State Forests
Research and Monitoring

Research & Monitoring
Annual Report

Board of Forestry
April 29, 2008

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History

- Pre-1995 - Research Committee
- 1995 - Research Policy approved
- 1998 - Research & Monitoring Coordinator
- 2001 - Strategic Plan approved
  - Implementation and effectiveness monitoring
- 2008 - Strategic Plan revision

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Presentation Overview

- Background
- Why do research and monitoring?
- How did we frame the program?
- What can you expect, when?
- What will the future bring?

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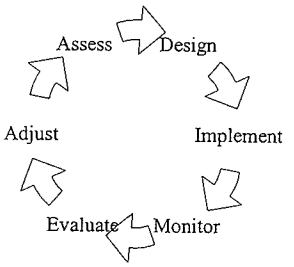
Why do research and monitoring?



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- Research
  - Tests scientific hypotheses
    - e.g., Swiss Needle Cast, Young Stand Management
- Monitoring
  - Answers questions of implementation and effectiveness
    - Selected projects

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Monitoring program objectives:

- FMP strategies implemented
- FMP strategies effective
- Information for adaptive management
- Forests managed to achieve GPV
  - Test of "key working hypotheses"
  - FMP and BOF scale

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Funding

- 5% of State Forest Management Program fiscal budget
- Budget may fluctuate
  - Build sustainable baseline
  - Emphasize existing expertise
- Crucial research and monitoring maintained

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Investments 2003 - 2007

FY2003	FY2007
$580k	$1,307k
2.6%	4.0%

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Research & Monitoring Personnel

- 1 NRS 3 Monitoring Specialist
- 1 NRS 2 Monitoring Specialist
- 1 NRS 4 (LD) Forest Modeler
- 4 Summer Interns

(Draw on Resource Specialists, Inventory Foresters, IT/GIS Specialists, etc.)

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Development of the Program

- Working Hypotheses
  - Management Strategies
  - Research & Monitoring Themes
    - Projects

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Research and Monitoring Themes

- Implementation monitoring
- Stand structure development and wildlife relationships
- Hydrologic functions and aquatic and riparian habitat
- Forest health
- Young stand development
- Socio-Econ studies

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Examples of Current and Completed Projects

Implementation Monitoring Pilot	Stand Management Cooperative
NCASI spotted owl monitoring	Hardwood Silviculture Cooperative
Stand Structure and Wildlife Habitat	PNW Tree Improvement Research Coop.
Pileated Woodpecker Foraging – Sun Pass	OR Headwaters Research Coop.
Stream Temperature & Riparian Function	T&E Species Surveys
Young Stand Management Strategies	Spotted Owl Surveys – Tillamook Burn
Swiss Needle Cast-Commercial Thinning	Barred Owl/Spotted Owl Interactions
Cooperative Forest Ecosystem Research	Forest Roads Strategy Effectiveness
Swiss Needle Cast Cooperative	Public Acceptance Surveys

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Projects by R&M Theme

Implementation monitoring
- Implementation monitoring pilot project.

Stand structure development and wildlife relationships
- Mature forest study
- Barred Owl/NSO interactions
- Coarse filter monitoring
- Structure development/Habitat effectiveness
- Effects of thinning on songbirds

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Projects by R&M Theme

Hydrologic functions and aquatic and riparian habitat
- Riparian function and stream temperature (RipStream)
- Trask Watershed Study

Forest health
- SNC – Commercial thinning / Stand growth assessment tool
- Periodic forest health surveys & research coops

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Projects by R&M Theme

Young stand development
- Integrative young stand management
- Animal browse study
- Vegetation and wildlife response to gaps in young stands

Socio-Econ studies
- Economic analyses for performance measures
- Public opinion survey

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Anticipated timeline for selected project information

PROJECT	BIENNIAL REVIEW				
	2008	2010	2012	2014	2016
Mature Forest Study		IR	FR		
N. Spotted Owl/Barred Owl interactions		IR	FR		
Stand structure/Habitat effectiveness	IR		IR		IR
Coarse filter monitoring	IR	FR			
Response of birds to thinning		IR	IR	FR	
RipStream	IR	IR	IR	FR	
Trask Watershed study	IR		IR		FR
Integrative young stand management	FR				
Plant nutrition and animal browse	IR	FR			
Wildlife response to gaps	IR		IR		IR
SNC – Commercial thinning	FR				
Public opinion surveys	IR	IR	IR	IR	IR

