Welcome to the Blue Mountains Forest Resiliency Project Webinar

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Blue Mountains Forest Resiliency Project

An Introduction

March 30, 2015

Today's Objectives

- Describe the team charter
- Continue building a project vision
- Practice "early and often" collaboration
- Ask and answer scoping questions
- Review the project timeline
- Identify opportunities for collaboration3

Project Location
Blue Mountains National Forests

Tom Montoya
Forest Supervisor
Wallowa-Whitman

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Forest Supervisor
Umatilla

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Forest Supervisor

Background: Threats to forest resiliency in the Blue Mountains




- Fire exclusion and suppression
- Past forest management practices
- Climate change

- Forest structure, composition, patterns and disturbance outside the desired range of variation
- Uncharacteristic disturbance sizes and frequencies
- Threatened and endangered species
- Changing biodiversity and management uncertainty

Social constraints and opportunities for restoring forest resiliency

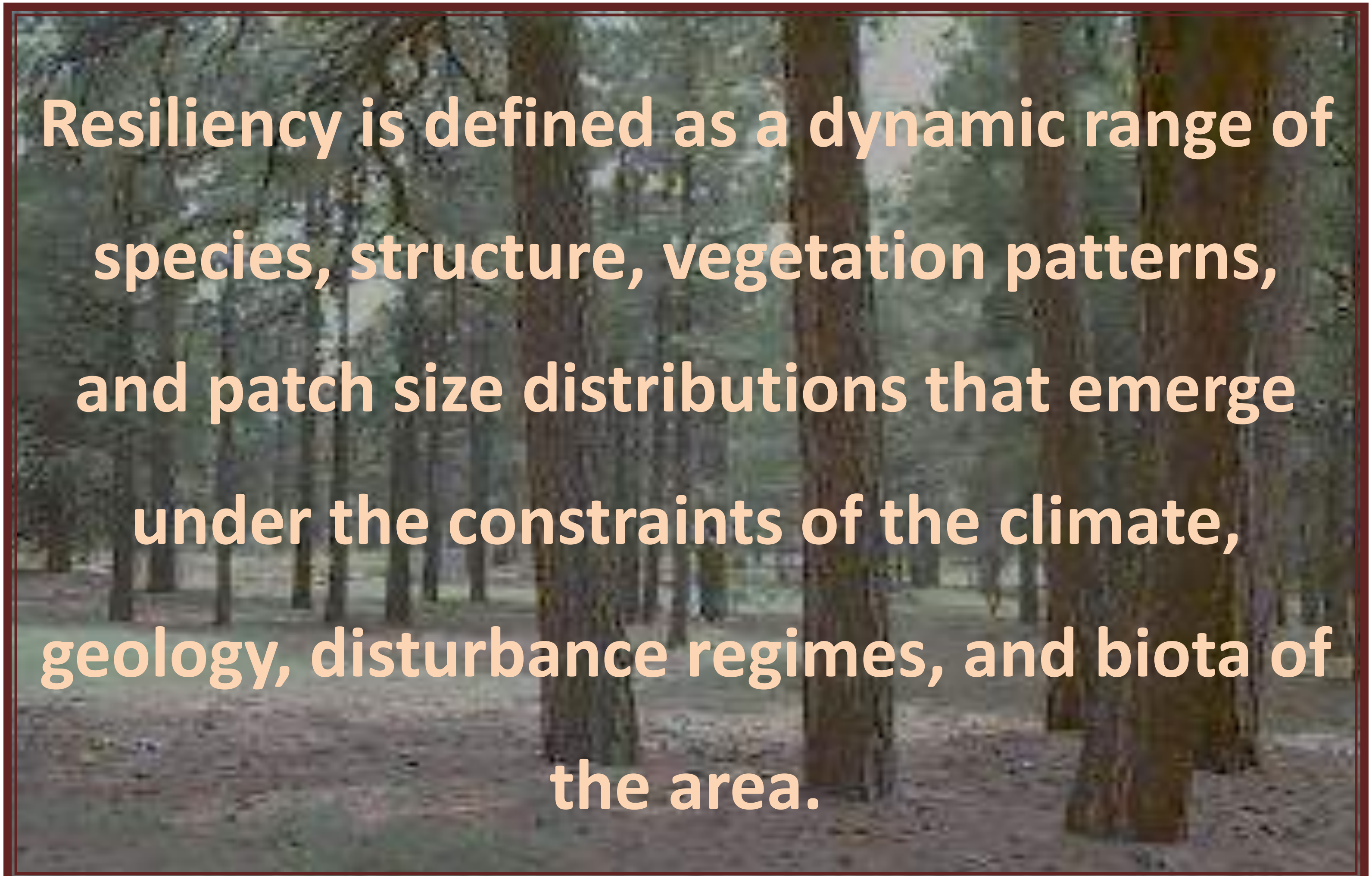
Changing nature of forest restoration products → Varying local restoration industry capacity

Degree of social agreement about forest management → Social/ecological trade-offs

Imperfect trust, scientific certainty, and NEPA knowledge → Decision-making challenges

Human developments and other values → Exposure of high values to disturbance

What do we mean by “resiliency”



What does forest resiliency look like?

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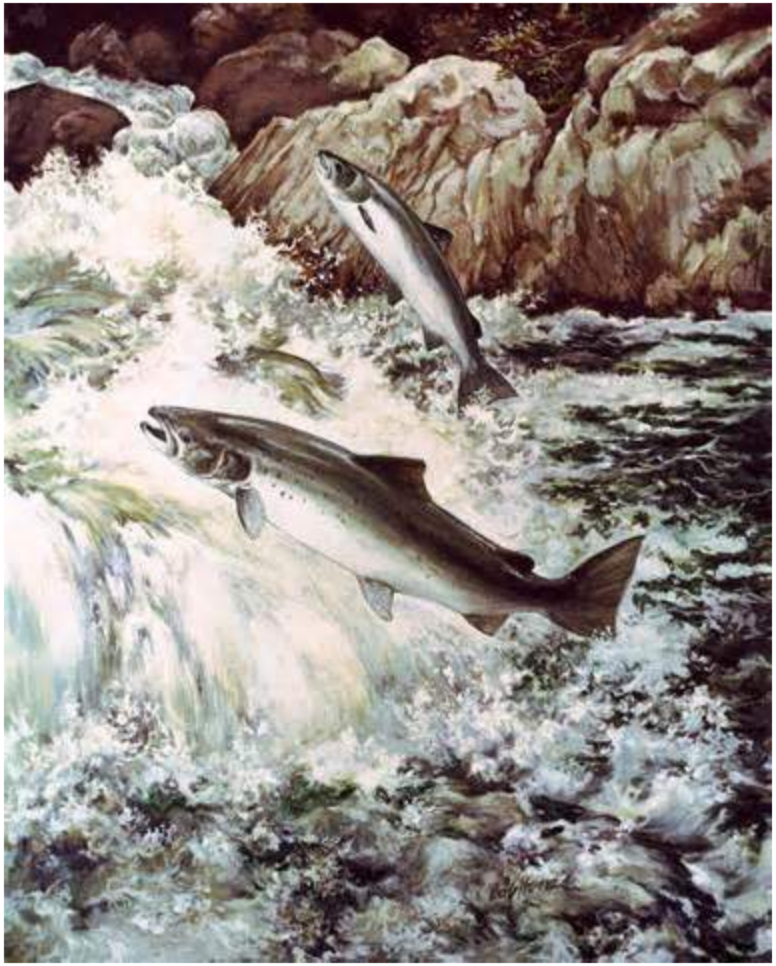

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The Need for Action

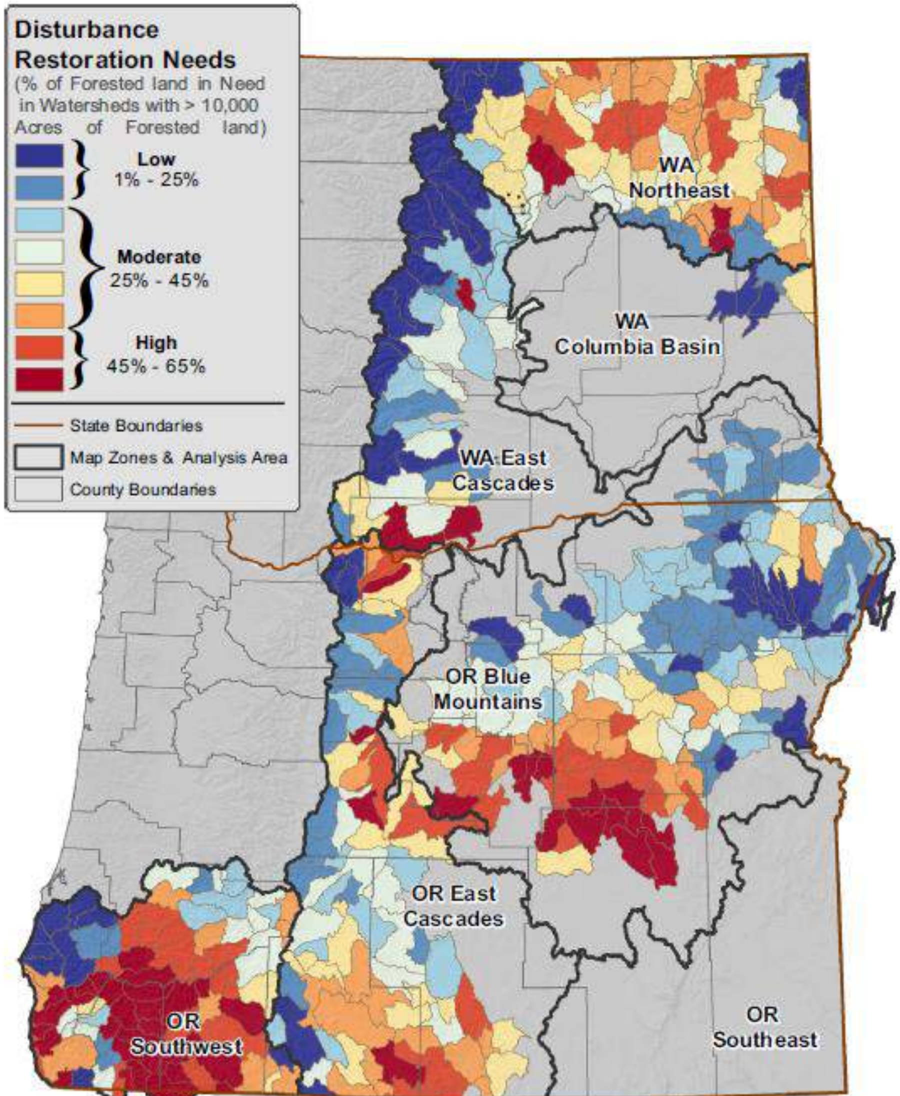


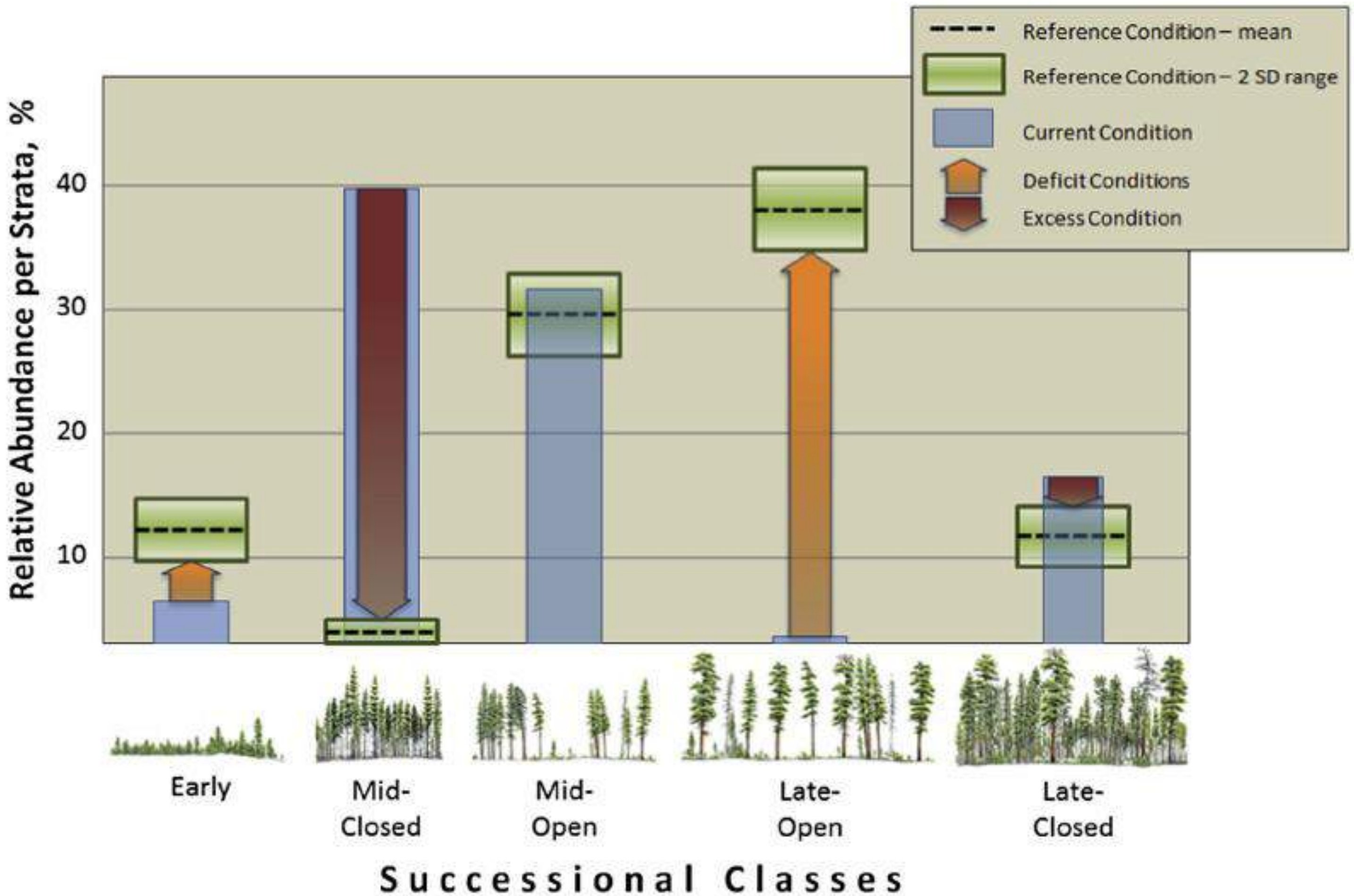
Fig. 4. All disturbance restoration needs as a percentage of forests within 10-digit/5th level hydrologic unit watersheds. Includes the thin/low fire, opening/high fire, overstory thin, thin/low fire + growth, and other disturbance + growth transitions. Within Map Zone labels WA = Washington and OR = Oregon. See Appendix B.4 for restoration need summaries per watershed.

