



# Private Forests Monitoring Unit Update

**Oregon Board of Forestry, 5 September 2018**

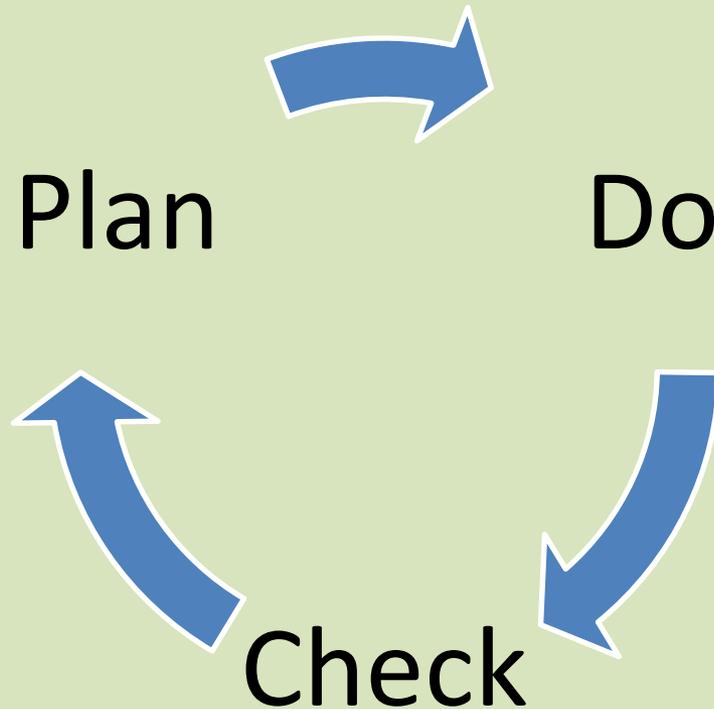
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Manager, Forest Health and Monitoring

**Paul Clements**  
Training Coordinator

**Adam Coble**  
Monitoring Specialist

**Ariel Cowan**  
Monitoring Specialist

# Why Monitor?



- **Expectations**

- Statute, Rule, Policy
- Agency best practice

- **Emphasis**

- Collaboration
- Continuous learning
- Adapting to new science
- Rules

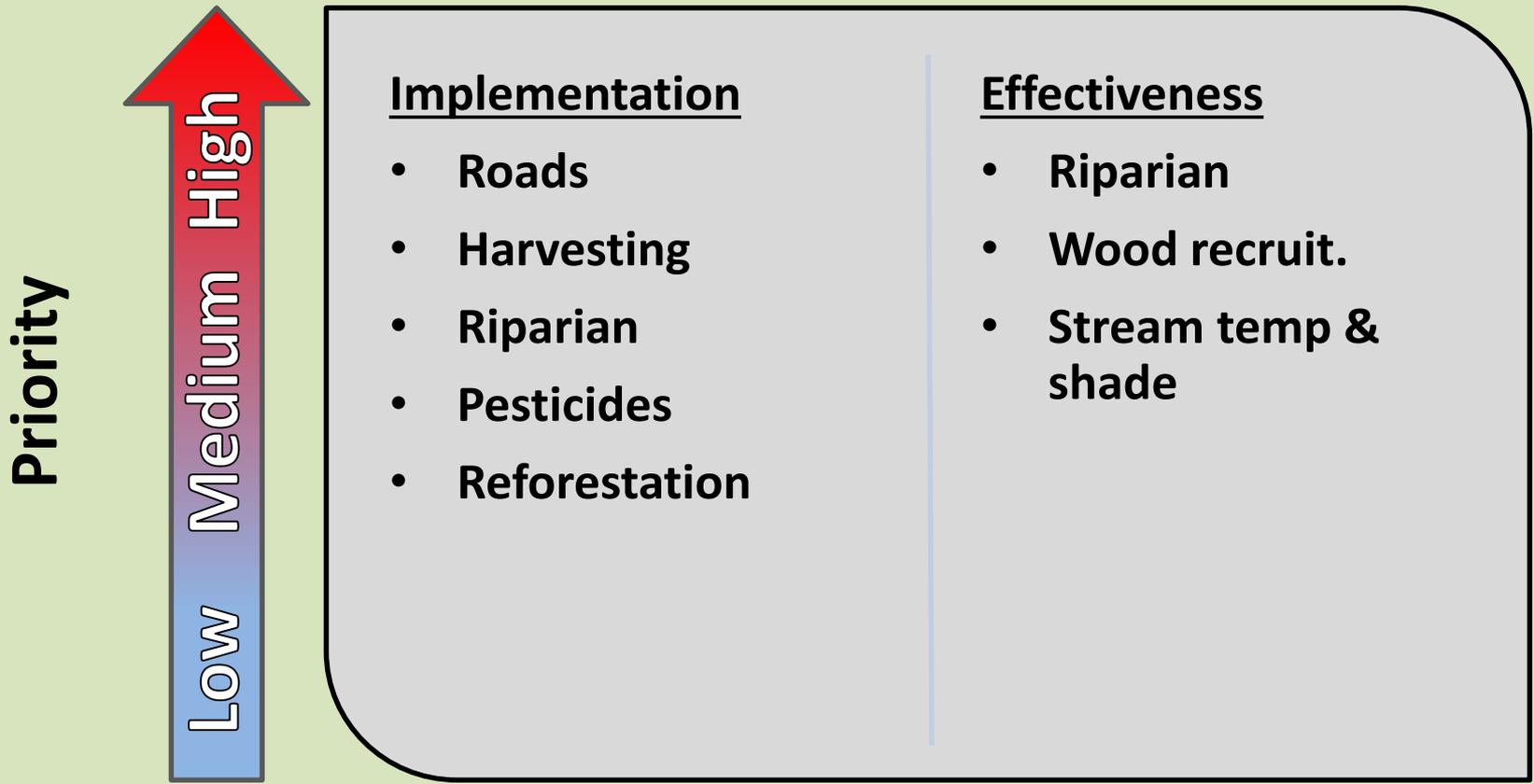
- Riparian

- Landslides, Public Safety

- Pesticides

References: ORS 527.710(7), OAR 629-635-0110,  
OAR 629-623-0000(4), OAR 629-620-0700,  
Forestry Program for Oregon