IR – Interim Report; FR – Final Report; Excluding research cooperatives

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Monitoring program objectives:

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  - *Test of "key working hypotheses"*
  - *FMP and BOF scale*

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- Key Working Hypotheses:

  "Collectively, these working hypotheses form the basis for the set of integrated forest management strategies described in the Chapter 4. They also provide the foundation for the key questions that must be explored through time, as this plan is implemented, to assure that change occurs in an appropriate and timely manner." (NW FMP pp.3-19)

- The closest to "performance measure" criteria within current FMP (includes reference to goals)

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- How are we doing at testing the 12 key working hypotheses?
  - What is our level of confidence that we will be able to prove or disprove the working hypotheses?
  - Associated R&M themes

FMP 12 Key Working hypotheses	Confidence Level	R&M Theme
The citizens of Oregon will continue to support integrated and active management of state forests in northwest Oregon to provide for multiple outputs and benefits.	MEDIUM	s-e
An active and integrated forest management approach will provide for high levels of sustainable and predictable timber and revenue while concurrently providing habitat for native fish and wildlife species.	LOW	ss, ar
Identification and protection of key habitat areas for specific species will maintain existing populations as a source to colonize new habitat.	HIGH	ss,ar,ysm
Species will colonize new habitat as it develops over the longer term.	HIGH	Val. mon.
A diverse array of stand types will, at various times, provide for achievement of all the resource goals outlined in the previous section of this plan.	HIGH-LOW	ss,ar,ysm,fh
Providing for biodiversity at the landscape level requires providing for an array of forest conditions through time and space that emulates conditions created by historic disturbance regimes.	MEDIUM	ss,ar,ysm,fh
Providing for a diverse array of forest conditions through time can be accomplished in a managed context through the application of silvicultural principles.	HIGH	ss,ar,ysm,fh
A diverse array of forest conditions will enhance overall forest health and reduce the risks of catastrophic loss from insects and disease.	MEDIUM	ss,ar,ysm,fh
Active management through a combination of landscape-level strategies and site-specific standards will result in maintaining and restoring properly functioning aquatic and riparian habitats.	LOW	ss,ar,ysm,fh
Timber markets will exist over time for the range of timber types and qualities that will be produced from state forests. The diverse "portfolio" of products available from a diverse array of stand structures will strengthen the ability of state forests to capitalize on changing markets.	MEDIUM	Asset mgmt.
A diverse array of forest conditions will provide diverse recreational opportunities on these state forest lands.	HIGH	Rec. prog.
Long-term management of natural resources can only succeed within a framework that provides for change	(LOW)	Adapt. mgmt.

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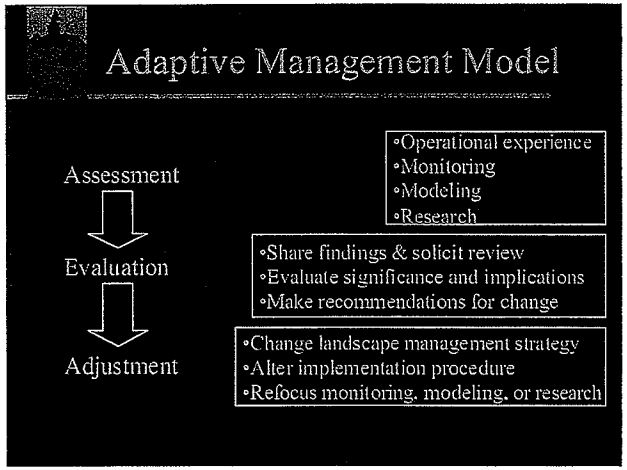
Next Steps

- Continue work on Adaptive Management Framework (July BOF)
  - Develop process and schedule for R&M syntheses related to FMP strategies, hypotheses
  - Process to better separate science and policy discussions
    - » Science evaluation → Policy implications → BOF decisions
  - Incorporate ODF and non-ODF studies; use SER principles and processes when appropriate
  - Incorporate BOF performance measures and their evaluation



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Next Steps (2)

- Develop process and schedule for biennial reviews of performance measures
- Outreach
- Next review in April, 2009