

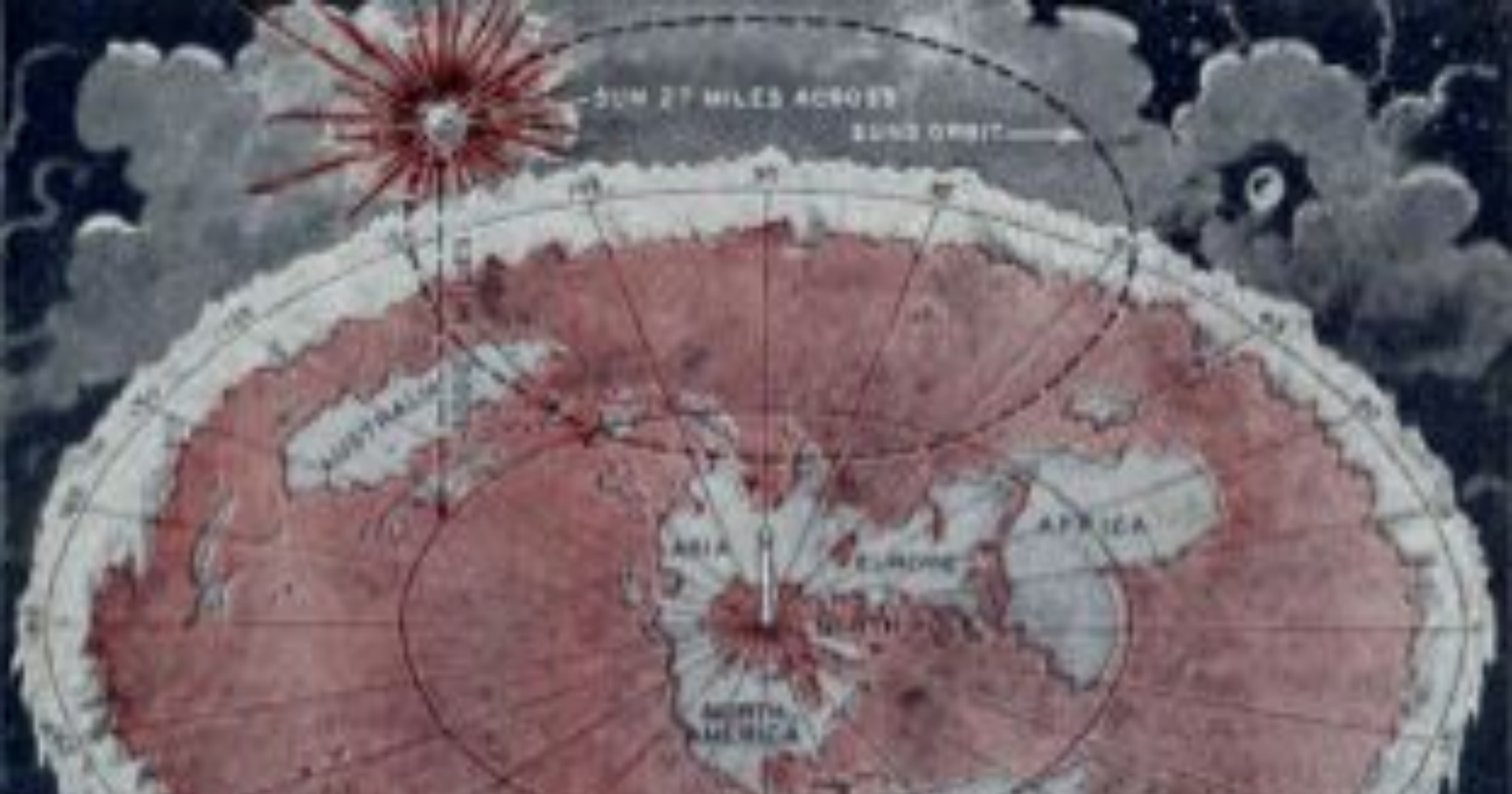
The Plan

Adaptive management as the pillar of the Northwest Forest Plan

Bernard Bormann

**US Department of Agriculture,
Forest Service
Pacific Northwest Research Station**

Adaptive management



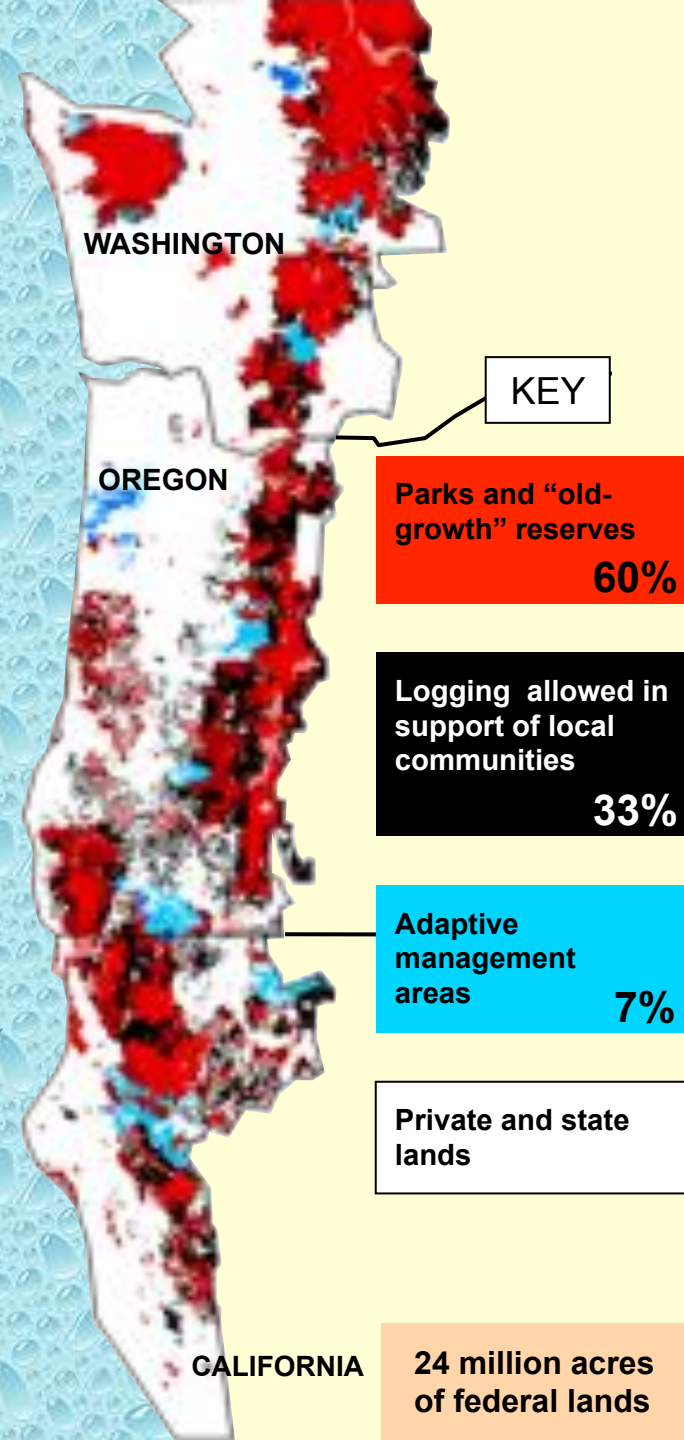
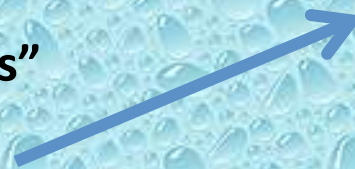
The great obstacle to discovering the shape of the earth, the continents, and the ocean was not ignorance, but the illusion of knowledge

— Daniel J. Boorstin

The Northwest Forest Plan



- ★ Spotted owl injunction (1992);
- ★ Presidential summit (1993);
- ★ Science-based assessment (1993);
- ★ An EIS (1994) --- **The Plan** --- amending all Forest plans with:
 - ★ A set of “standards and guides”
 - ★ Fixed land-use designations





Why was adaptive management chosen as a key pillar of the Plan?