# Living the Strategy: Priority Work Topics



All projects: High – medium priority topics

# Monitoring Update

- **Implementation**

- Compliance Audit: 2013-2017 effort (2017 focus)
- Up next: Reforestation Study

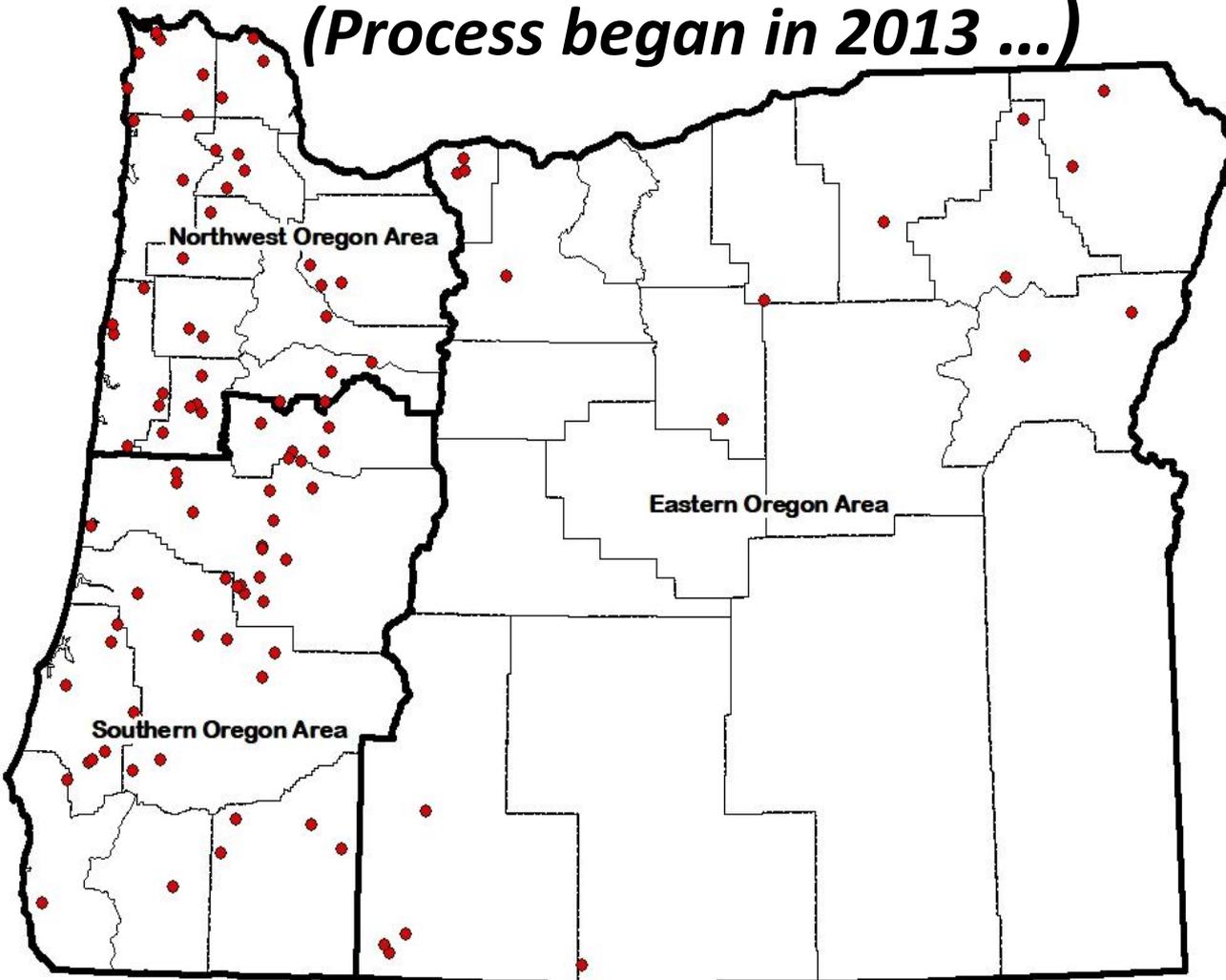
- **Effectiveness**

- Western OR streamside protections review
- Siskiyou streamside protections review

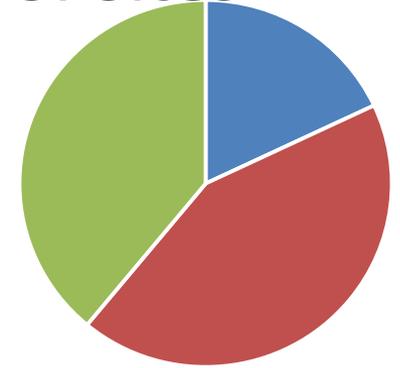
# Forest Practices Compliance Monitoring - 2017



*(Process began in 2013 ...)*



## Distribution of Sites



■ Eastern Oregon Area

■ Southern Oregon Area

■ NW Oregon Area

**2017: 100 sites statewide, stratified based on ODF Area and Ownership Class**

Rule Divisions subject to this study are:

## **Written Plans of Operation – Various Divisions**

- **Road Construction & Maintenance**
- **Harvesting**
- **Vegetation Retention along  
Streams**
- **Protection of Significant Wetlands**
- **Protection of “Other Wetlands”**
- **Operations Near Waters of the State**