- Over 2.3 million acres in the Blue Mountains are in need of active restoration,
  - Over 1.6 million acres occur on NFS lands
- At the current rate of NFS project planning and implementation, desired conditions approaching natural ranges of variability would not be achieved for decades, if at all [1].

[1]Based on scenario modeling for the Blue Mountains in April 2013.

Basic Foundation for Determining the Active Restoration Need

R. Haugo et al. / Forest Ecology and Management 335 (2015) 37–50



Illustrations adapted with permission from Van Pelt 2008

Team Charter from USFS Leadership

- Maintain a narrow project scope focused on dry forest resiliency and safe, landscape scale fire management.
- Include four Blue Mountains National Forests
- Collaborate internally and externally.
- Test ways to increase the pace and scale of collaborative project planning, while maintaining scientific integrity and procedural transparency
- Complete a Final Environmental Impact Statement and draft Record of Decision using the best available information by the end of calendar year 2017.

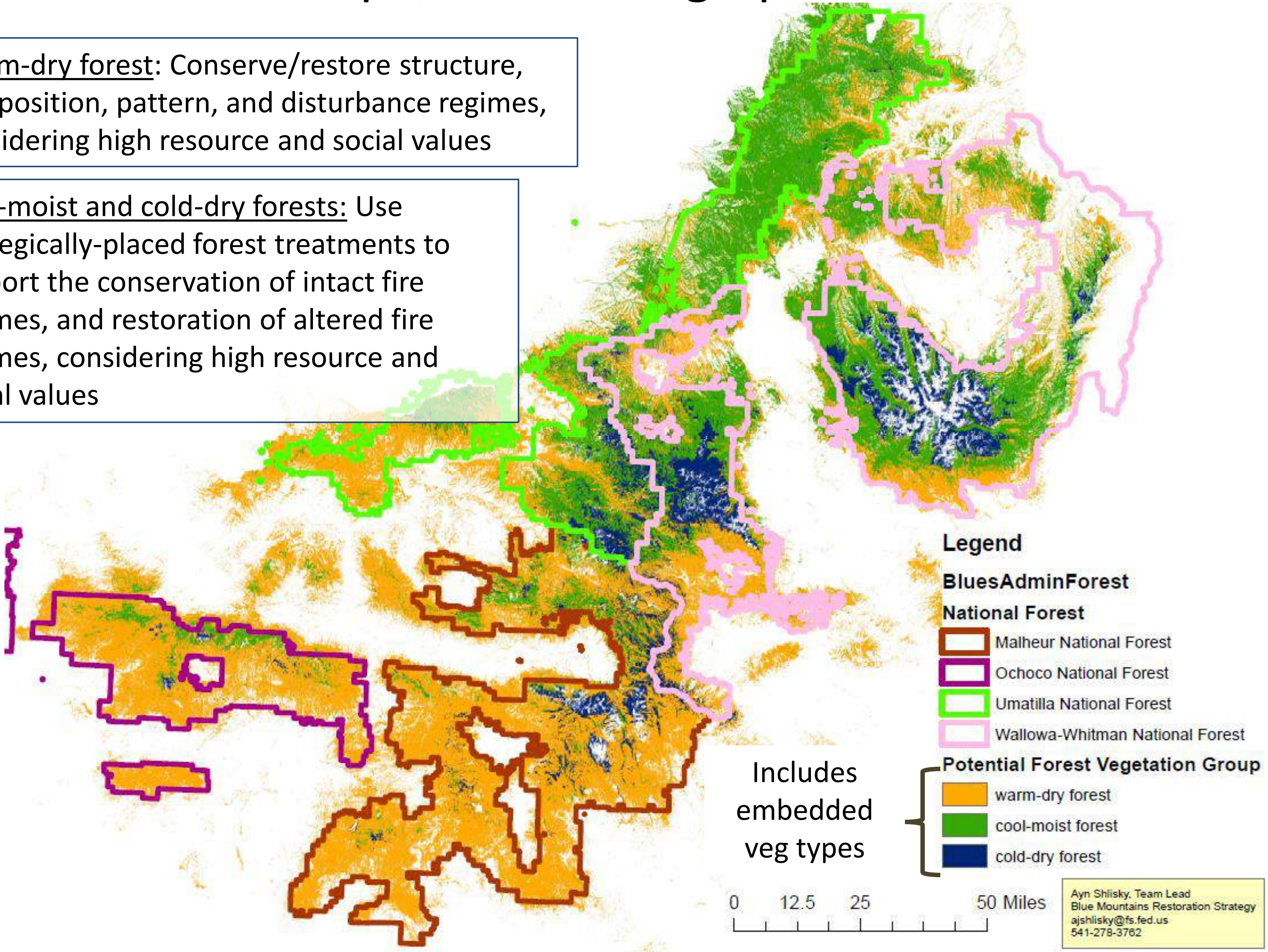
Project Charter from USFS Leadership

- *Focus the project on the following objectives*:
  - **Conserve and restore forest resiliency, with dry forests and large landscape scale fire management as the highest priorities.**
  - **Conserve high resource and social values in the face of undesirable disturbances.**
  - **Conserve the viability of traditional tribal and cultural resources.**
  - **Contribute to community social and economic resiliency.**

Narrow Scope/Broad Geographic Extent

<u>Warm-dry forest</u>: Conserve/restore structure, composition, pattern, and disturbance regimes, considering high resource and social values

<u>Cool-moist and cold-dry forests:</u> Use strategically-placed forest treatments to support the conservation of intact fire regimes, and restoration of altered fire regimes, considering high resource and social values



Underlying Concepts

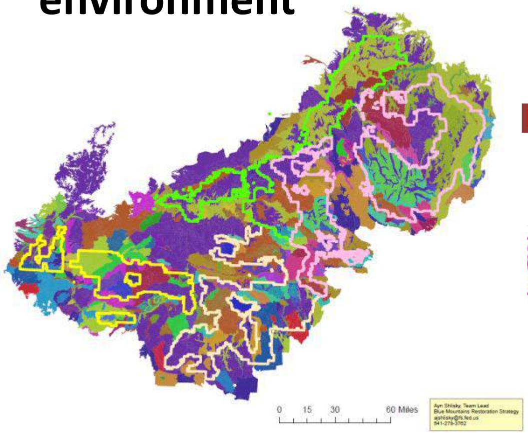
- **Consider what we leave as well as what we need to change**
- **Assess conditions across all lands**
- **Plan treatments on National Forest System lands outside current and near-future projects**
- **Understand and utilize ecological drivers of forest development and fire disturbance in the design of treatments**
- **Use the best available data, information, and science**
- **Target new data collection toward the greatest, integrated need**
- **Build trust through frequent collaboration and scoping**
- **Build off of zones of agreement to develop the proposed action**
- **Use lessons learned from other large landscape projects**
- **Develop information and tools for future project planning**

A few working assumptions

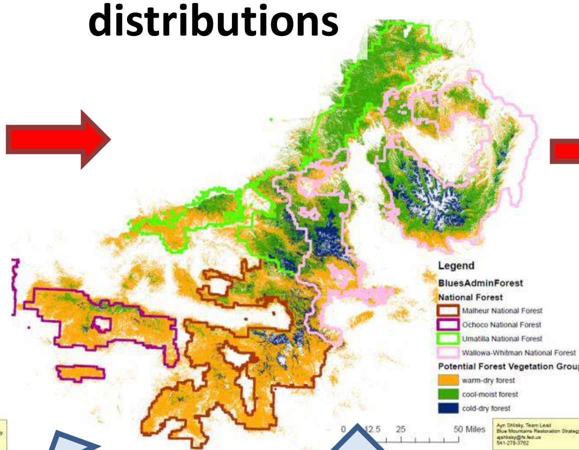
- Sound decisions can be made using available information and collaboration
- Project planning is a bottleneck to achieving restoration at ecologically relevant scales
- Some ways we have been implementing project planning processes go above and beyond adequate satisfaction of policy requirements
- NEPA adequacy should be measured against policy and regulation, not tradition
- Effective project planning doesn't require addressing every need in a particular place "just because we're there"

Iterative, Collaborative, Repeatable, Defensible Process Toward the Proposed Action

