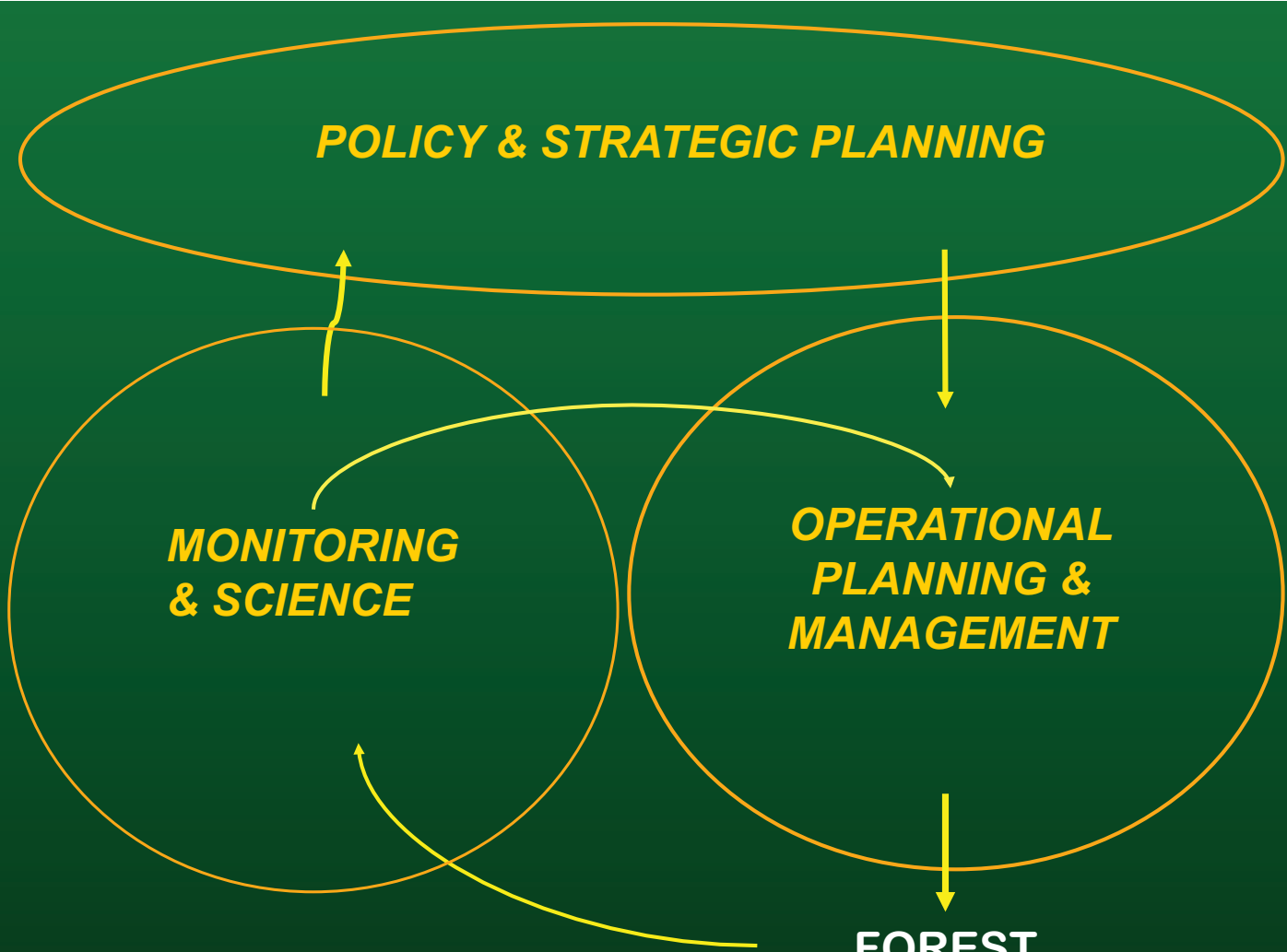
Integrated Resource  
Plans (IRPs)

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***MONITORING  
& SCIENCE***

