Western Oregon State Forests HCP Update

Oregon Board of Forestry
October 6th, 2020

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Western Oregon HCP Scoping Team

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HCP Facilitation Team	
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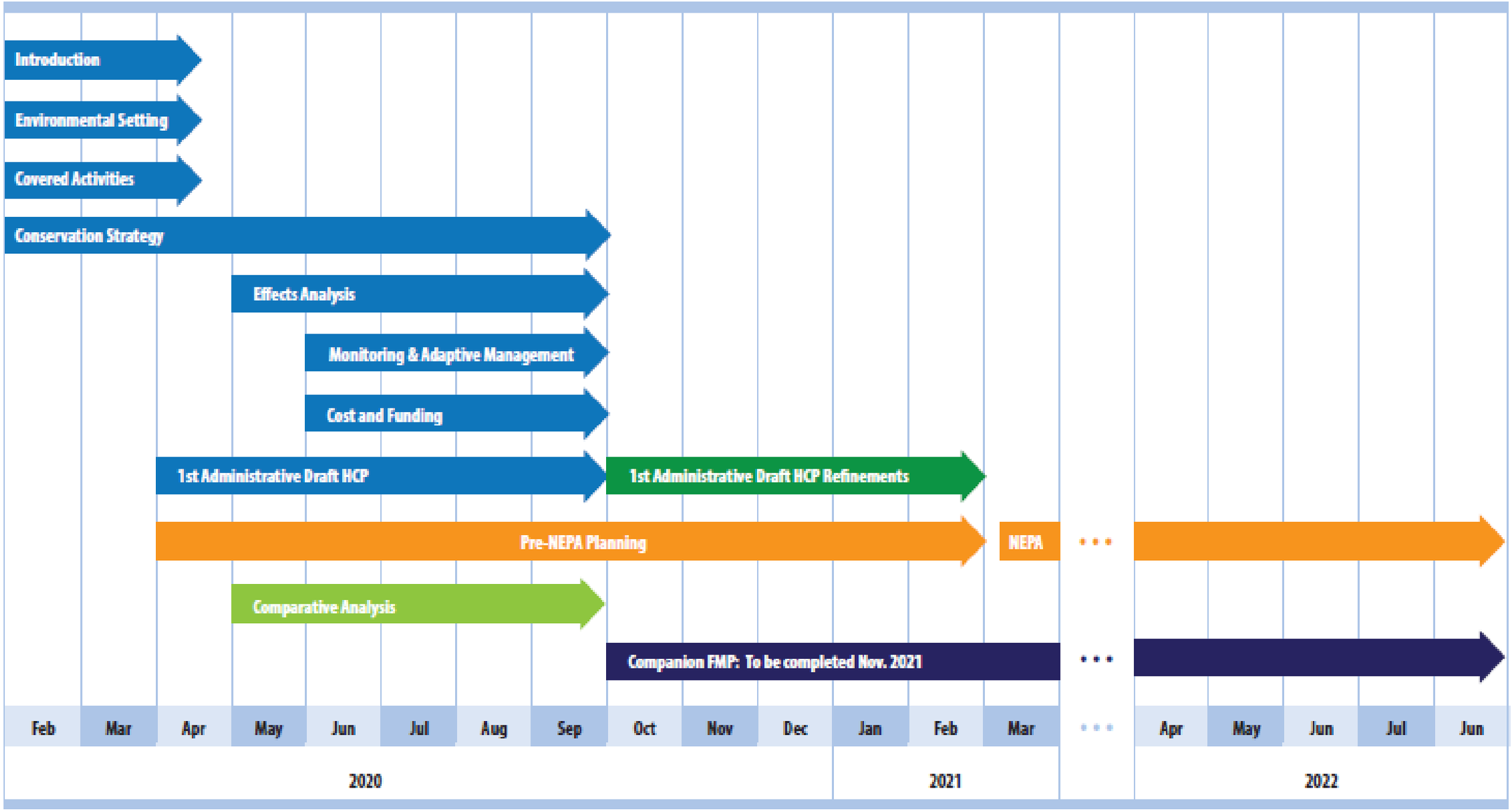
Brett Brownscombe	Oregon Consensus **Senior Project Manager**
Cindy Kolomechuk	ODF **Western Oregon HCP Project Manager, ODF**

Topics to be Covered

- Process Update
- Draft HCP Key Concepts
  - Effects Analysis
  - Conservation Strategies
  - Monitoring
  - Cost and Funding
- Comparative Analysis
- County & Stakeholder Engagement