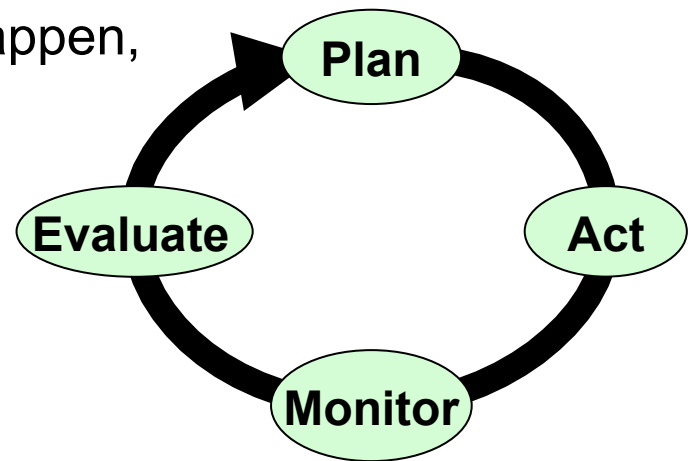
Scientists writing the forest ecosystem management assessment found:

- ★ Uncertainty in the conservation biology approach adopted
- ★ Uncertainties in social and ecological outcomes
- ★ It's never been done before

The Plan

The four elements of AM in the Plan

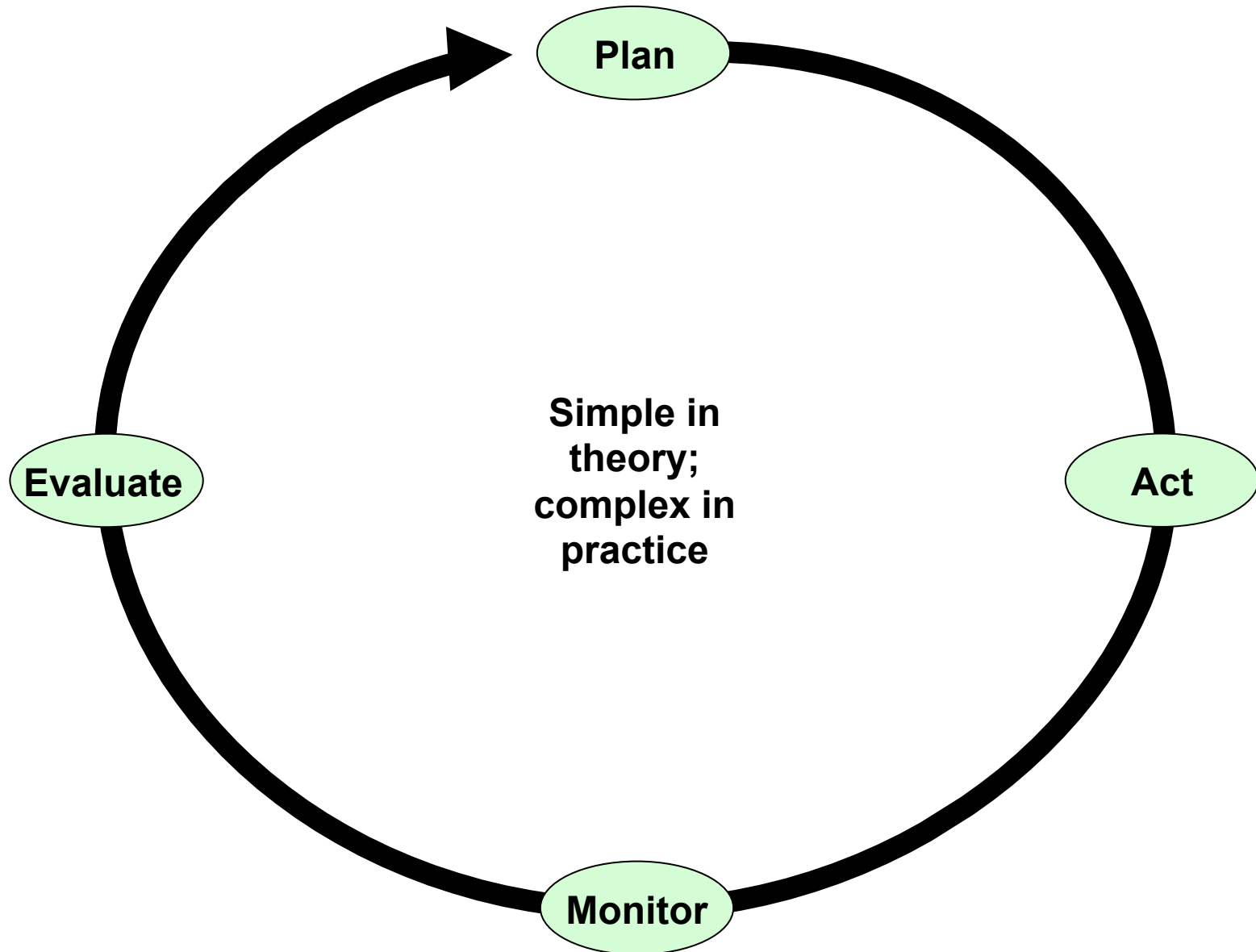
- ★ A place for it to happen,
- ★ An adaptive management process,
- ★ A new regional monitoring program, and
- ★ A formal interpretive step to gather up what was learned and to translate new understandings for decisionmakers' use.



