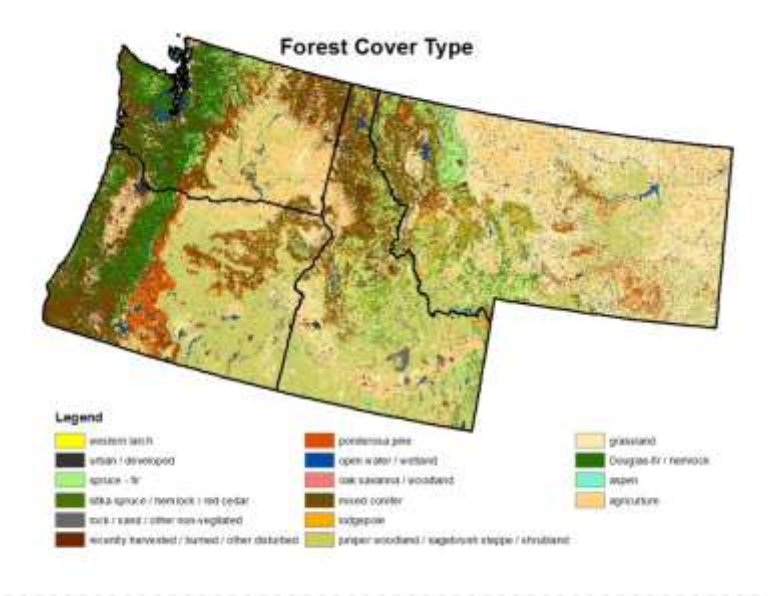
Stocked stands to standing stocks:

Sustainable forest management and bioenergy



John D. Bailey
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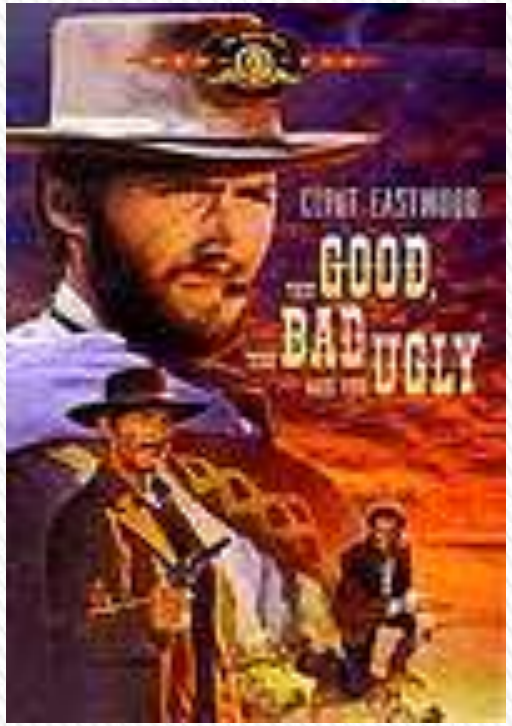
- **Background**
  - Pacific Northwest forest condition – “overstocked”
  - Spatial and temporal dynamics
- **Framework**
  - Sustainable forest management = feedstock
  - Prescription elements
  - Markets and access