***OPERATIONAL  
PLANNING &  
MANAGEMENT***

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# Regional Plans

(e.g. Vancouver Island)

## Subregional Plans

Land and Resource Management Plans

## Landscape Plans

Sustainable Resource Management Plans

## Operational Plans

Forest Development Plans

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# Alberta Forest Management Planning Standard

- Alberta's expectations for *Forest Management Plans*
- **Sustainable Forest Management** principles
- Creation of a **Desired Future Forest** through **Preferred Forest Management Scenario**
- **Spatial harvest sequence** links values to land

# Structure of Planning Standard

## Criteria for Sustainable Forest Management

1. **Conservation of biological diversity**
2. Maintenance/enhancement of forest ecosystem productivity
3. Conservation of soil and water resources
4. Forest ecosystem contribution to global cycles
5. Multiple benefits of forests to society
6. Accepting society's responsibility for sustainable development

CCFM Criterion

**Conservation of Biodiversity**

CCFM Elements

**Ecosystem  
Diversity**

**Species  
Diversity**

**Genetic  
Diversity**

**Protected  
Areas**

Values

**Landscape  
Scale Diversity**

**Stand  
Scale Diversity**

Objectives

**Seral Stage /  
Cover Types**

**Stand level  
Structure**

**Fragmentation  
-patch size  
- interior forest**

**Sensitive Sites**

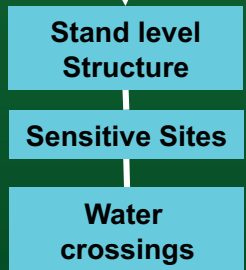
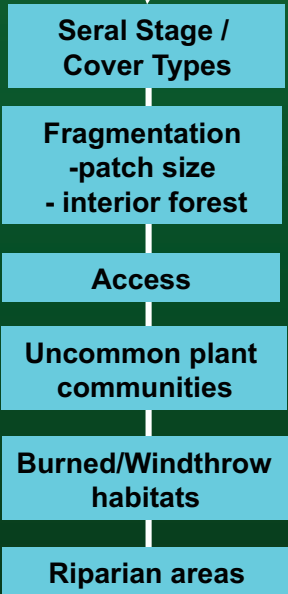
**Access**