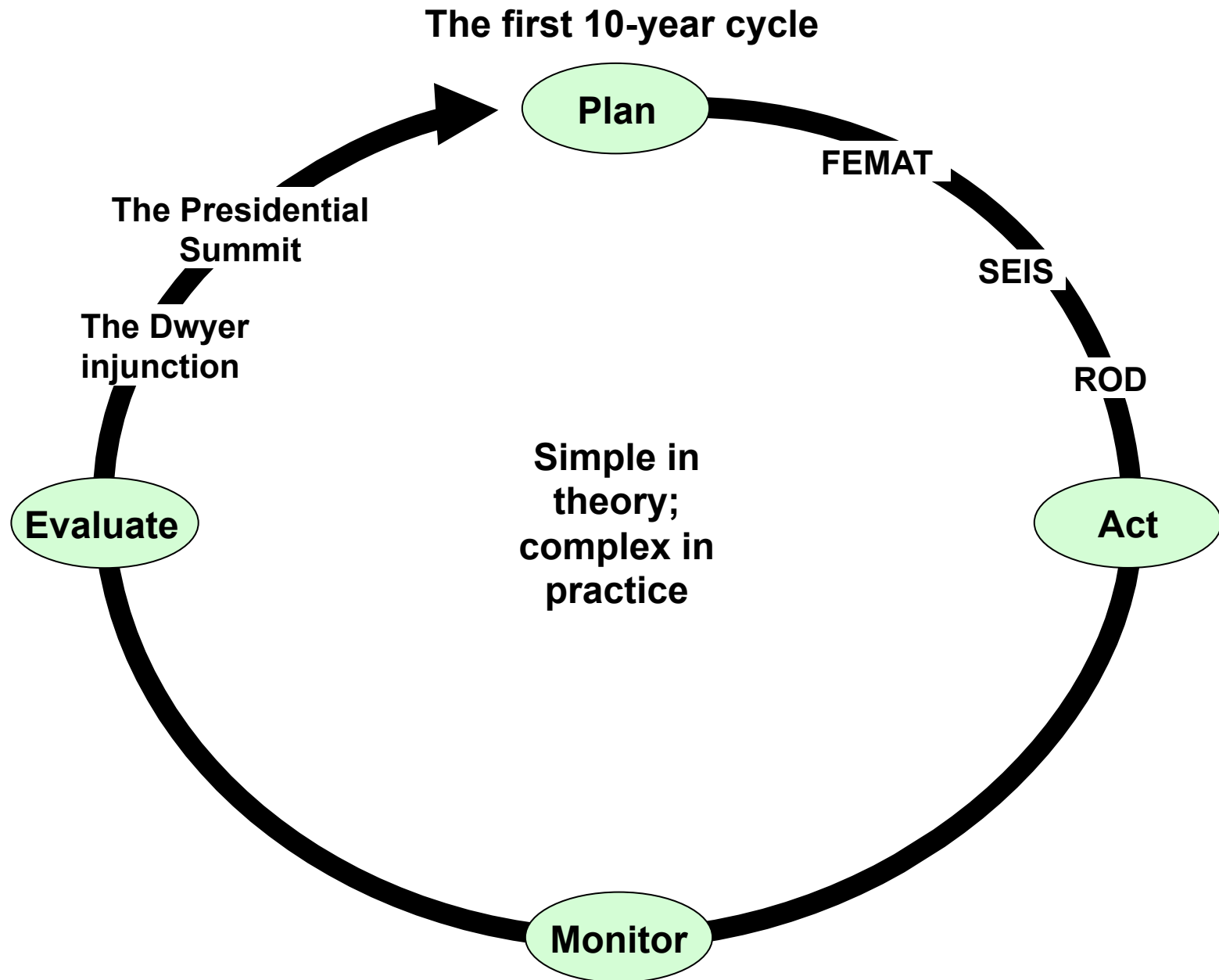
Adaptive management

The adaptive-management cycle—concepts versus implementation

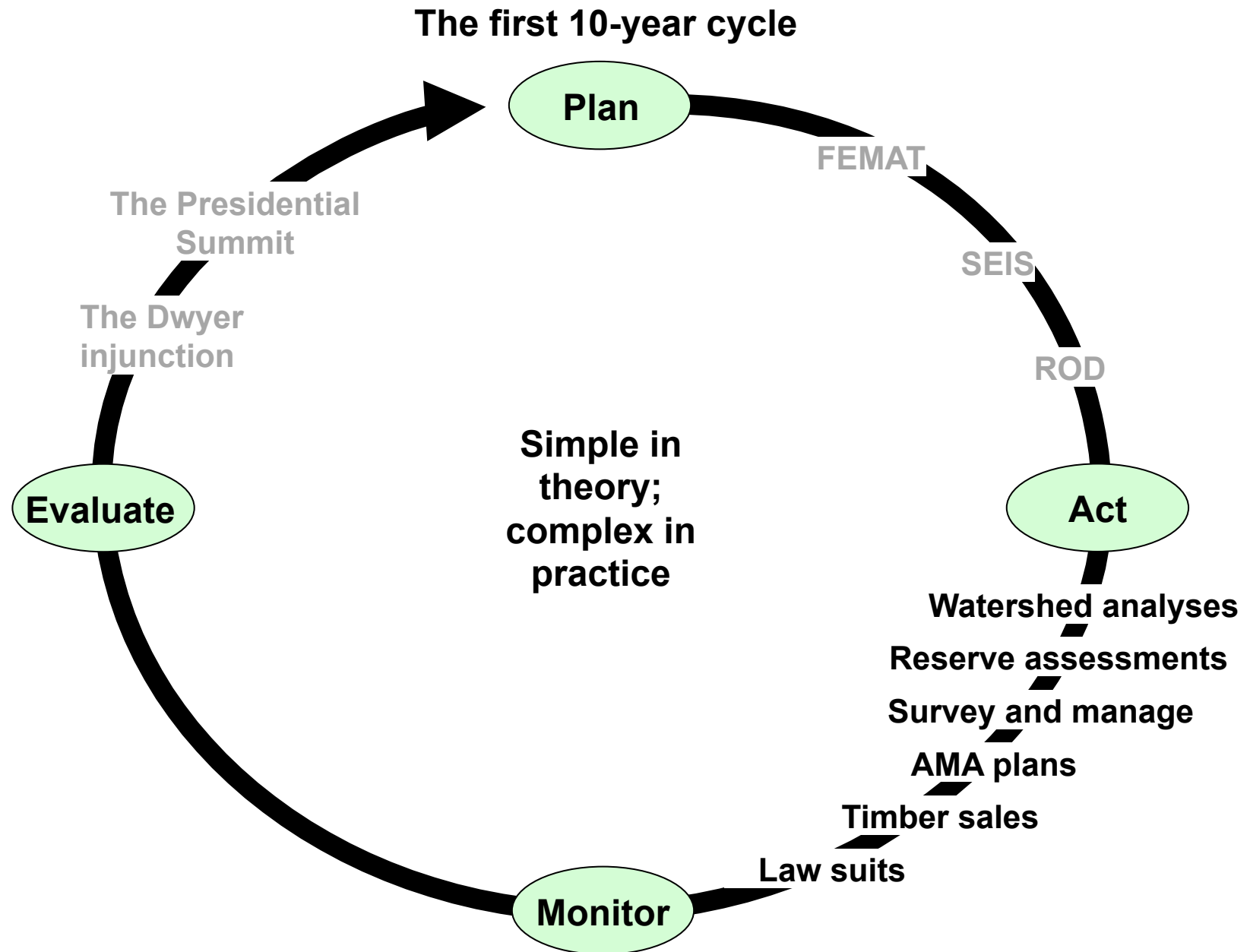
The first 10-year cycle



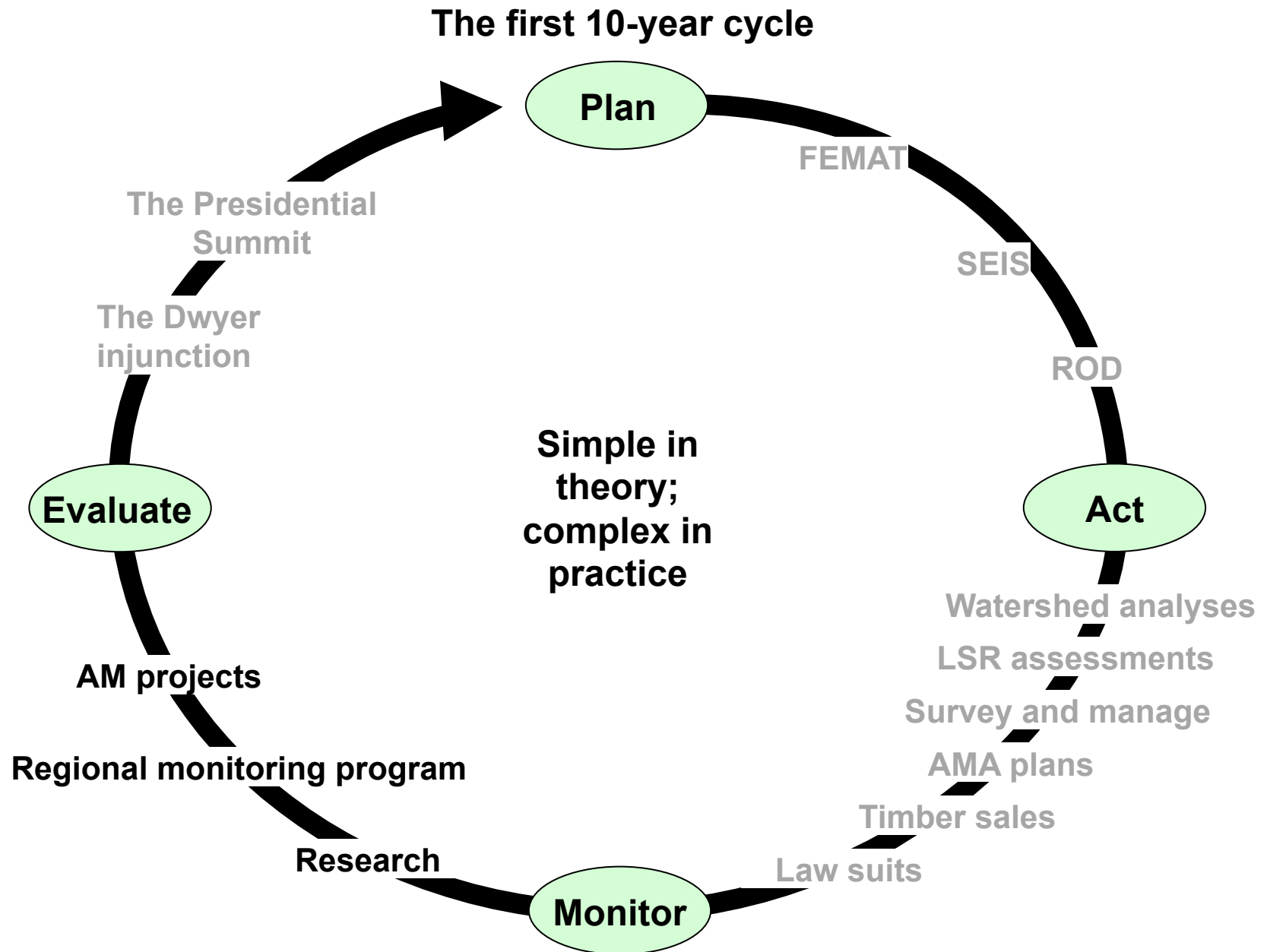
The adaptive-management cycle—concepts versus implementation



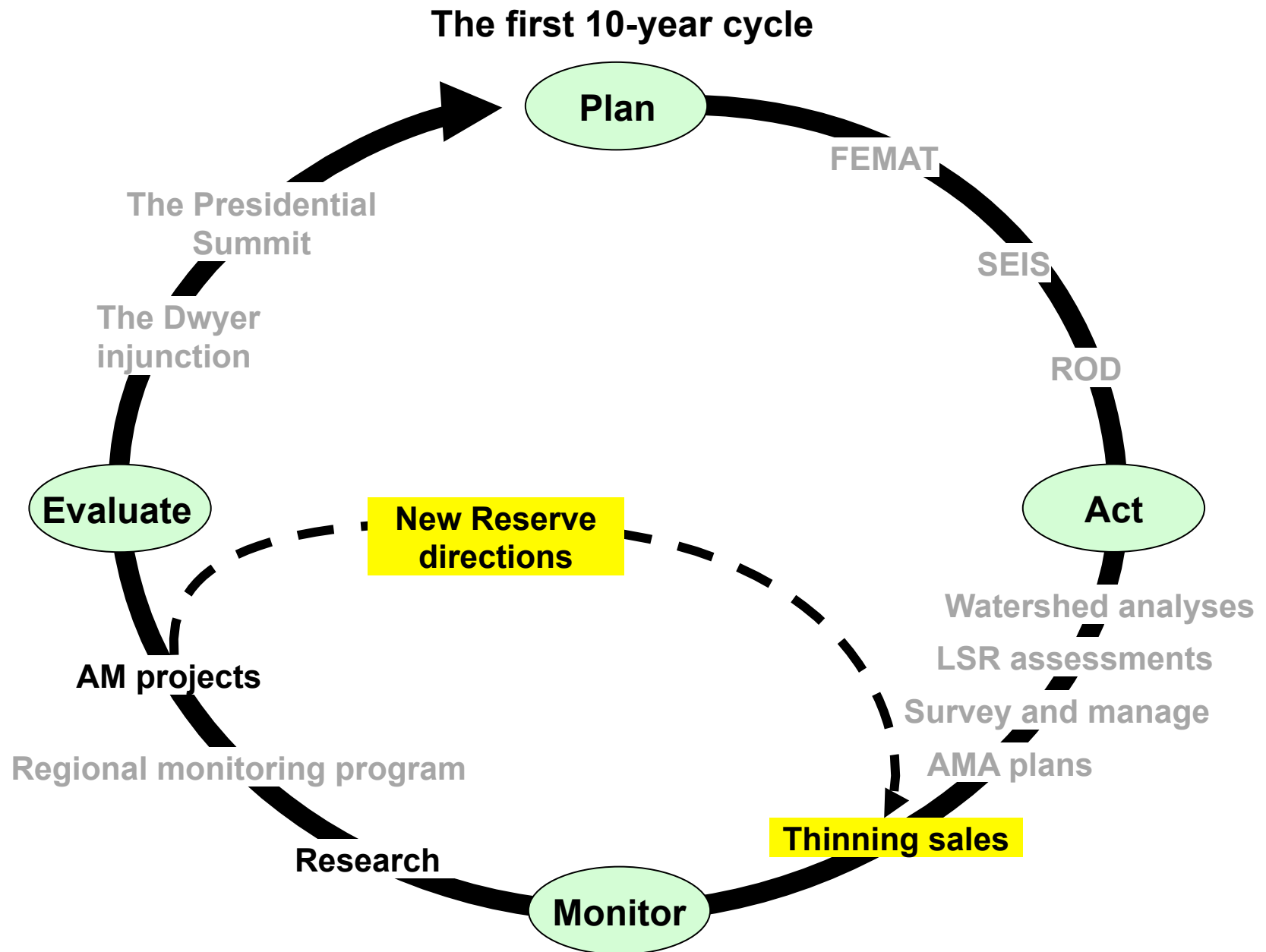
The adaptive-management cycle—concepts versus implementation