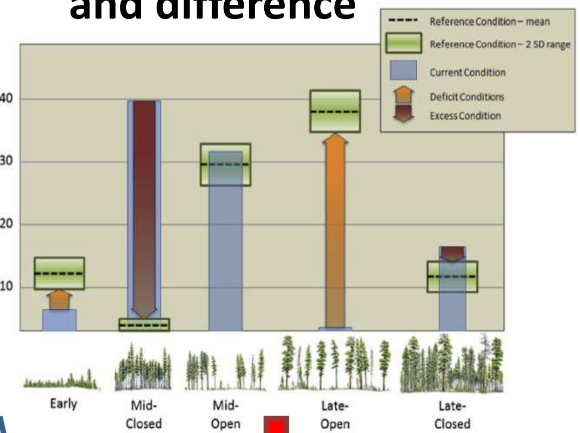
Map physical environment



Map forest distributions

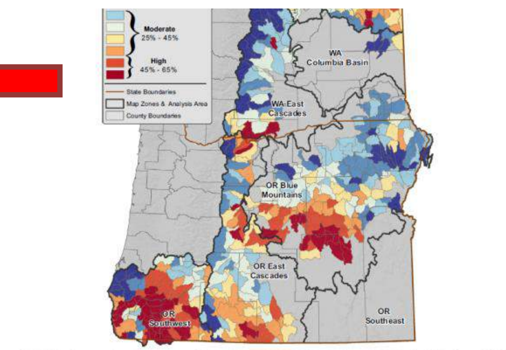


Calculate current, reference, and difference

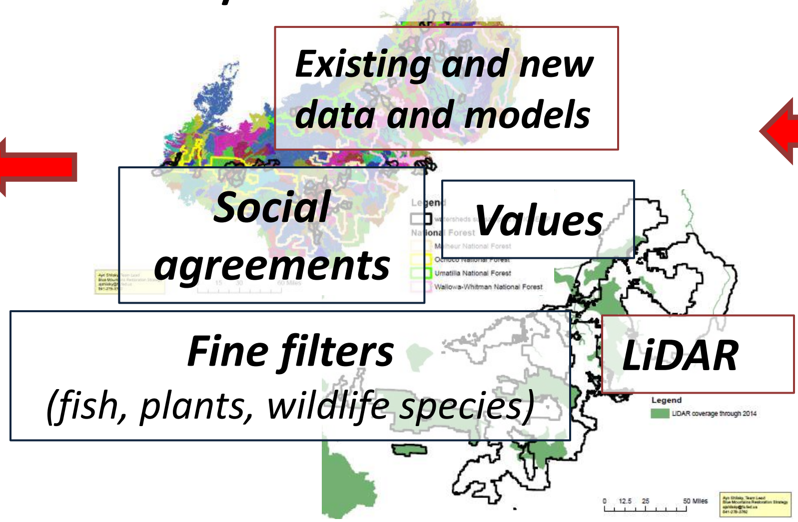


feedback loops

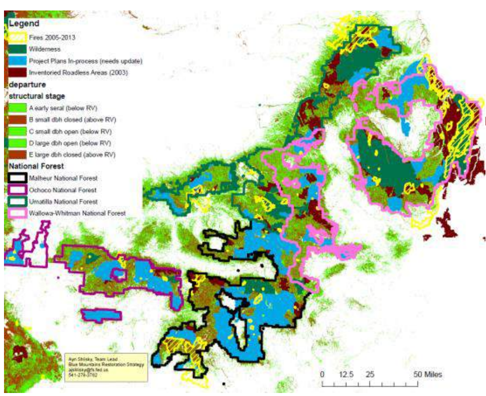
Determine coarse restoration need/trts



Refine/validate assessment and trts



Proposed Action

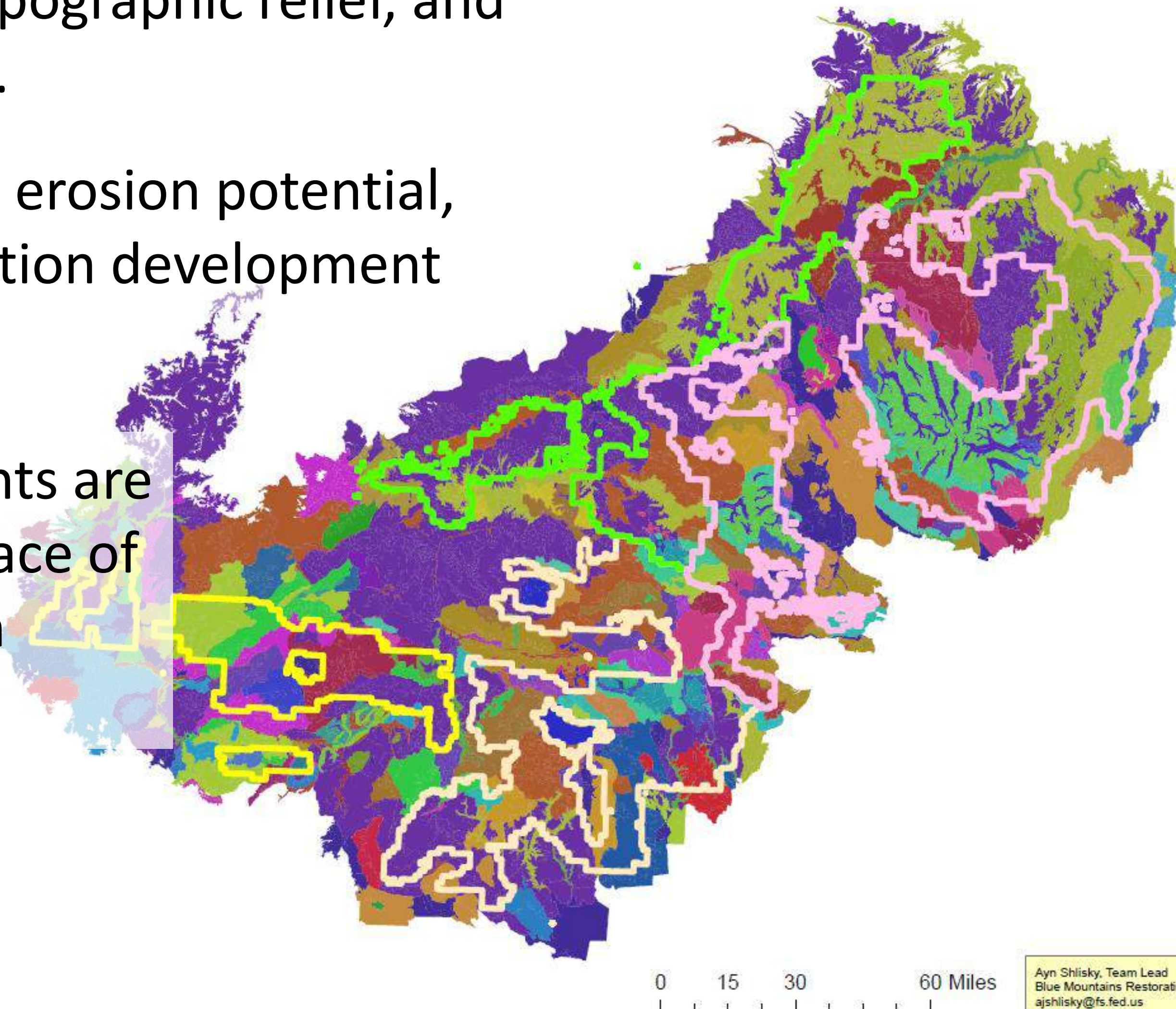


Starting with the Physical Environment

Land Type Associations (LTAs): areas of common geology, topographic relief, and potential vegetation.

LTAs Influence (e.g.): erosion potential, fire behavior, vegetation development

Physical environments are more stable in the face of climate change than vegetation.



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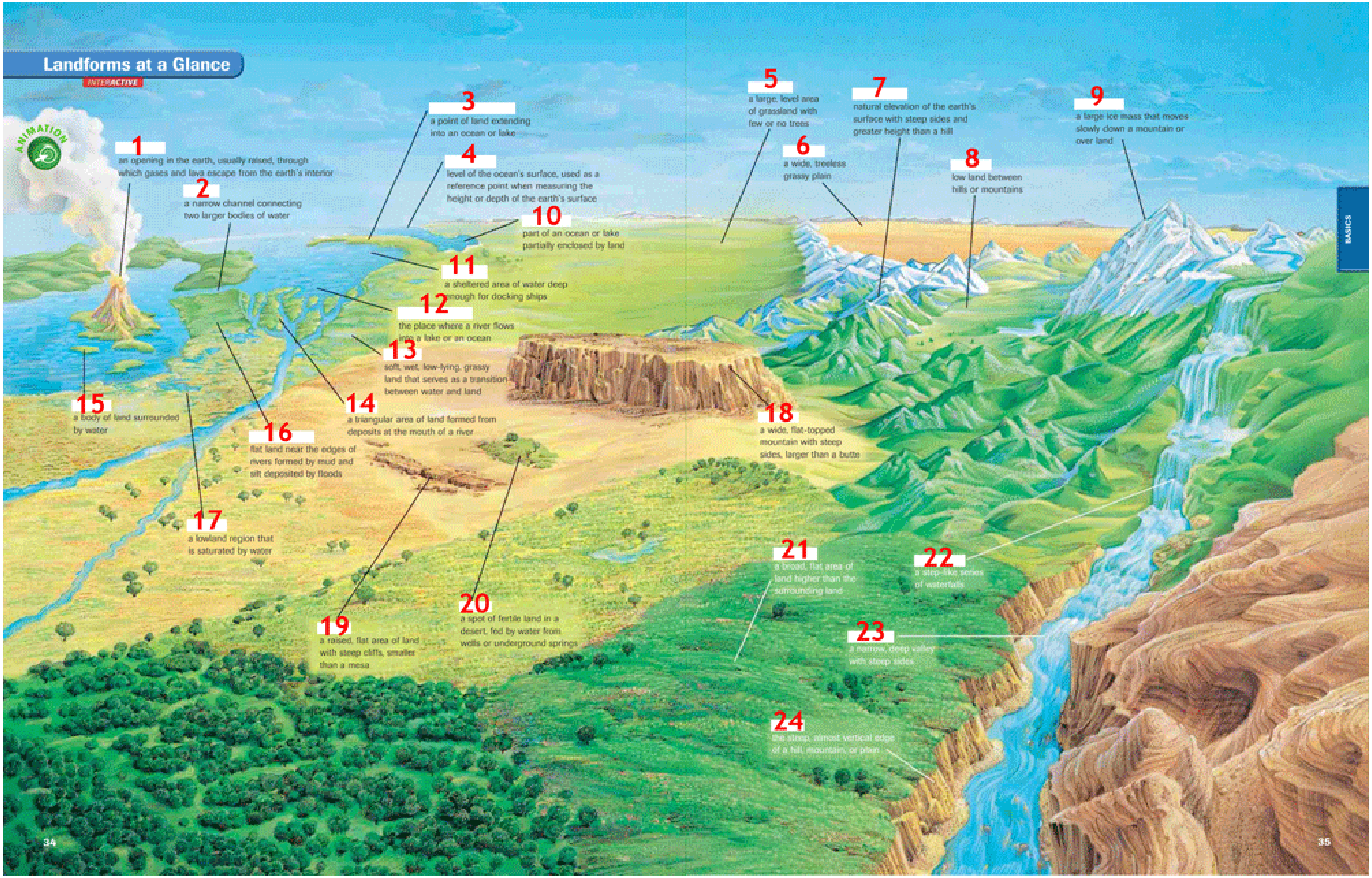
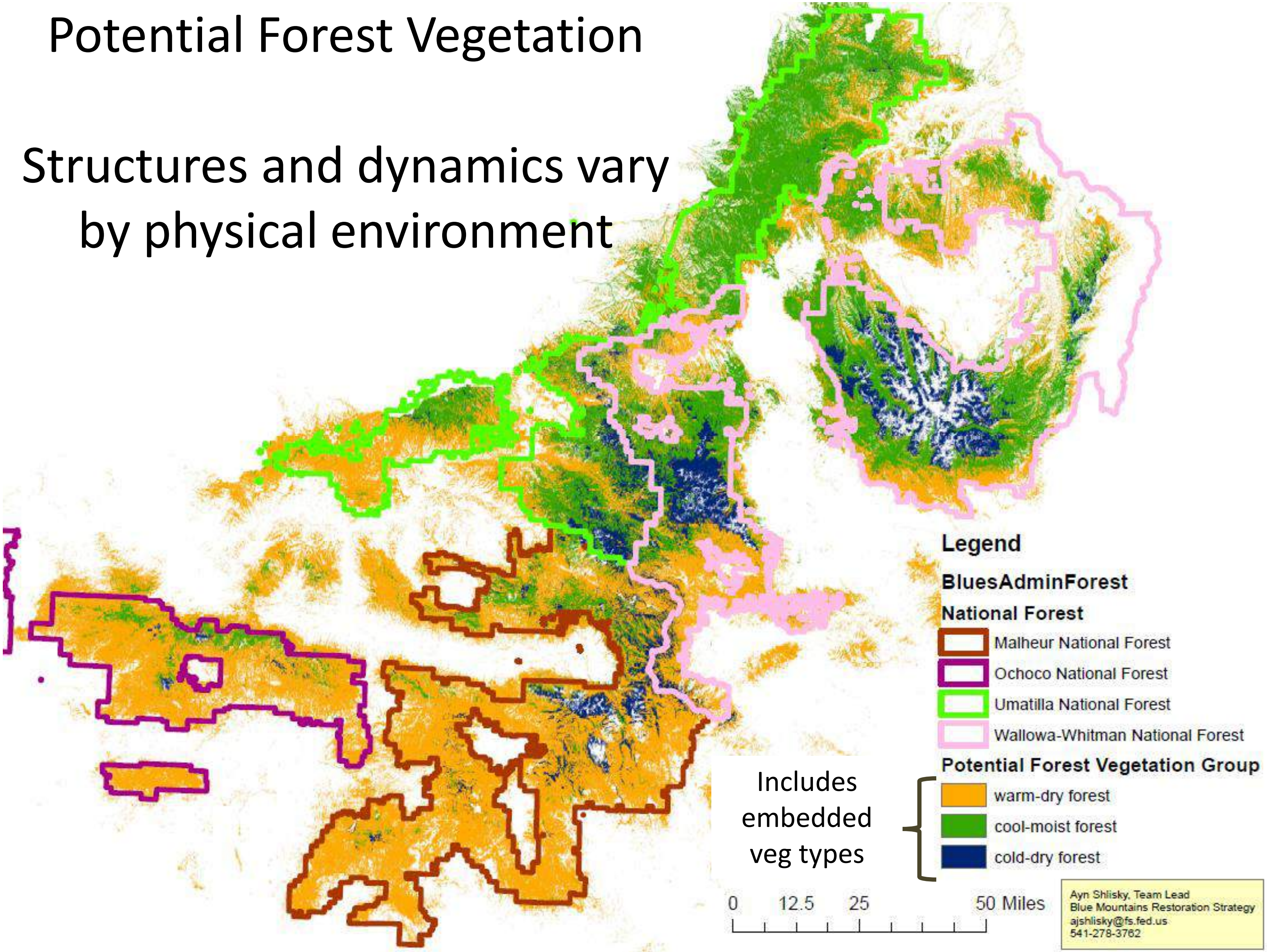


Landforms at a Glance
INTERACTIVE
ANIMATION
1
an opening in the earth, usually raised, through which gases and lava escape from the earth's interior
2
a narrow channel connecting two larger bodies of water
3
a point of land extending into an ocean or lake
4
level of the ocean's surface, used as a reference point when measuring the height or depth of the earth's surface
10
part of an ocean or lake partially enclosed by land
11
a sheltered area of water deep enough for docking ships
12
the place where a river flows into a lake or an ocean
13
soft, wet, low-lying, grassy land that serves as a transition between water and land
14
a triangular area of land formed from deposits at the mouth of a river
15
a body of land surrounded by water
16
flat land near the edges of rivers formed by mud and silt deposited by floods
17
a lowland region that is saturated by water
18
a wide, flat-topped mountain with steep sides, larger than a butte
19
a raised, flat area of land with steep cliffs, smaller than a mesa
20
a spot of fertile land in a desert, fed by water from wells or underground springs
5
a large, level area of grassland with few or no trees
6
a wide, treeless grassy plain
7
natural elevation of the earth's surface with steep sides and greater height than a hill
8
low land between hills or mountains
9
a large ice mass that moves slowly down a mountain or over land
BASICS
21
a broad, flat area of land higher than the surrounding land
22
a step-like series of waterfalls
23
a narrow, deep valley with steep sides
24
the steep, almost vertical edge of a hill, mountain, or plain