TODAY



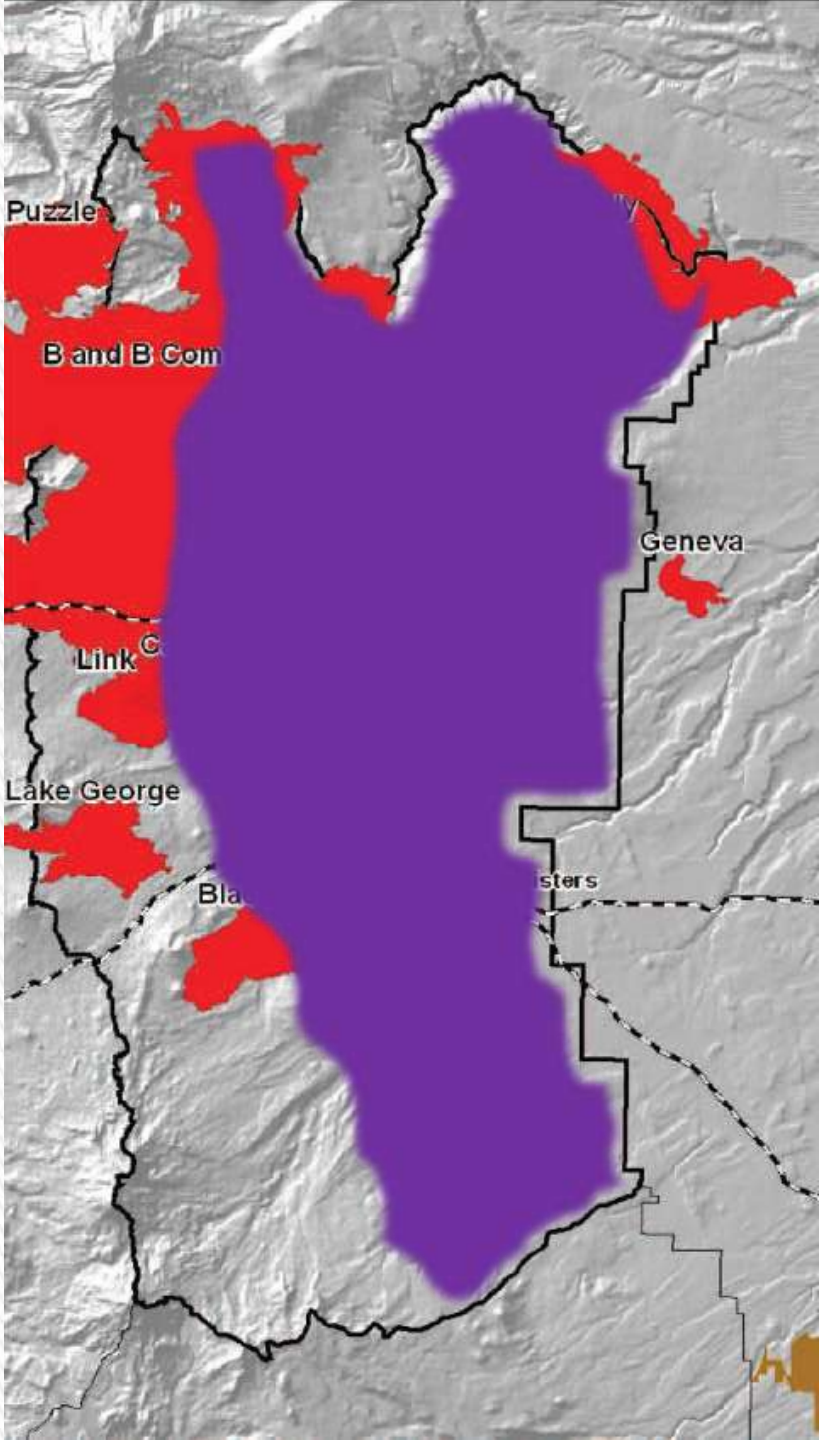
A history of biomass accumulation in general, and landscape continuity