**Water  
crossings**

**Uncommon plant  
communities**

**Burned/Windthrow  
habitats**

**Riparian areas**



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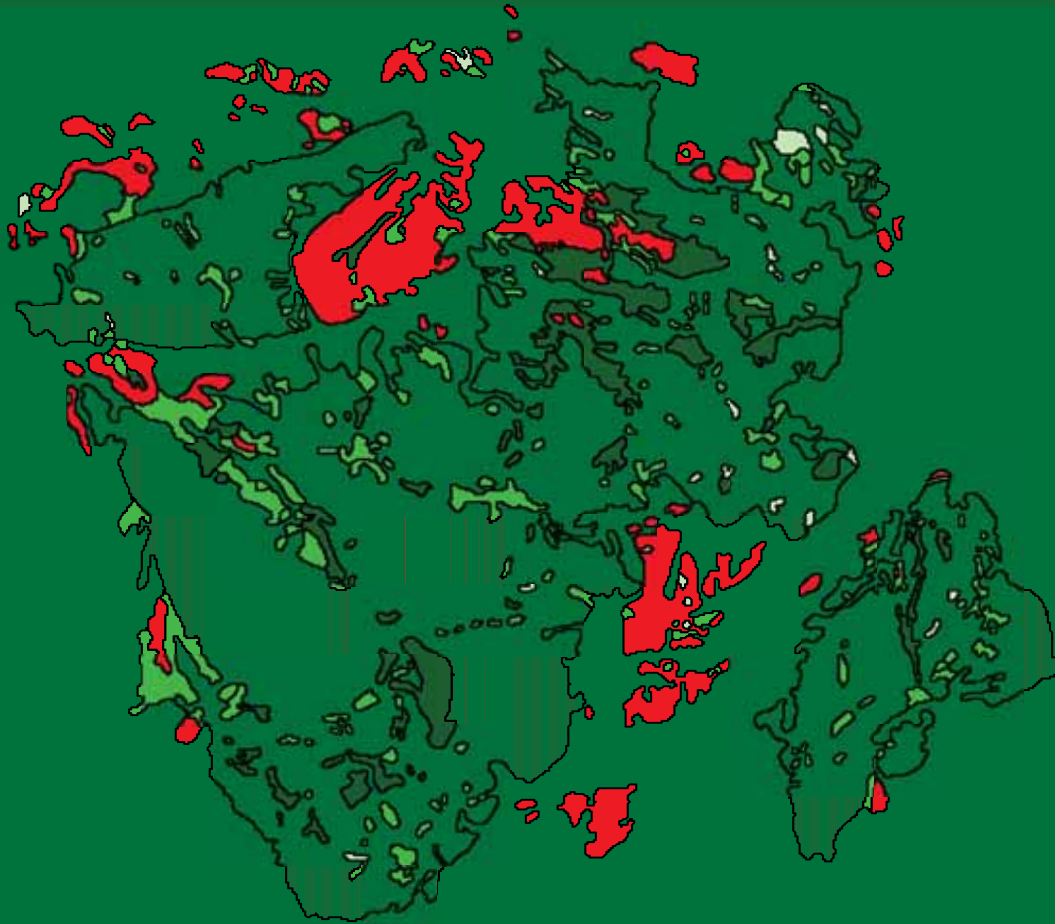
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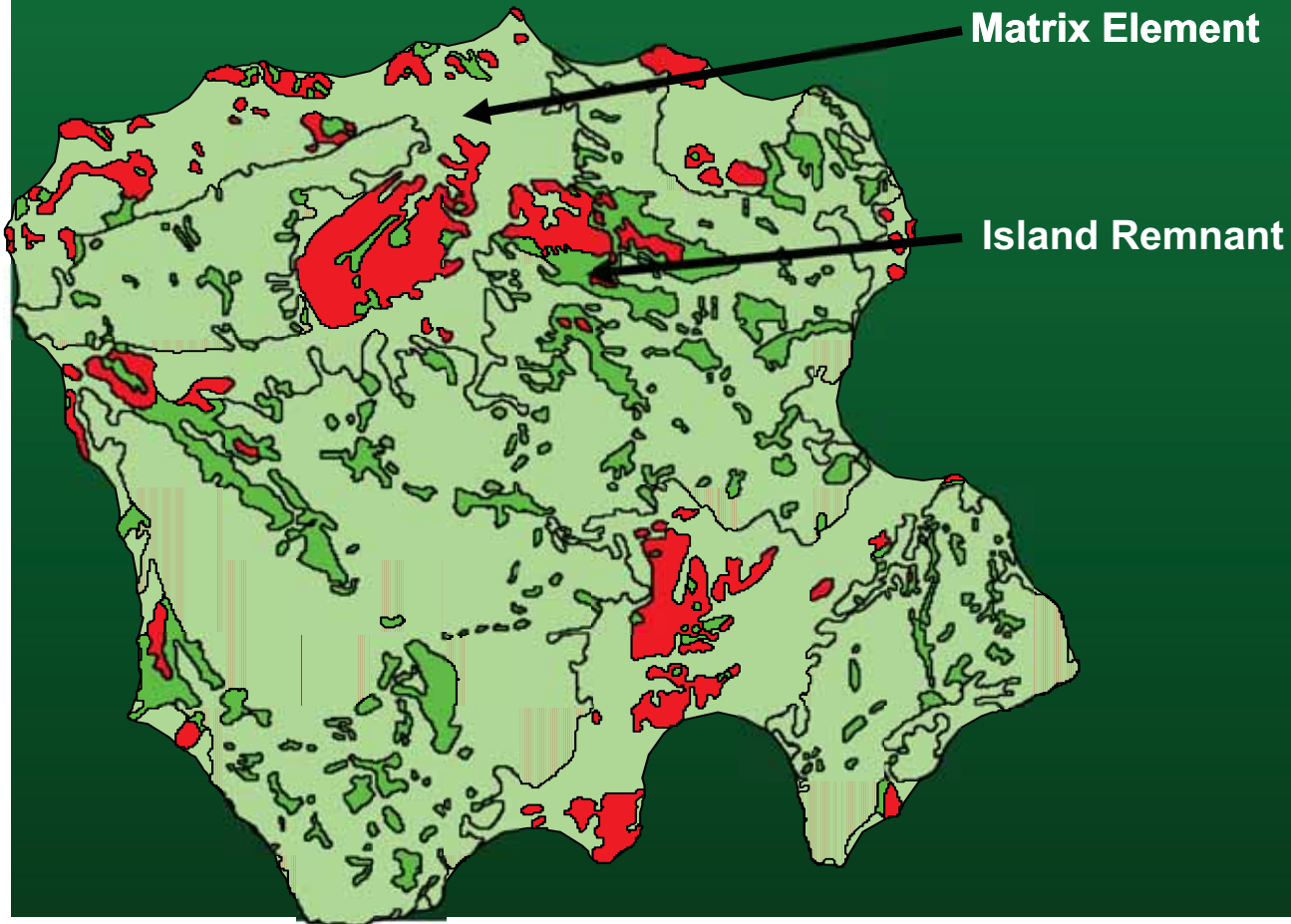
# Natural Disturbance Emulation Planning Tool (NEPTUNE)