Potential Forest Vegetation

Structures and dynamics vary by physical environment



44 R. Haugo et al. / Forest Ecology and Management 335 (2015) 37–50

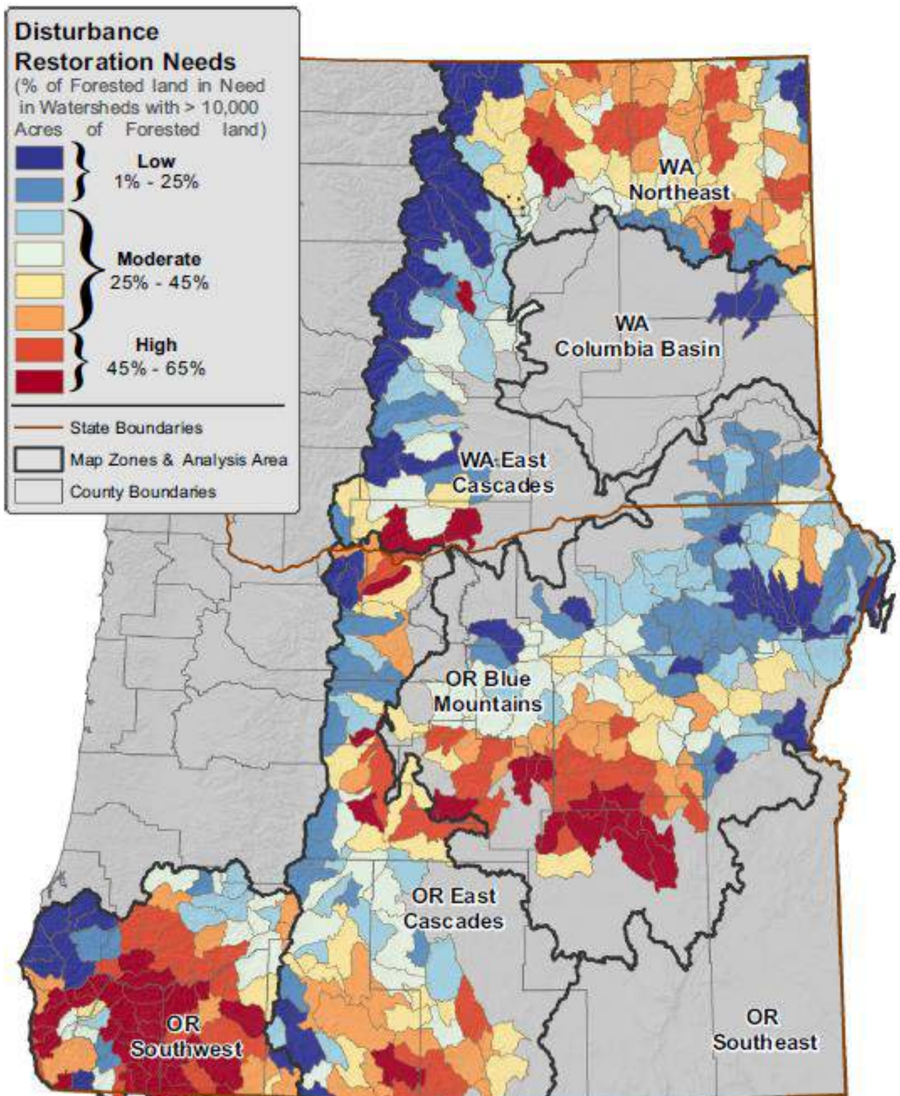


Fig. 4. All disturbance restoration needs as a percentage of forests within 10-digit/5th level hydrologic unit watersheds. Includes the thin/low fire, opening/high fire, overstory thin, thin/low fire + growth, and other disturbance + growth transitions. Within Map Zone labels WA = Washington and OR = Oregon. See Appendix B.4 for restoration need summaries per watershed.

We have a first estimate of active restoration need by potential vegetation group, watershed, and ownership.

Reference values are from LANDFIRE models for the Blue Mountains.

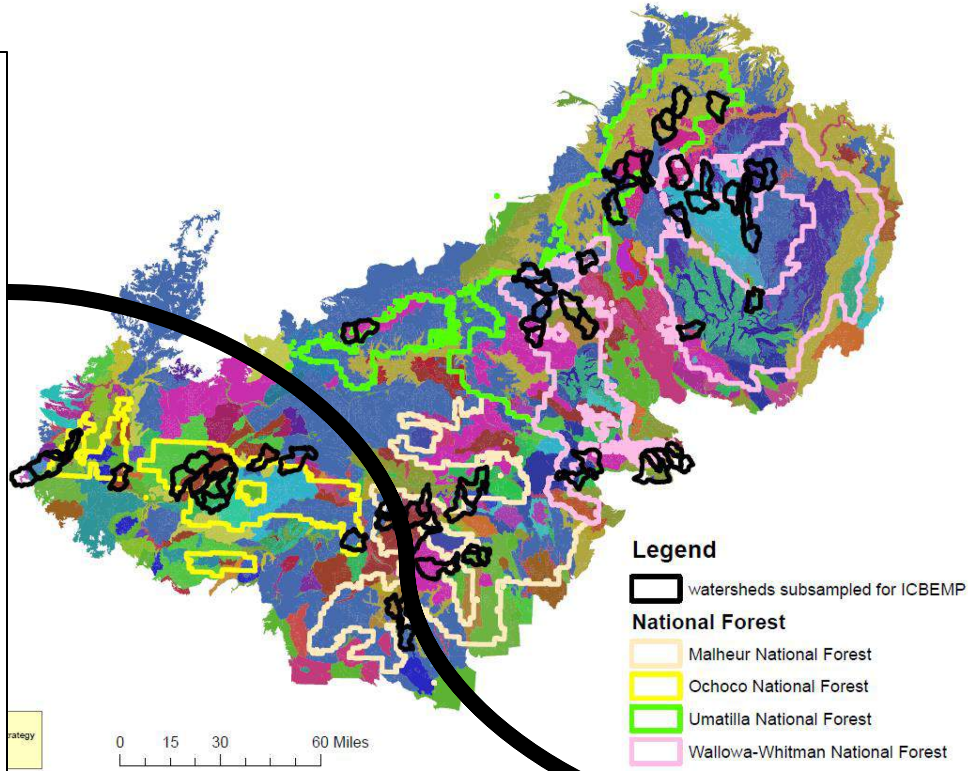
[1]Based on scenario modeling for the Blue Mountains in April 2013.

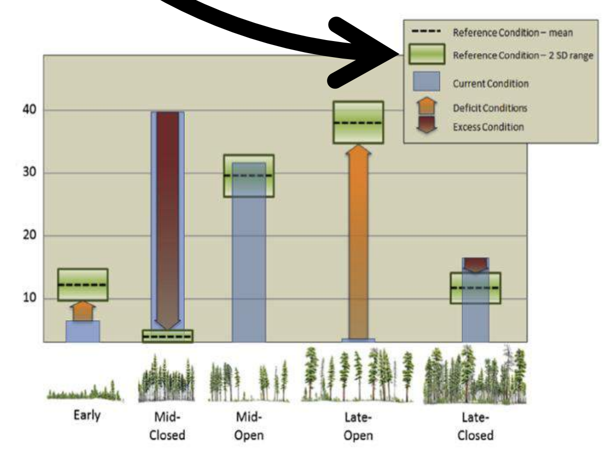
All Lands Biophysical Assessment – Reference Conditions

Blues-wide range of variation (RV) estimates will be refined to reflect local conditions and refine restoration need.

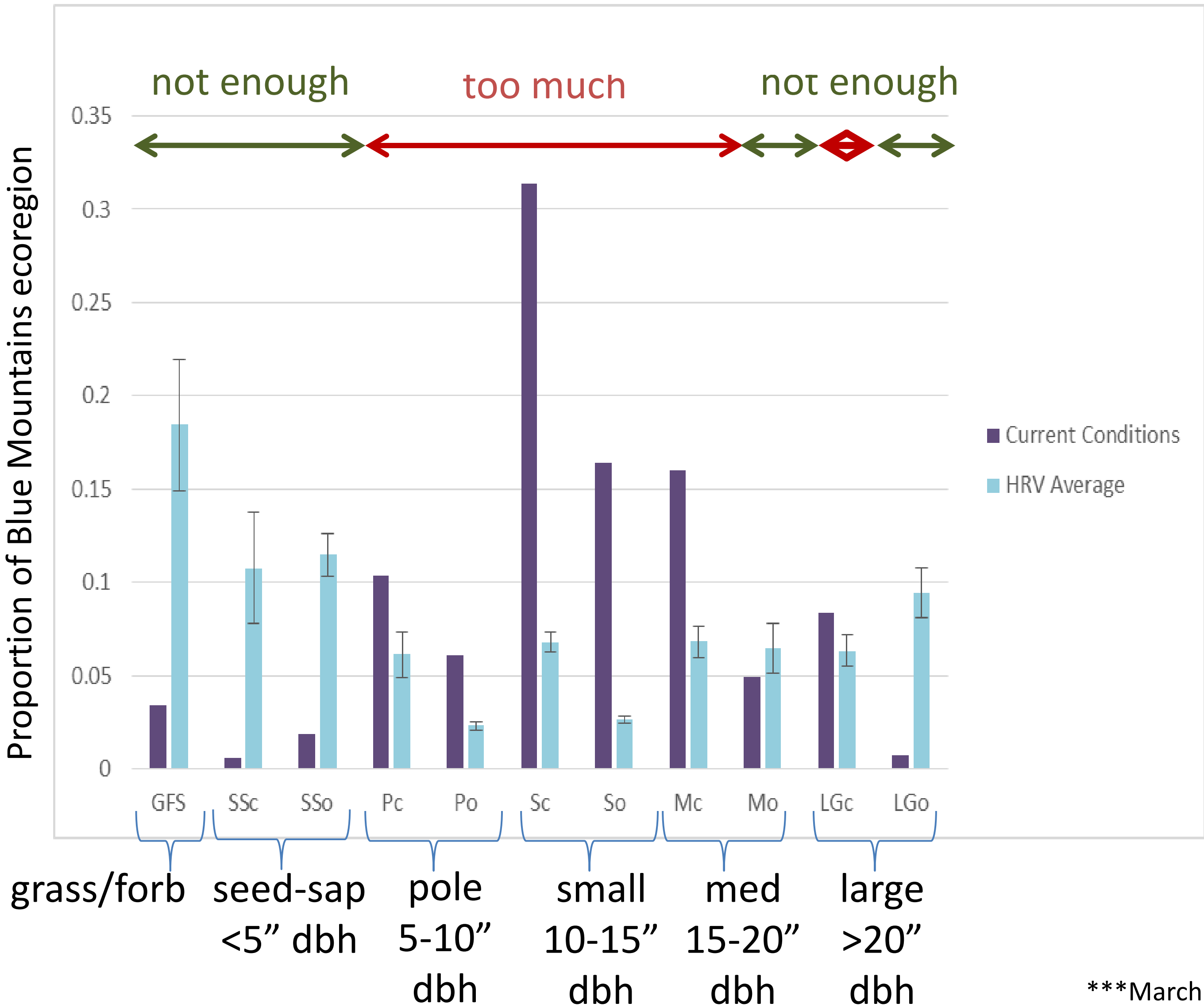
Empirical data on forest composition, structure, patch sizes, and patterns are available for multiple time periods (ICBEMP data).

These RVs can also be used in future project planning.



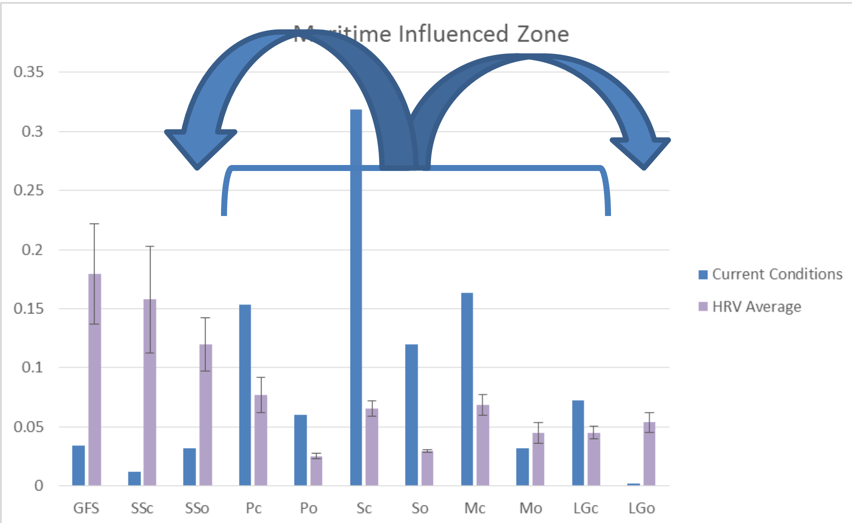


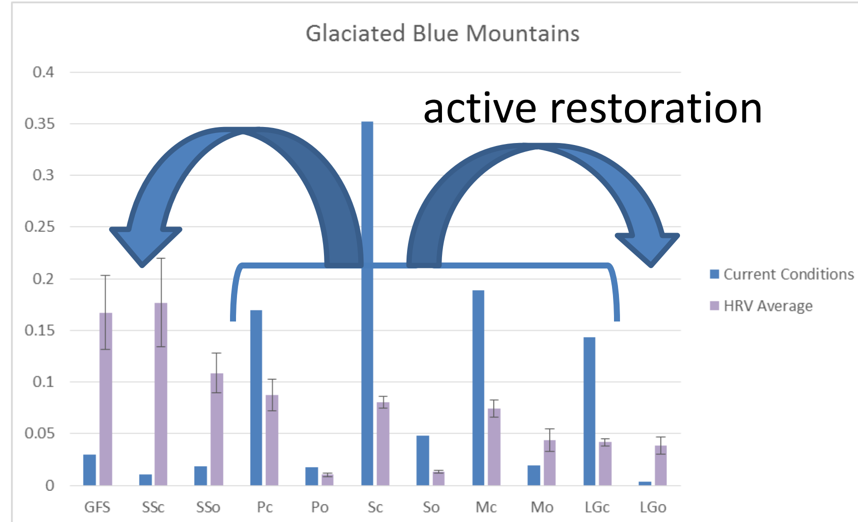
RV/current conditions - All forests/Blue Mountains



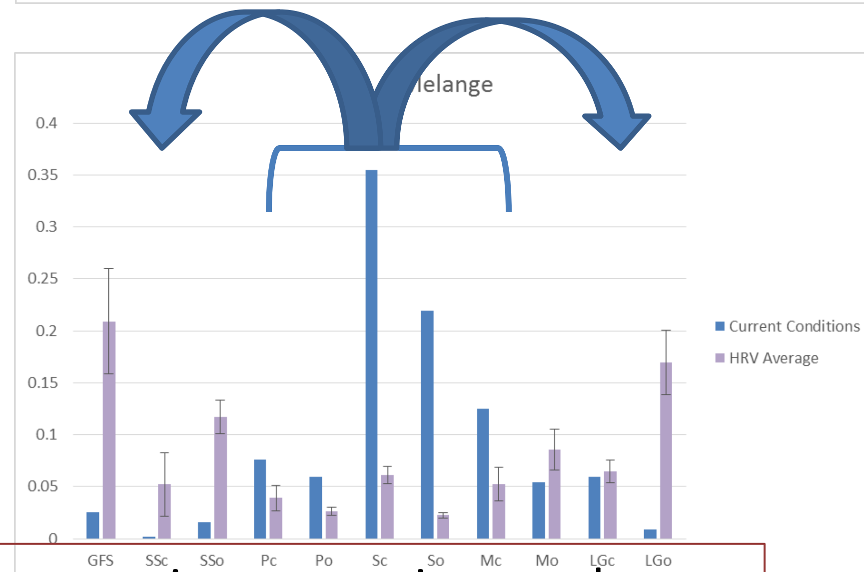
March 25, 2015 **DRAFT**
State-and-transition simulation modeling (ST-Sim) by Miles Hemstrom