A. MOUNT JEFFERSON, FROM GRIZZLY FLAT.

Scope of Problem

Do the math…

- Return intervals
- Forest types



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TODAY

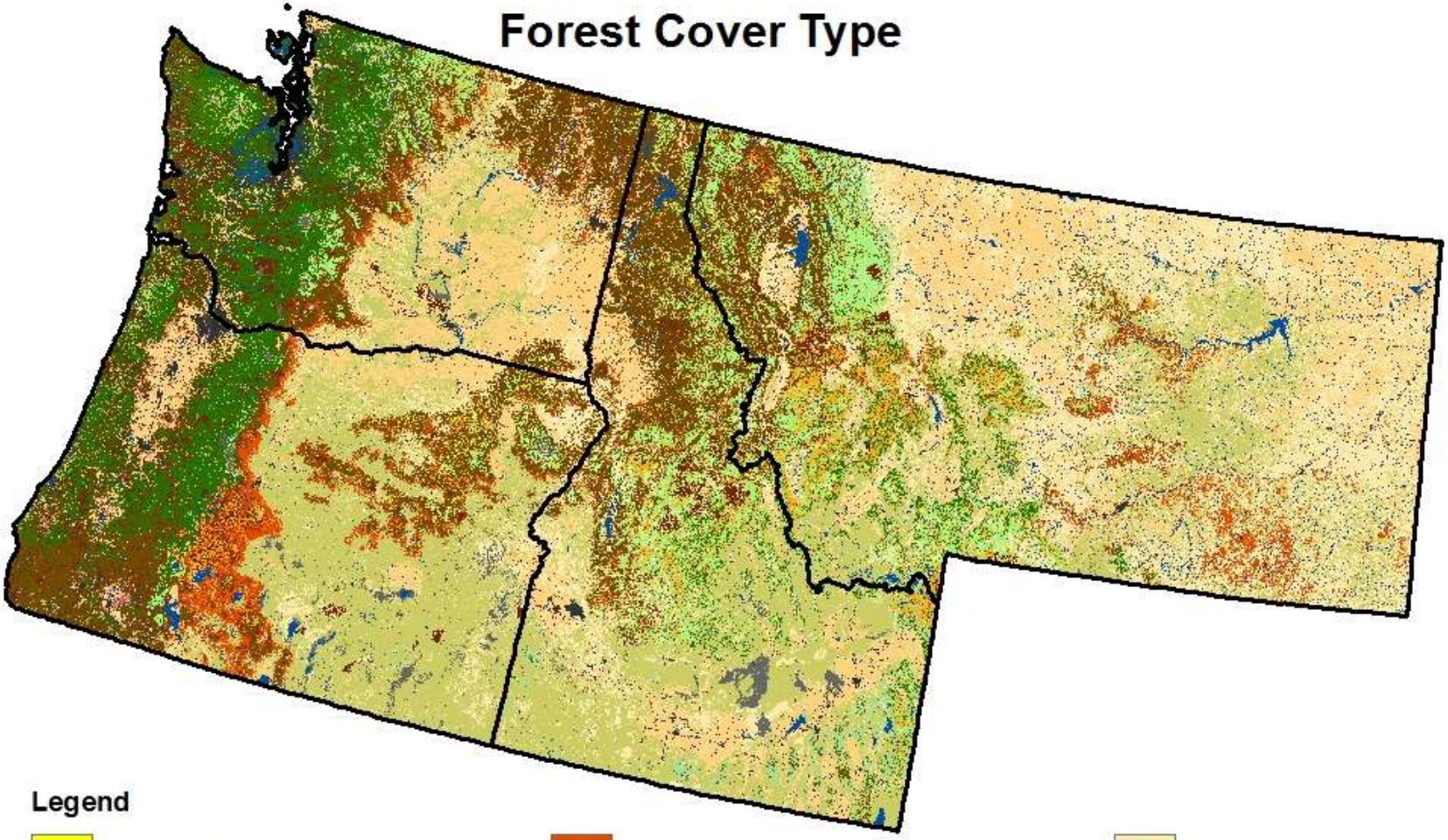
Sustainable Forest Management

- Biomass balance equation:

  Regeneration + Growth = Mortality + Harvest

- Scale, forest type and ownership adjustment
- Silvicultural prescription choices
  - Even-aged management
  - Multi-aged management (“restoration” or “ecological forestry”)