- ArcGIS Tool that automates the conversion of fire/harvest patterns into disturbance events.
- Compares resulting pattern to natural range of variation.

# NEPTUNE tool – classifying within fire pattern



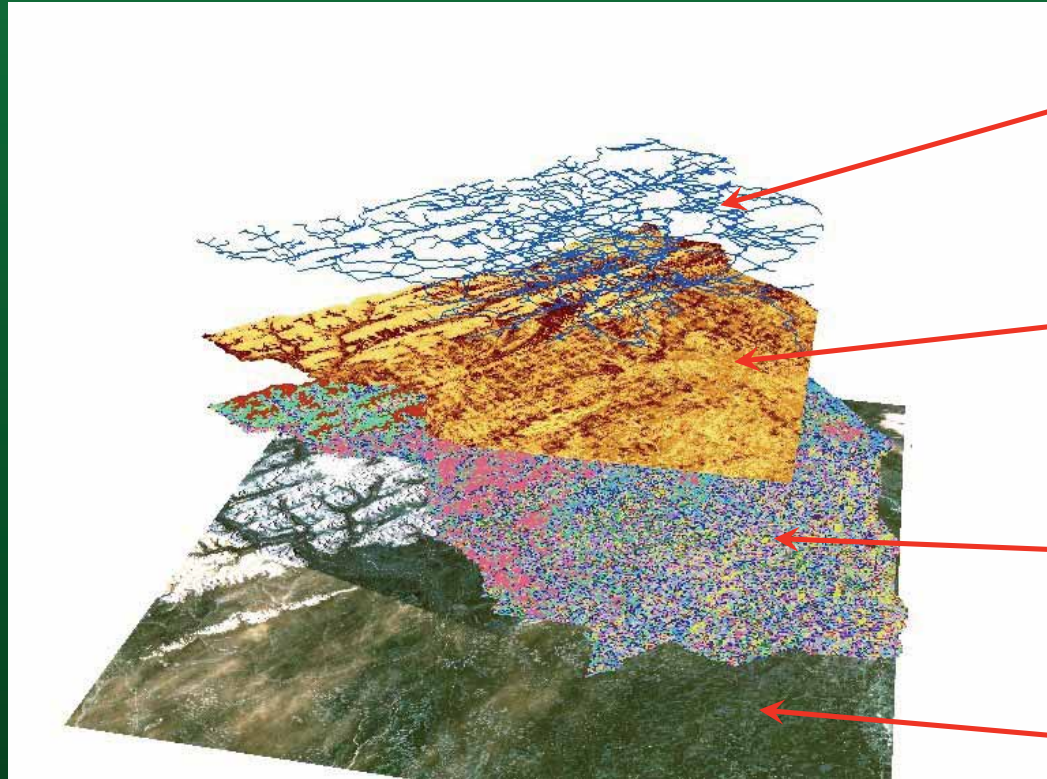
# NEPTUNE tool – classifying within fire pattern



