



Siskiyou Streamside Protections Review: Board Decision

Oregon Board of Forestry, 5 June 2019

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Outline

- Adaptive Management
- Board Direction/Scope
- Contextual Info
- Systematic Review (SR)
- Decision Framework
- Department Recommendation
- Invited + Public comment
- Board discussion & vote



Monitoring 101



Foundation

- Forest Practices Act (FPA)
- Board policy

Guidance: Board-approved Monitoring Strategy

- Effectiveness of rules
- Implementation of rules

Why review streamside protections in the Siskiyou regions?



2016 Monitoring Strategy and Board Direction

- Develop riparian monitoring questions – E. Oregon and Siskiyou regions
- Estimate timelines and cost to address these questions
- Work with stakeholders and tribes



Why review streamside protections in the Siskiyou regions?



Oregon Board of Forestry direction (March 2018)

What: Effectiveness of streamside protections to achieve desired future condition (DFC) and stream temperature goals

How:

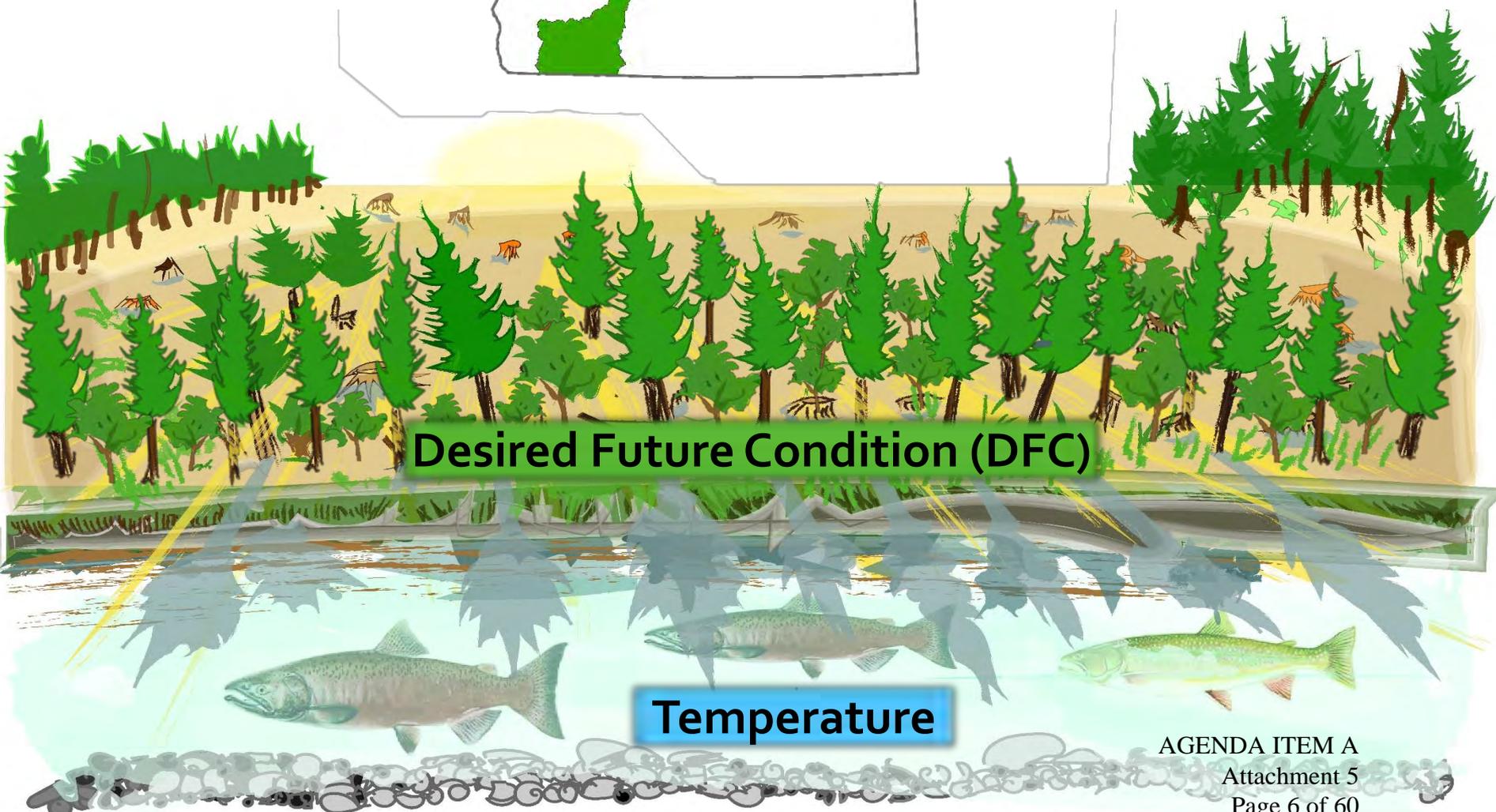
1. Use literature review (SR)
2. Provide contextual info on:
 - Fish status and trend (ODFW)
 - Water quality evaluations (DEQ)



AGENDA ITEM A

Where, What:

Small & Medium Fish Streams



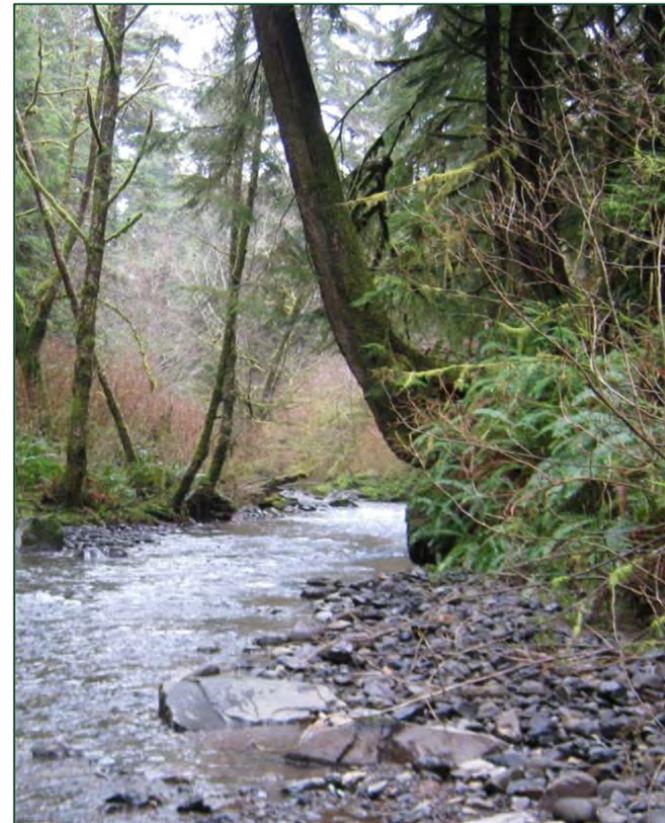
Desired Future Condition (DFC)

Temperature

Systematic Review (SR)



- Type of literature review
- Rigorous search
- Inclusion criteria
- Critically evaluate studies
- Extract and synthesize information
- Transparent process



Board decisions today



Sufficiency of Rules for:

- 1) Stream Temperature
- 2) Desired Future Condition (shade and stand characteristics)

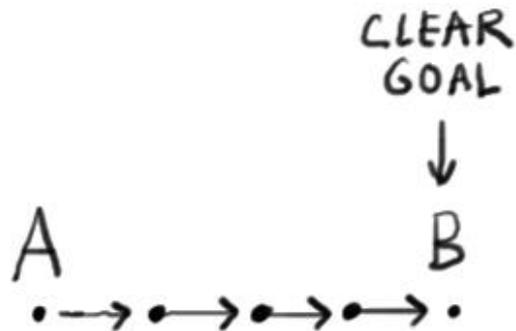
Options for each decision:

- The FPA or rules are working as designed
- FPA or rules may not meet stated objectives
- Not enough info: Additional study prioritized
- Not enough info: Other pending work prioritized at this time

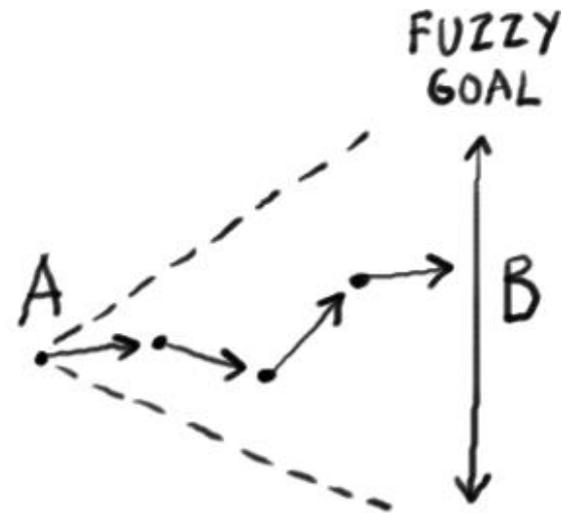


Siskiyou Sufficiency Decisions

Stream Temperature



DFC





Stream Temperature

Water Quality standards addressed:

- 1) Biologically-based Numeric Criteria (NC)
 - $\leq 16-18$ °C for a given stream reach

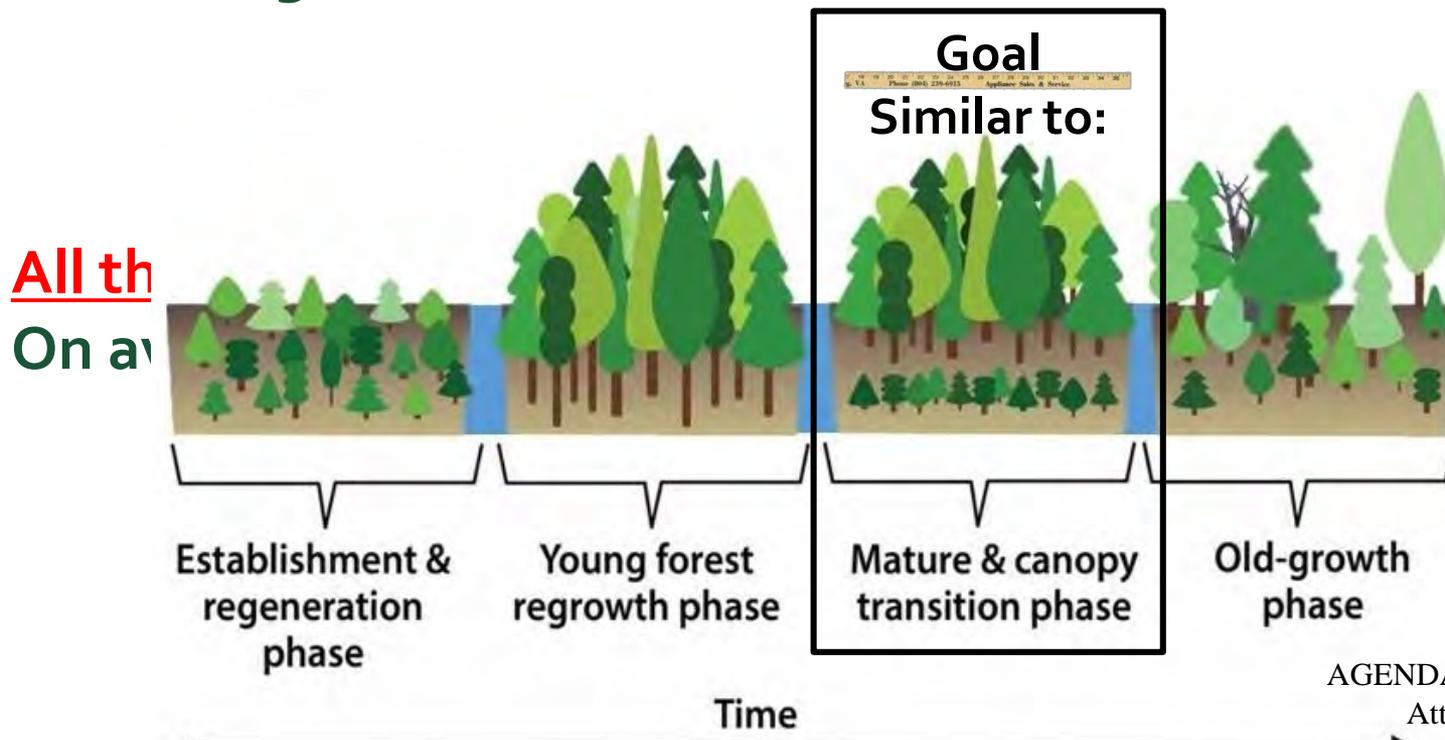
- 2) Protecting Cold Water criterion (PCW)
 - ≤ 0.3 °C increase due to human activity