Refining the treatment footprint





Examples of departure between current and historical forest conditions by LTA, and direction of change between pre- and post-treatment conditions

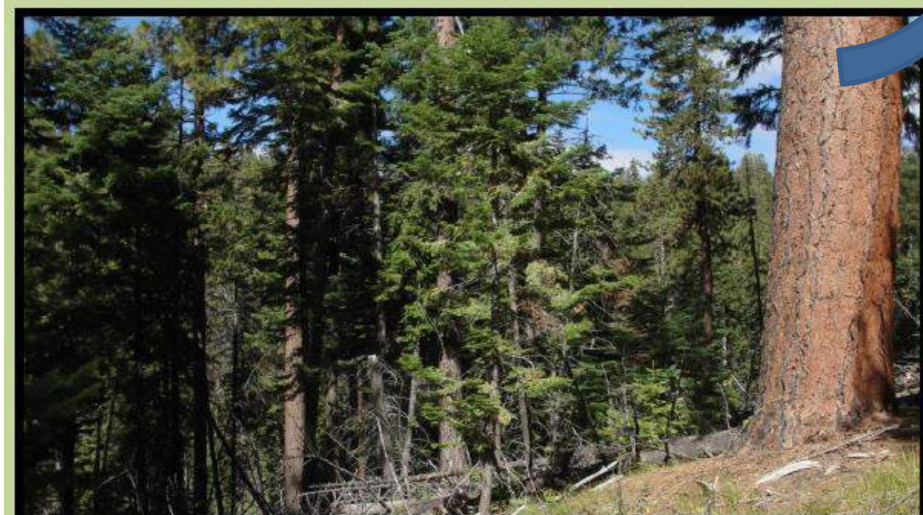


Different physical environments have different active restoration needs based on variations in fire behavior, cultural history and productivity

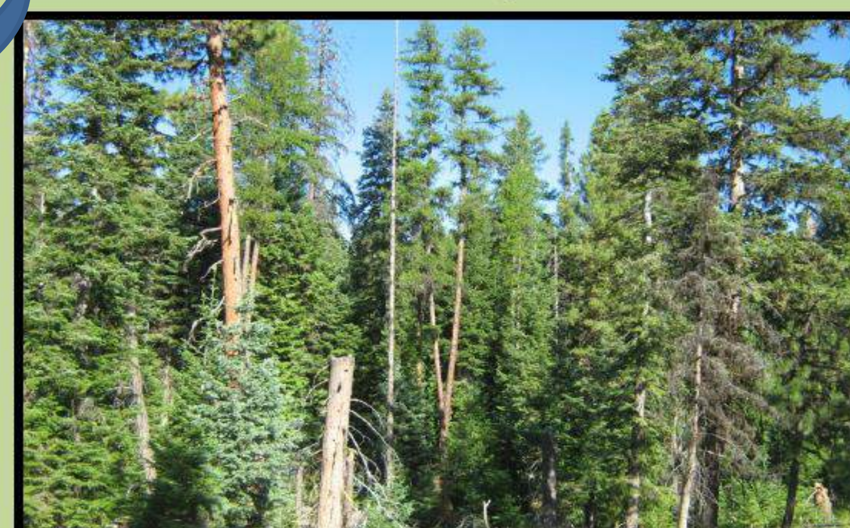
Current Structure Composition Types

Persistent Ponderosa Pine

Recent Douglas-fir



Recent Grand Fir

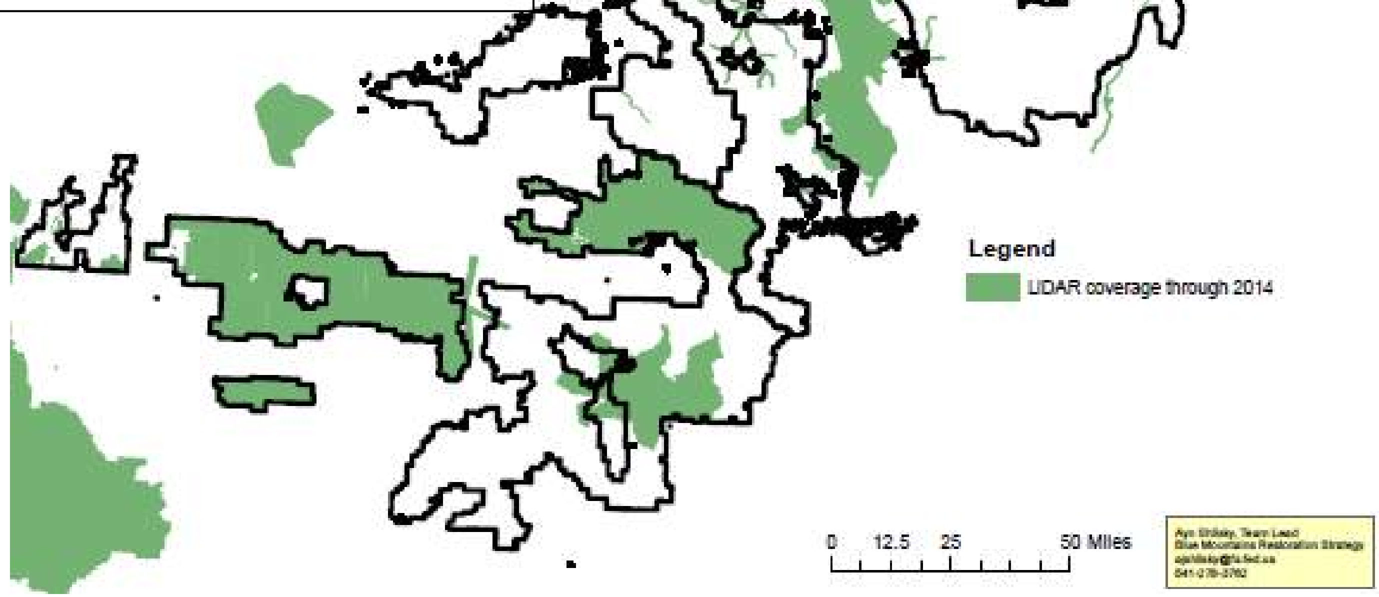


Persistent Shade Tolerant

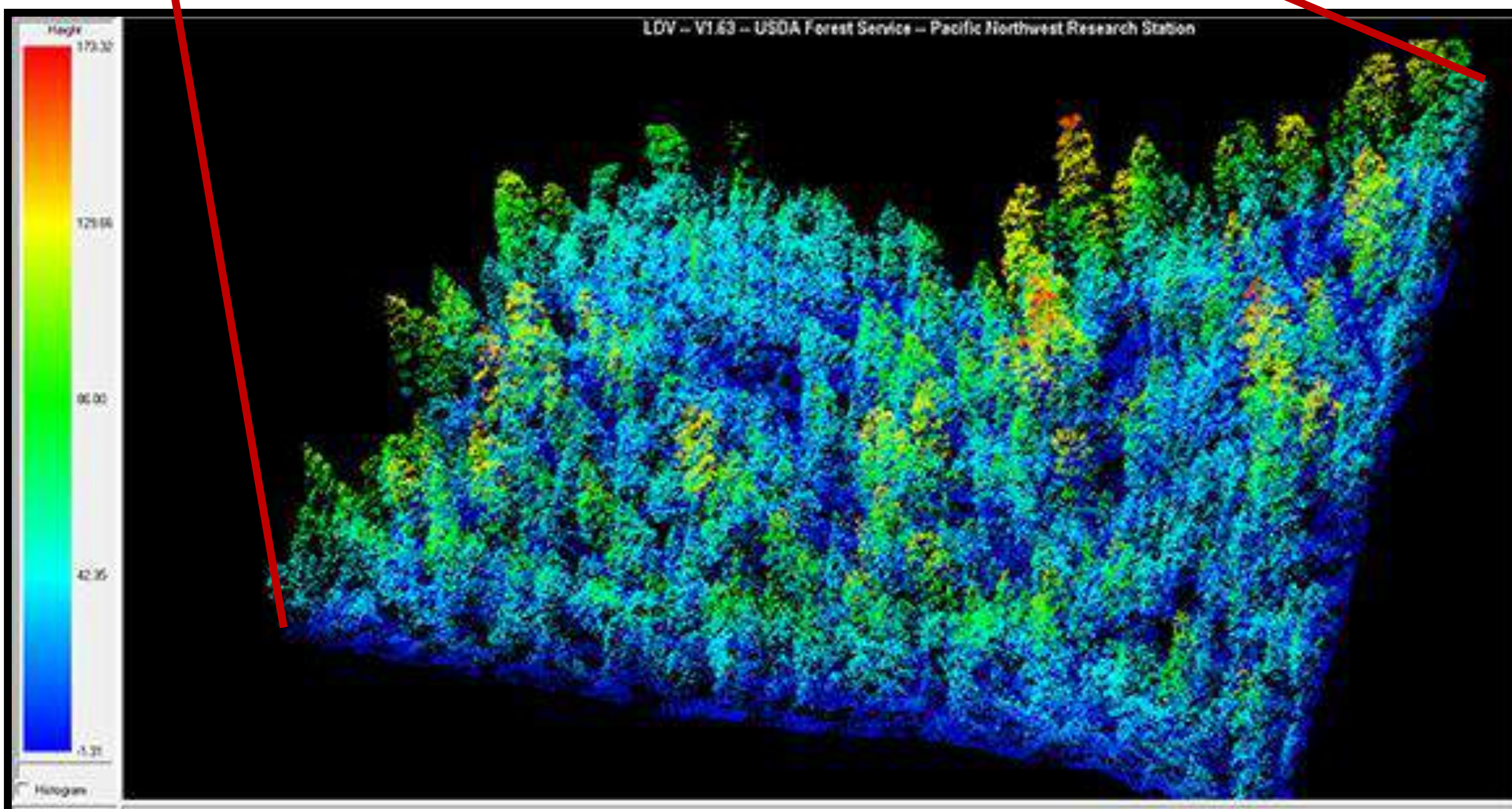
Refinement of assessment and treatments
High resource values

Spatial and inventory data is available for threatened and endangered species, special habitats, WUI, roads, etc.

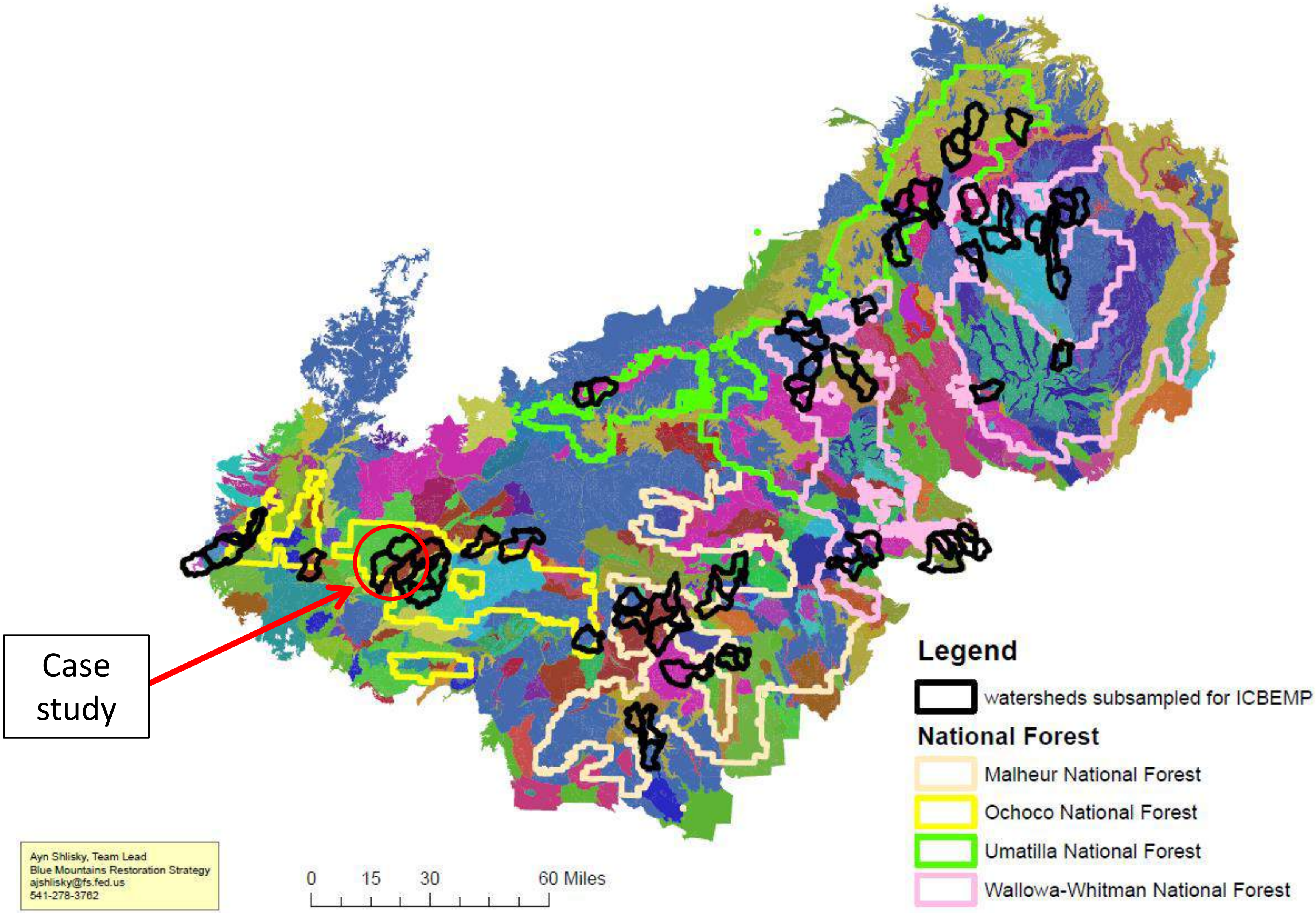
Spatial, plot, LiDAR, and other data sources provide opportunities to validate models, assumptions, and treatment designs, and engage in collaborative discussions in the field.