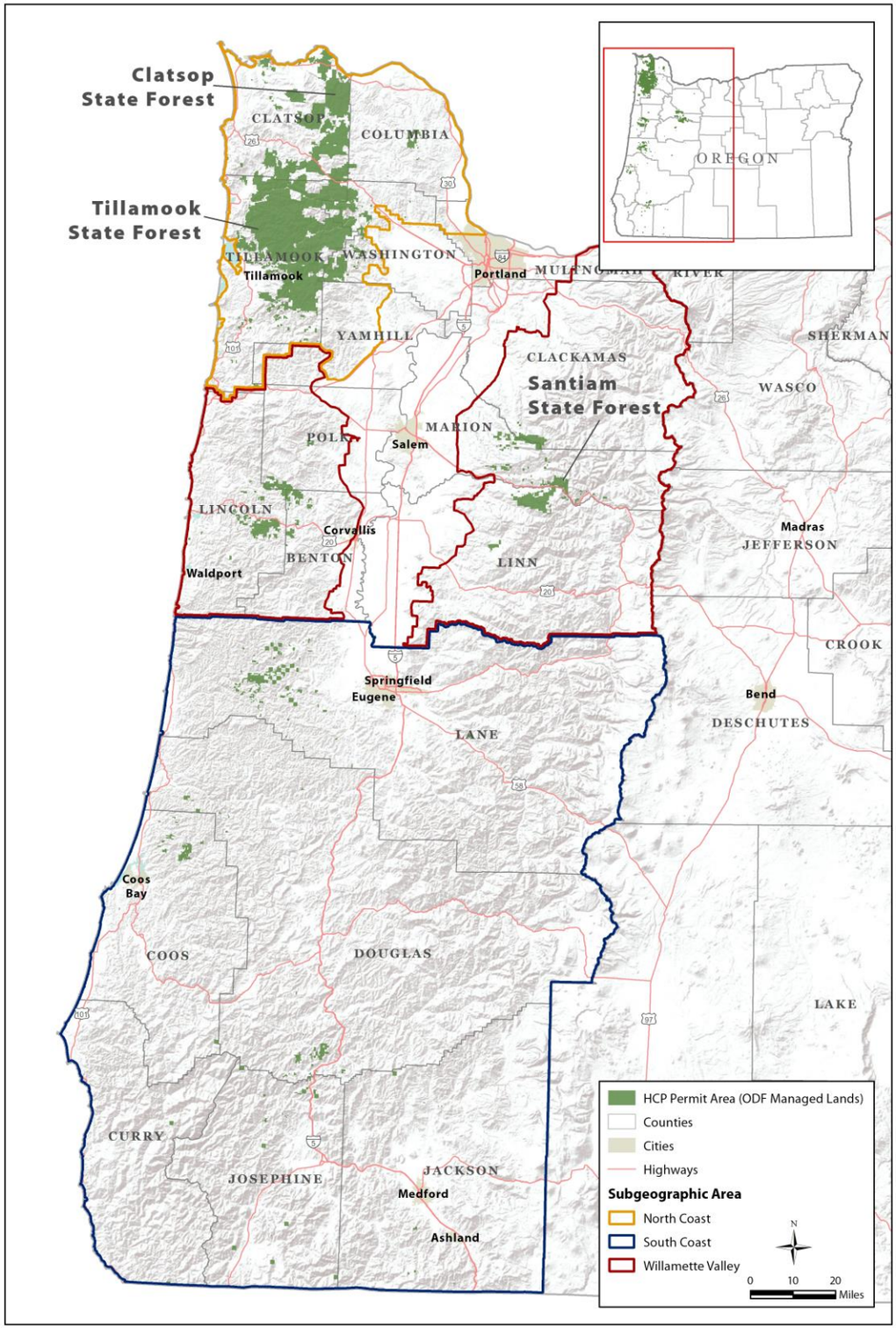
Draft HCP Development Timeline



Draft HCP Review

- Geographic Area
- Covered Activities
- Covered Species
- Conservation Actions
- Effects Analysis
- Monitoring
- Cost and Funding

HCP Permit Area and Geographic Areas



Covered Species

- Oregon Coast coho (*Oncorhynchus kisutch*)
- Lower Columbia River coho (*O. kisutch*)
- Oregon Coast spring chinook (*O. tshawytscha*)*
- Upper Willamette River spring chinook (*O. tshawytscha*)
- Upper Willamette River winter steelhead (*O. mykiss*)
- Lower Columbia chum (*O. keta*)
- South Oregon/Northern California coho (*O. kisutch*)
- Lower Columbia chinook (*O. tshawytscha*)
- Eulachon (*Thaleichthys pacificus*)