# Grizzly bear planning tool

- ArcGIS tool
- assist in managing for landscape conditions required for long-term health and persistence of grizzly bears

# Grizzly bear tool base GIS layers



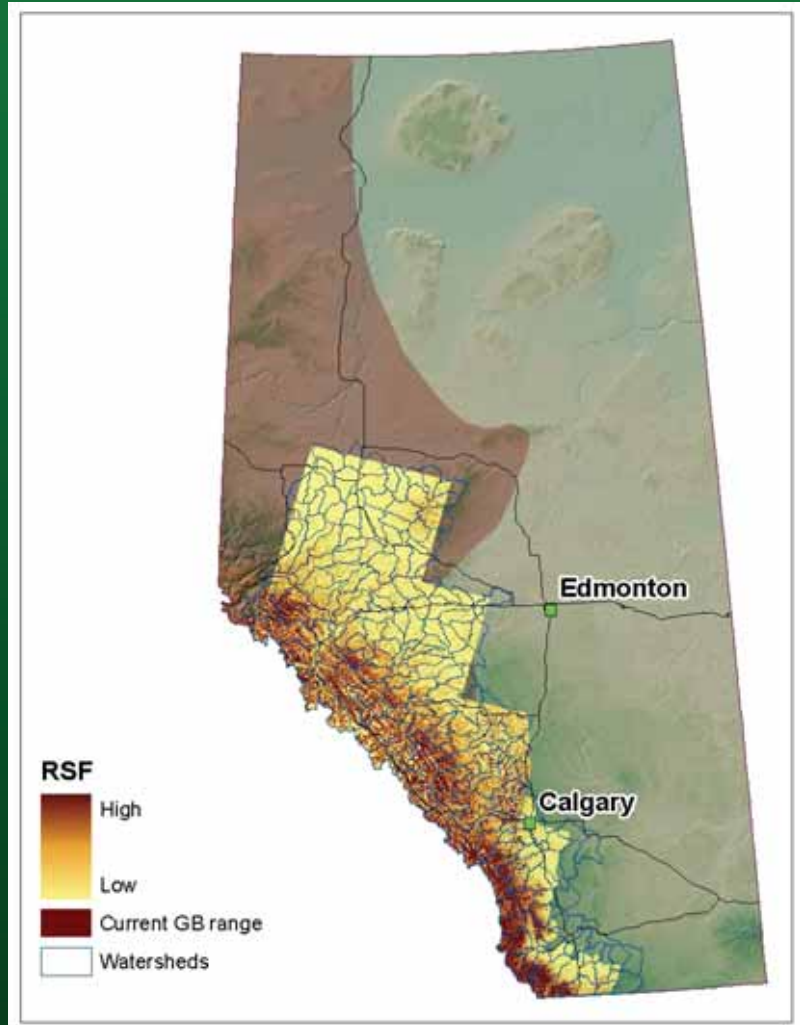
Graph  
Theory  
Corridors

Resource  
Selection  