LiDAR is available for some places to measure forest and riparian overstory and understory structure, canopy cover, tree density, and landscape patterns.

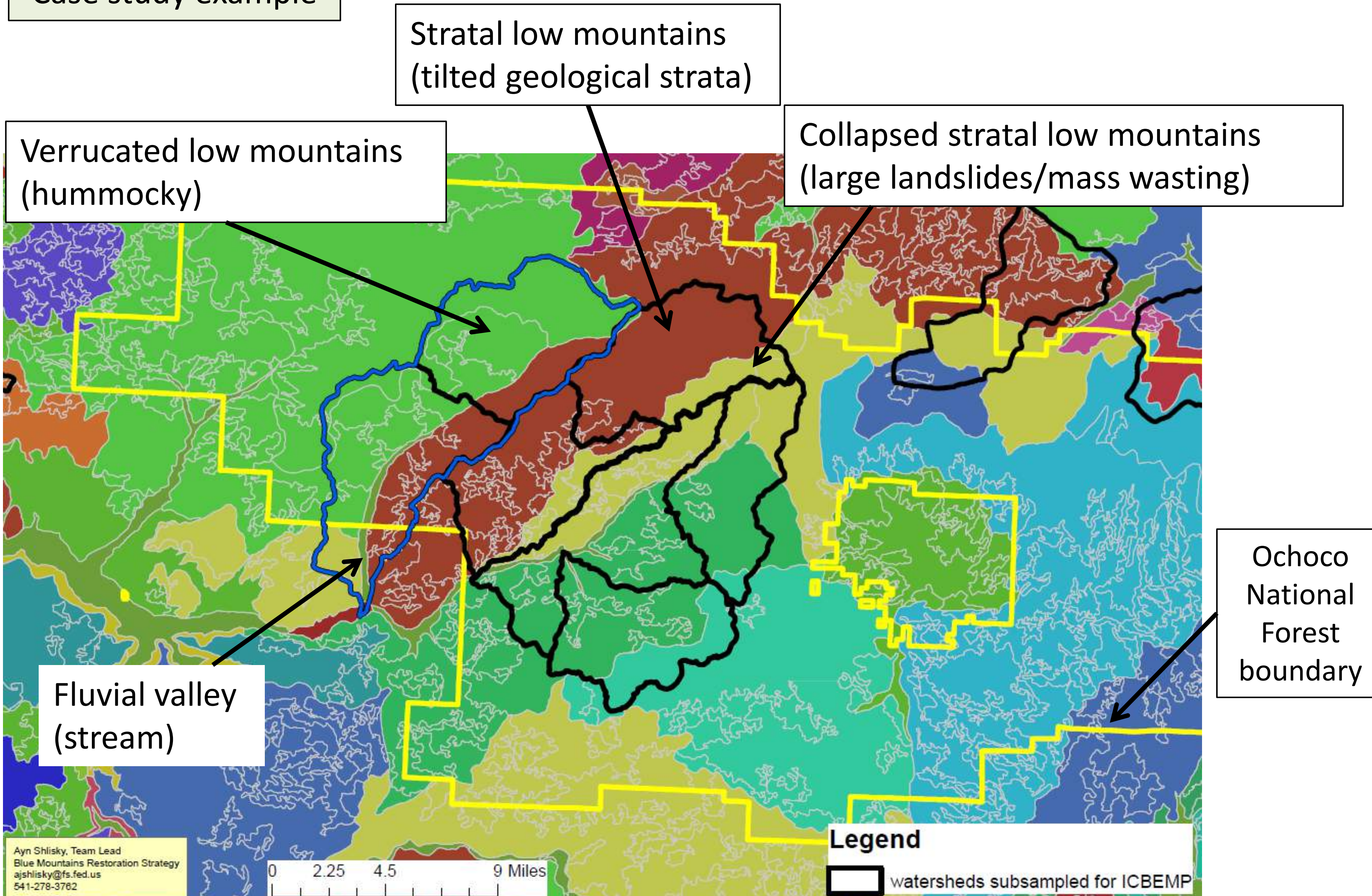


Learning Landscapes – Going deep to go broad

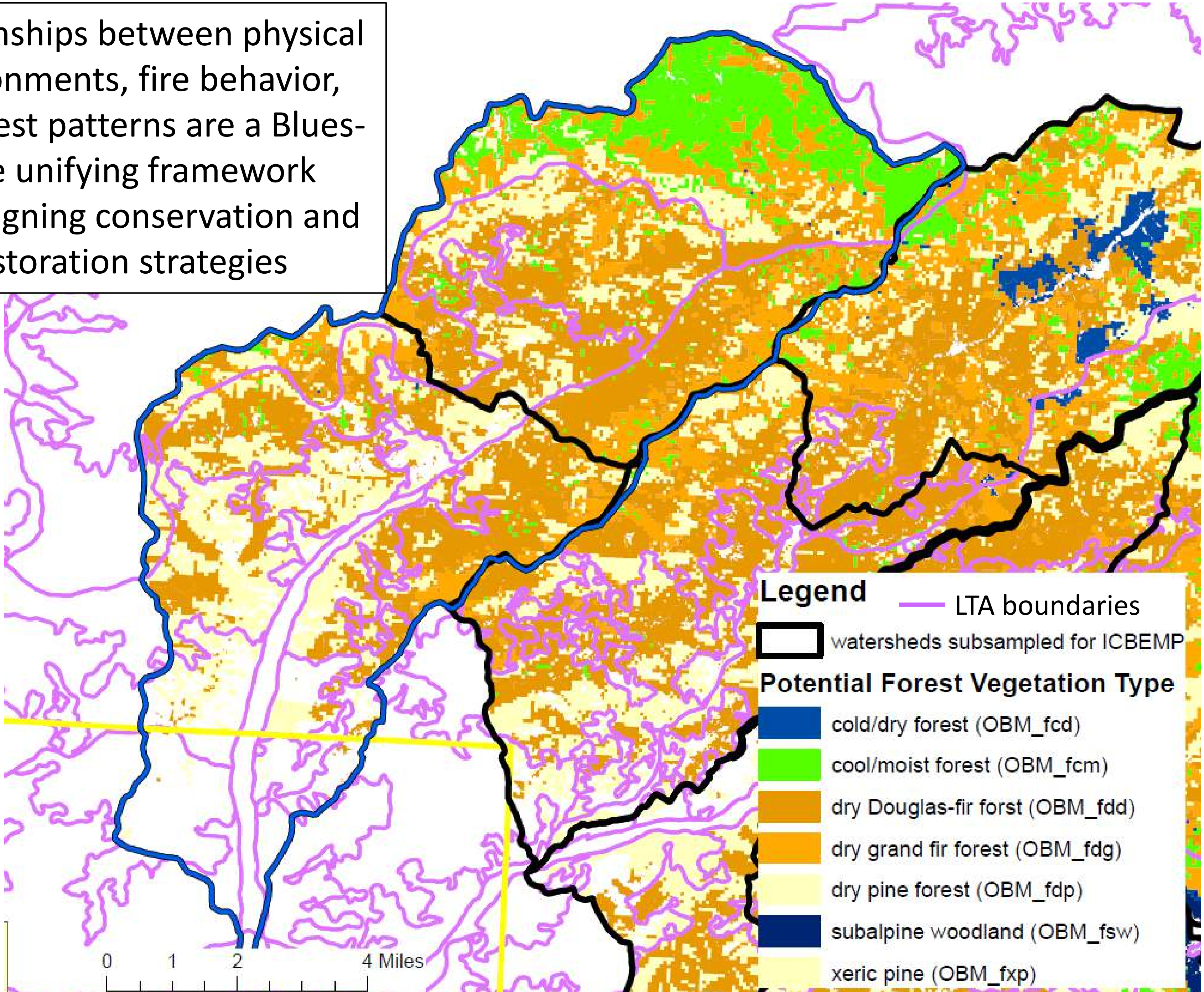


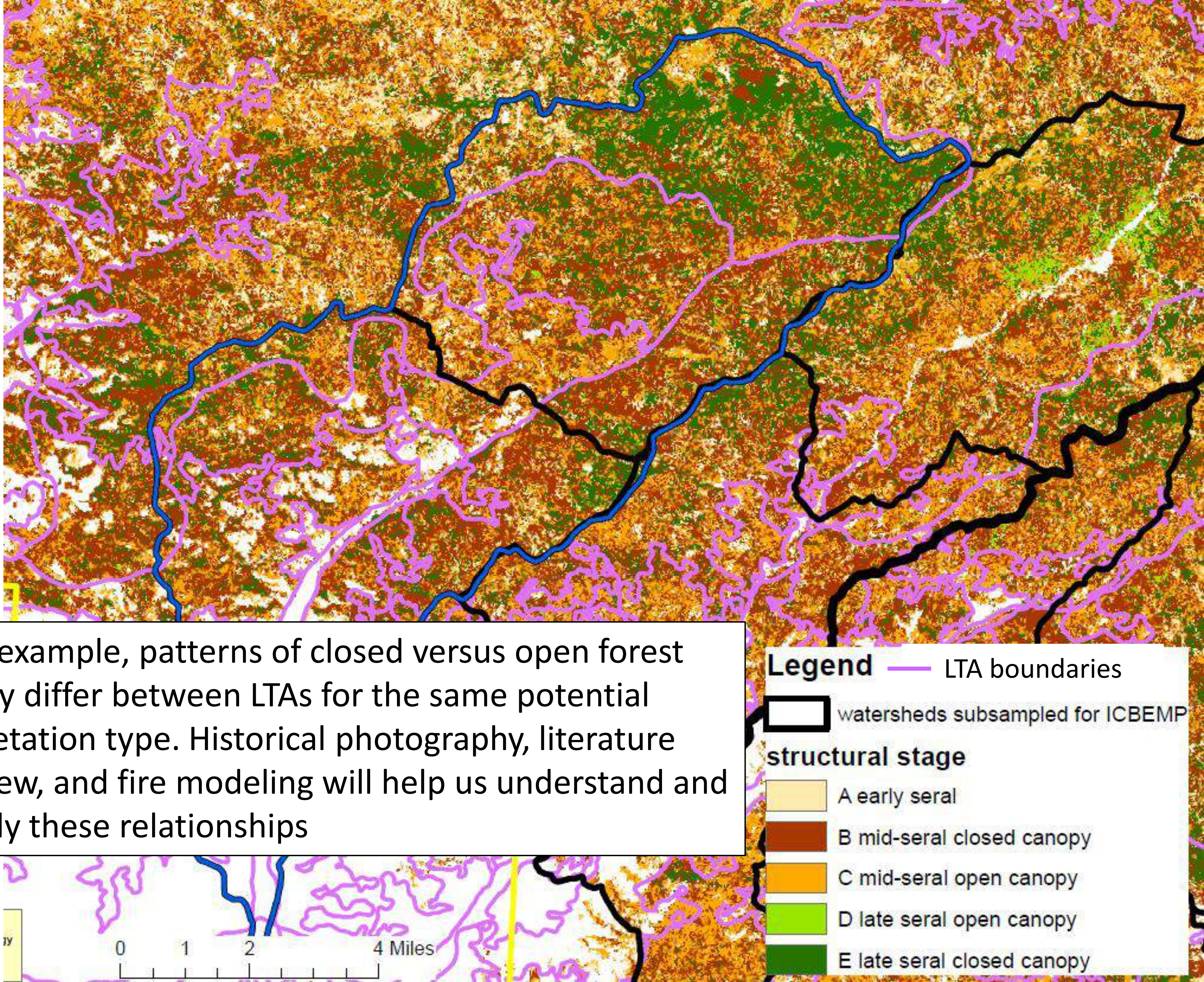
Foundations for Treatment Designs – Physical Environment