# PROCESS

CONTRACTOR Gathers Field Data  
Electronic download to ODF



ODF Analyzes Data for Compliance



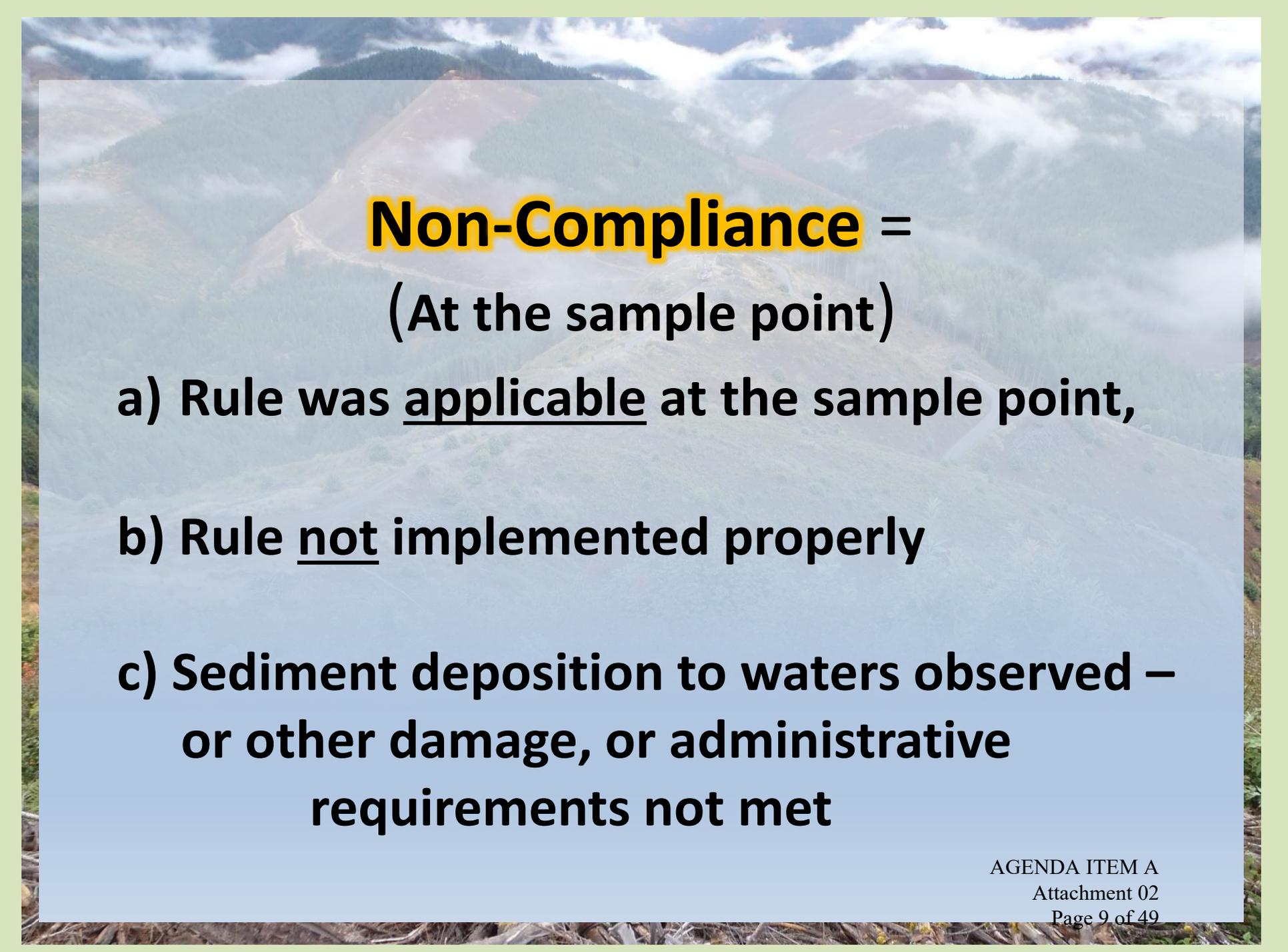
**COMPLIANT**

DATA POINT

**NON -  
COMPLIANT**



ODF : Quality Control Sampling of Data at Sites

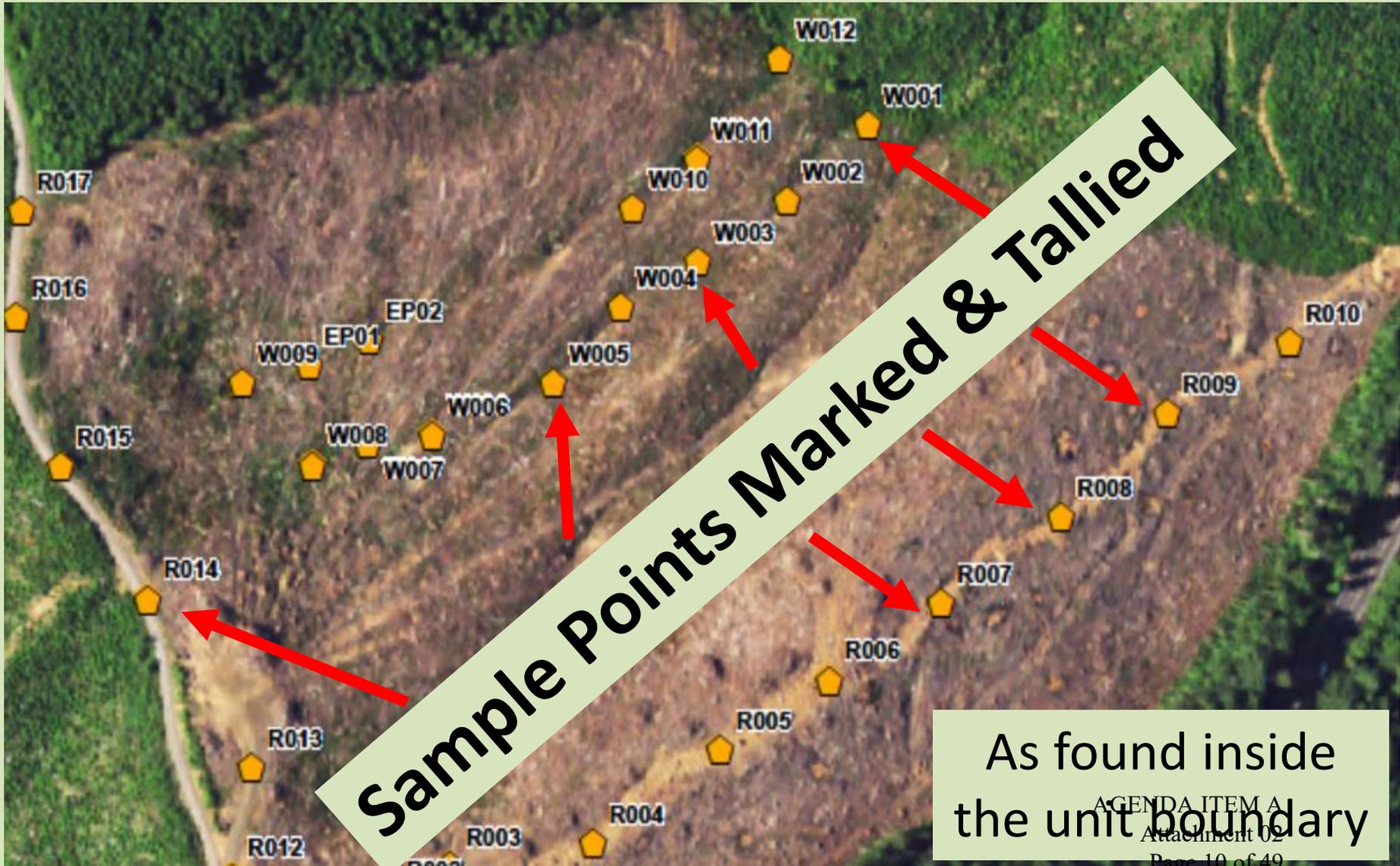


**Non-Compliance =**

**(At the sample point)**

- a) Rule was applicable at the sample point,**
- b) Rule not implemented properly**
- c) Sediment deposition to waters observed –  
or other damage, or administrative  