Challenges of sufficiency for DFC

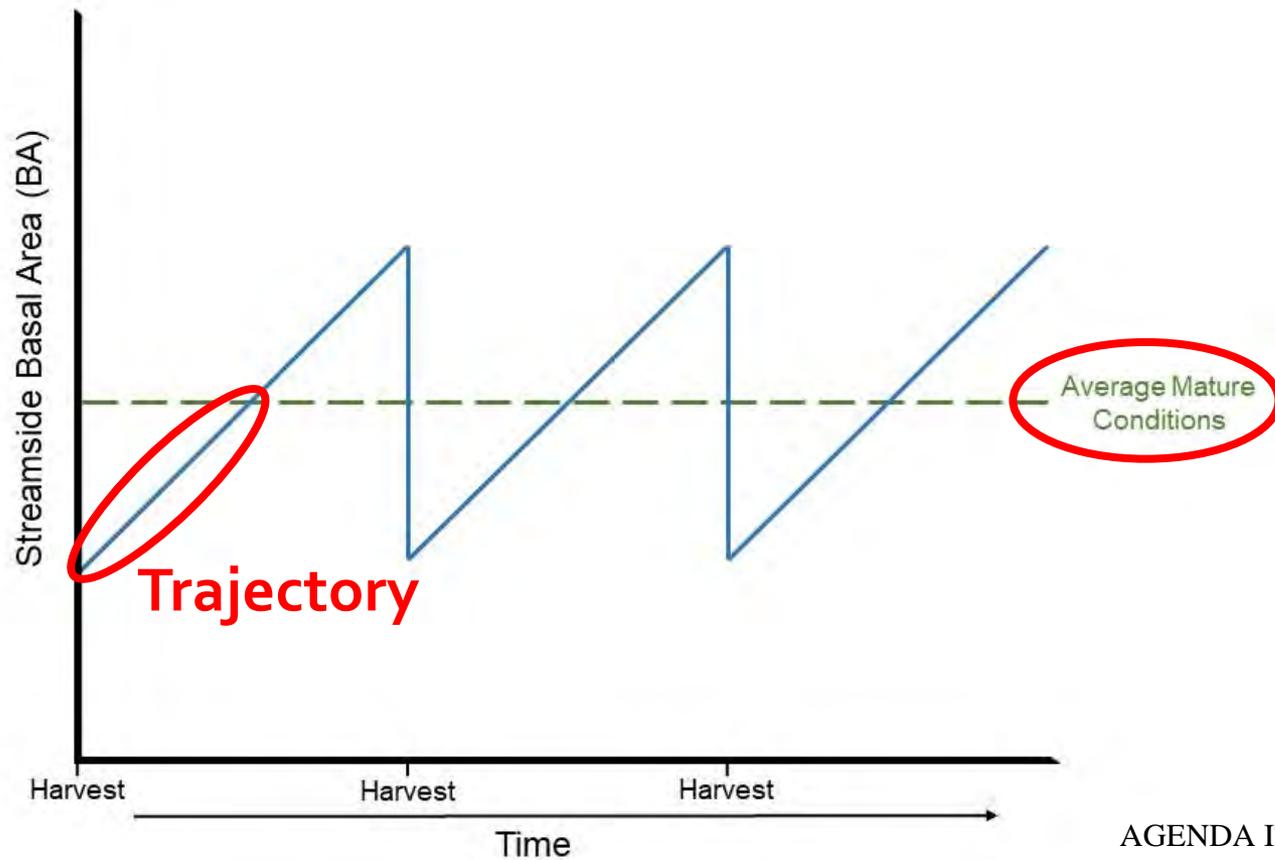
Similar to mature stands about 80-200 years

- Narrative standard - Need to “build” the “yardstick” – an objective of systematic review
- Looking at stand characteristics & shade





Desired Future Condition (DFC)





Contextual Information

Contextual Info: ODFW



Siskiyou:

- Water temperature/availability, fish passage = Increased Importance

Rogue River:

- History of fish dieoff from disease (low flow/high temperatures)
- Spring Chinook salmon achieving 2 of 3 status criteria (recovery plan)
- Fall Chinook achieving 3 of 4 status criteria
- Rogue/South Coast Multi-Species Management Plan



Cutthroat



Coho



Steelhead



Contextual Info: DEQ

TMDLs report main reason not meeting temperature standards:
Lack of shade

TMDLs for temperature (1992-2008):

- Applegate
- Bear Creek
- Lobster Creek
- Sucker Creek
- Rogue River Basin

FPA = means to achieve water quality goals

Contextual Info: GIS



Legend

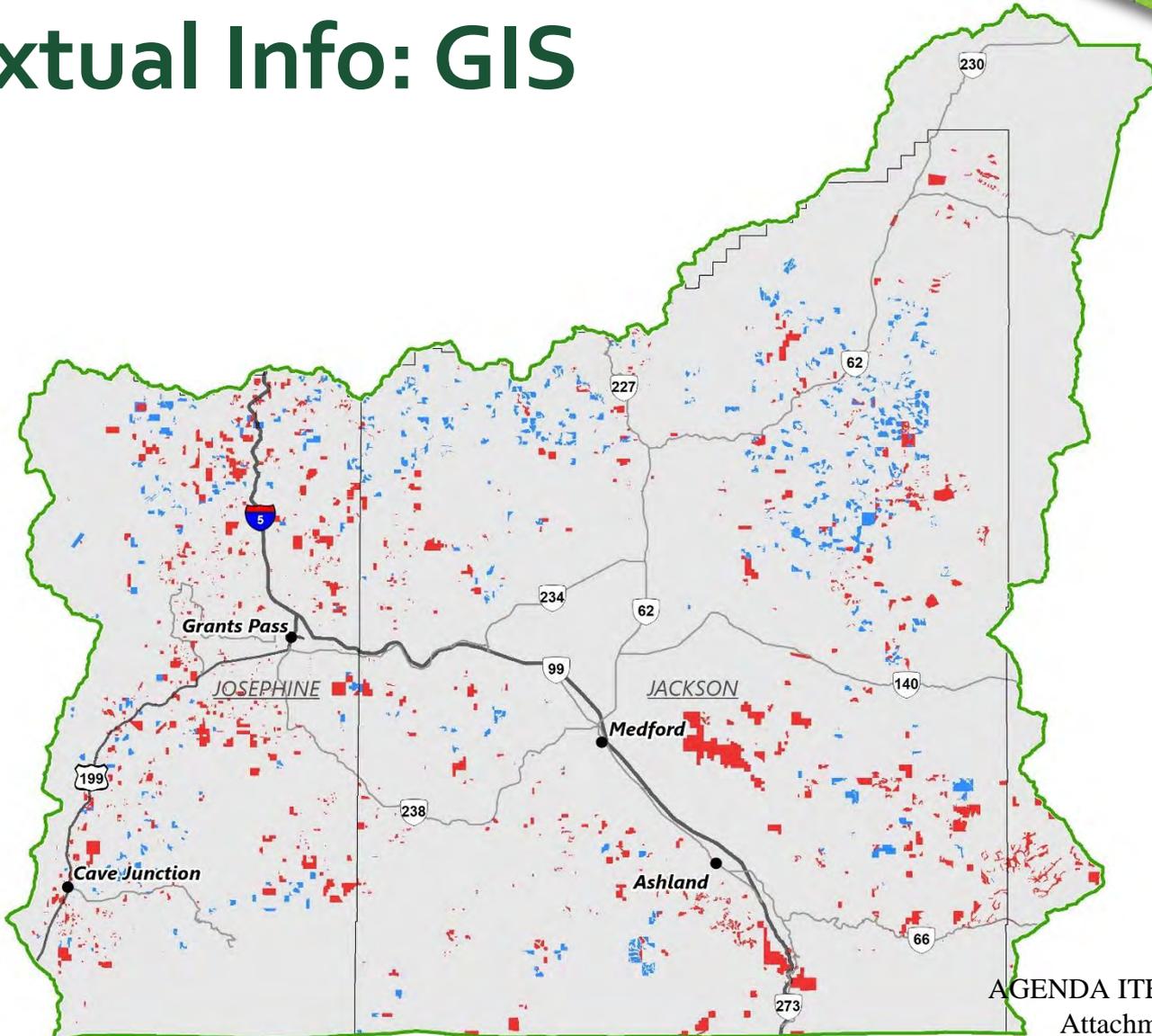
- Thin
- Clearcut



10

Miles

ODF Private Forest GIS





Systematic Review



SR Results

Objective		Papers
Temperature		3
DFC	Mature stands	8
	Managed stands	9
Total		13

Some papers addressed multiple objectives

SR results: Stream Temperature

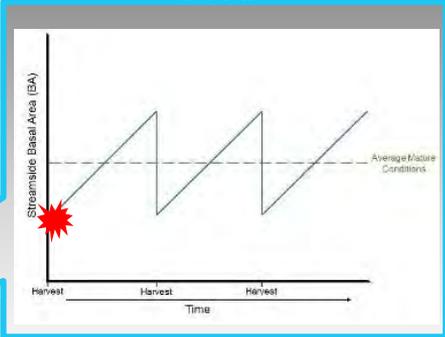


FPA does not meet FPA = ??? standards?