Case study example

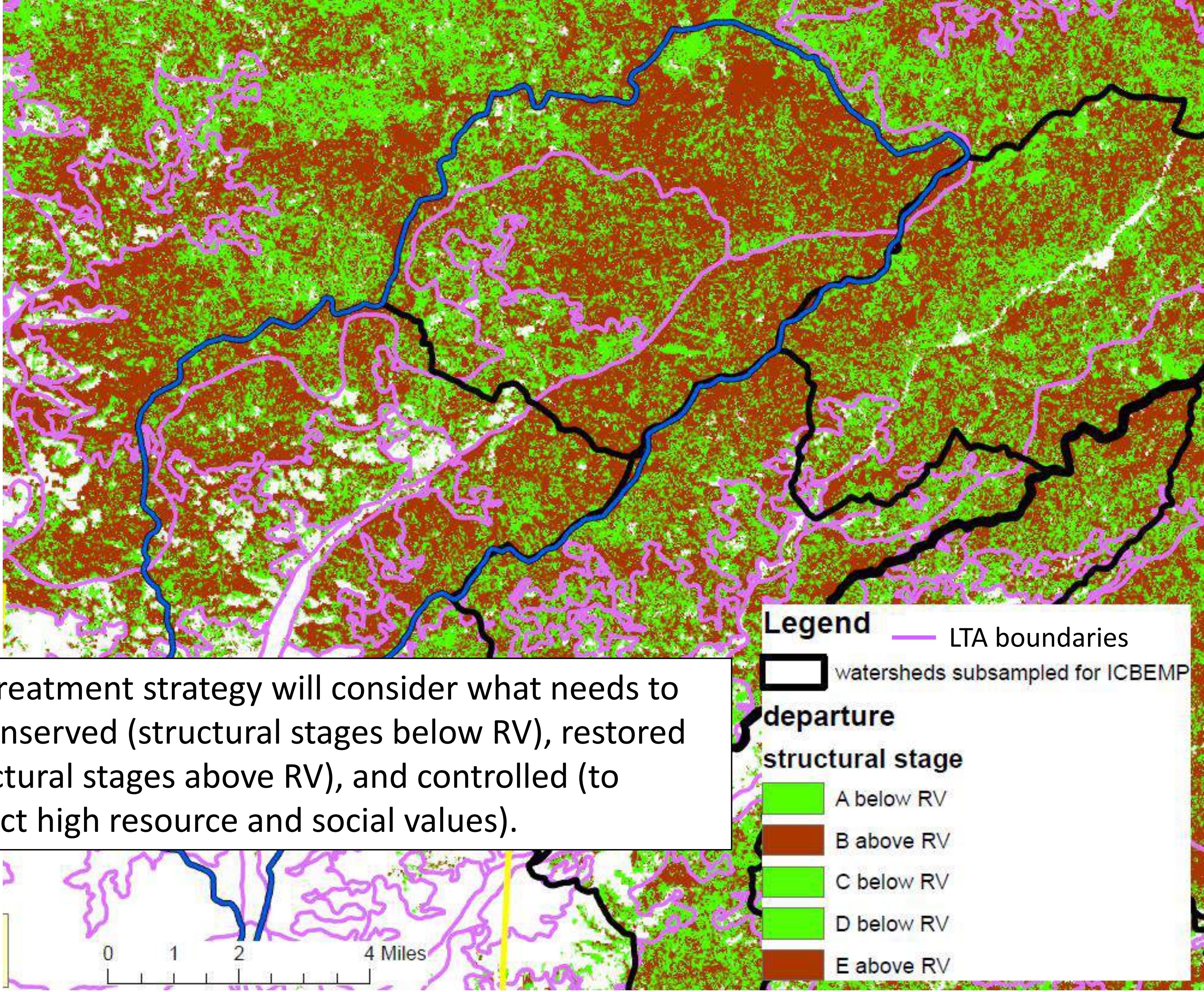


Relationships between physical environments, fire behavior, and forest patterns are a Blues-wide unifying framework for designing conservation and restoration strategies





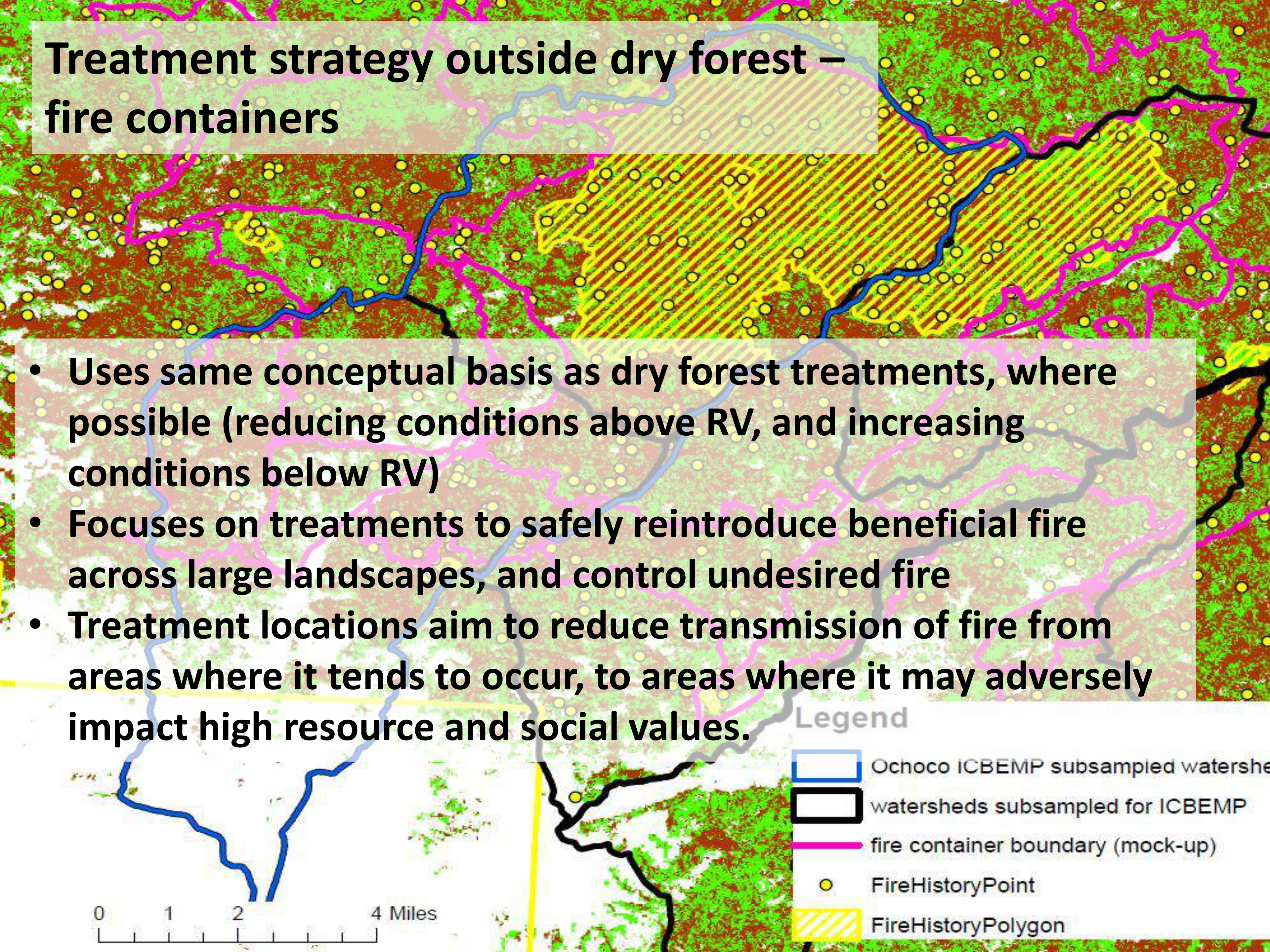
For example, patterns of closed versus open forest likely differ between LTAs for the same potential vegetation type. Historical photography, literature review, and fire modeling will help us understand and apply these relationships



The treatment strategy will consider what needs to be conserved (structural stages below RV), restored (structural stages above RV), and controlled (to protect high resource and social values).

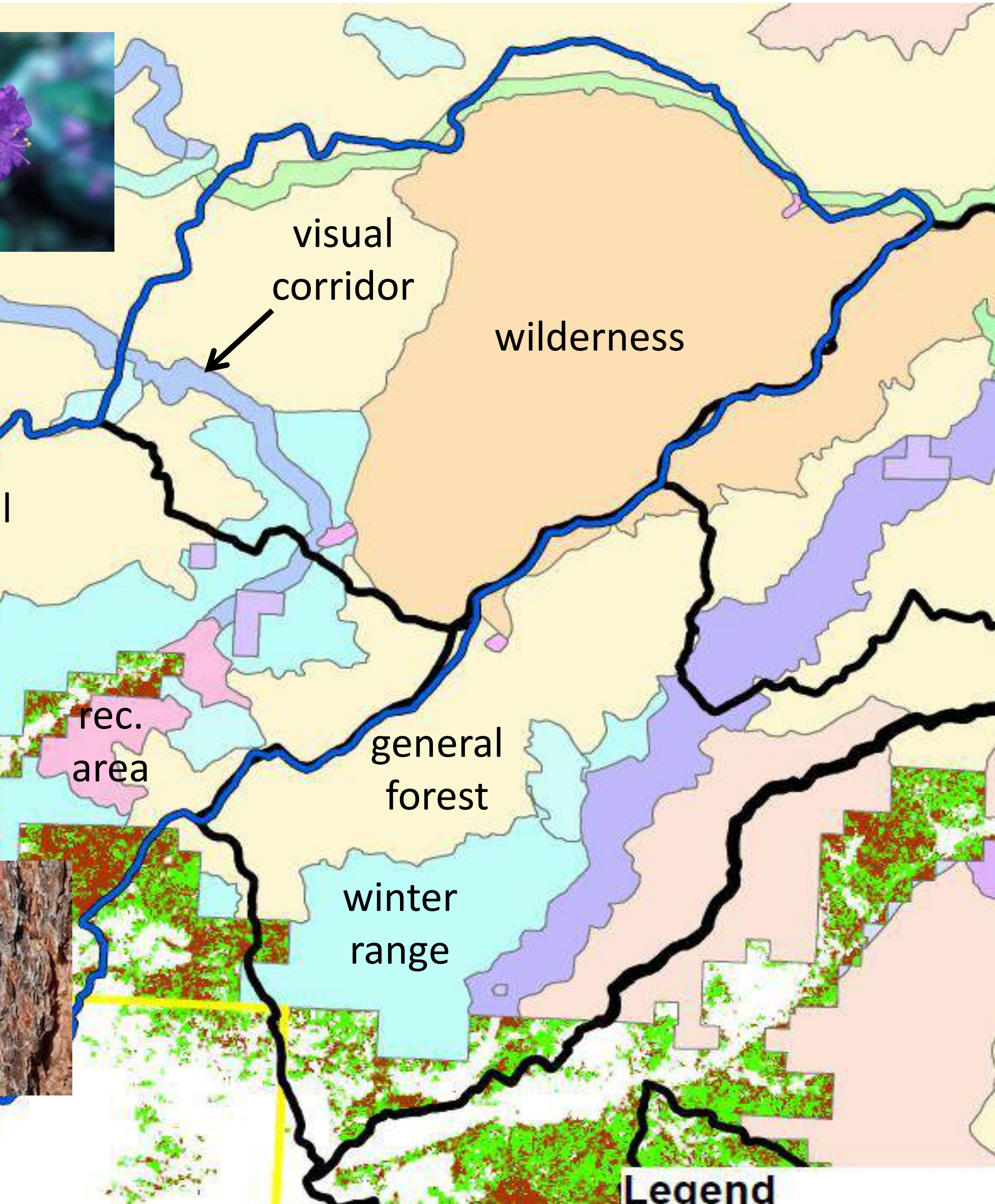
Treatment strategy outside dry forest – fire containers

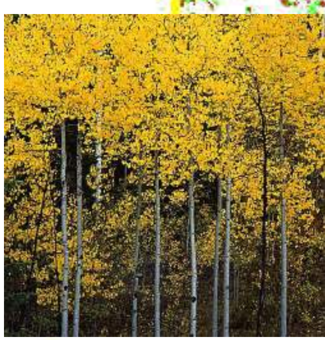
- Uses same conceptual basis as dry forest treatments, where possible (reducing conditions above RV, and increasing conditions below RV)
- Focuses on treatments to safely reintroduce beneficial fire across large landscapes, and control undesired fire
- Treatment locations aim to reduce transmission of fire from areas where it tends to occur, to areas where it may adversely impact high resource and social values.



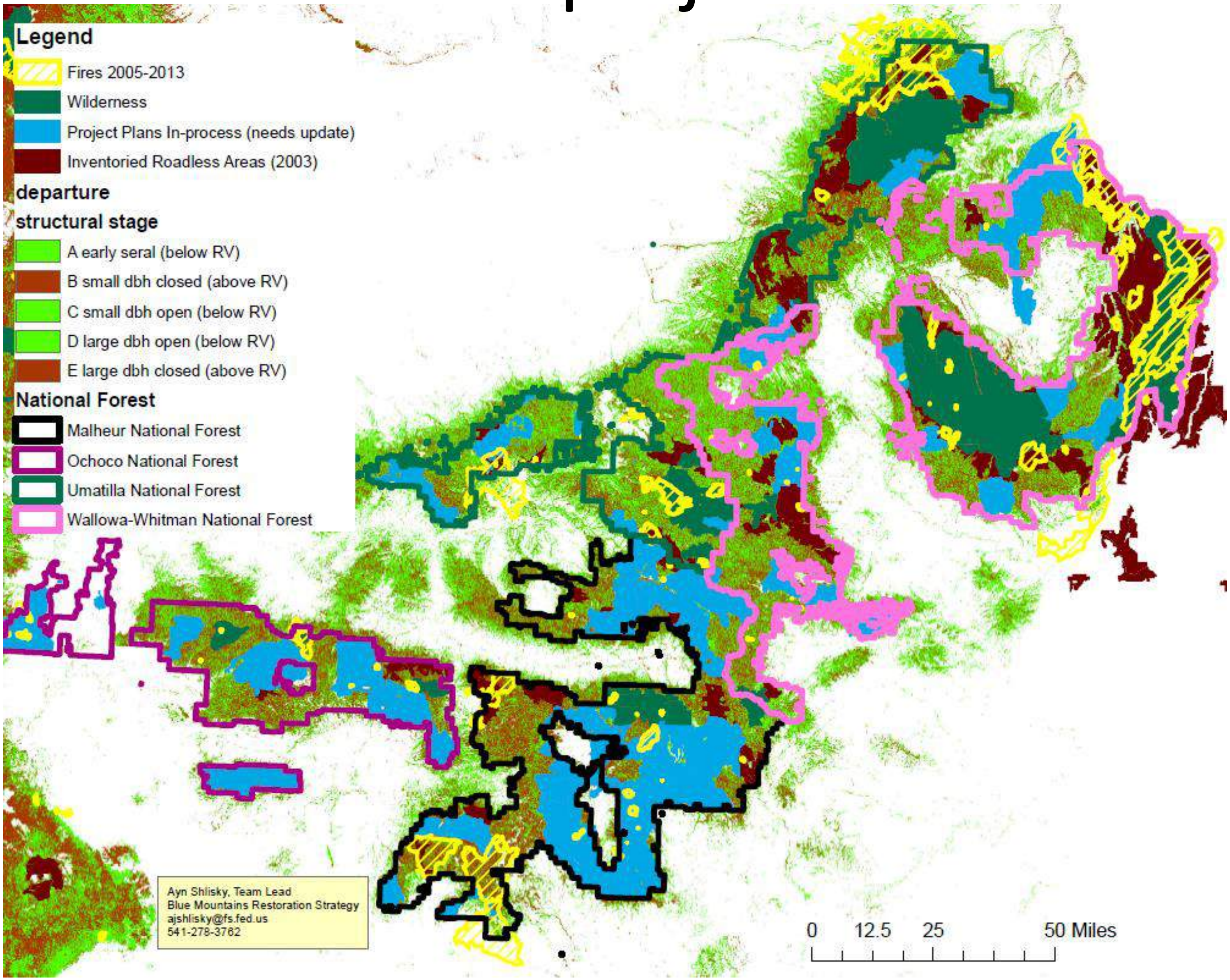
Other Forest Treatment Considerations

- Forest Plan direction and other policy
- Tribal trust responsibilities
- Wildland urban interface
- TES
- Resource/social values
- Habitat connectivity
- Biodiversity
- Access
- Existing project planning areas (through 2017)
- Zones of agreement