The adaptive-management cycle—concepts versus implementation

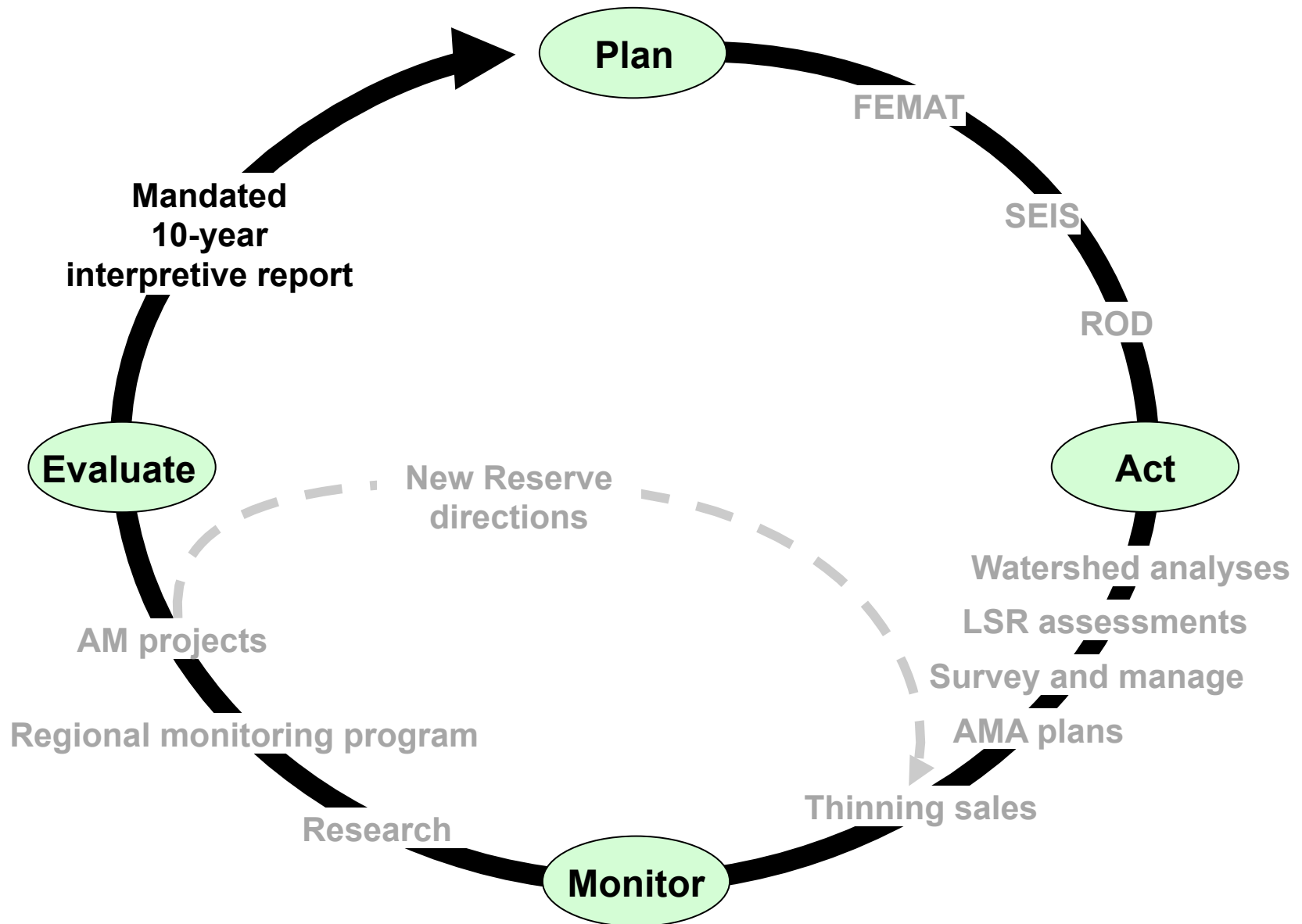


The adaptive-management cycle—concepts versus implementation

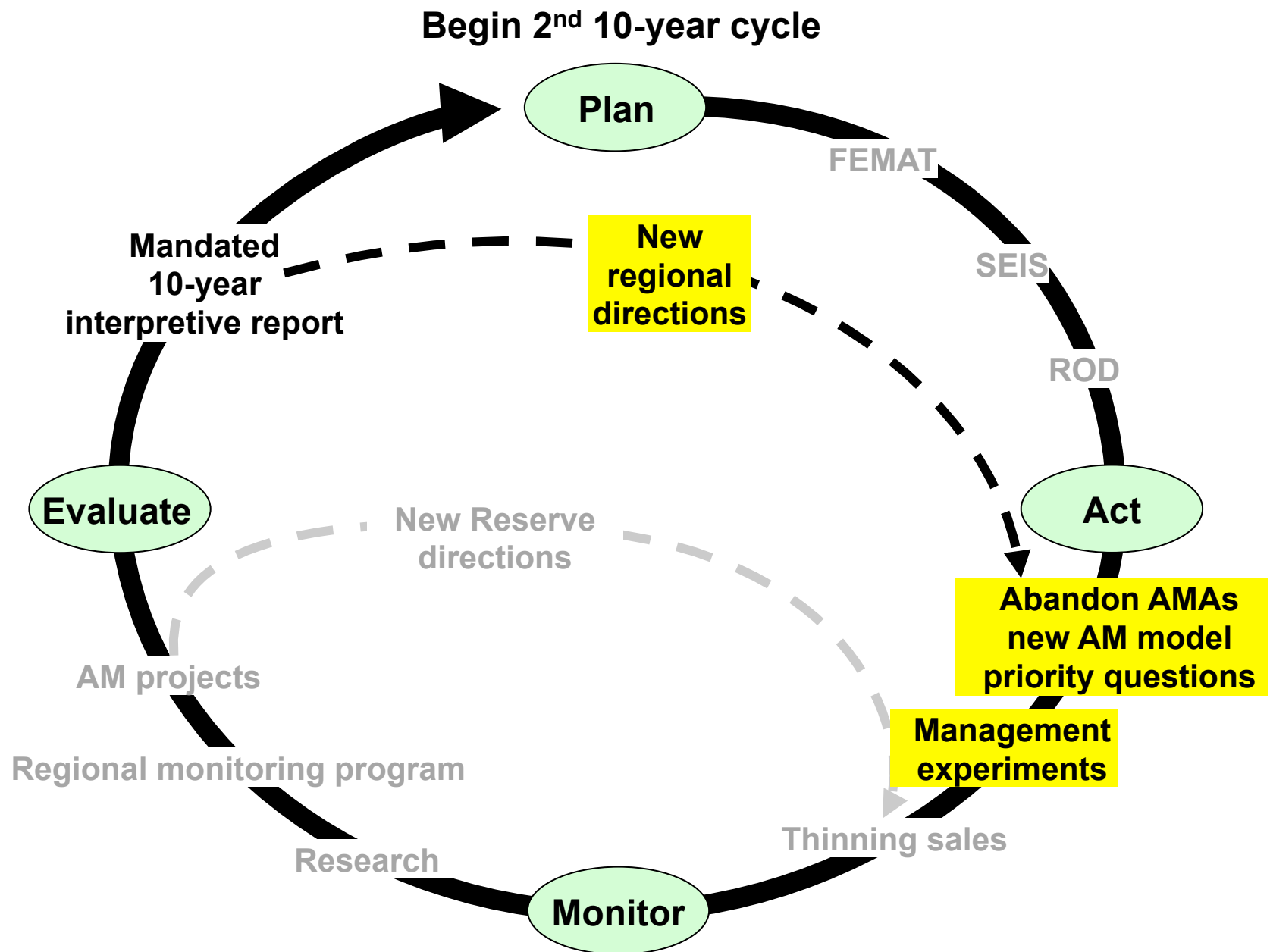


The adaptive-management cycle—concepts versus implementation

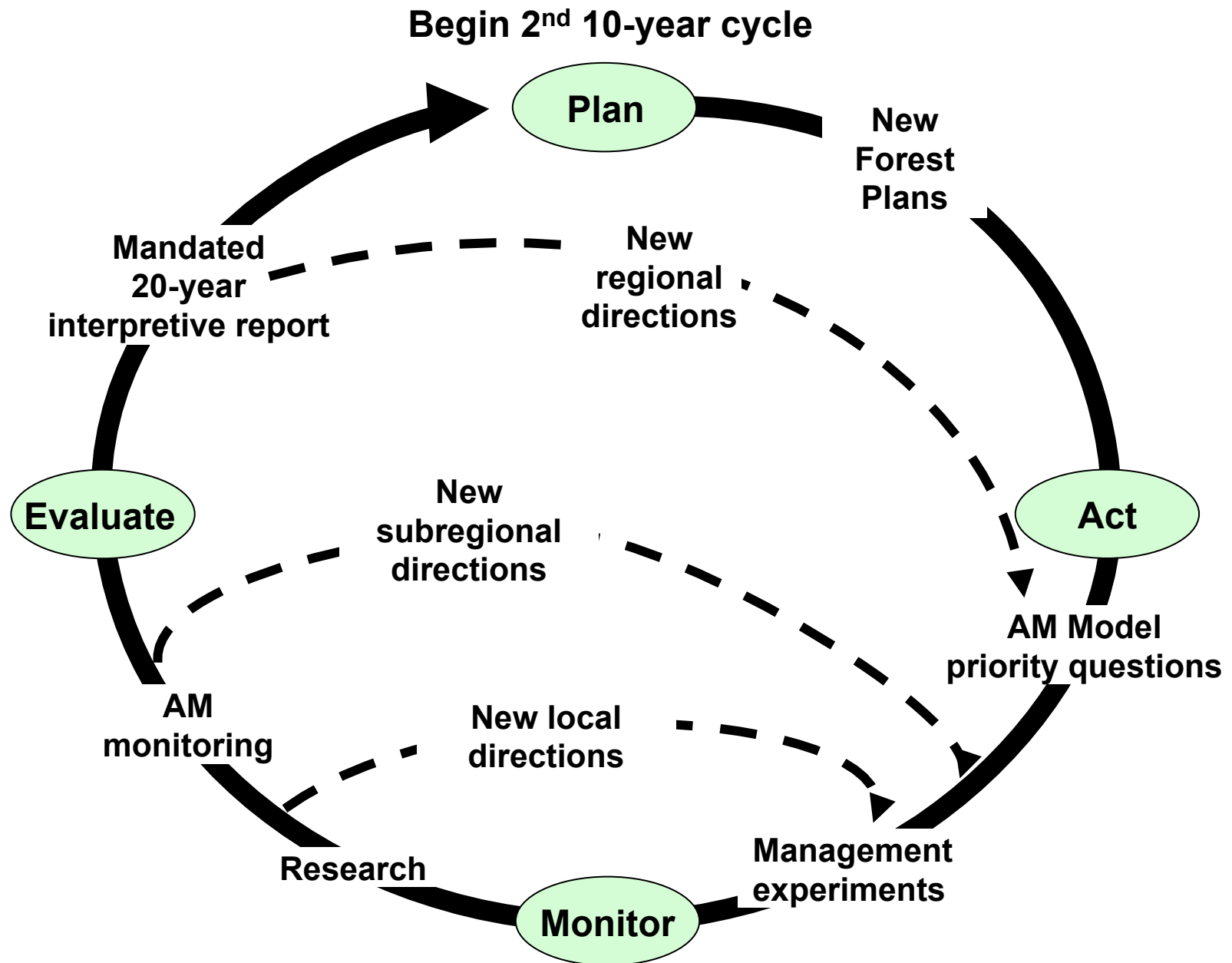
The first 10-year cycle



The adaptive-management cycle—concepts versus implementation



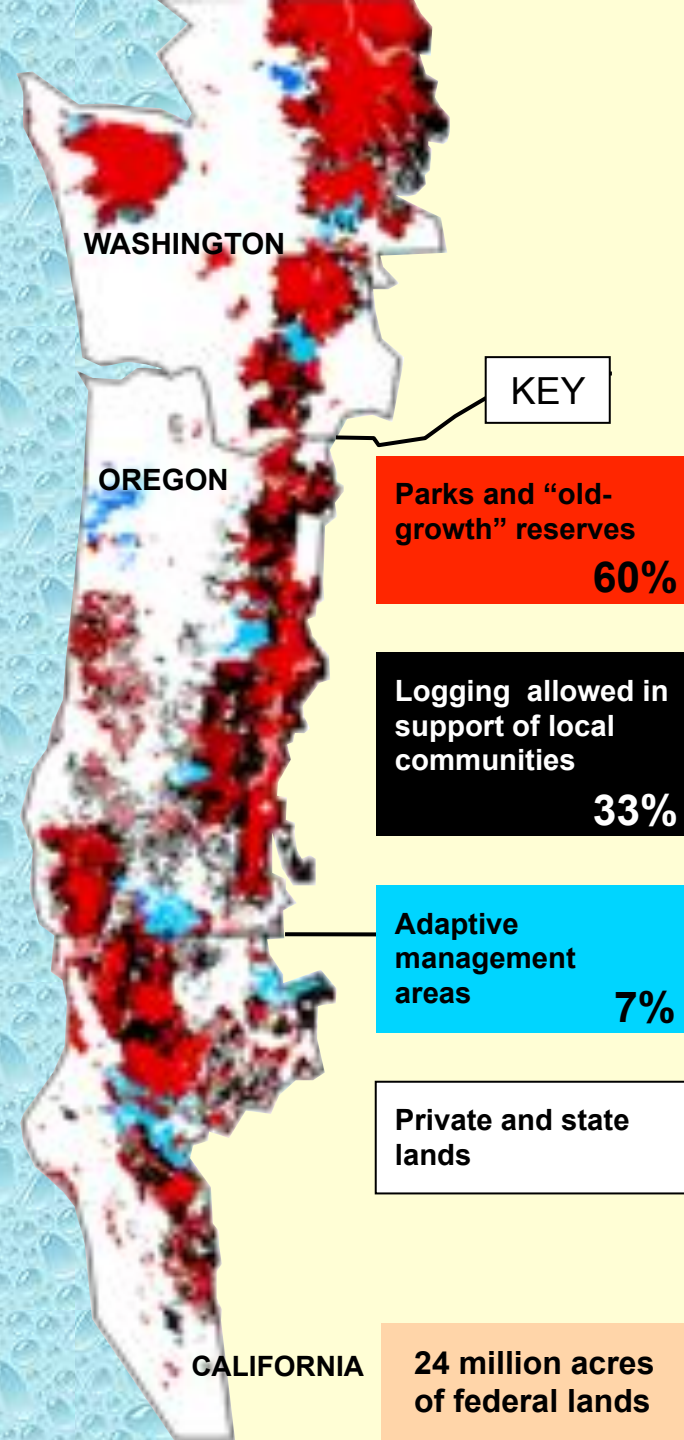
The adaptive-management cycle—concepts versus implementation