Water Quality Standard	Compared to FPA (no-cut width)	Meet WQ standard	Do not meet WQ standard
NC	>FPA	1 site	1 site
	<FPA	1 site	2 sites
PCW	>FPA	2 sites	N/A
	<FPA	2 sites	2 sites



DFC Results

Metric	DFC Range <small>© U.S. Forest Service 2014. Photo: (800) 234-6913. Application: Risk & Service.</small>	Within DFC range	Likely will achieve DFC
Streamside Canopy Cover		6 sites	N/A
In-stream Shade		7 sites	
Basal Area	332-784 ft ² /acre (2 sites)	0 sites	N/A

DFC Results



Metric	DFC Range	Within DFC range	Likely will achieve DFC
In-stream Canopy Cover	N/A	N/A	N/A
Streamside Shade			
Tree Species Richness			
Tree Density			
Tree Size			
Tree Regeneration			

Stakeholder & Tribal Input



Thank you!

Input Theme	ODF response
Additional study or change in scope needed	Board decision in June
Effects modifiers inclusion in analysis	Documented, no rigorous analysis unless directed
Climate change inclusion	Board policy decision
Analyze shade pre- and post-harvest	By FPA language, DFC assessed by comparing with mature (not pre/post)
SR process too rigid	Process allows unbiased documentation, input opportunity and transparency
Board should make finding of degradation on water quality	Board decision on temperature and DFC

AGENDA ITEM A

Attachment 5

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Board decision



- 1) Stream Temperature
- 2) Desired Future Condition
 - A. The FPA or rules are working as designed
 - B. FPA or rules may not meet stated objectives
 - C. Not enough information for sufficiency decision:
Additional study prioritized
 - D. Not enough information for sufficiency decision:
Other pending work prioritized at this time

Staff capacity



Monitoring Unit - 4 staff

Current work:

- Siskiyou (review, stakeholders)
- W. Oregon (data analysis, stakeholders)
- Reforestation study
- Tethered logging



Recommendations

1. Determine that for FPA rules on small and medium fish streams for clearcut and thinning harvest types in the Siskiyou region using general vegetation prescriptions, there is inadequate evidence to decide on sufficiency of these rules in meeting water quality temperature standards and DFC as it relates to stand structure and shade.
2. Formulate range of approaches to study sufficiency of rules.



Questions



Board Advisory Committees

Invited Testimony

Public Comment



Board discussion and vote



End

Extra slides





Recommendations

- 1. Determine that for FPA rules on small and medium fish streams for clearcut and thinning harvest types in the Siskiyou region using general vegetation prescriptions, there is inadequate evidence to decide on sufficiency of these rules in meeting water quality temperature standards and DFC as it relates to stand structure and shade.**
- 2. Formulate range of approaches to study sufficiency of rules, including additional work with DEQ and further evaluation of Total Maximum Daily Load (TMDL).**



Decision Framework



Decision 1. Stream temperature

A) FPA or rules meet the stated objectives

Numeric Criterion (NC)

1 site - **Medium**

Protecting Cold Water criterion (PCW)

2 sites - **Medium**

B) FPA or rules do not meet the stated objectives

Numeric Criterion (NC)

1 site - **Medium**



Decision 1. Stream Temperature

Not enough information for sufficiency decision:

C) Additional study prioritized

D) Other work prioritized

NC

- 1 site met standards
- 1 site does not meet standards
- 3 sites FPA sufficiency unclear

PCW

- 2 sites met standards
- 4 sites FPA sufficiency unclear

Decision 2. DFC



A) FPA or rules meet the stated objectives

Metric	DFC range	DFC Achieved
Streamside canopy cover	3 sites - Low Q/R	3 sites – Medium
In-stream shade	2 sites - Medium	3 sites – Medium
Basal area	2 sites - Low	N/A



Decision 2. DFC

Not enough information for sufficiency decision:

C) Additional study prioritized

D) Other priorities

Metric	DFC range	DFC Achieved or Not Achieved	Likely Will Achieve
In-stream canopy cover	N/A	N/A	N/A
Tree density			
Tree size			
Regeneration			
Tree diversity			
All other metrics	1 site - Low		

AGENDA ITEM A

Attachment 5

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Systematic Review (SR)



	Systematic Review	Traditional Review
Purpose	Focused question or hypothesis	General or focused
Literature search & inclusion criteria	Structured, rigorous, extensive	Authors' choice
Literature included	Theses, government, monitoring reports, in-review, peer-review	Peer-reviewed only
Quality/Relevance assessment	Systematic analysis of methods, additional factors	Authors' choice
Basis for synthesis	Evidence, relevance, identifies sound methodologies	Evidence, interpretation, does not identify sound methodologies
Transparent?	Yes	No
Participation	Experts, stakeholders, tribes, authors	Authors only

Siskiyou SR Questions



What is the effectiveness of FPA buffers in achieving **DFC** of streamside forests?

- **Scope: Stand structure and shade**



Desired Future Condition (DFC)

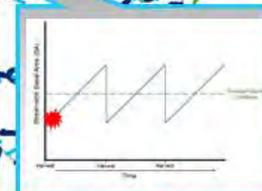
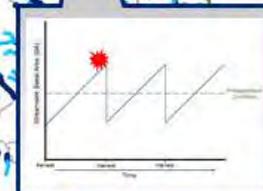
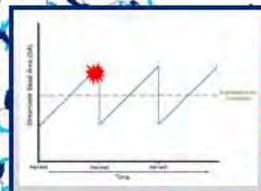
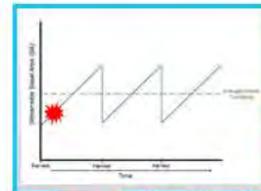
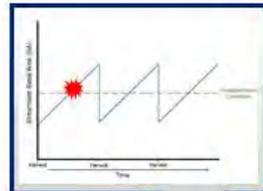
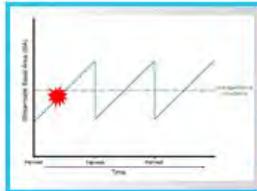
“over time, average conditions across the landscape”