requirements not met**

# Data Gathering



AGENDA ITEM A  
Attachment 02  
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# 2017 Sample...



**25,600 observations on 100 sites**

# 2017 Results

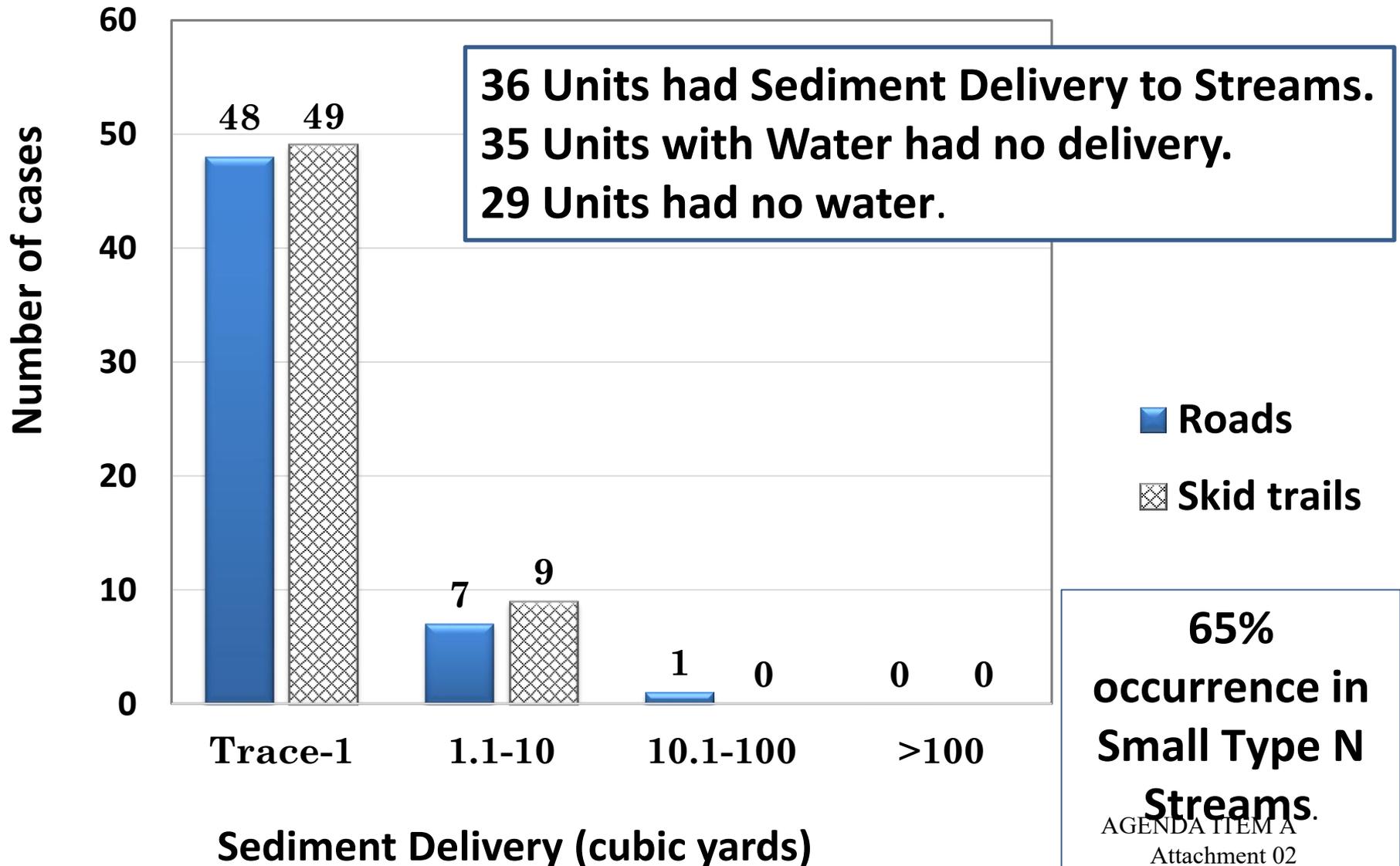
**100 sites, 57 rules**

**Overall compliance: 98 %**

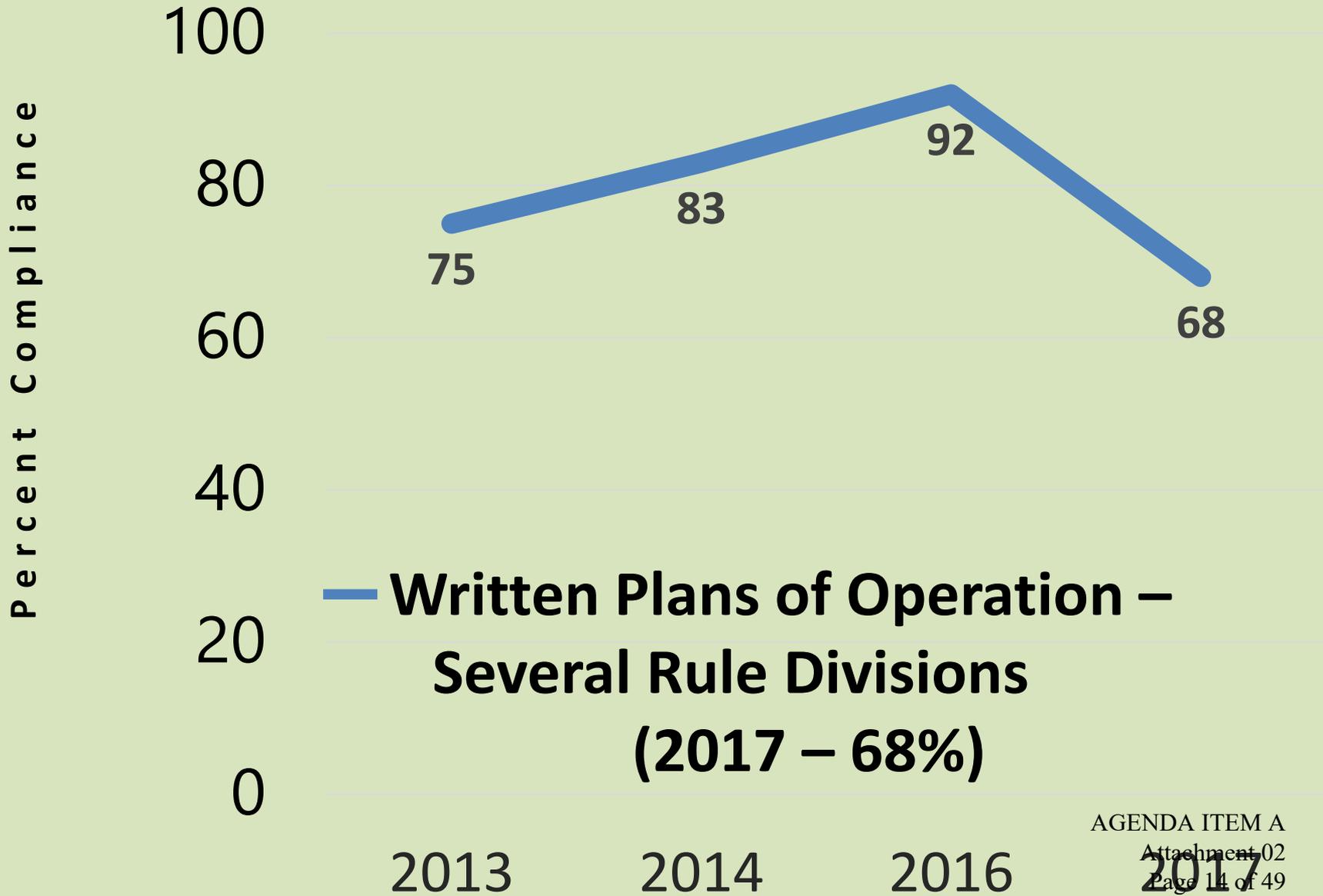
<u>AREA</u>	<u>COMPLIANCE</u>
Eastern Oregon	98%
Northwest Oregon	98%
Southern Oregon	97%
<u>LANDOWNER TYPE</u>	
Private Non-Industrial	96%
Private Industrial	98%
Other	98%