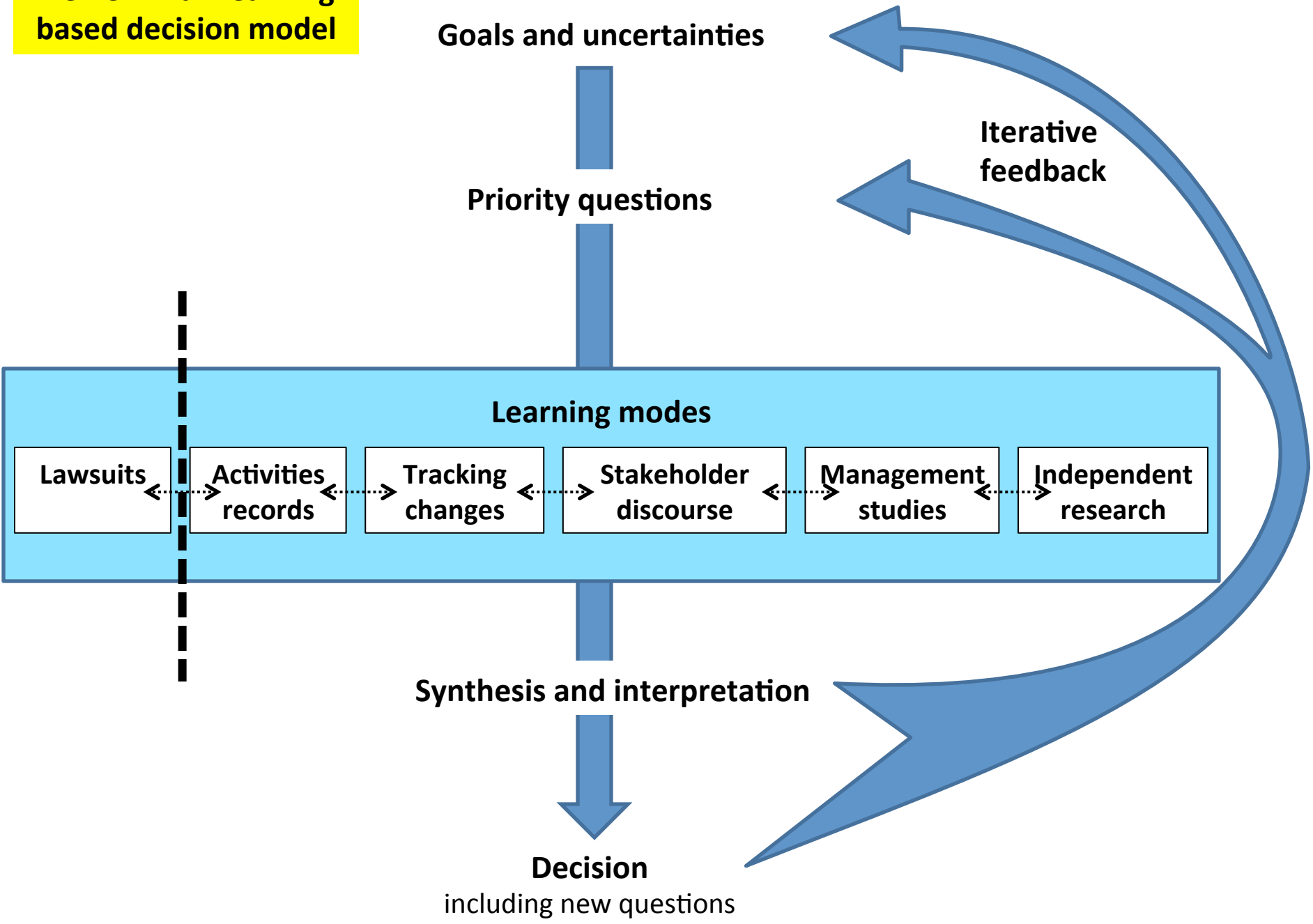
Plan-scale learning: the first 10 years

- ★ Major habitat gains;
- ★ Few timber sales;
- ★ Agencies downsized;
- ★ AMAs failed;
- ★ Loop closure institutionalized;