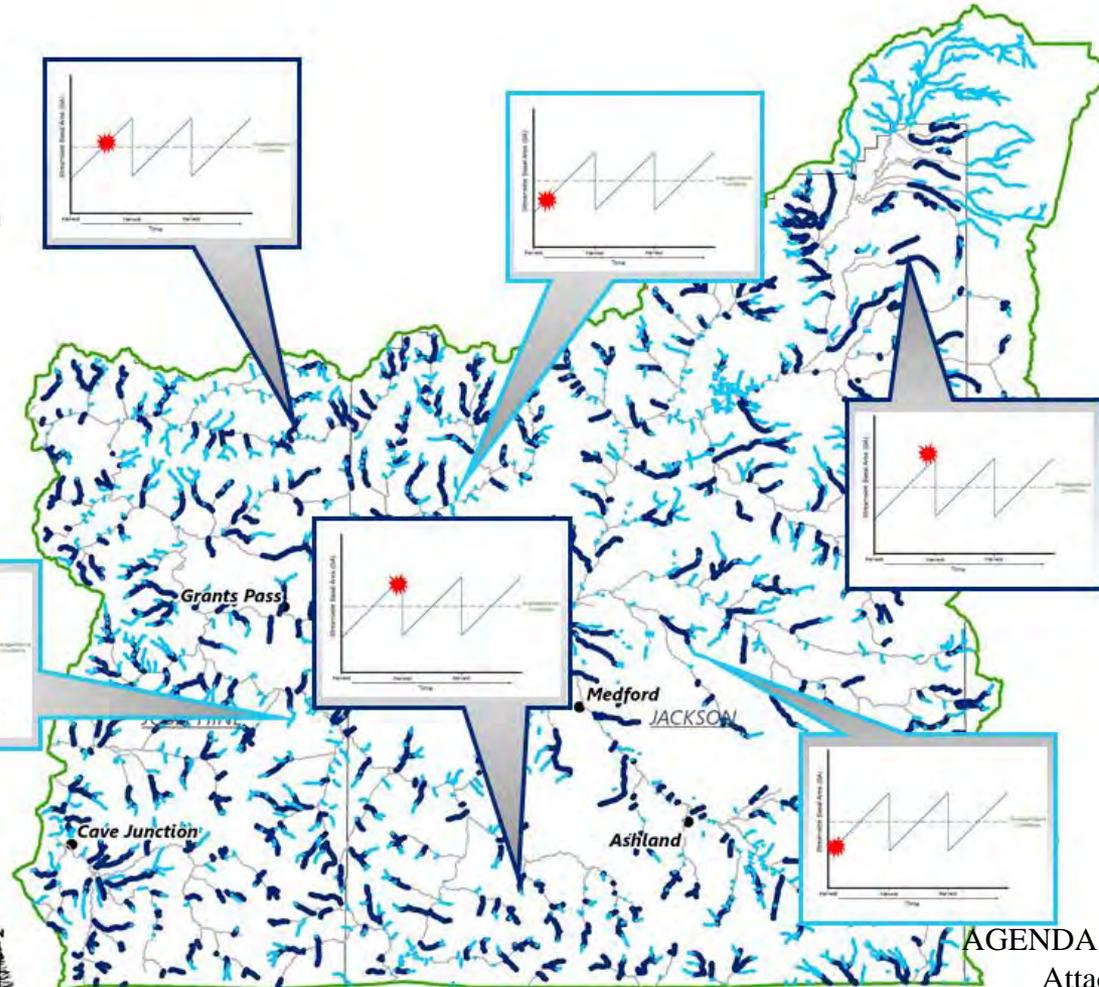
Legend

- Small Fish Stream
- Medium Fish Stream
- Large Fish Stream
- Cities
- Counties

L
E



10 Miles
ODF Private Forest GIS





SR results: DFC

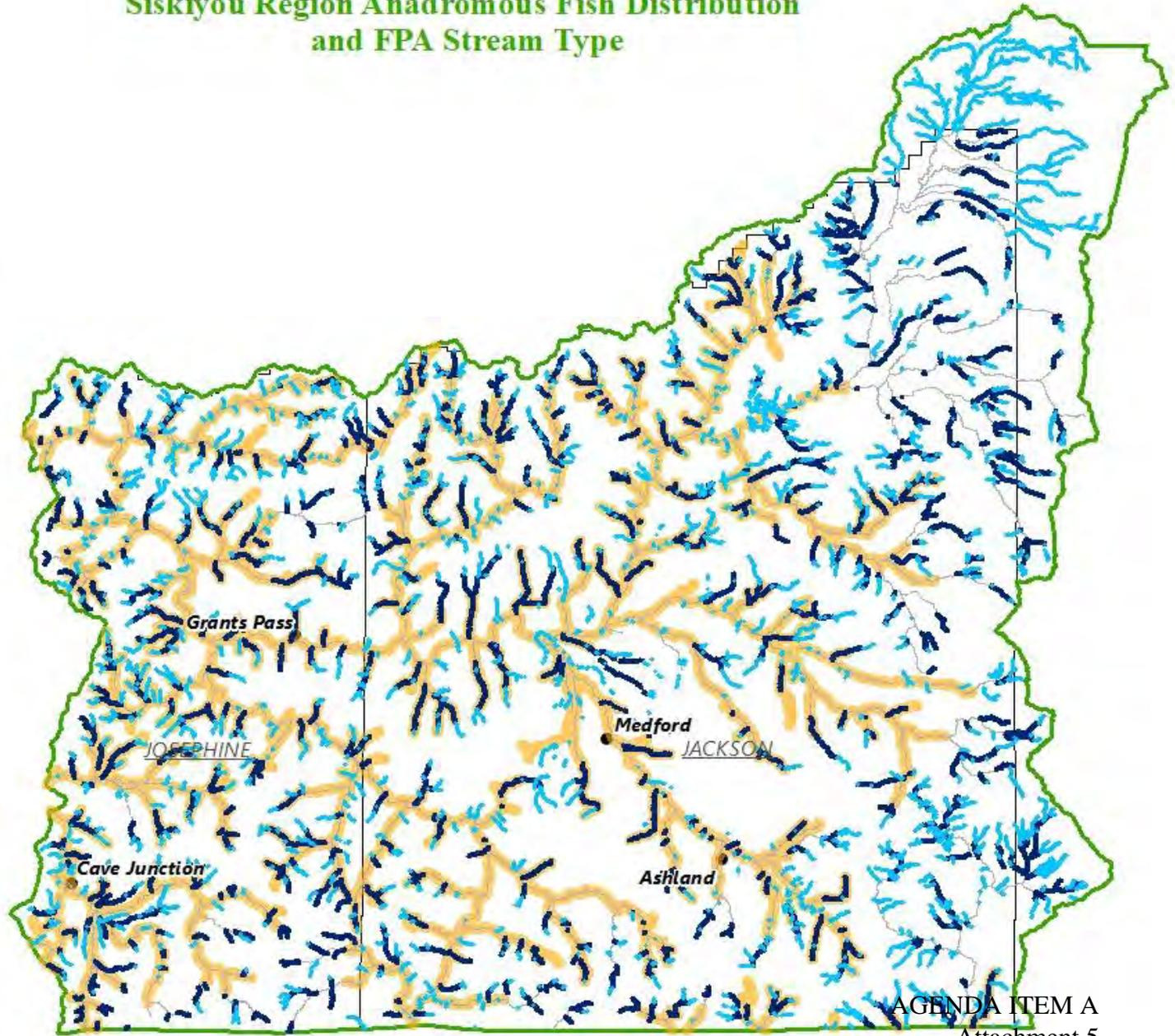
- Insufficient data to ID range for mature streamside stands
- No evidence for trajectory of streamside stands (cannot answer “likely will achieve”).
- No information on streamside stands managed per FPA for:
 - In-stream shade
 - Tree species composition (including species richness)
 - Tree regeneration
 - Tree density



Siskiyou Region Anadromous Fish Distribution and FPA Stream Type

Legend

- Small Fish Stream
- Medium Fish Stream
- Large Fish Stream
- Anadromous Fish Distribution
- Cities
- Siskiyou Georegion
- Counties

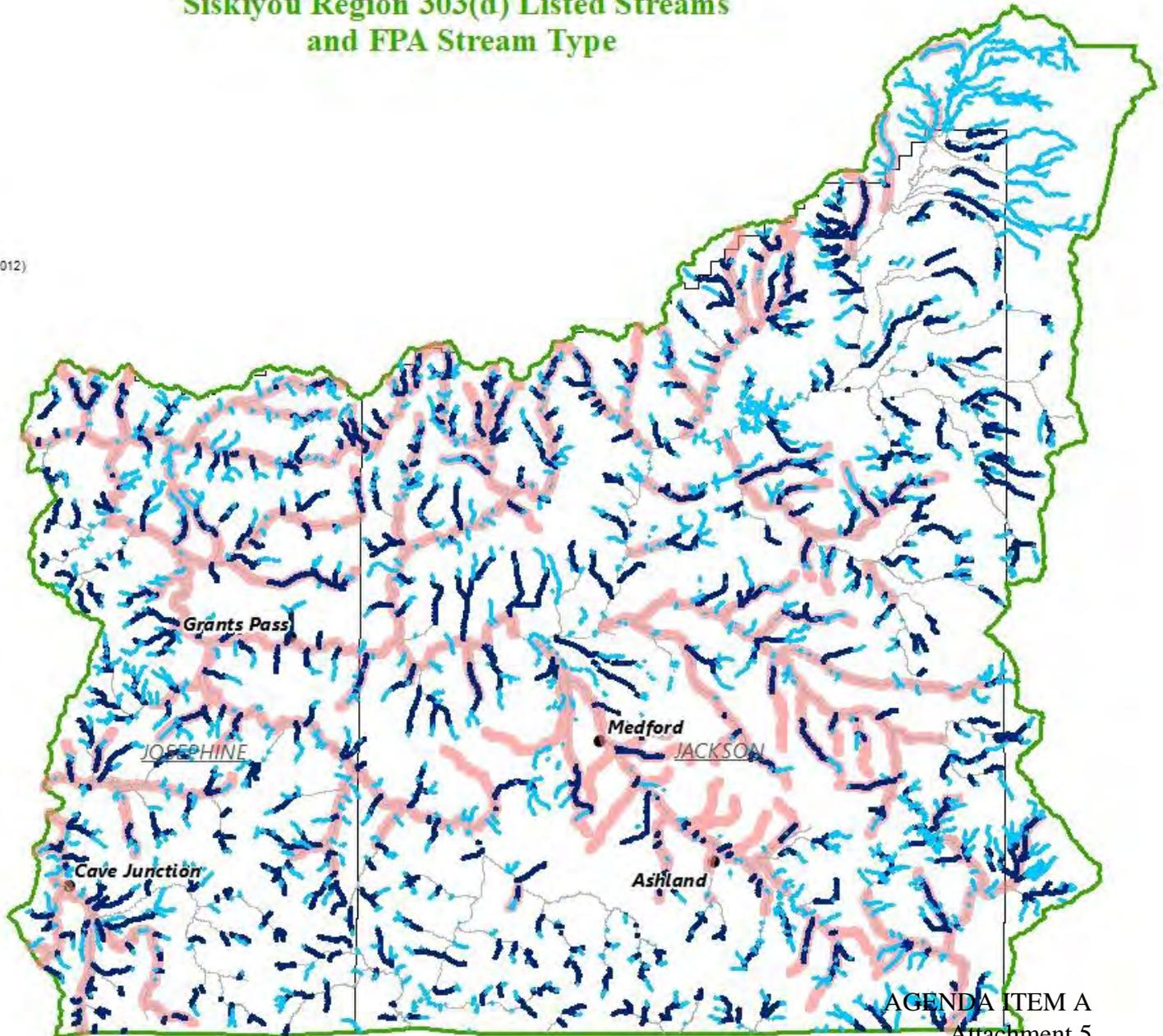




Siskiyou Region 303(d) Listed Streams and FPA Stream Type

Legend

- Small Fish Stream
- Medium Fish Stream
- Large Fish Stream
- 303d Temperature Listed Stream (2012)
- Cities
- Siskiyou Georegion
- Counties

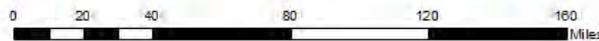
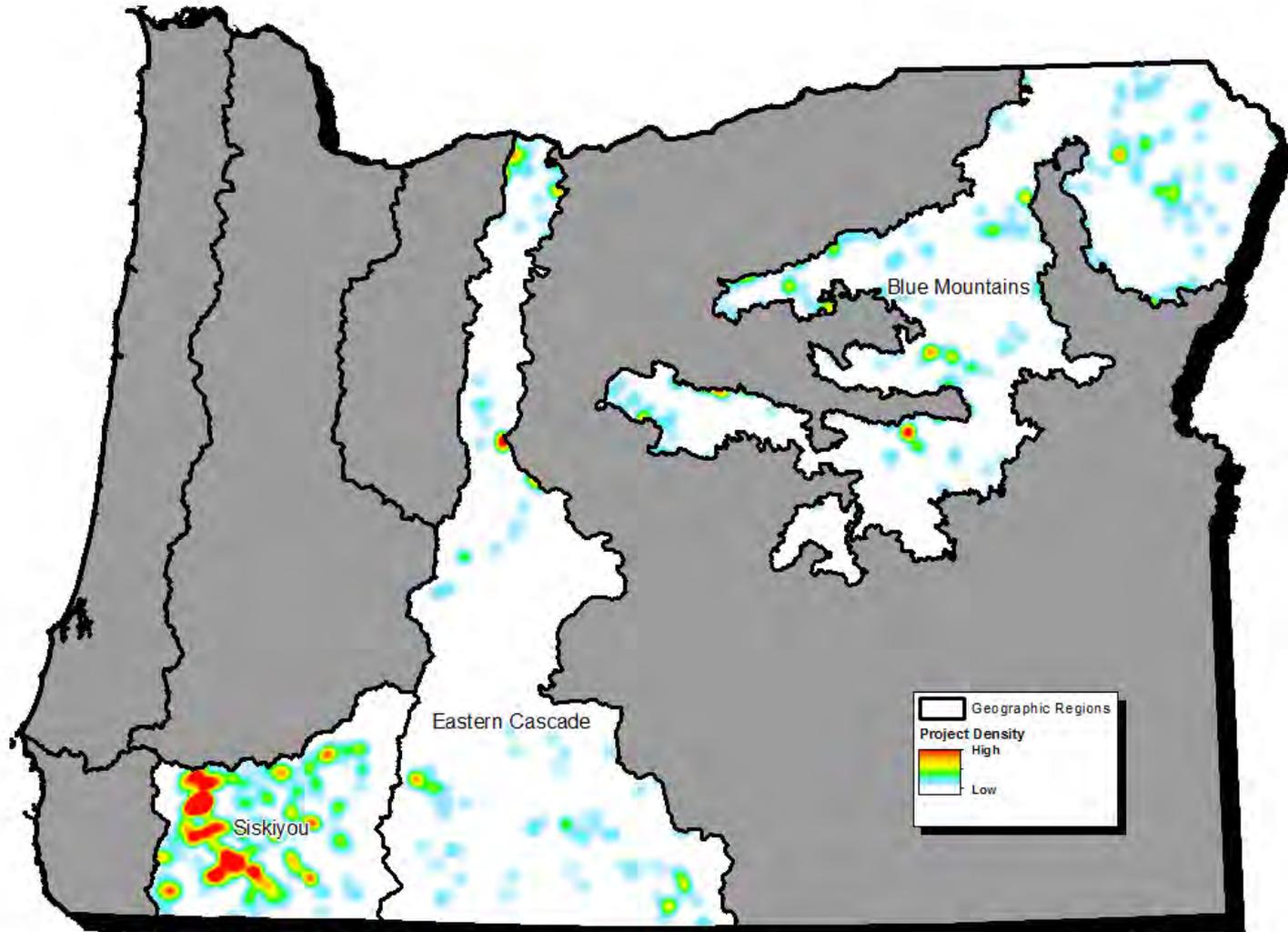