# 2017- Scale of Impacts from Non Compliance

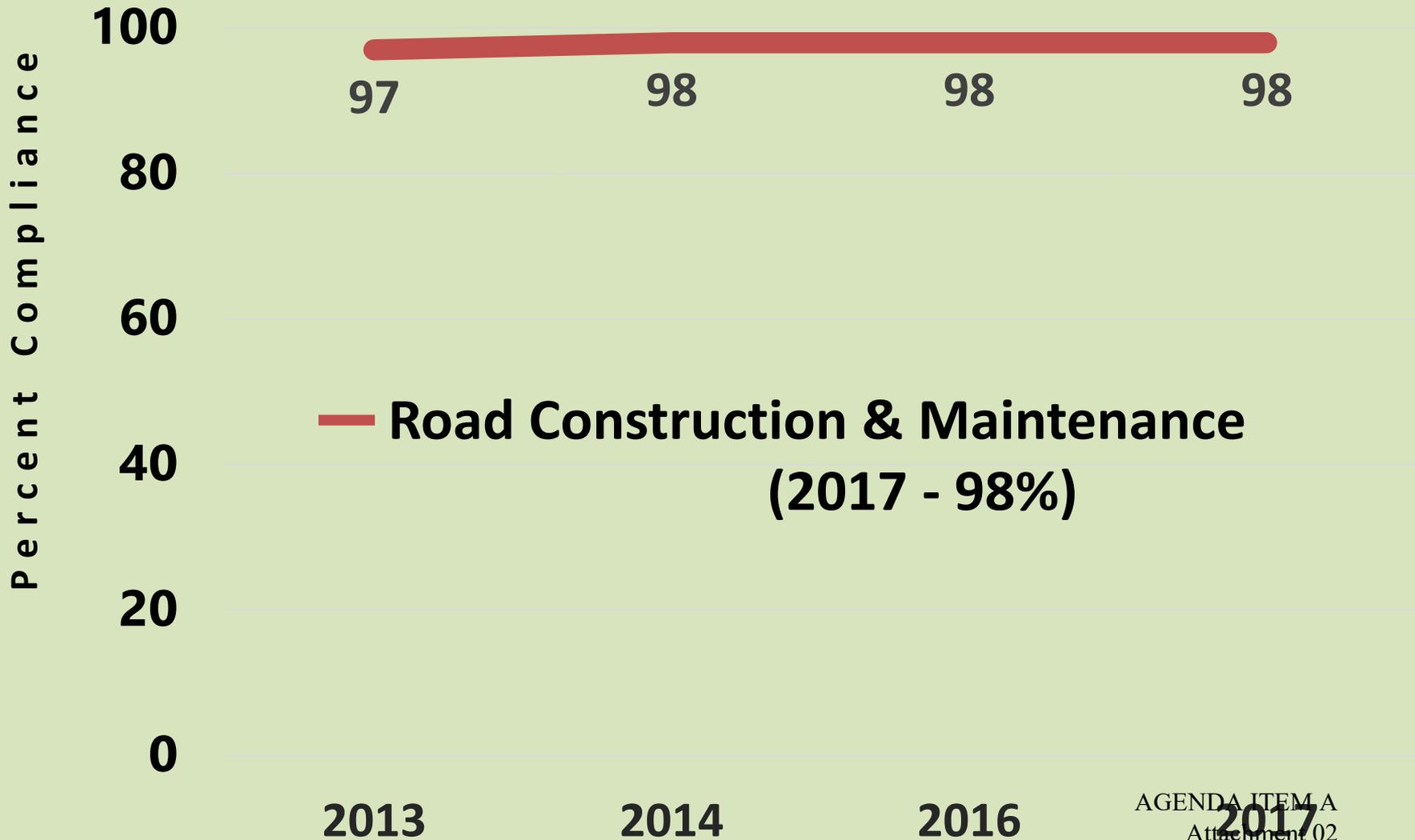
## Amount of Sediment Delivery



# Over Time - Rule Division Level Compliance 2013 -2017



# Over Time - Rule Division Level Compliance 2013 -2017

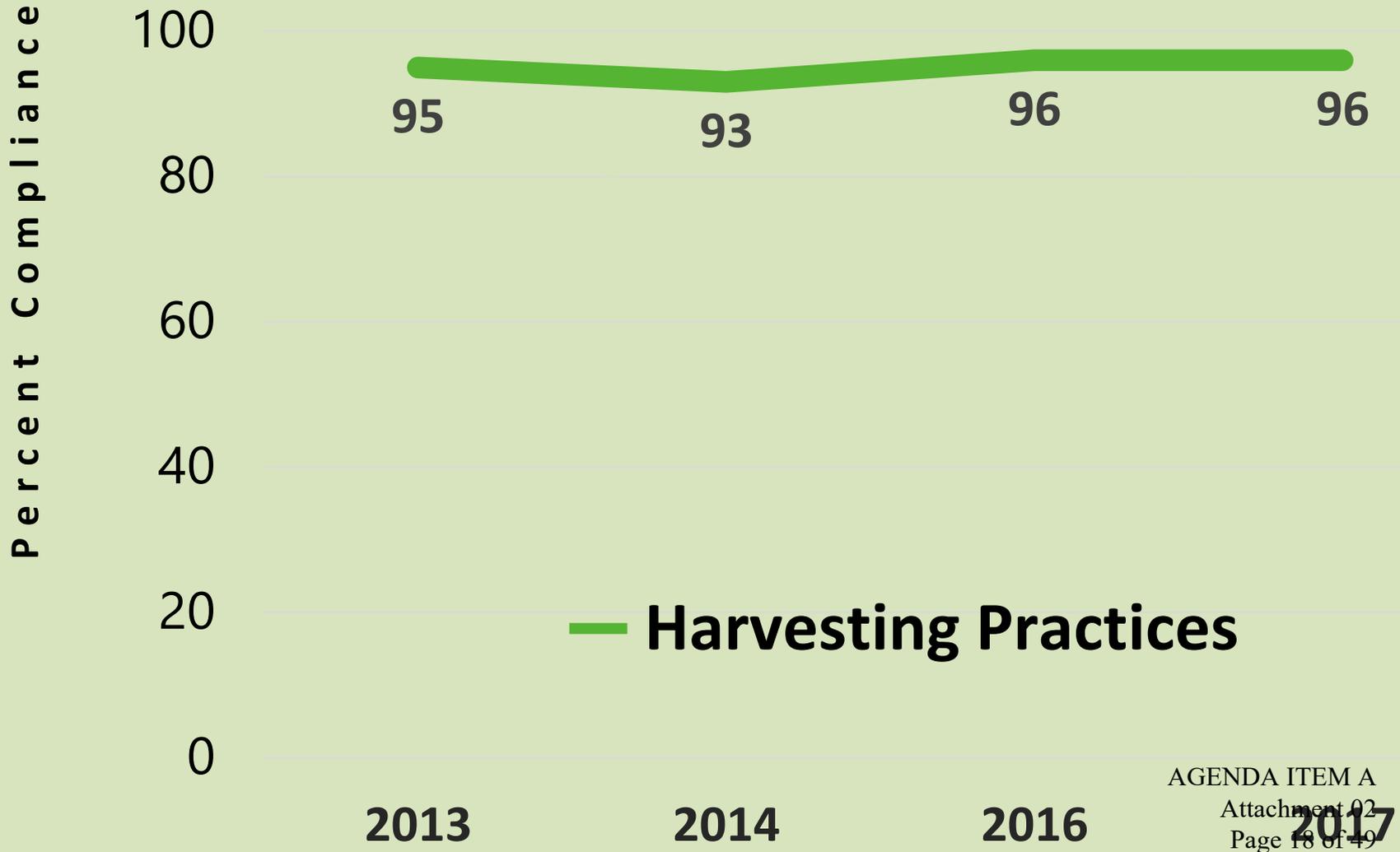


# Roads – Ongoing need at stream crossings to disconnect road drainage from stream





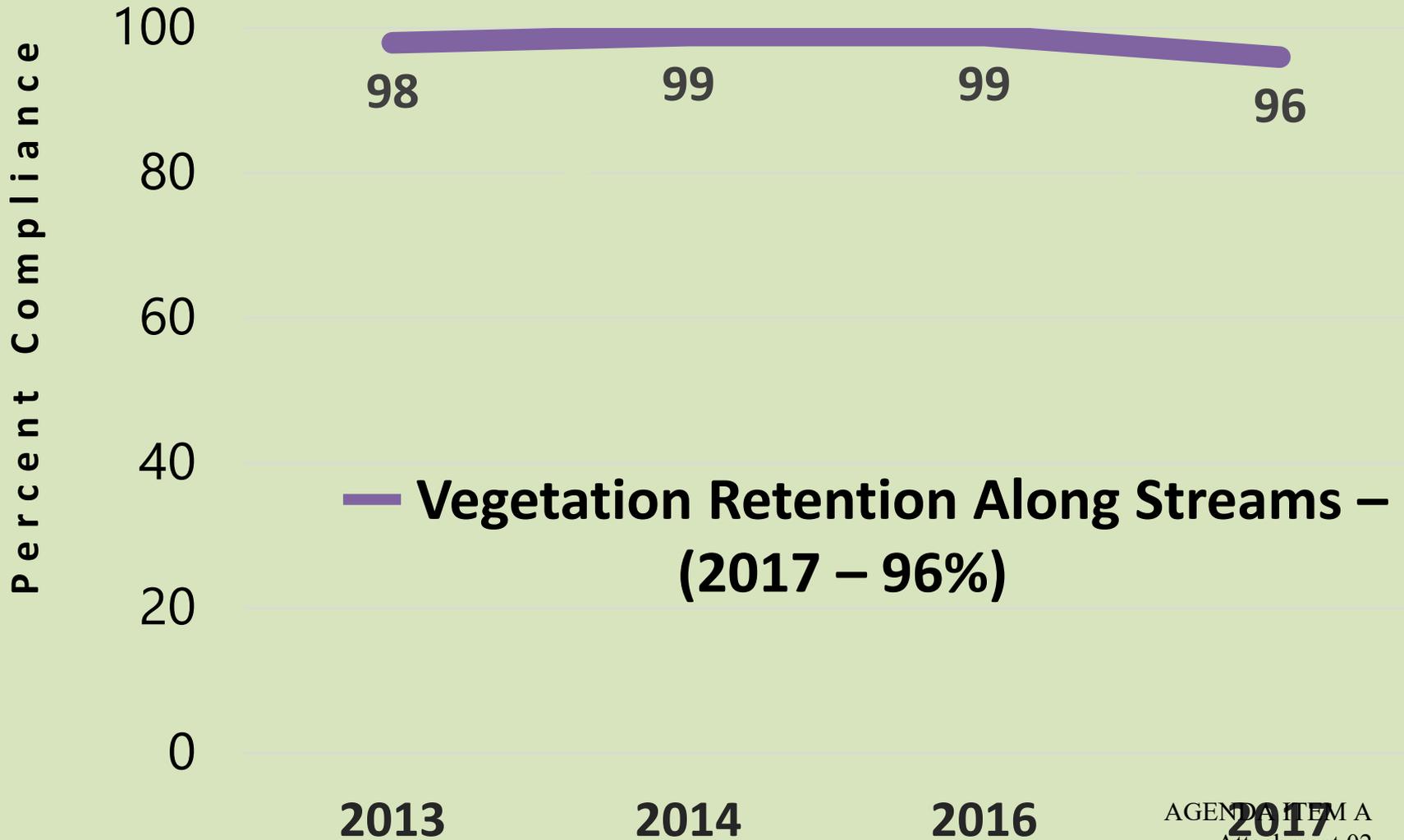
# Over Time - Rule Division Level Compliance 2013 -2017





# Harvesting - Small Type N Streams - awareness / avoidance

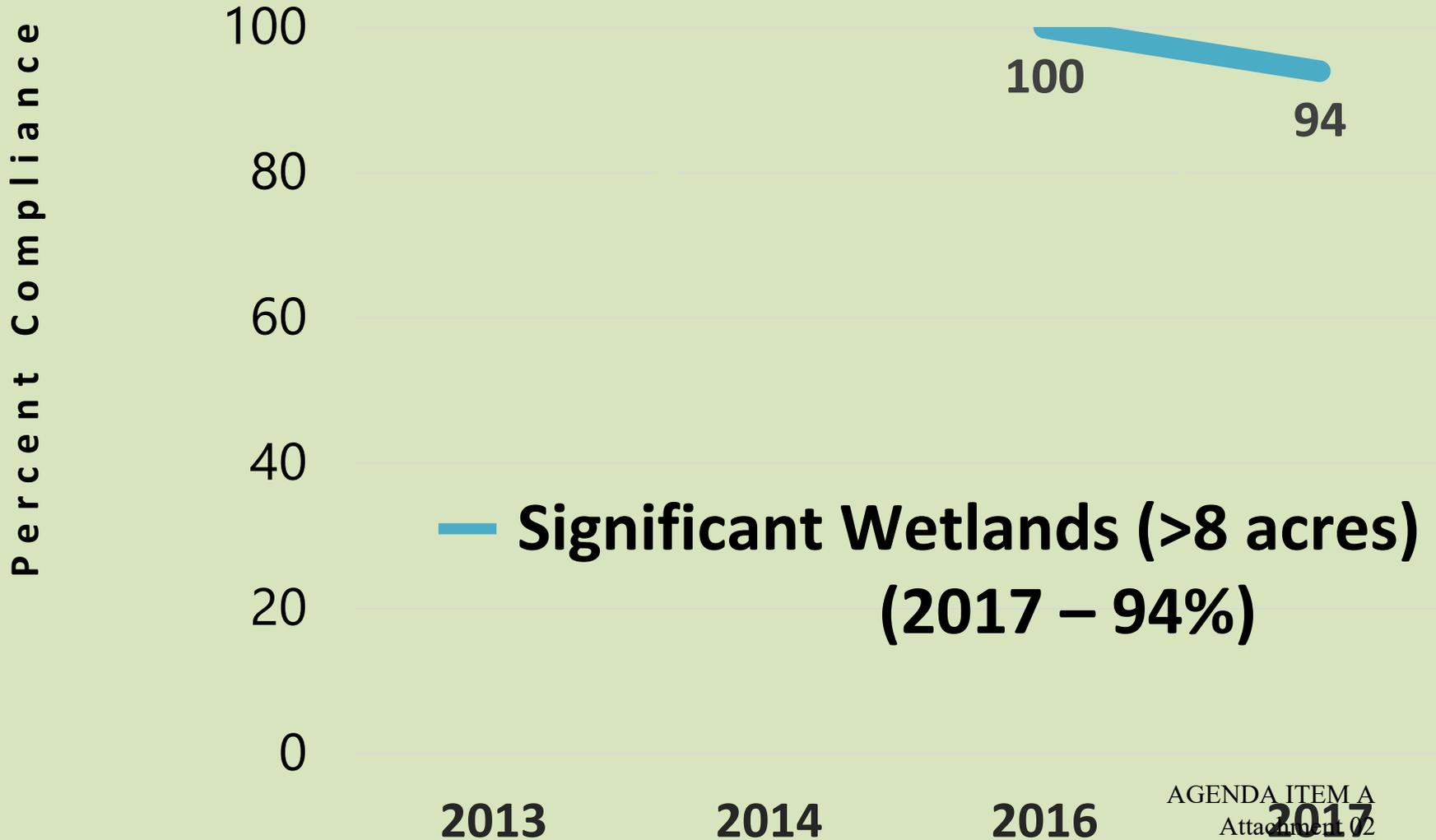
# Over Time - Rule Division Level Compliance 2013 -2017