Resulting in new learning-based
decision model for 2nd cycle



The new Plan learning-based decision model



**Replacing
Forest Service
tradition**

Goals

Assessment

Learning modes

Lawsuits

**Activities
records**

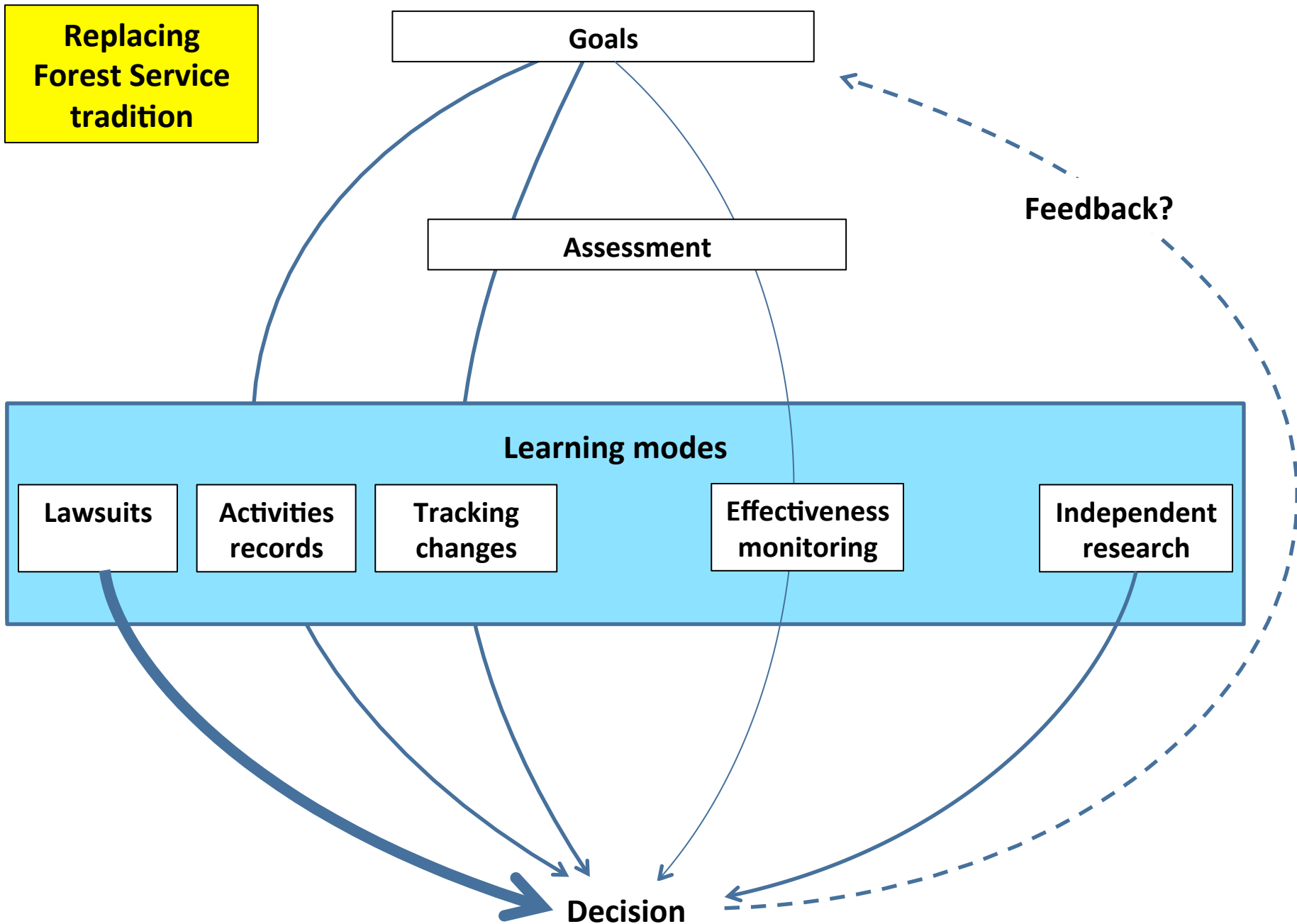
**Tracking
changes**

**Effectiveness
monitoring**

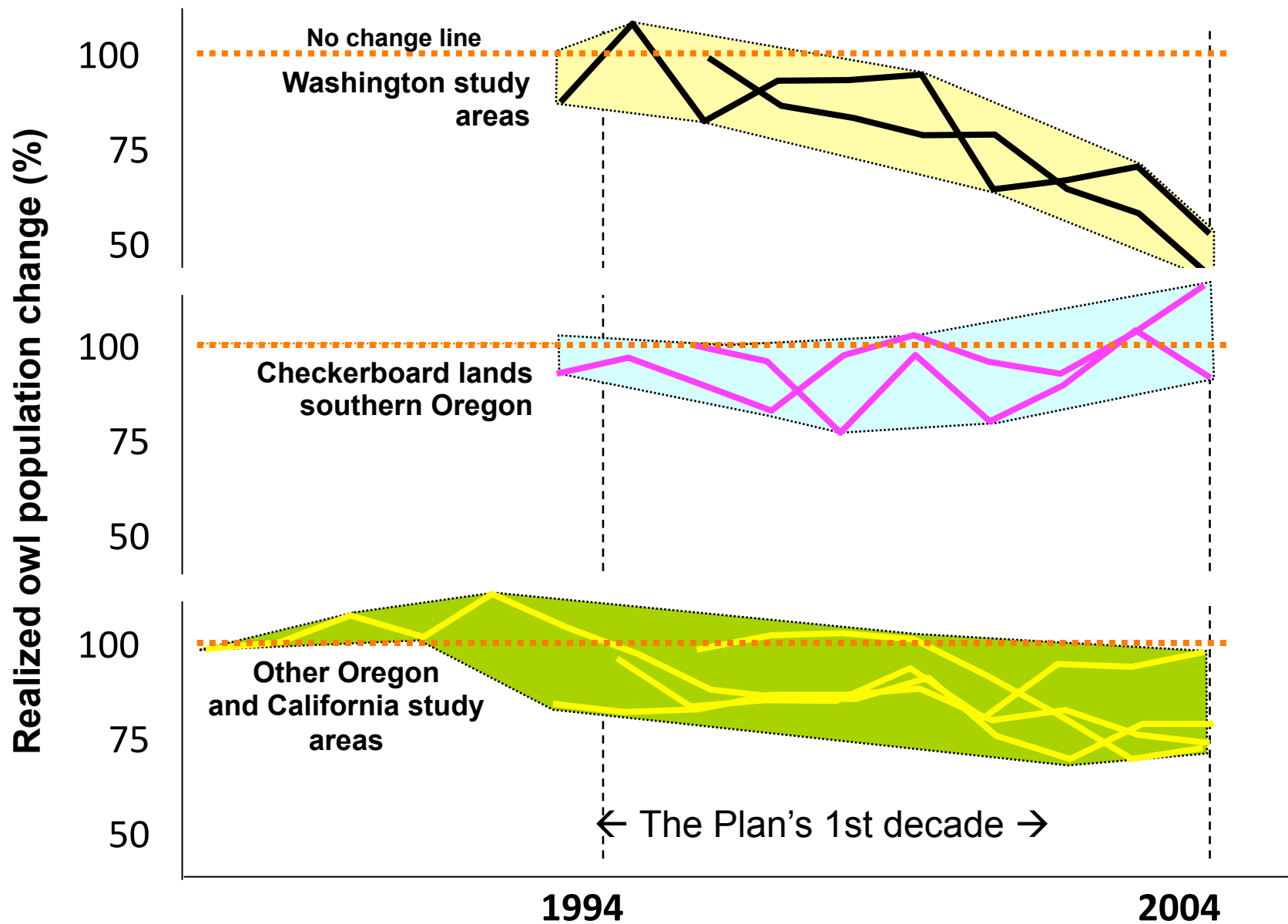
**Independent
research**

Decision

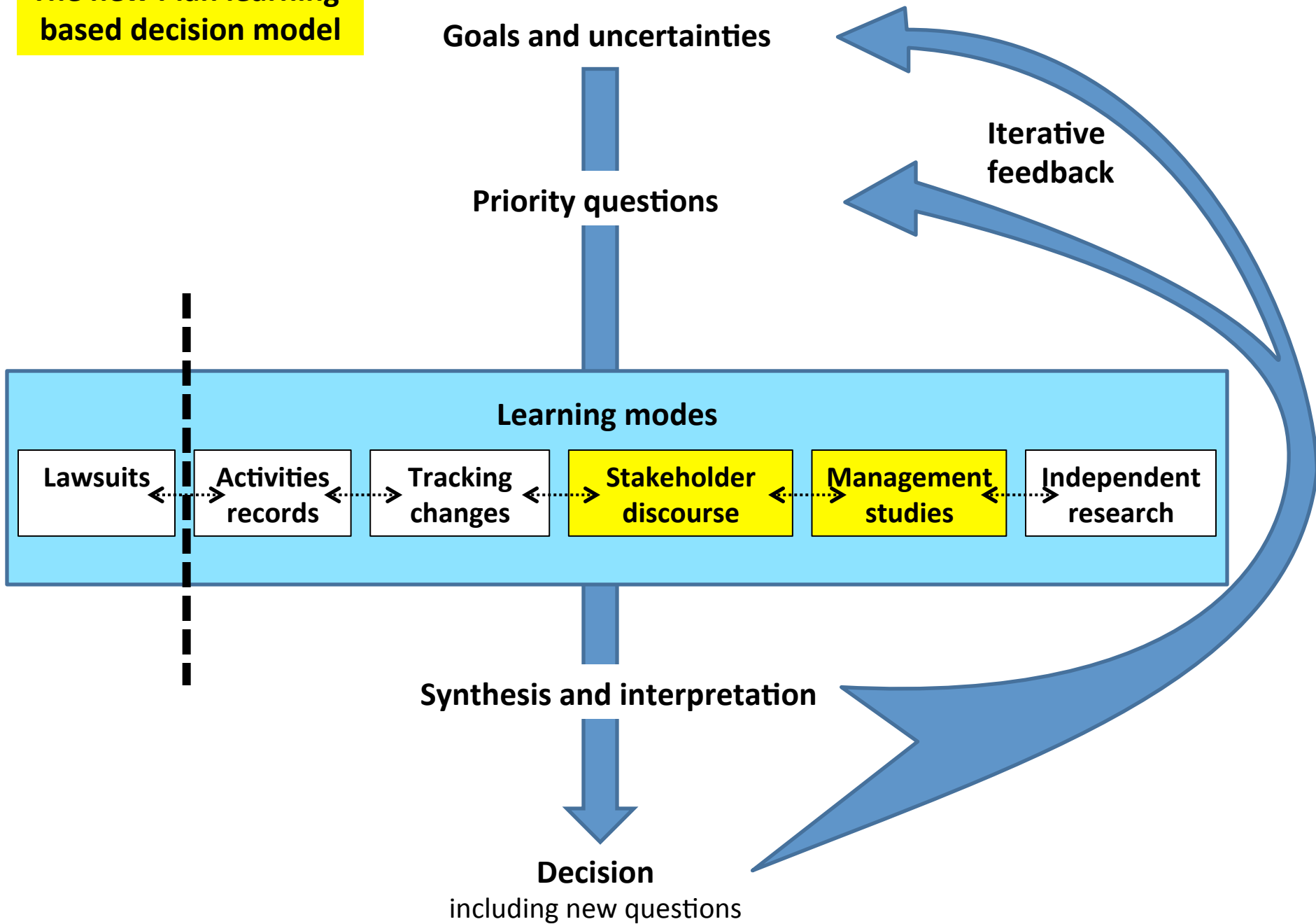
Feedback?



Tracking Northern spotted owls



The new Plan learning-based decision model



Parallel learning management study, example 1