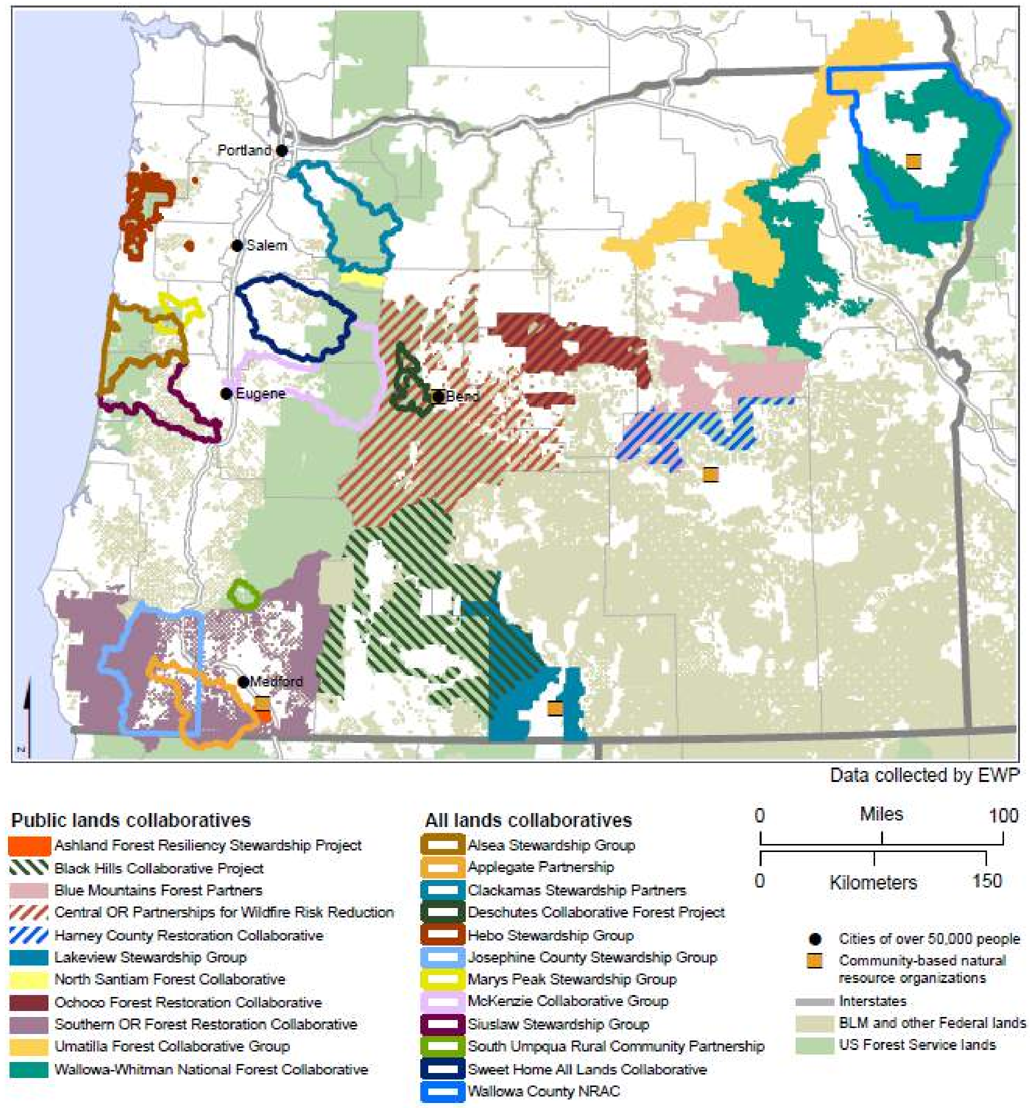
What will this project look like?



Collaborative Zones of Agreement

- The planning team will use areas of social agreement to inform the proposed action.
- Where are zones of agreement?
  - Scientific justifications
  - Treatment locations, techniques and effects
  - Social values
- Agreement may vary by geography
- Areas of disagreement, public comment, and uncertainty inform planning alternatives and monitoring needs.

Multi-Stakeholder Forest Collaborative Groups Working on Public Lands, January 28 2013



Product of the Dry Forest Investment Zone Project

Created: 1/28/2013 Contact: ewp@uoregon.edu http://www.sustainablenorthwest.org/programs/dfiz

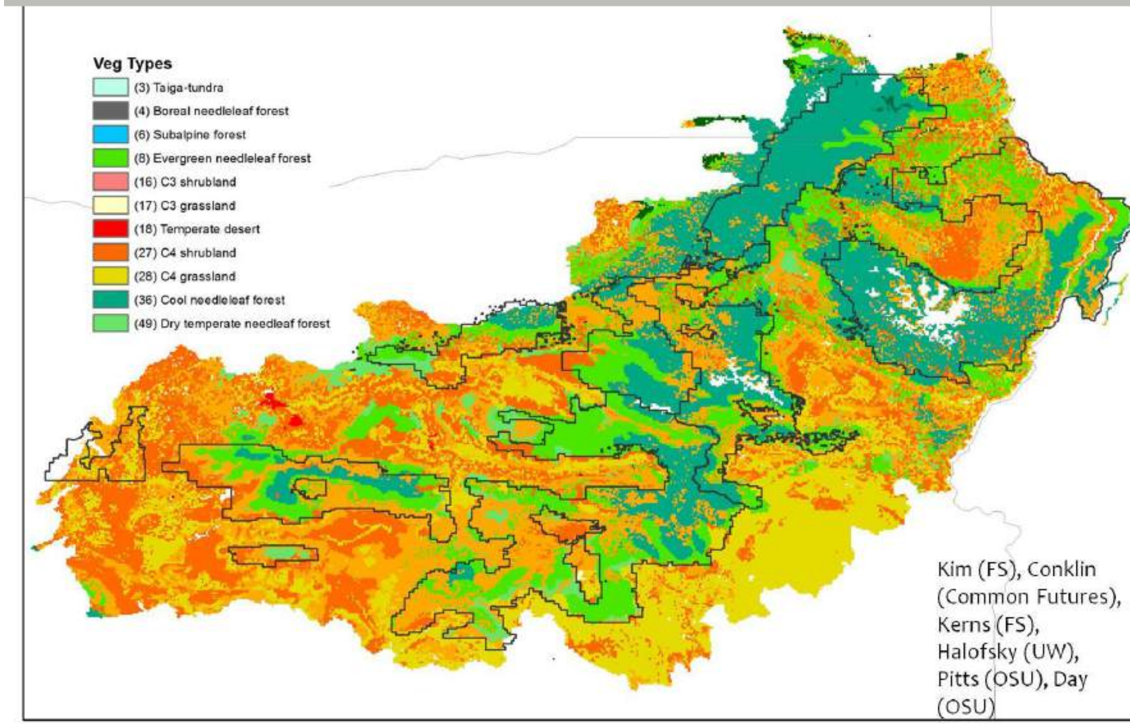
EWP UNIVERSITY OF OREGON

Assessing social and economic effects

- The project team will analyze social and economic values that are relevant to the decision being made by:
  - Synthesizing existing information
  - Directly engaging with the collaboratives on inputs to social and economic analyses
  - Fostering understanding of social and economic project effects
  - Seeking understanding of the relative contributions of project outcomes and outputs to local community resiliency
- Findings will be summarized in technical reports, and included in EIS.

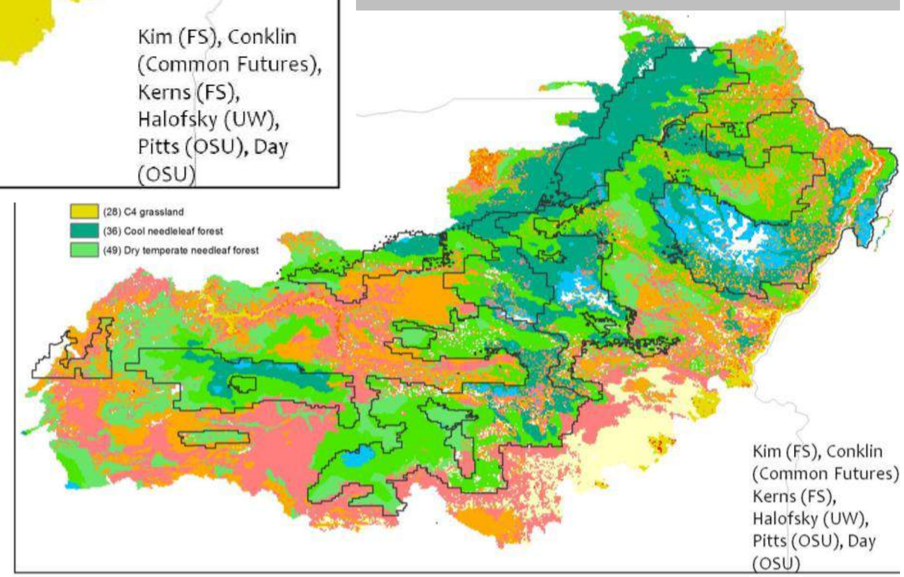
What can we do about climate change?

MC2 simulated vegetation types, 2071-2100
ALL FOUR GCM PROJECTIONS



Increasing forest resiliency will contribute to climate change adaptation.

MC2 simulated vegetation types, 1979-2008



Climate-informed vegetation models will help us understand potential interactions between alternatives and climate change

Summary

- Narrow project scope: dry forest resiliency and safe, landscape scale fire mgt.
- Project objectives:
  - Conserve and restore forest resiliency
  - Conserve high resource, social, and tribal values in the face of undesirable disturbances
  - Contribute to community social and economic resiliency
- Build off of zones of social agreement to develop the proposed action
- Consider what we leave as well as what we need to change
- Collaborate, iterate, communicate, built trust, rinse, and repeat
- Team charter includes testing ways to increase pace and scale
- FEIS/draft ROD by the end of calendar year 2017.
- Use the best available data, information, and science
- Use lessons learned from other large landscape projects
- Develop information and tools for future project planning

Next Steps and Opportunities for Collaboration

- Internal and external scoping (spring 2015)
- Range of variation and fire behavior modeling; field data collection and compilation (spring/summer 2015)
- Publish proposed action (fall 2015)
- Alternative development/effects (winter 2015-2016)
- Publish DEIS (spring 2016)
- FEIS/draft ROD (winter 2016)

The Blue Mountains Planning Team

Member	Title	Key Responsibilities
Michael Barger	Inter-regional Logging Engineer	Logging and Transportation Systems Analysis
Paul Boehne	Fisheries Biologist	Aquatics, Access
Michael Brown	Physical Scientist	Soils, Watershed, Minerals, Lands, LiDAR
Jenifer Ferriel	Ecologist/Botanist	Ecology, Range, Native and Invasive Plants
Amy Gowan	Social Scientist	Tribal, Socioeconomics, Heritage
Miles Hemstrom (INR)	Scientist	Ecological State and Transition Modeling
Hiring in-process	Public Affairs Specialist	Internal and External Communication; Writer-editor and NEPA support
Kristen Loughery (TEAMS)	Economist	Socioeconomics (with EWP)
Brenda McCants	Support Assistant	Administrative support lead
Neil McCusker	Forest Ecologist/Silviculturist	Silviculture, Climate Change
Eric White (EWP/U of O)	Sociologist, Economist	Socioeconomics (with Loughery)
Glen Sachet	Public Affairs Specialist, R6	Communication support
Ayn Shlisky	Team Lead	Team Lead
Brian Spradlin	Disturbance Ecologist	Fire Ecology, Fuels, Air, Wilderness, IRAs, Env. Coord
Melanie Sutton	GIS Specialist	Spatial analysis; mapping
Barb Wales	Wildlife Biologist	Wildlife; Recreation
Chris Zanger (TNC)	Forest Analyst	Fire Modeling

Questions or Comments?