Function

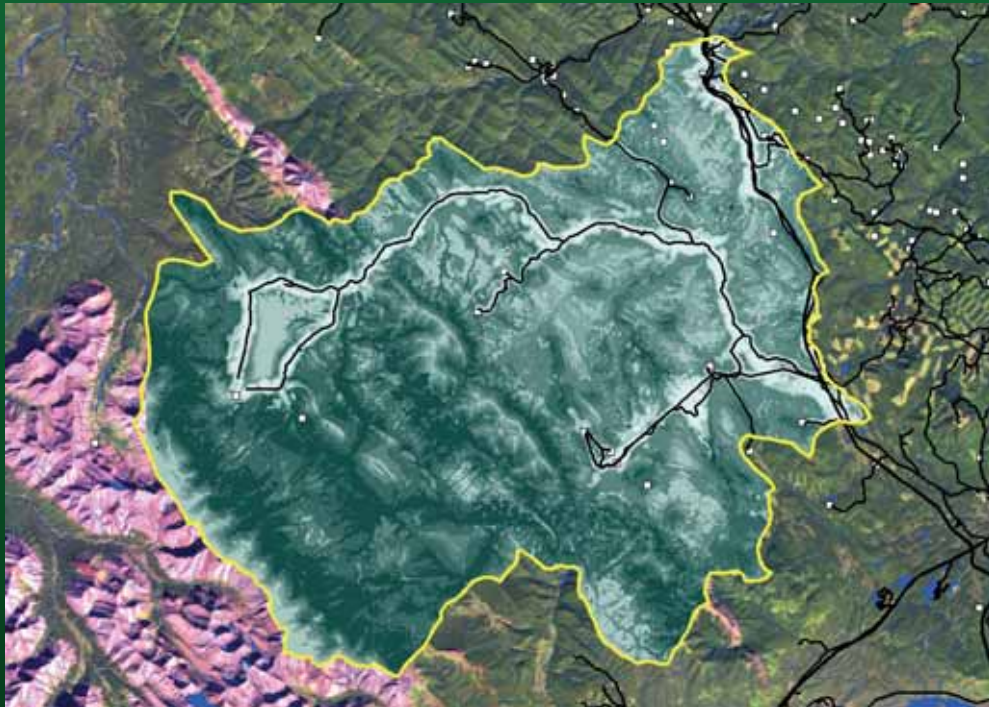
Classified  
Landcover  
grid

Raw  
Landsat  
imagery

# Grizzly bear Watershed Units



# Grizzly bear source and sinks habitats

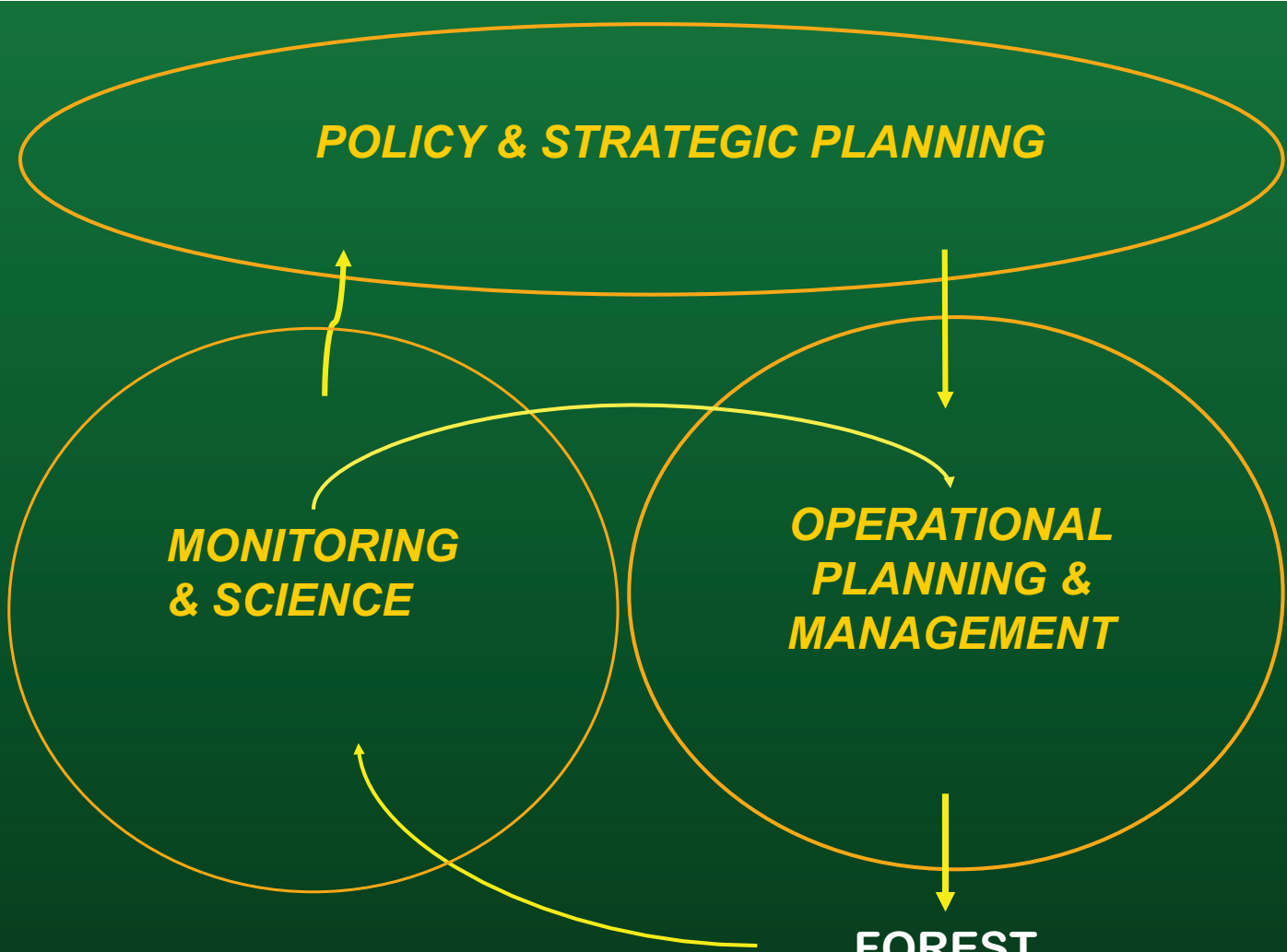


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# Alberta