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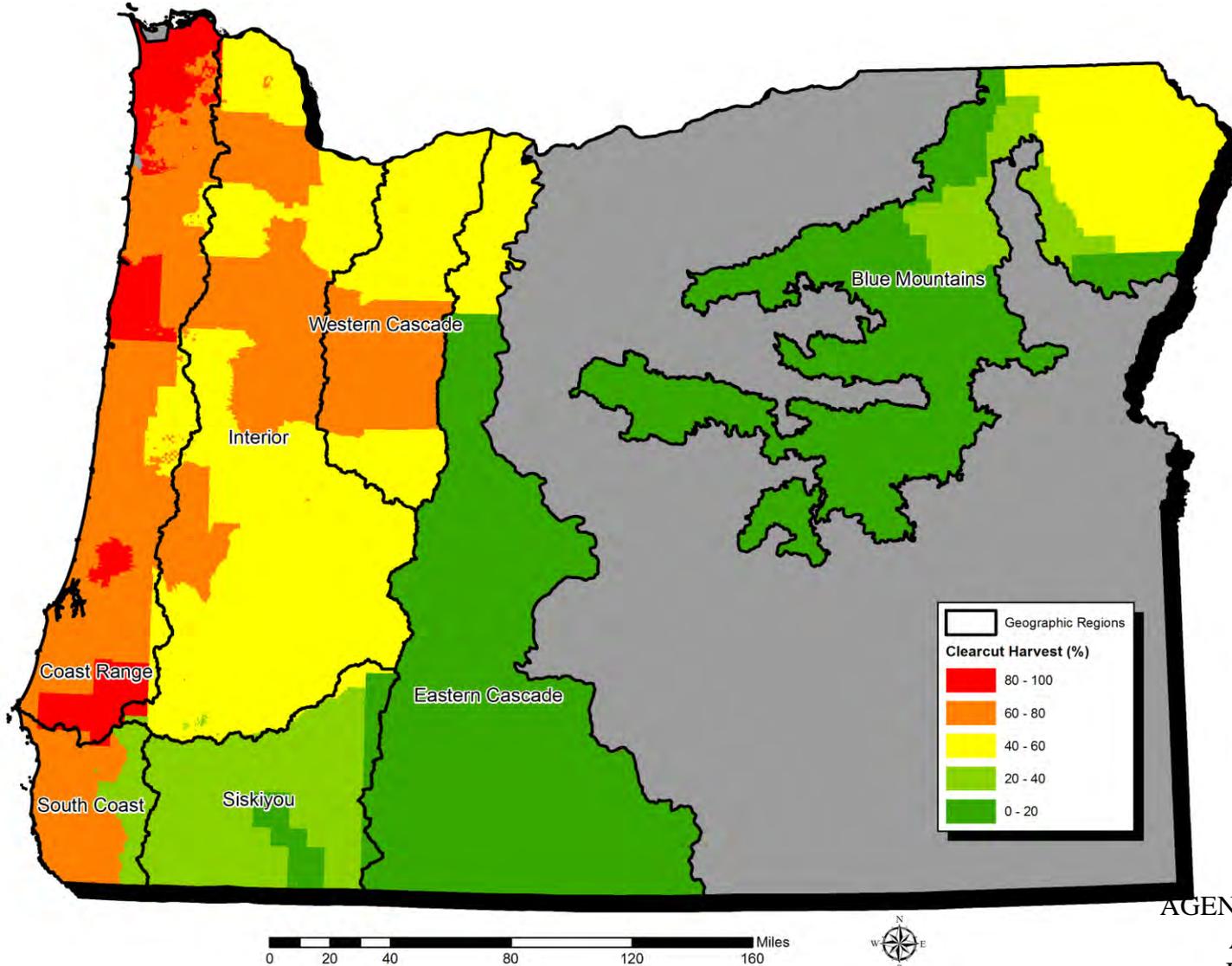
Miles

ODF Private Forest GIS

Voluntary Measures

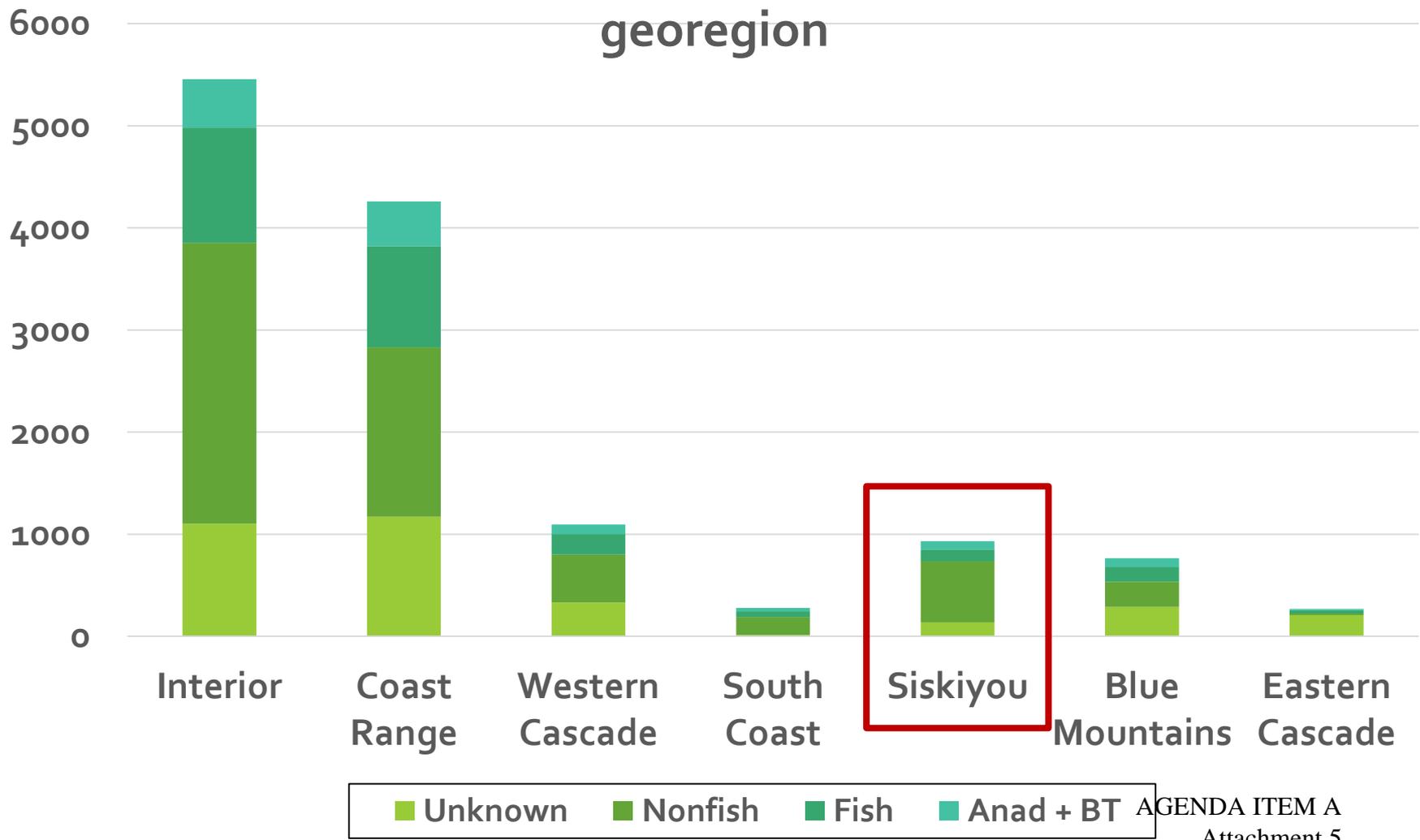


Harvest type (% of harvest notifications)