- Oregon slender salamander (*Batrachoseps wrighti*)*
- Columbia torrent salamander (*Rhyacotriton kezeri*)*
- Cascade torrent salamander (*R. cascadae*)*

- Northern spotted owl (*Strix occidentalis*)
- Marbled murrelet (*Brachyramphus marmoratus*)

- Red tree vole (*Arborimus longicaudus*)*
- Coastal marten (*Martes caurina caurina*)

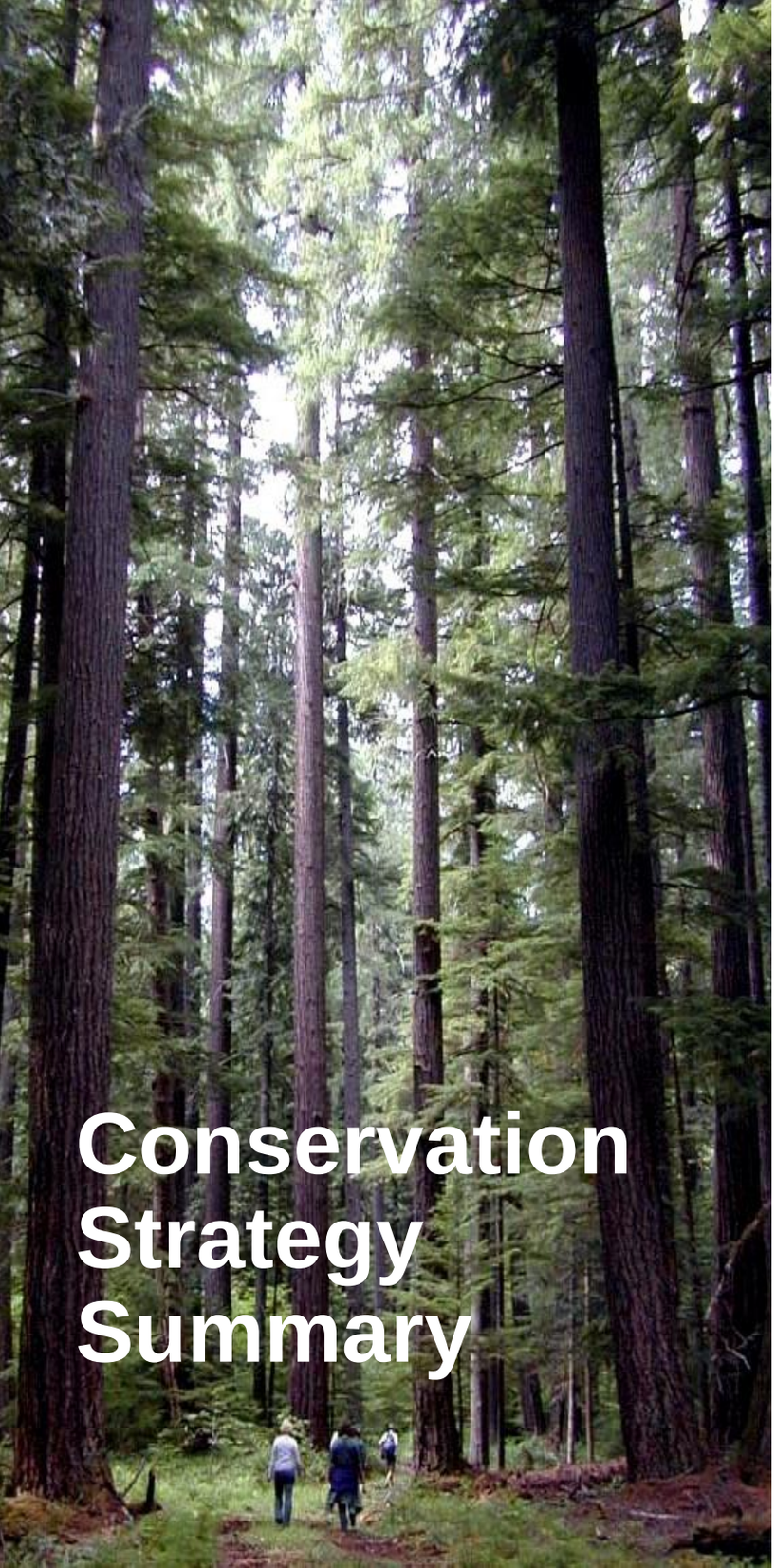
*Species that are not currently listed under the endangered species act