# **Vegetation Retention Along Streams –trends high.**

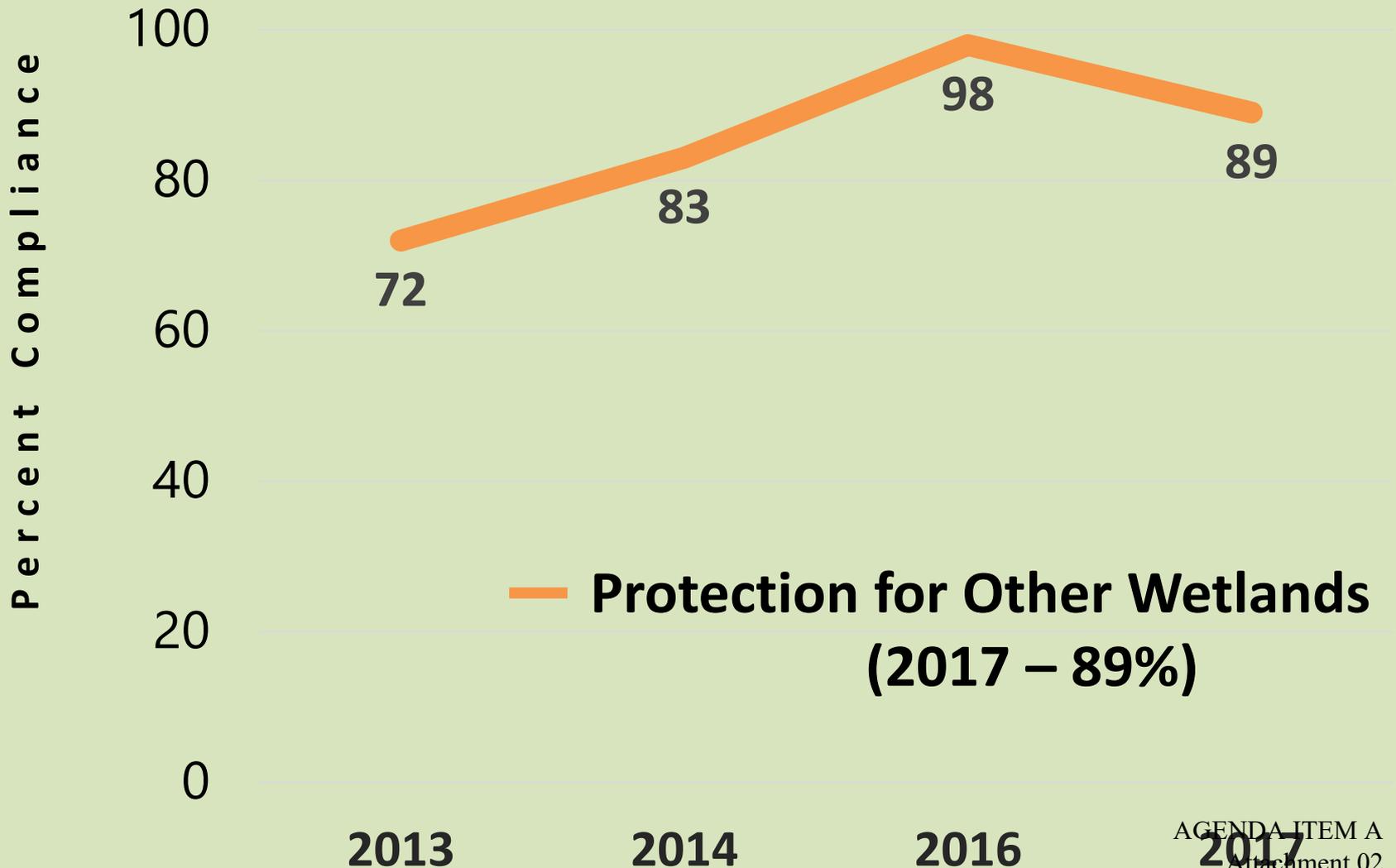
# Over Time - Rule Division Level Compliance 2013 -2017



**Wetlands > 8 acres**



# Over Time – Rule Division Level Compliance 2013 -2017



# PROTECT OTHER WETLANDS (<8 acres)



# Over Time - Rule Division Level Compliance 2013 -2017



# Operations Near Waters of the State – (Channel Relocation)



# **2017 - Ongoing Needs for Improvement**

- **Small Type N: 65% of instances of sediment delivery**
- **Small wetlands**
- **Road drainage & filtration near stream crossings**
- **Placement of Road Materials on Steep Slopes**
- **Culvert Sizing – 50 year flows**
- **Temporary Stream Crossing removal and stabilize**

# 2013 -2018 Compliance Audit – Contract Complete

## 2017

- Contractor completed last sites in March

## 2018 and beyond

- Analysis of all contract data (2013-2017)
- Reforestation study

## Ongoing

- Outreach and education plan

# Thanks Are in Order -



## **Barnes & Associates, Inc.**

Barnes & Associates, Inc. was contractor for data acquisition, did excellent work.

Stakeholder Support from various organizations and individual partners, including:



# NEXT...

## Reforestation Study

### Division 610 – Forest Practices Reforestation Rules



# Upcoming 2019 - Reforestation Study

- 100 Sites statewide –
- Proportional to Area of Notifications
- Notifications for “Clear Cut” completed by 12/16
- Private contractor for data gathering
- Largely based on existing stocking protocol
- Review herbicide records of applications if existing



# 2019 Reforestation Study

## Next Steps:

- **Select Sites from Database**
- **Landowner Permissions**
- **Screen Sites**
- **List RFP in ORPIN**
- **Award Contract**
- **Field Work begin in 2019**
- **Planning for five iterations**