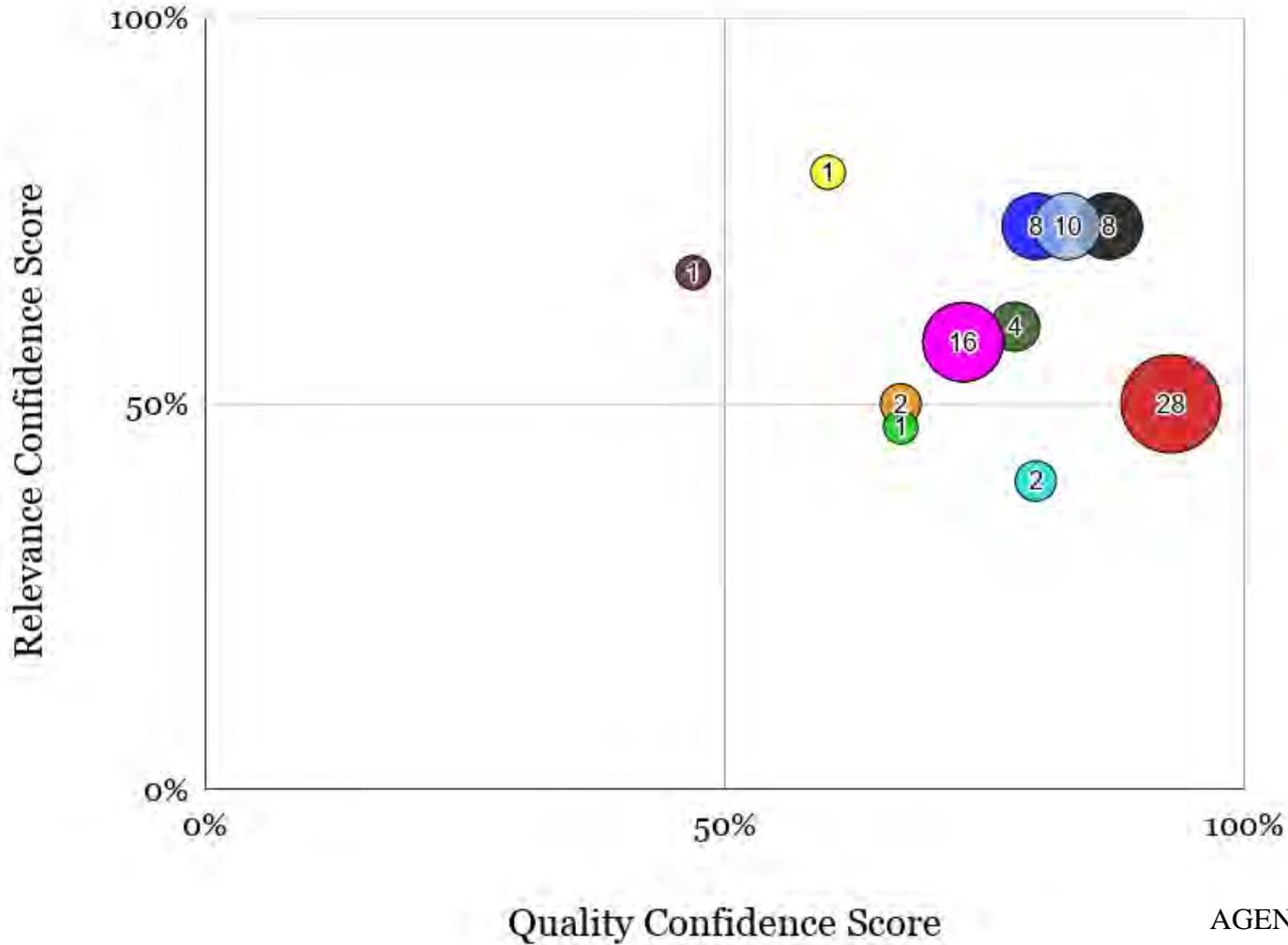


2015-16 Harvest notifications by stream type & georegion

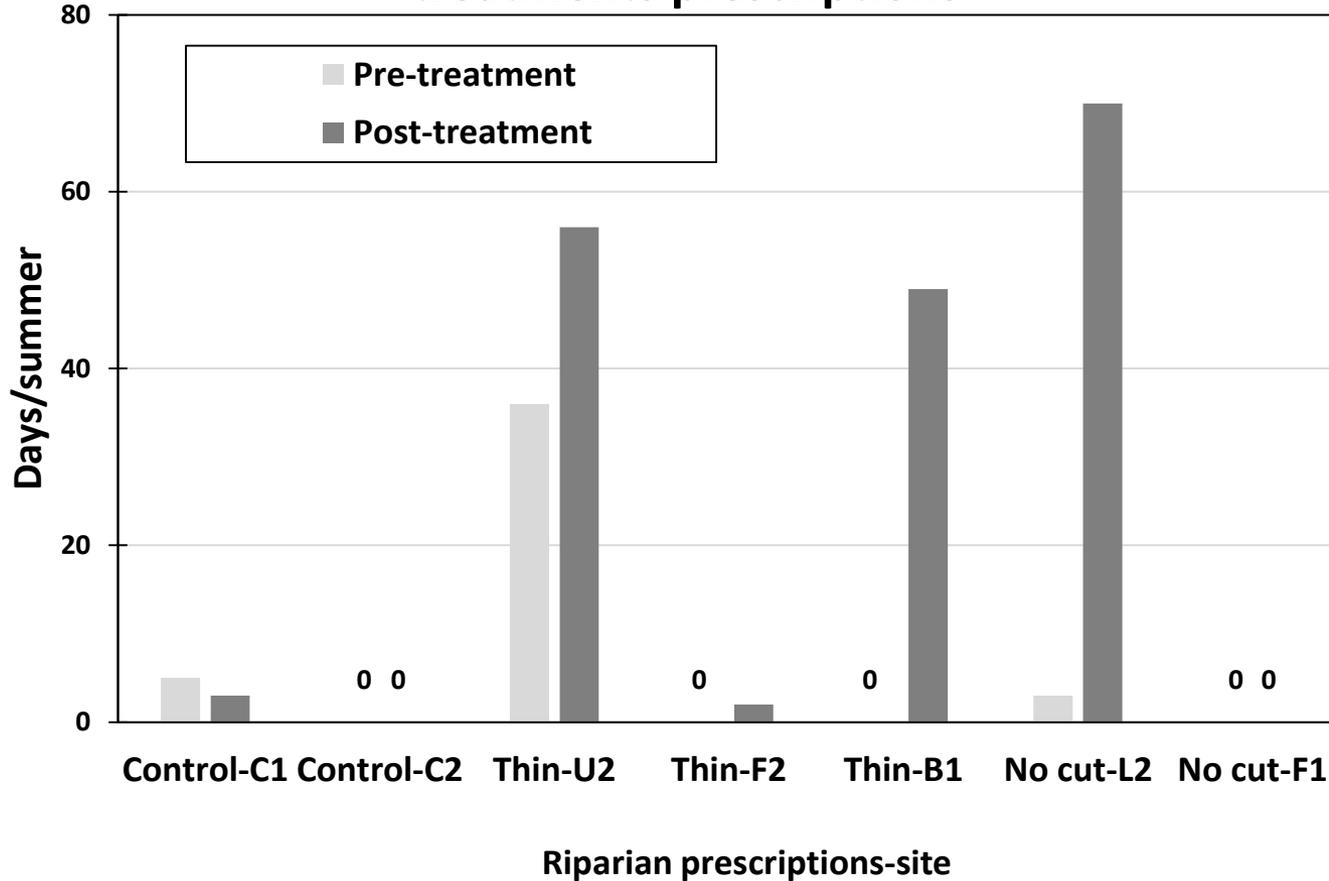




SR Results

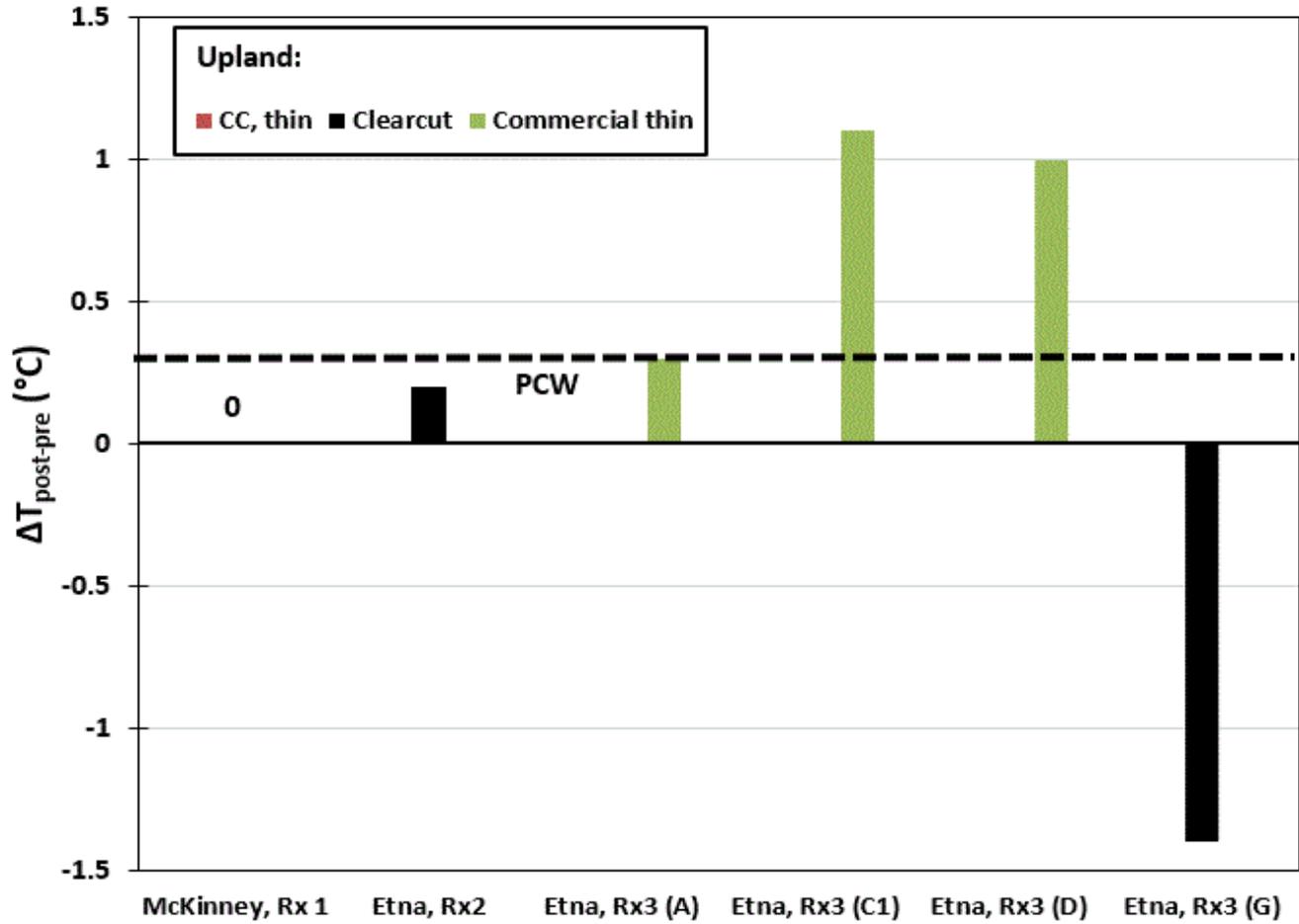


Days exceeding DEQ NC standard: fuels treatments prescriptions



Treatment	Streamside prescription	No-cut portion compared with FPA
Control	Untouched upland and streamside stands	Not applicable
Thin (Non-FPA Thin)	Thin from below + prescribed fire	<FPA
No cut (Non-FPA No cut)	No-entry (0-50 feet [perennial reaches] and 0-25 feet [intermittent reaches])	>FPA