PACIFIC OCEAN

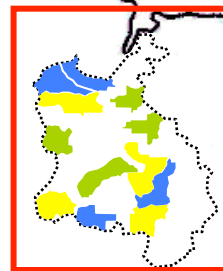
Newport

Waldport

Corvallis

Alesea

78,000-acre
Five Rivers
watershed

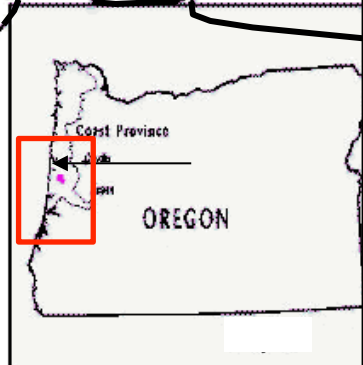


Expanded
in next
slide

Florence

Eugene

N



Initial management goals:

Create late-
successional habitat;
Improve streams;
and
Reduce road
maintenance costs.

Added learning goals:

Acknowledge uncertainty
Learn from a parallel
management study
Link researchers and
managers better

Plantations
100 to 300 trees/
acre



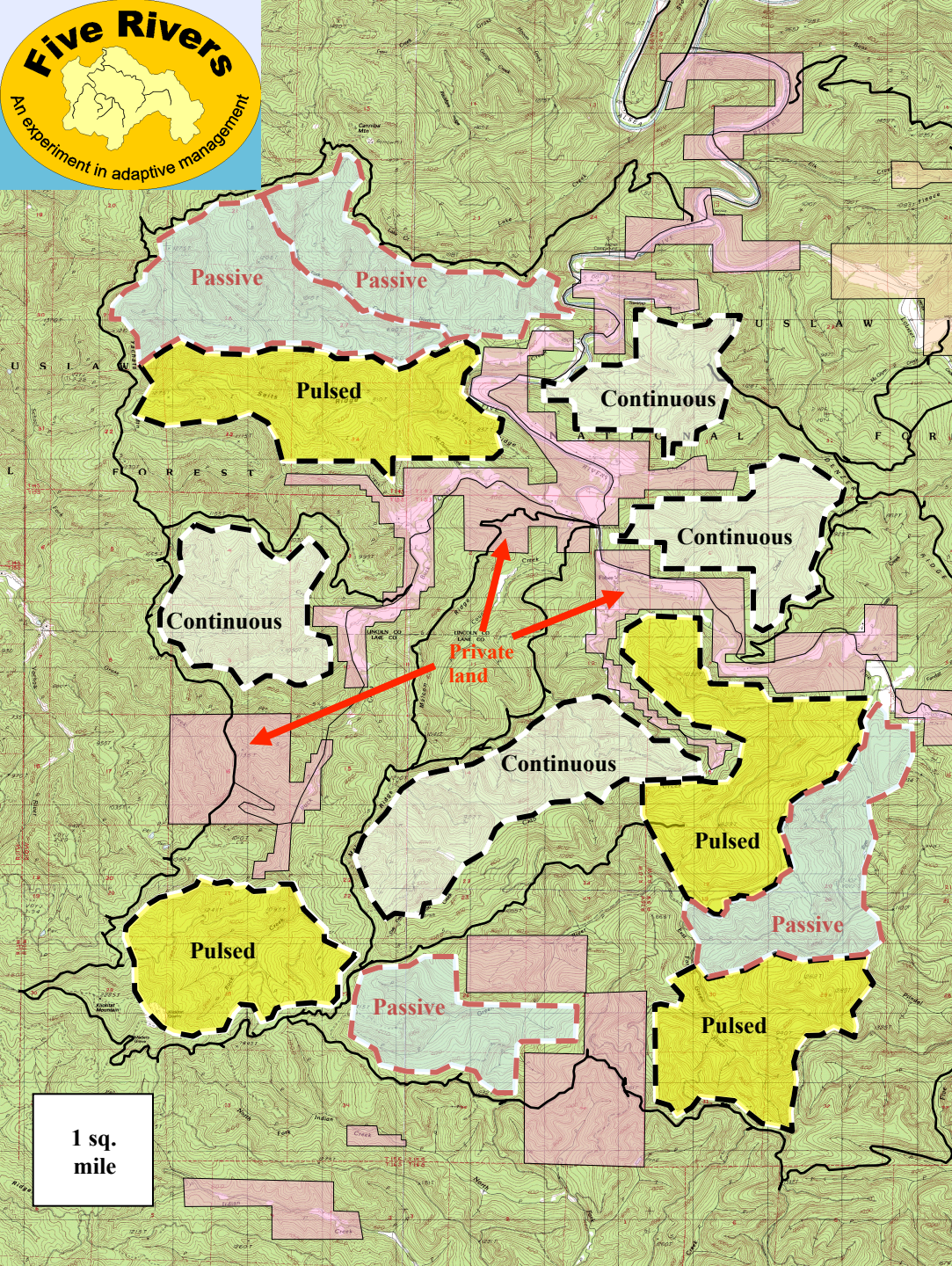
Here



There?