HCP Purpose

- Avoid, Minimize, and Mitigate the impact of take of federally listed species
- Results in permits under the ESA from USFWS and NOAA Fisheries
- Creates operational certainty over the 70-year permit term
- Creates certainty in the quality and quantity of conservation outcomes over the 70-year permit term
- Establishes a monitoring and adaptive management program to track progress
- No Surprises assurance

Key Elements

- Covered Activities
- Covered Species
- Conservation Strategy
- Effects Analysis
- Monitoring and Adaptive Management
- Implementation
- Cost and Funding

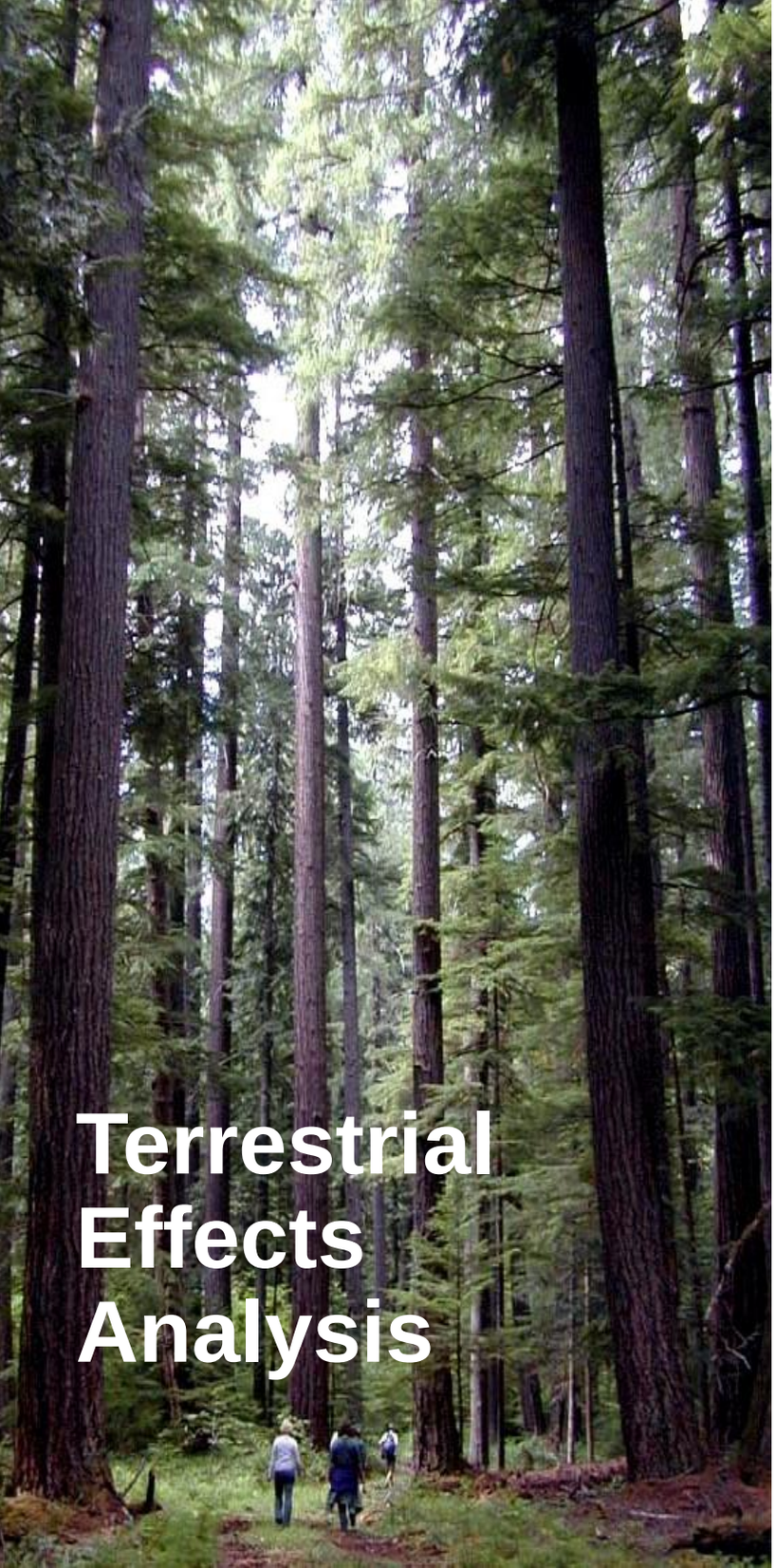


Conservation Strategy Summary

- **Aquatic Conservation Strategy**
  - Riparian conservation areas
  - Road system management
  - Stream enhancement
  - Barrier removal
- **Terrestrial Conservation Strategy**
  - Habitat conservation areas
  - Upland habitat management
  - Retention commitments
  - Strategic species actions
- **Establish Conservation Fund**