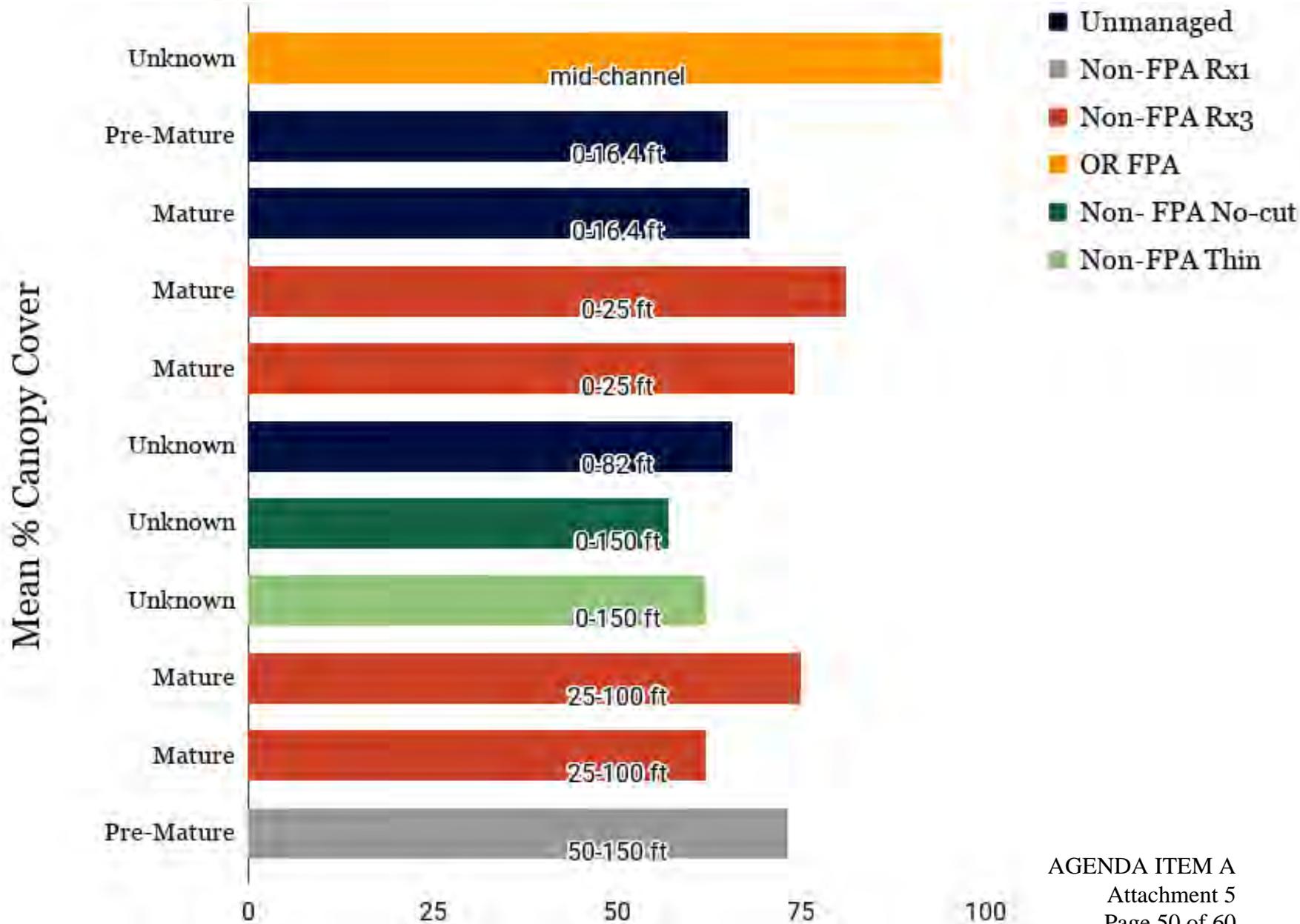
MMAT: Pre- to Post-harvest change



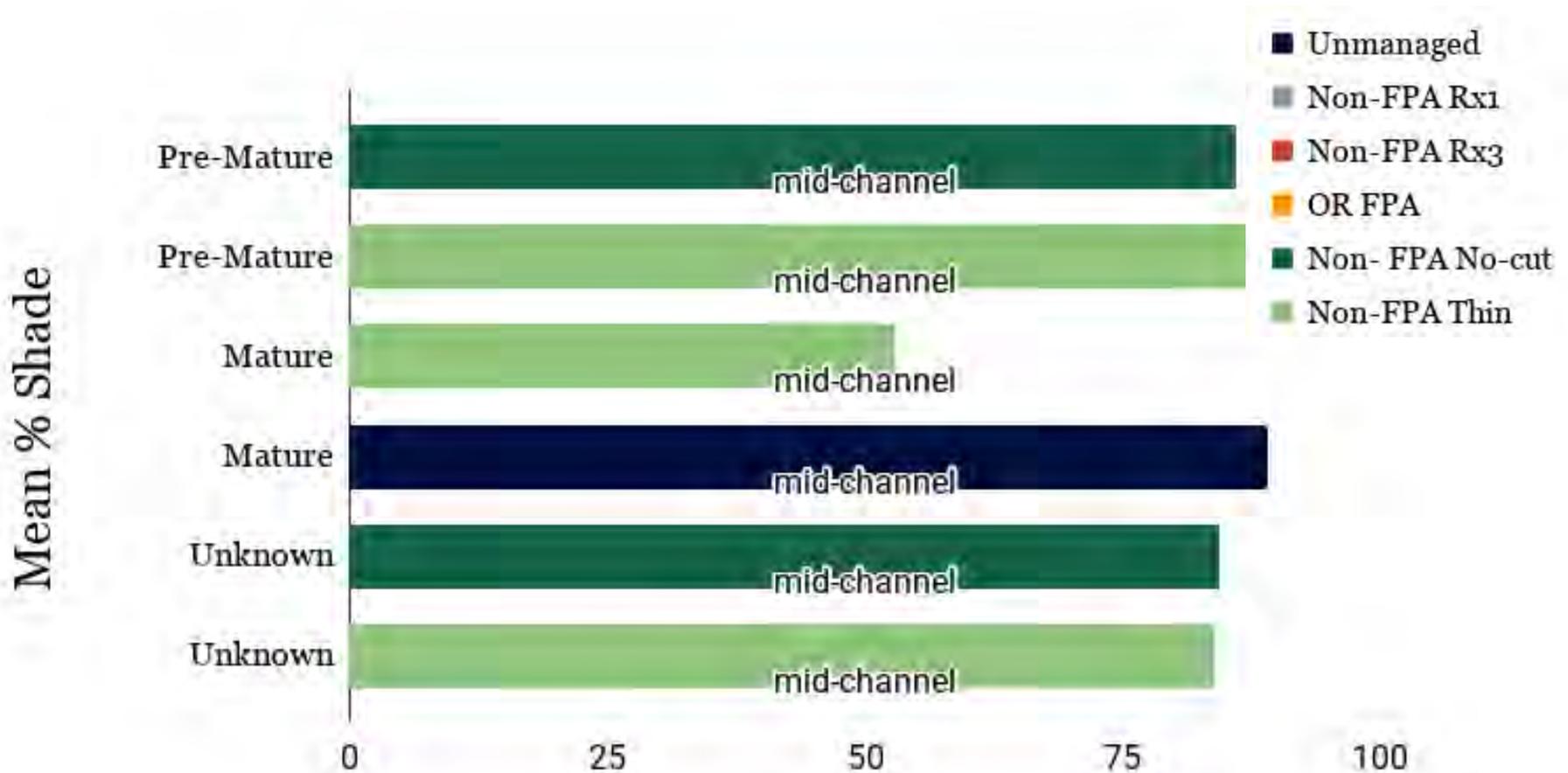
Stream, riparian prescription (site)

	Inner zone	Outer zone – retain 50% cover	No-cut portion compared with FPA	Stage	Stream size
Rx1	0-50 feet no entry	50-150 feet	>FPA	Pre-mature	Medium
Rx2	0-75 feet no entry	75-150 feet	>FPA	Mature	Medium
Rx3	0-25 feet retain 70% cover	25-100 feet	<FPA	Mature	Small