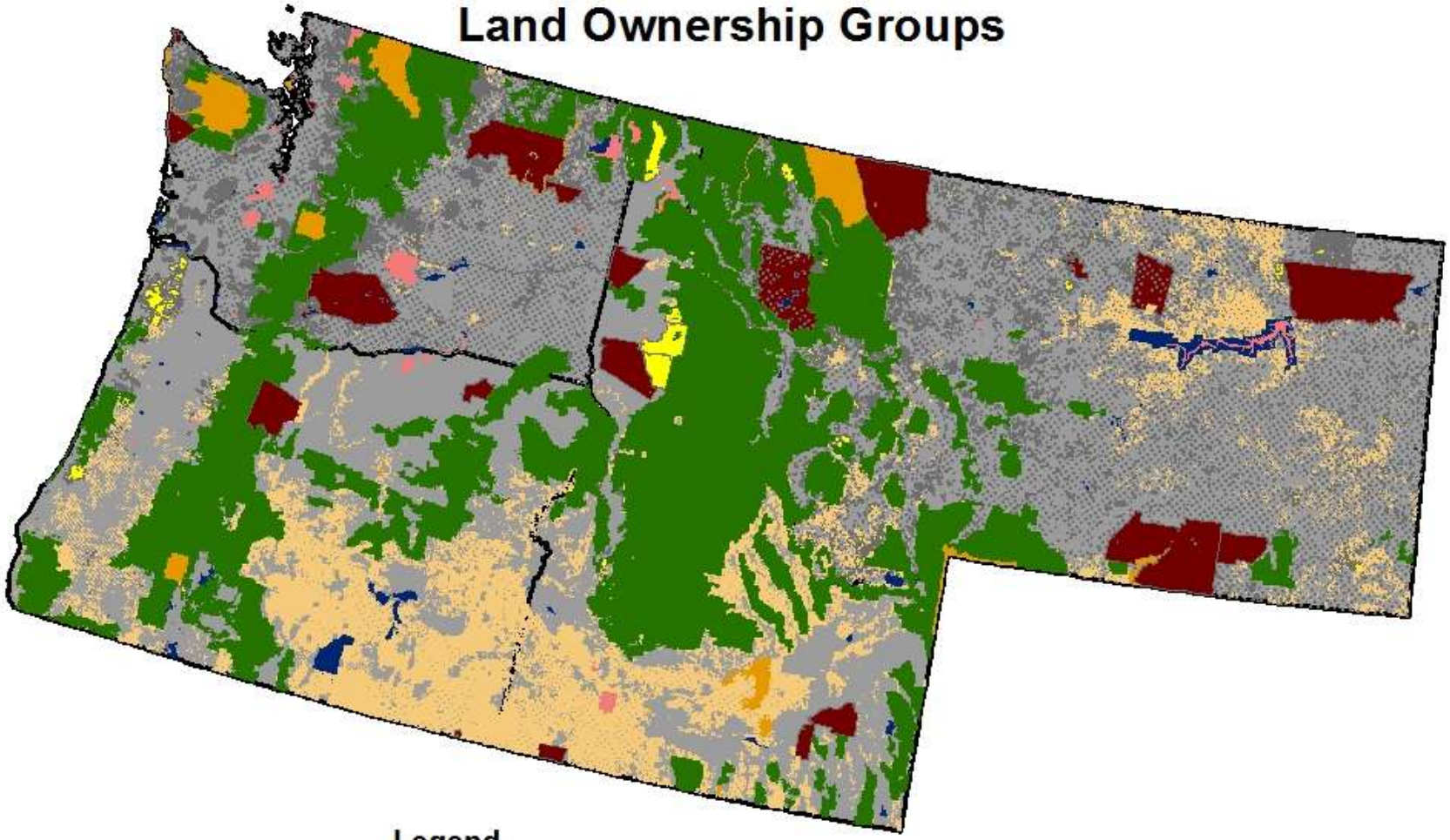
Forest Cover Type



Legend

- western larch
- urban / developed
- spruce - fir
- sitka spruce / hemlock / red cedar
- rock / sand / other non-vegitated
- recently harvested / burned / other disturbed
- ponderosa pine
- open water / wetland
- oak savanna / woodland
- mixed conifer
- lodgepole
- juniper woodland / sagebrush steppe / shrubland
- grassland
- Douglas-fir / hemlock
- aspen
- agriculture

Land Ownership Groups



Silvicultural Prescriptions

- Regeneration harvest (~clearcutting)
  - Industrial, state and private landowners
  - Classic even-aged species (e.g., Douglas-fir and lodgepole pine)
  - Post-fire salvage harvests
- Fuels treatment only
  - Federal owners
  - Light “thinning from below” with diameter limit
    - Modest thinning alternative
- Comprehensive treatment
  - Multi-aged management

Silvicultural Prescriptions

- Prescribed fire
  - Federal owners
  - Following 1/3rd of the mechanical treatments
  - 5-10 year return

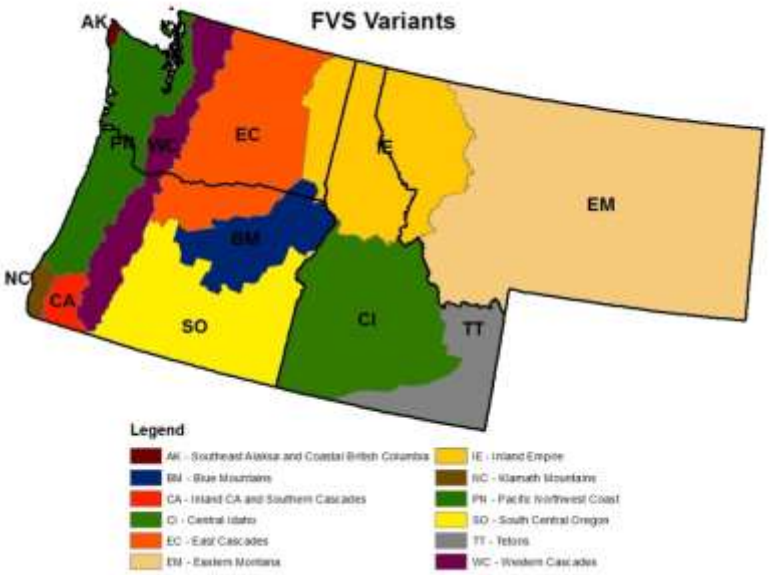
WILDFIRE

Danielle Robbins

Modeling

- Standing stock
  - Forest Inventory and Analysis (FIA)
- Regeneration, Growth and Mortality
  - Forest Vegetation Simulator (FVS)/fire statistics
- Harvest levels
  - Silvicultural prescriptions

- Scenarios
  - Feedstock needs
  - Market forces



Bottom Line

1. Management should be driven by objectives
2. Models do what we program them to do.
3. Scale is crucial – are we doing enough?
4. Cake forestry vs. muffin forestry