“Old-growth”
20 to 60 trees/acre





Parallel comparison

Passive--decommissions roads, allows existing plantations and aquatic systems to achieve objectives on their own;

Continuous--maintains roads open and thins plantations and restores streams frequently and at low intensity; and

Pulsed--thins plantations and restores streams aggressively, then closes roads for 30 years before reopening them for further management.

Lessons from Five Rivers

- + Took on a big and controversial question;
- + Adding a learning objective to EIS purpose and need worked well;
- Stakeholder participation not possible;
- +/+ Learning focus gained support from both ends of stakeholder spectrum;
- +/- Most controversial strategy tried became the norm; and
- /- Monitoring not started until this year.

**Parallel management study 2:
Eastside Accelerated
Landscape Learning**



Parallel management study 2: Eastside Accelerated Landscape Learning

1.2 million acres
needing restoration to
reduce wildfire risk

+

18% unemployment

+

Threatened mill closure

+

NW delegation consensus

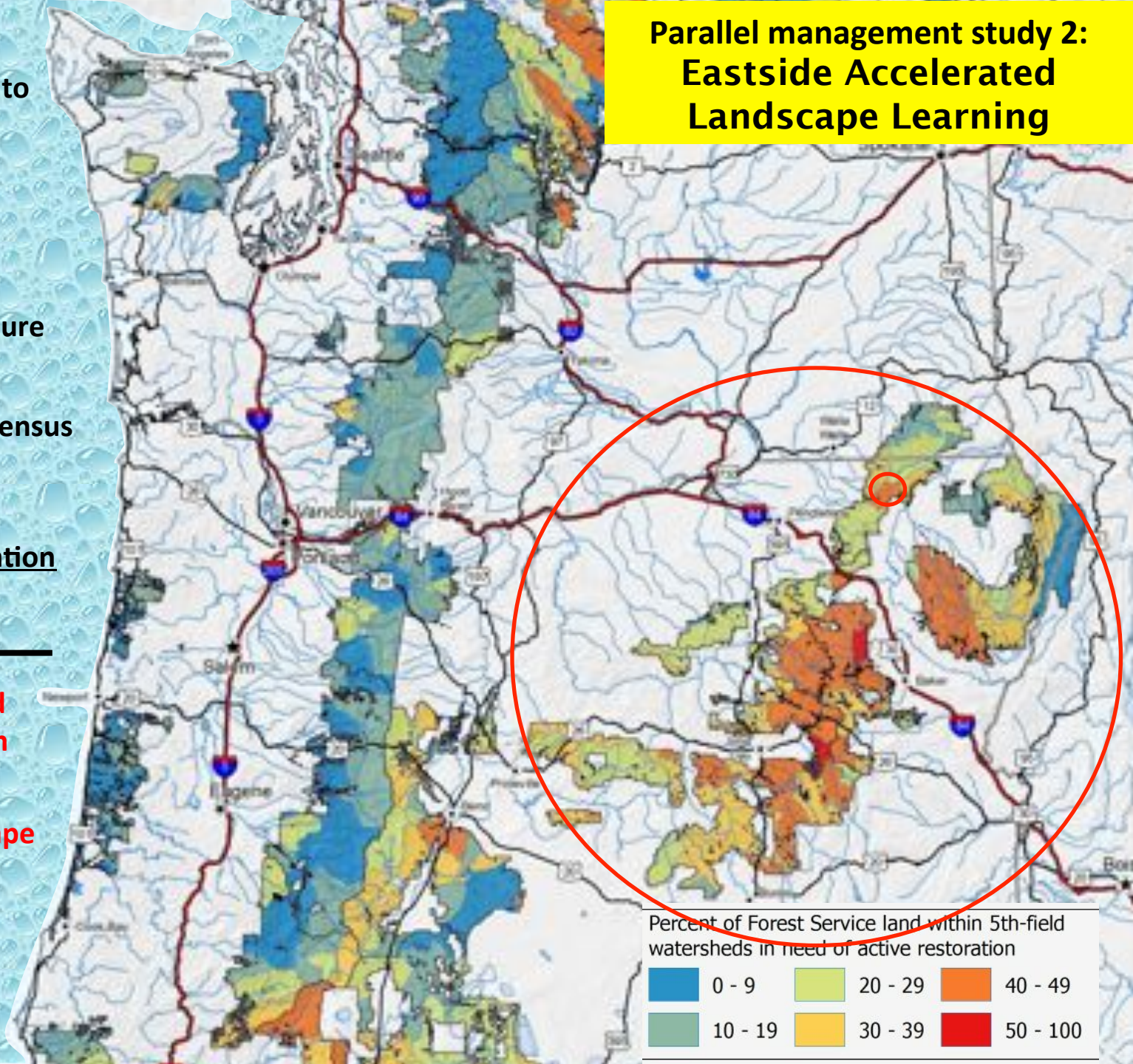
+

New Planning Rule
facilitating collaboration
and learning

Eastside Accelerated
Restoration program

+

Accelerated Landscape
Learning



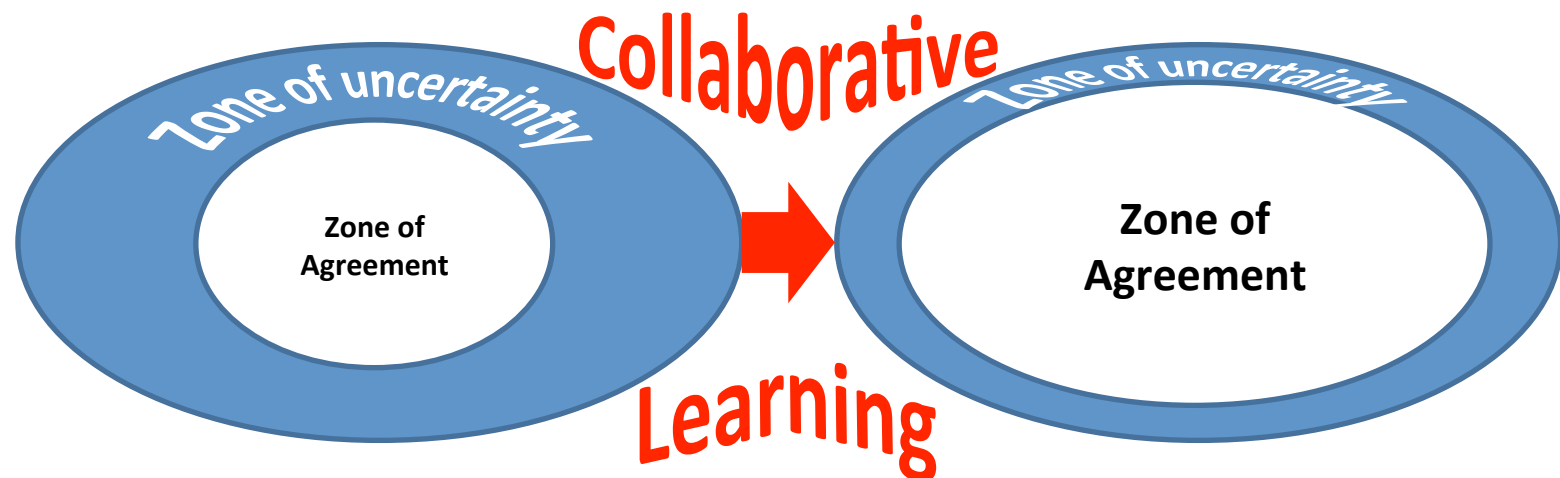
Umatilla National Forest Collaborative Group

Parallel management study 2: Eastside Accelerated Landscape Learning

To develop and promote balanced solutions from a diverse group of stakeholders to improve and sustain ecological resiliency and local community socioeconomic health in and near the Umatilla National Forest.

Collaborative learning conceptual model

- ★ Learn together
- ★ Use design to improve learning quality
- ★ Let learners export acceptance of findings



Umatilla National Forest Accelerated Landscape Learning Experimental Design

Management strategies to be compared:

Do not harvest in
existing plantations or
older forest buffer

Manage in existing
plantations only

Manage in existing
plantations and older-
forest buffers—with
riparian focus

Manage in existing
plantations and older-
forest buffers—tribal
focus

Block-strategy (plot)

Project boundary