% Canopy Cover

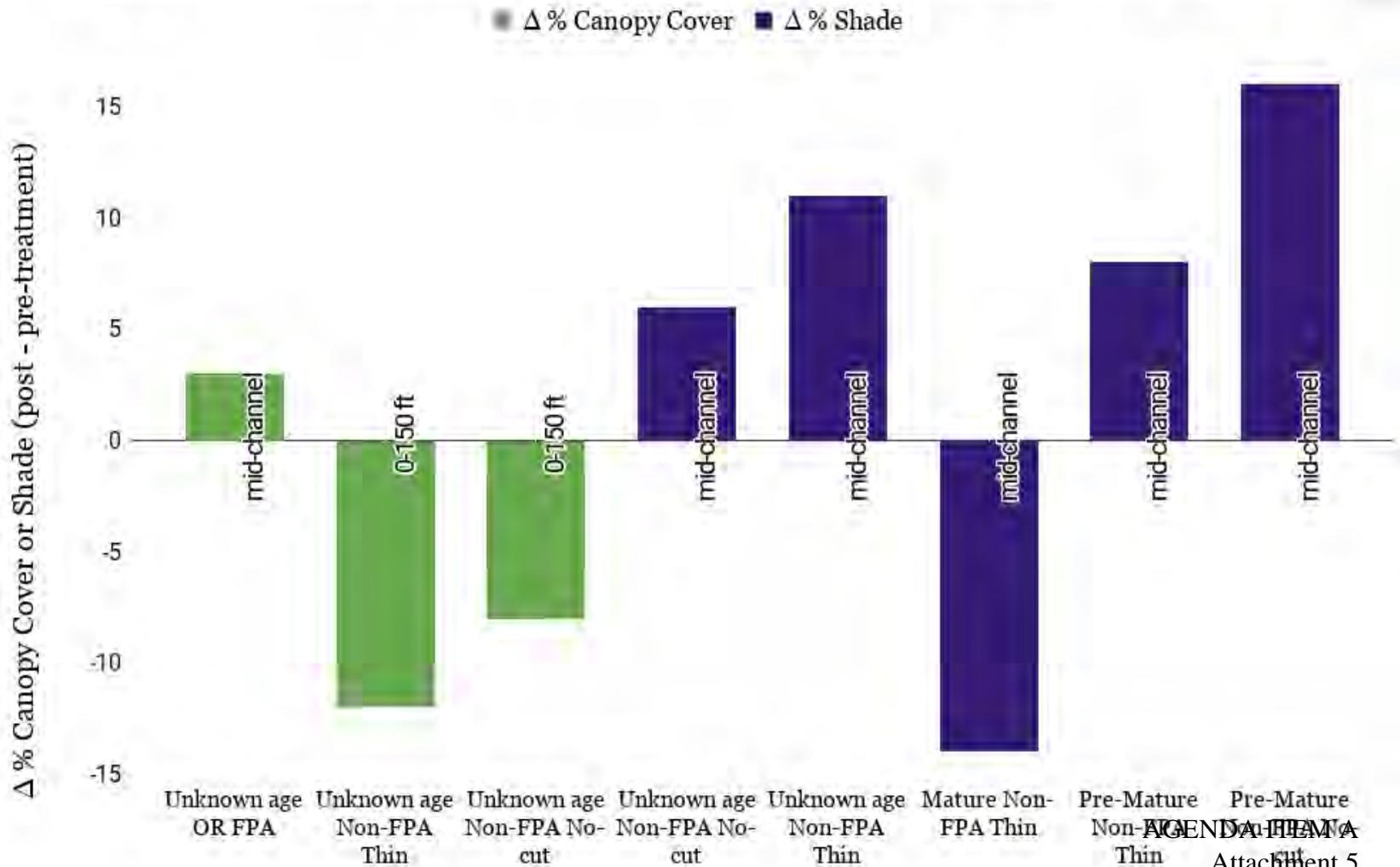


% Shade

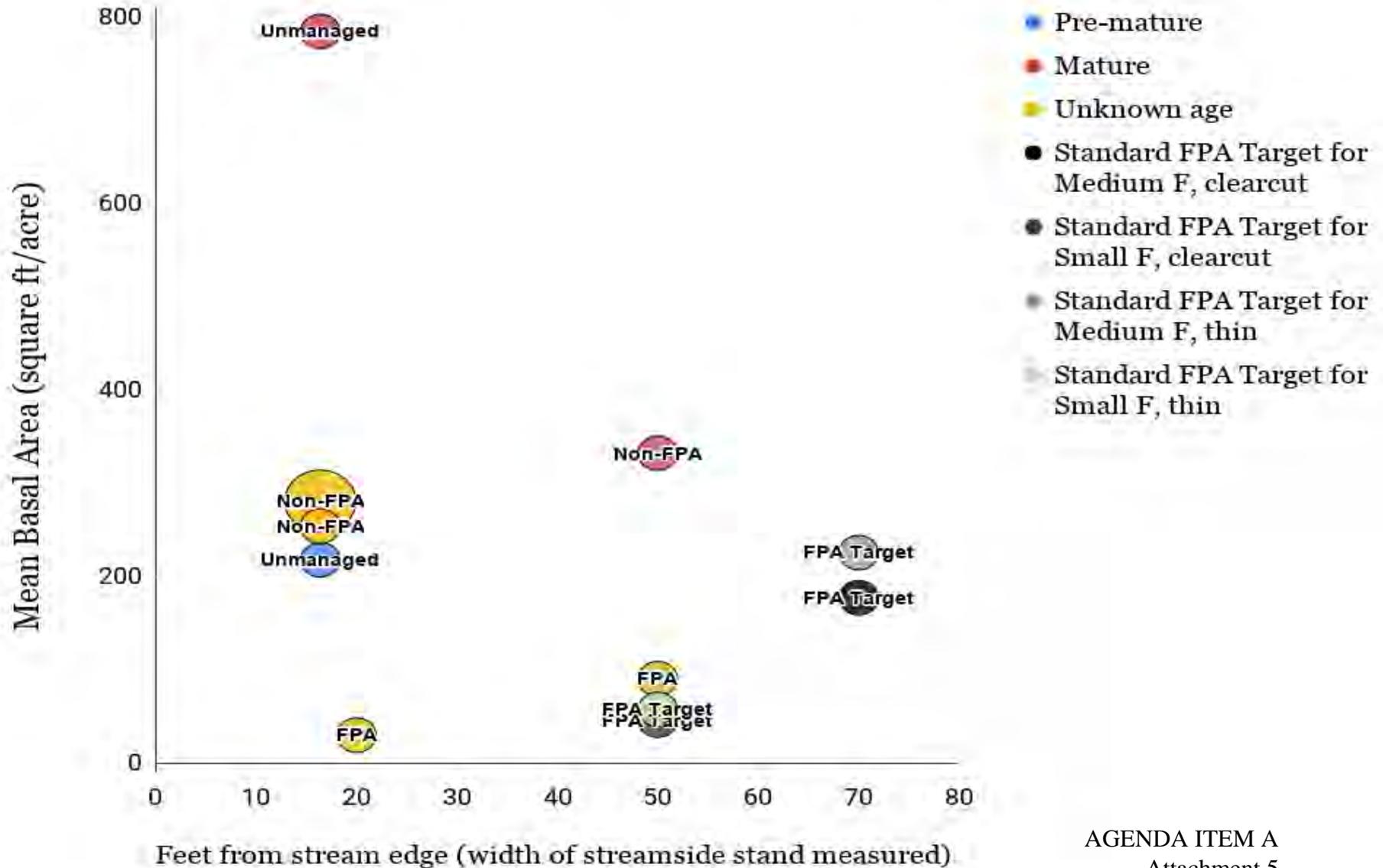




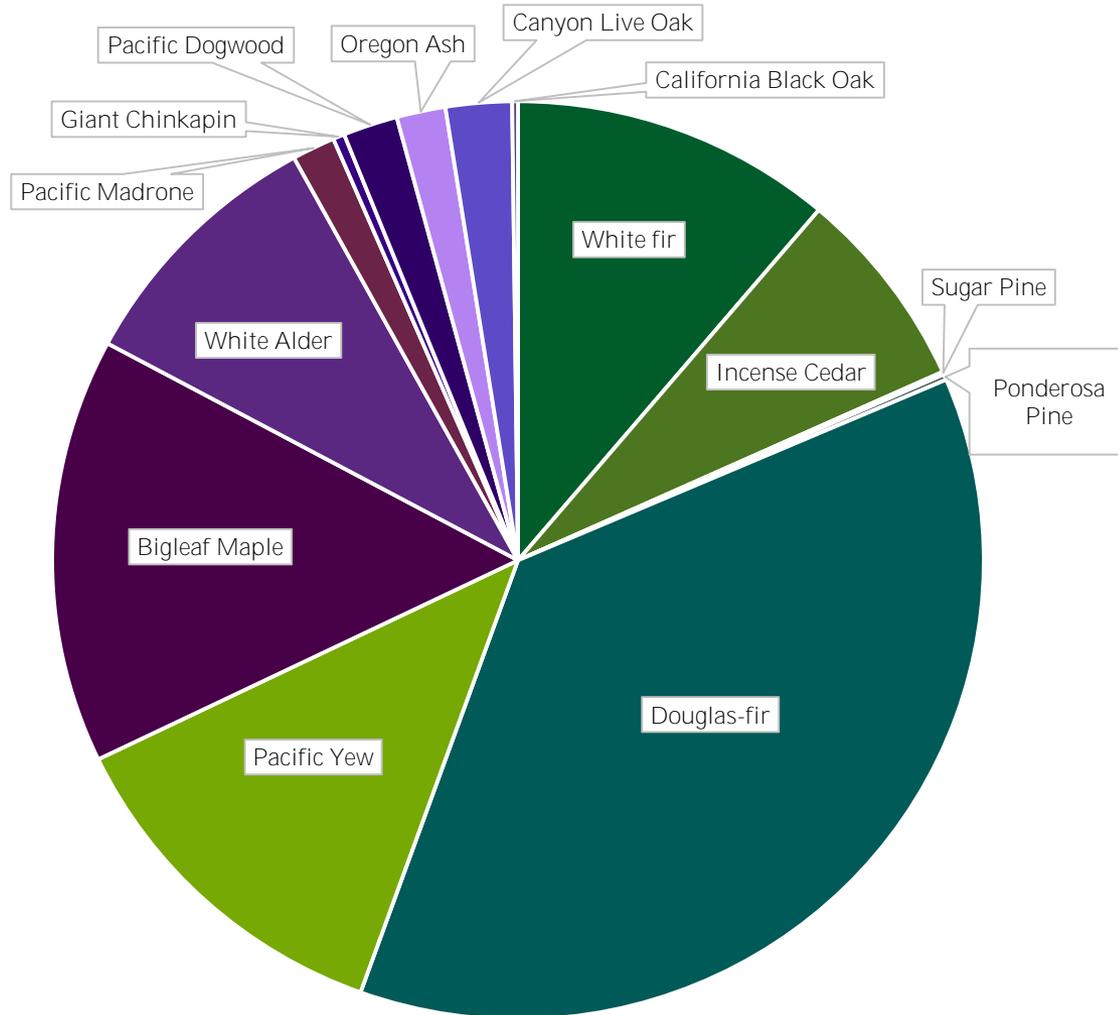
Change in In-Stream & Streamside % Canopy Cover and % Shade After Treatment



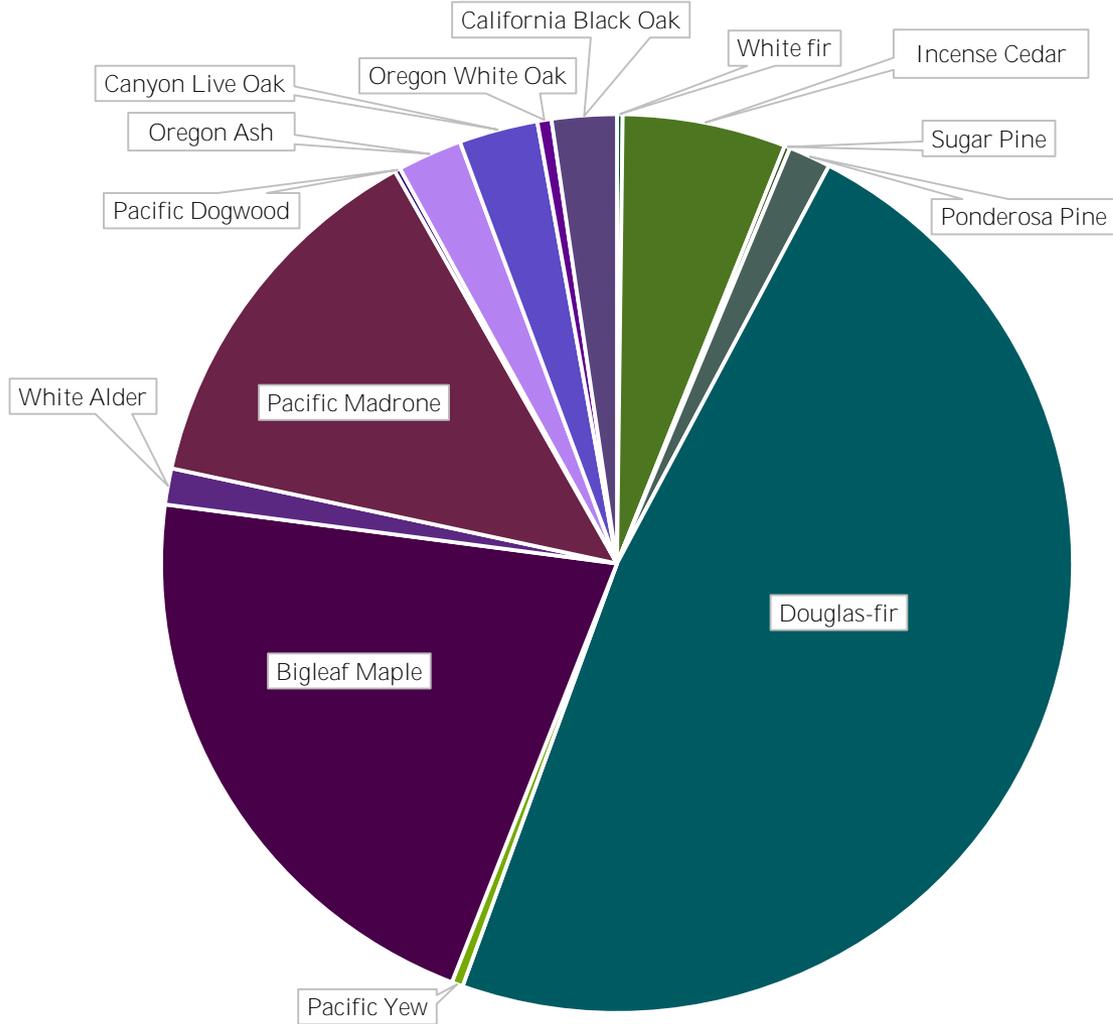
Mean Basal Area by Streamside Stand Width Measured



% of total stems in Post-mature Siskiyou Mixed Conifer Streamside Stands



% of total stems in Post-mature Siskiyou Valley Streamside Forests





Next Steps & Timeline

Stakeholders and Tribes

- **Return with charter**

Board

Decide on one of following (spring/summer 2019):

- The FPA or rules are working as designed
- FPA or rules may not meet stated objectives
- Not enough information for sufficiency decision:
Additional study prioritized
- Not enough information for sufficiency decision:
Other pending work prioritized at this time

Interested parties include:

- Association of Oregon Loggers
- Committee for Family Forestlands
- Freshwater Trust
- National Oceanic and Atmospheric Administration - Fisheries
- Oregon Dept. of Environmental Quality
- Oregon Dept. of Fish and Wildlife
- Oregon Forest and Industries Council
- Oregon Small Woodlands Association
- Oregon Stream Protection Coalition
- Regional Forest Practices Committees
- Rogue Riverkeeper
- Tribes
- US Environmental Protection Agency
- Watershed Councils *and more...*





Input on SR Report

Received comments from ___ entities – Thank you!
ODF responses aggregated by themes

<u>Stakeholder/Tribal Input</u>	<u>ODF response</u>
Assume more shade loss and temp increase with FPA, based on Thin treatment from one study	Thin treatment less restrictive than FPA; Not enough information to make assumptions

Scenarios for Decision Options



Decision Options (Stream Temperature or DFC)

Futuring Aspect

Stream Temperature

Initiate Riparian Rule
Analysis Process

CZARA lawsuit –
resolution?

TMDLs

Economics (Forestry)

Economics (Non-forest
products, e.g., recreation)

Fish (status/trends)



Board decision

1) Stream Temperature

2) Desired Future Condition

- The FPA or rules are working as designed
- FPA or rules may not meet stated objectives

- Not enough information for sufficiency decision:

Additional study prioritized

- Not enough information for sufficiency decision:

Other pending work prioritized at this time