# Compliance Audit QUESTIONS?

# Effectiveness Monitoring

## Streamside Protections Reviews (Board direction)

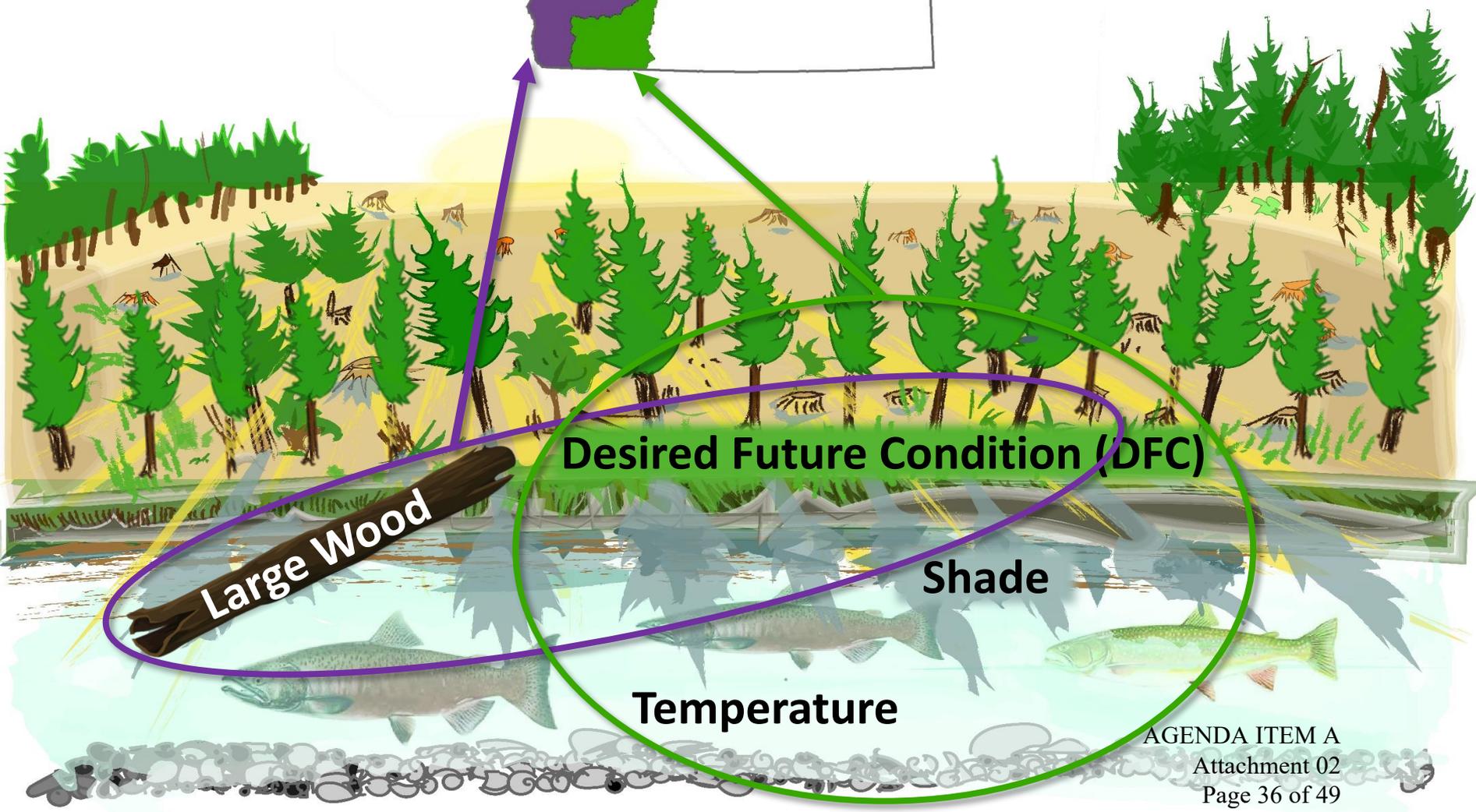
1. Western Oregon
2. Siskiyou

## Potential Board responses

- FPA works as designed
- FPA may not meet stated objectives
- Additional study warranted
- No action needed

# Topics & Geography

Small & Medium  
Fish Streams



**Desired Future Condition (DFC)**

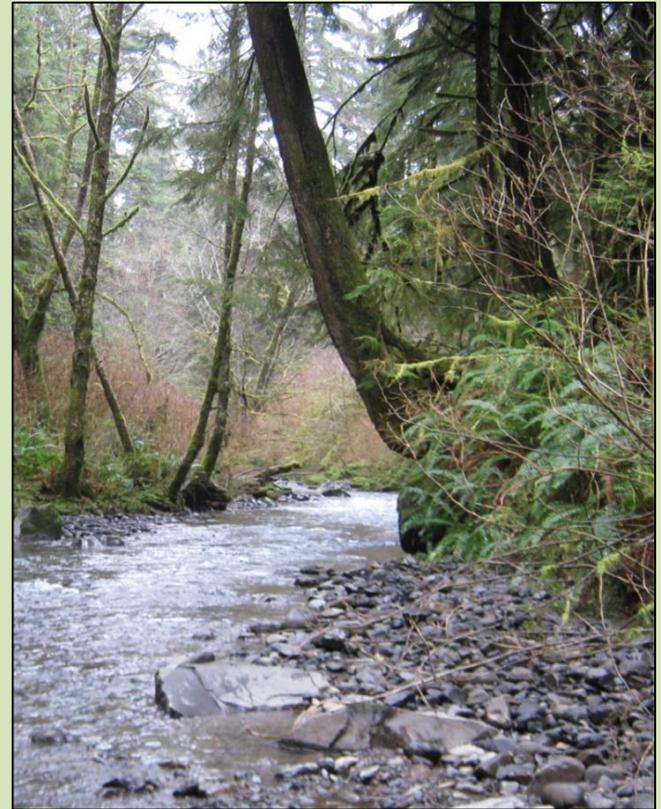
**Large Wood**

**Shade**

**Temperature**

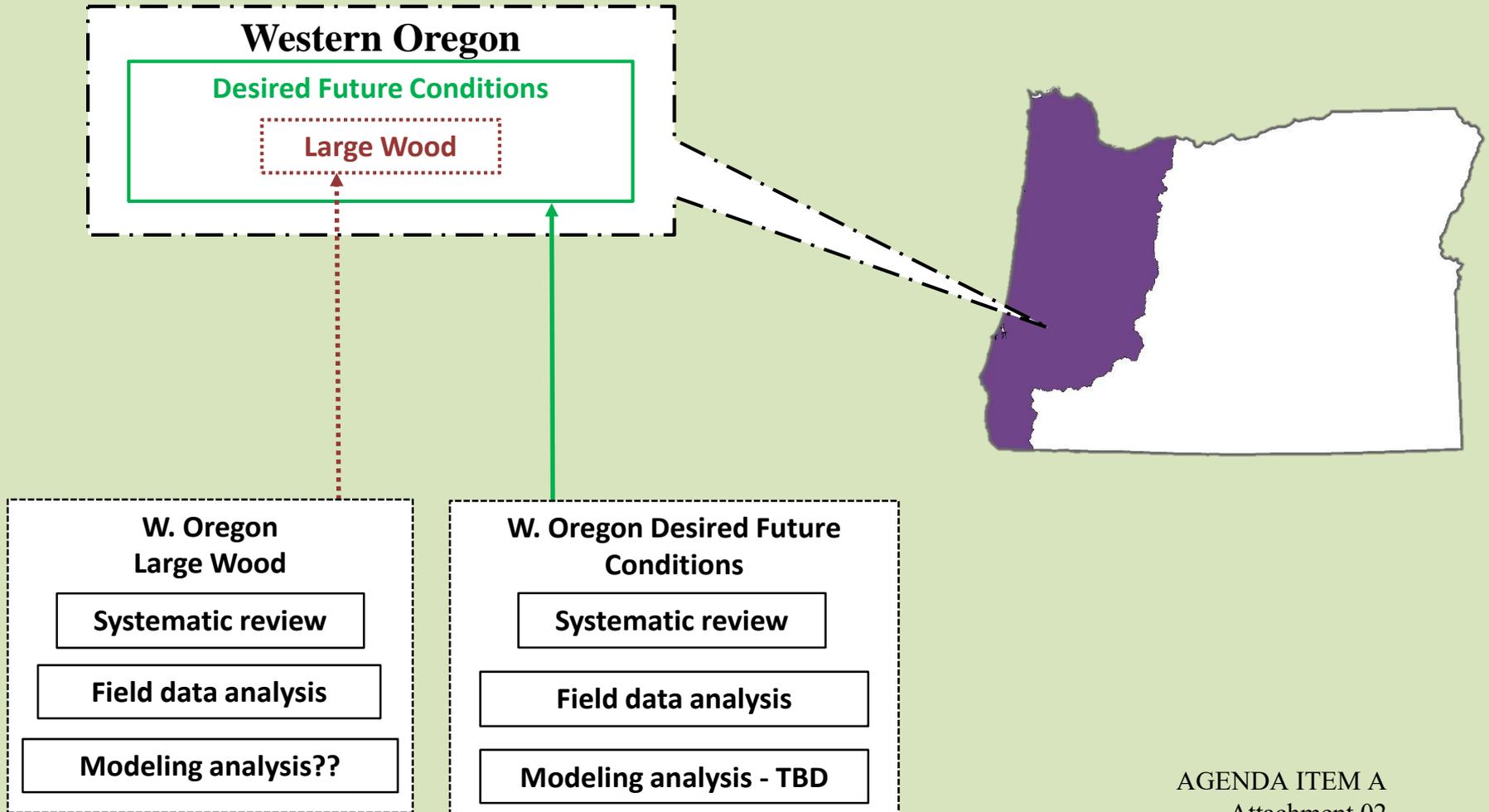
# Background on Desired Future Conditions

- **Desired Future Condition (DFC):**
  - “...to grow and retain vegetation so that, over time, average conditions across the landscape become similar to those of mature streamside stands.”
- **Mature streamside stands**
  - Often conifer dominated
  - Stand age: avg. 120 years
  - Provide multiple functions

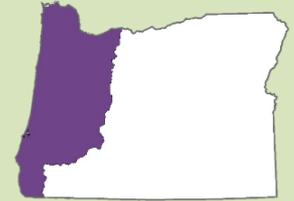


# Western OR Streamside Protections Review:

Are FPA rules effective in achieving the goals for desired future conditions and large wood?