Biodiversity Monitoring Institute (ABMI)

A provincial system to monitor changes in biodiversity

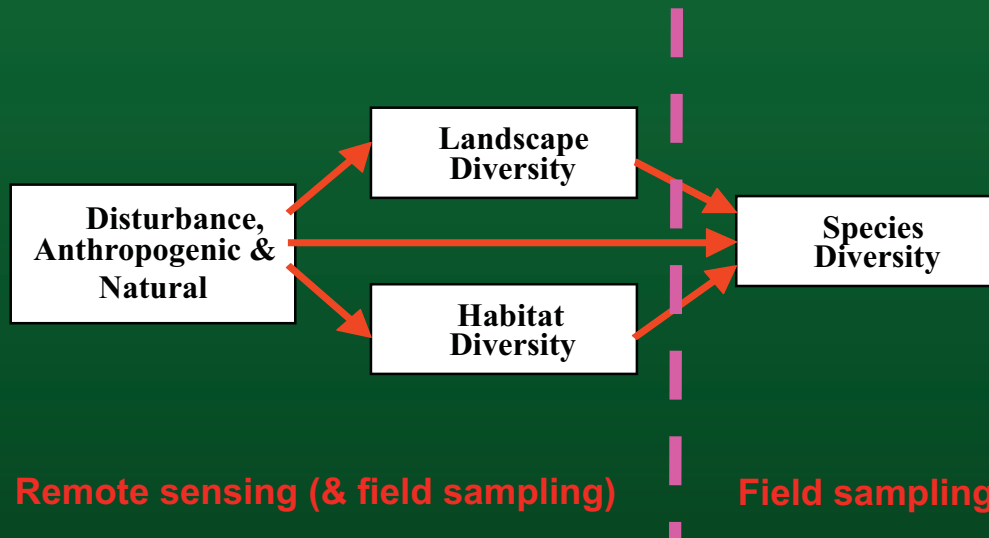
## Survey Design

- Systematic distribution of 1650 sites on a 20x20km grid
- 5 year sampling return interval
- 375 sites sampled yearly



# Alberta Biodiversity Monitoring Institute (ABMI)

## What ABMI measures



# Scope of Value Added Knowledge

Increasing Degree Of Analyses And Interpretation



## Primary Data

1656 Sites  
(375 per year)  
Data On > 2,000  
Species

## Status

Description of  
Biota And  
Habitats For  
Each Region

## Trends

% Change in  
Biota And  
Habitats For  
Each Region

## Associations

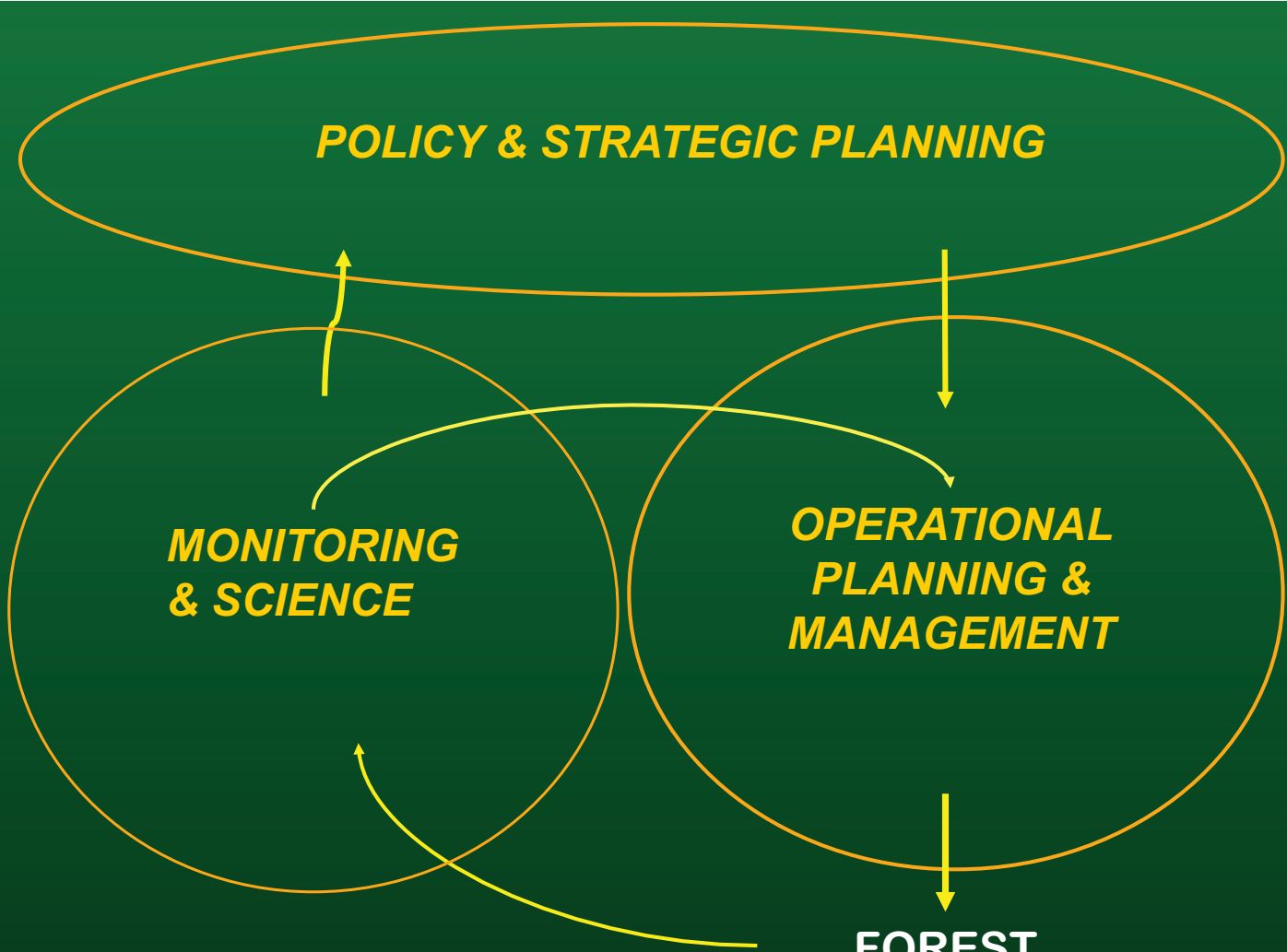
Correlations  
Between  
Biodiversity  
And Measures  
Of Human  
Activity

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# Resource Planning in Alberta