# Western OR Streamside Protections Review



## Why use Systematic Reviews?

Protocol: Rigor & repeatability

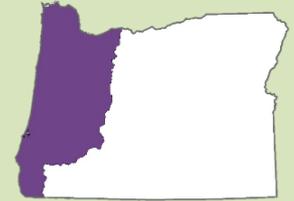
- Search methods
- Literature inclusion criteria
- Data extraction and synthesis

Methodical input from interested parties

# Western OR

## Streamside Protections Review:

### Systematic Review



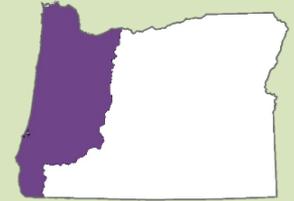
#### DFC

- *Forest management and desired future condition (DFC)*
- *Range of DFC conditions*
- *Species composition*
- *Regeneration*

#### Large Wood

- *Forest management and large wood recruitment*
- *Range of large wood*
- *What is considered 'abundant large wood'?*

# Western OR Streamside Protections Review: Field Data Analysis

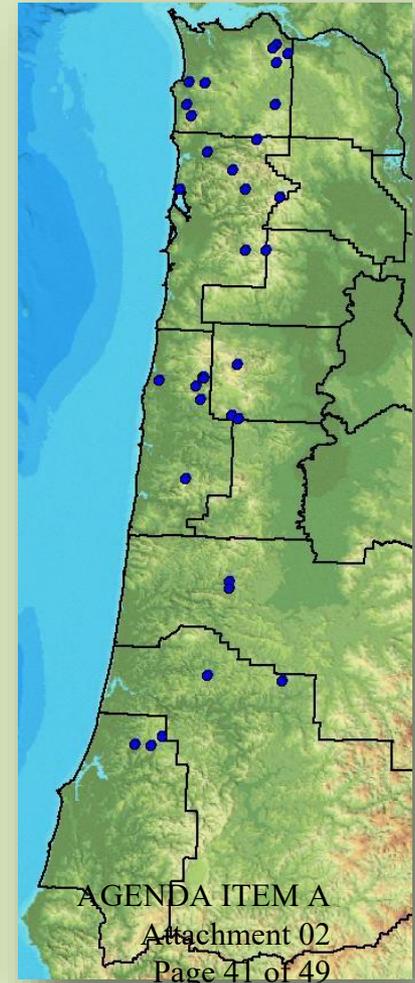


## RipStream Protocol Questions

1. Trends in overstory & understory
2. Trends in regeneration
3. Large wood recruitment to streams & riparian areas

## RipStream study

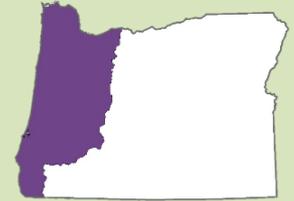
- 33 sites (Coast Range), Small & Medium F streams
- Pre- and post-harvest data



# Western OR

## Streamside Protections Review:

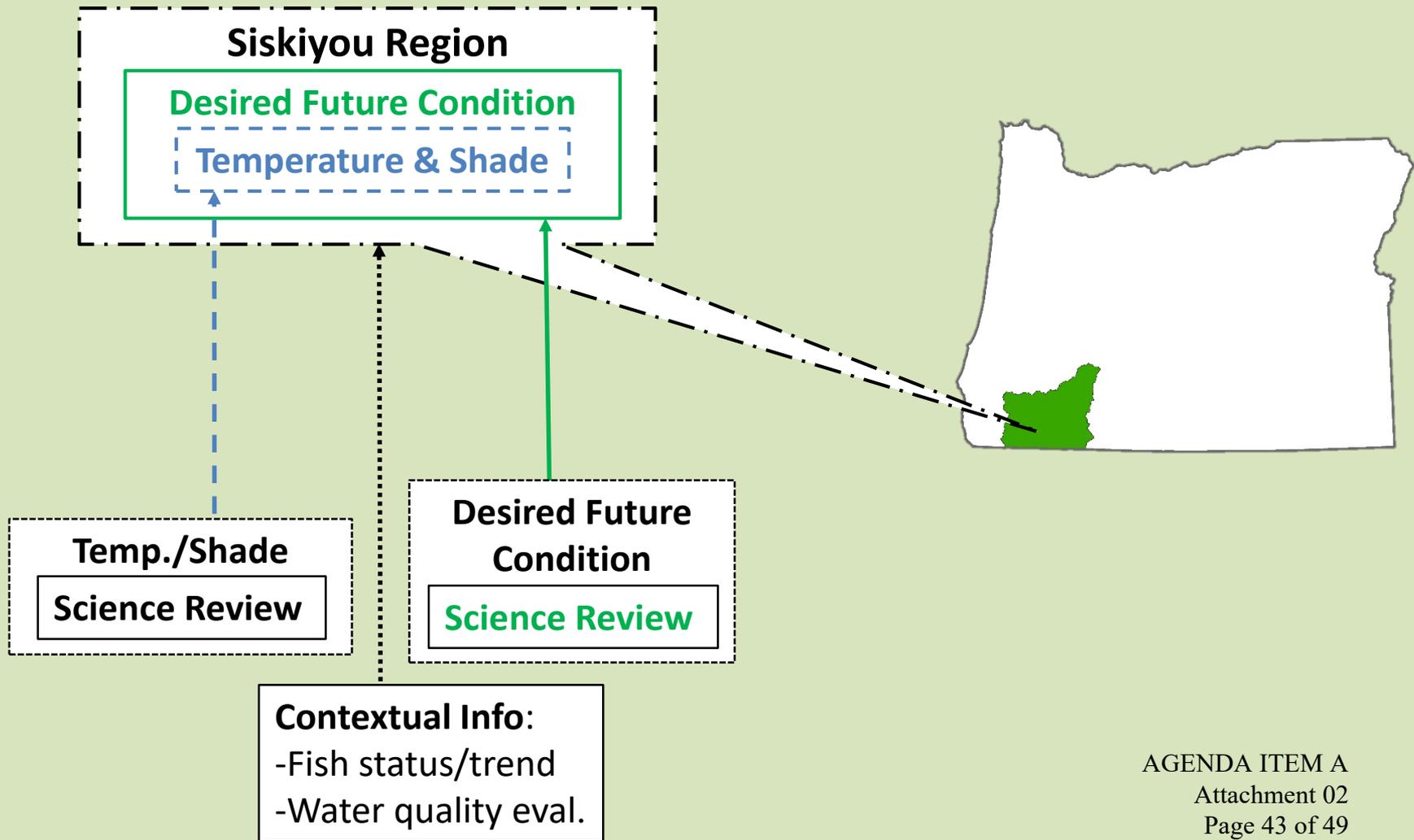
### Modeling



**In process: determining scope and role of modeling analysis**

# Siskiyou

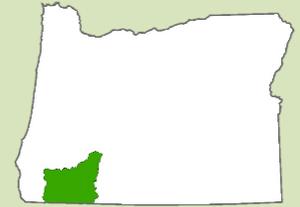
## Streamside Protections Review



# Siskiyou

## Streamside Protections Review:

### Systematic Review



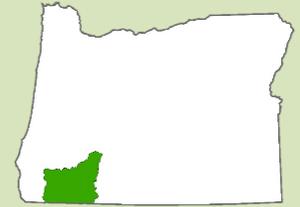
What are the effects of near-stream forest management on **stream temperature and shade**?

- *Meets DEQ water quality standards?*
- *Shade similar to that of mature streamside stands?*

# Siskiyou

## Streamside Protections Review:

## Systematic Review



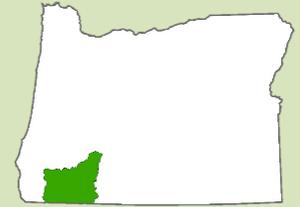
What are the effects of near-stream forest management on **desired future conditions** of riparian forests?

- *Range of DFC conditions in Siskiyou mature streamside stands*
- *Understory & overstory comparison*
- *Regeneration composition*

# **Siskiyou**

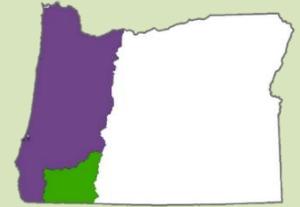
## **Streamside Protections Review:**

### **Contextual Information**



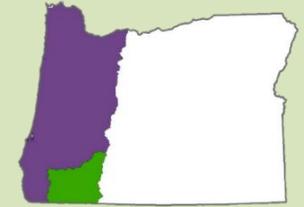
- **DEQ**
  - TMDL
  - Temperature, shade, riparian forest information
- **ODFW**
  - Fish status & trend
  - Shade, riparian forest information

# Western OR and Siskiyou Reviews: Status



- Timelines developed
- Conversations with:
  - Stakeholders and Tribes
  - Local ODF staff
  - DEQ and ODFW
- RipStream data: analytic methods (Western OR)
- Draft protocols (Siskiyou and Western OR)

# Review Timelines: Board Meetings



- **Siskiyou**

- Update & preliminary results – Winter/Spring 2019
- Completion – Spring/Summer 2019

- **Western Oregon**

- Update & preliminary results – Spring/Summer 2019
- Completion – Fall 2019/Winter 2020



# Questions?

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