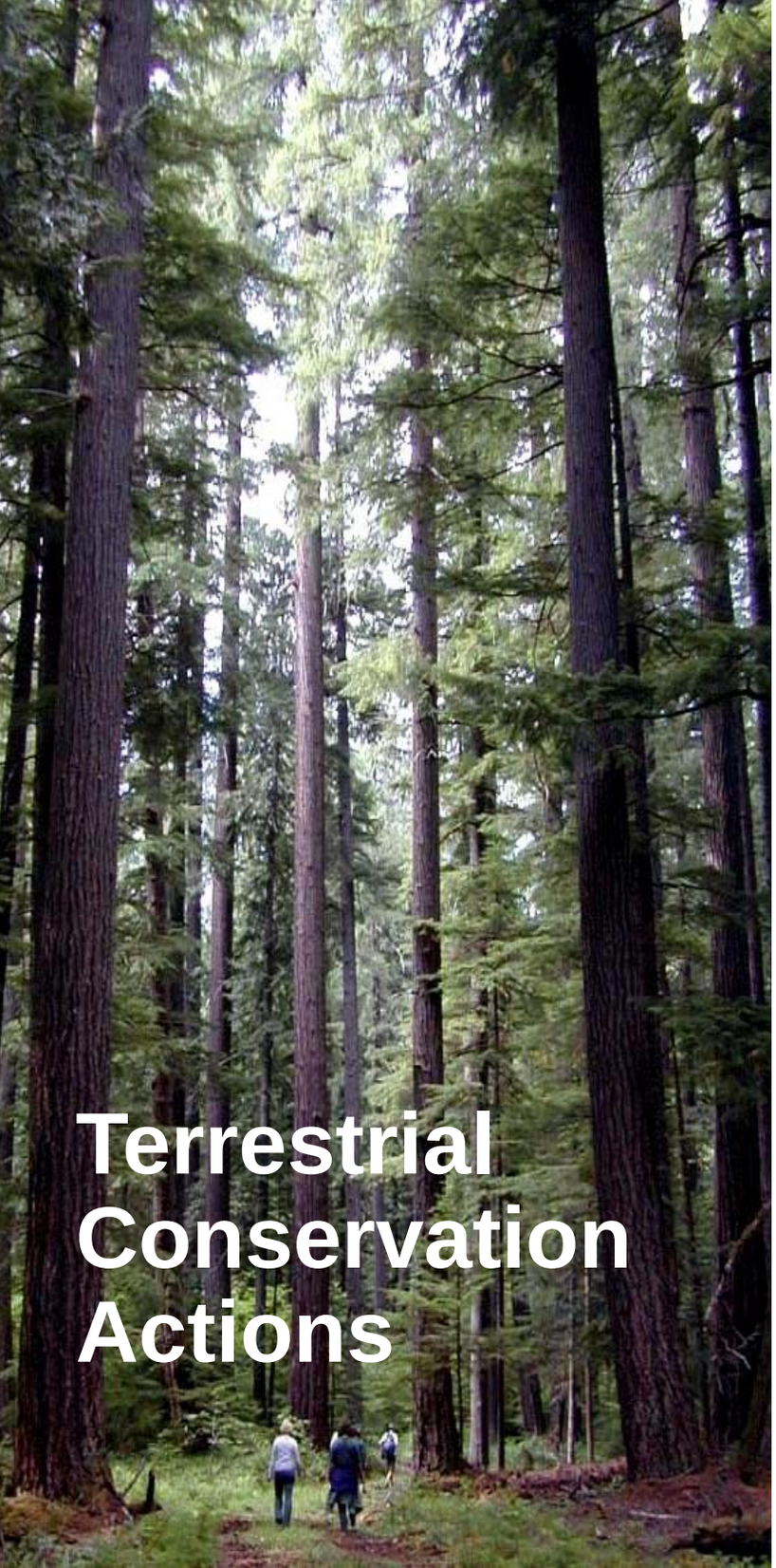
Effects and Conservation Strategy

- Effects Analysis
- Conservation Actions
- Monitoring



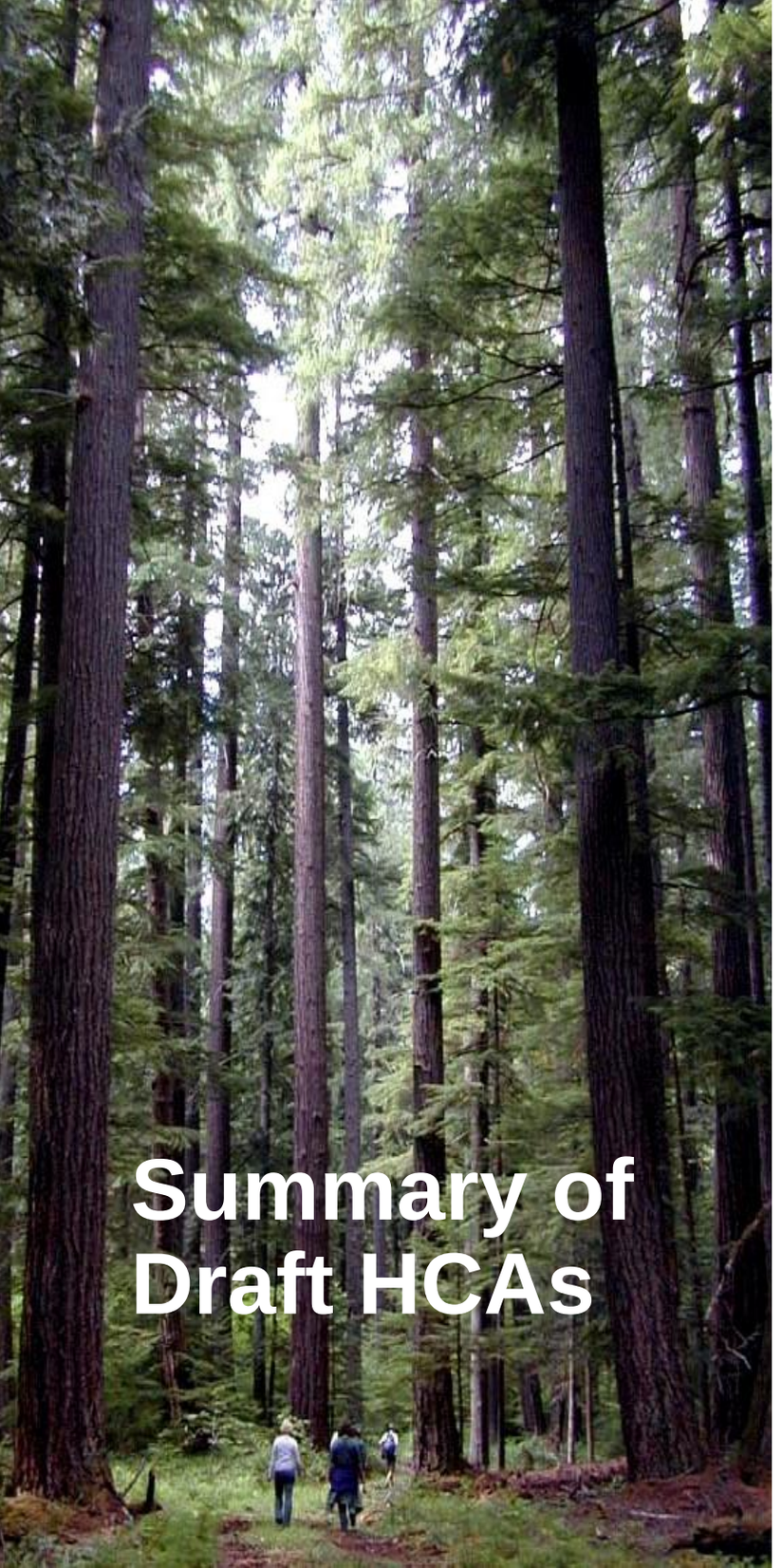
Terrestrial Effects Analysis

- Conducted for each covered species
- Evaluated whether covered activities would:
  - Cause direct mortality to known locations of covered species (e.g., nest sites)
  - Result in loss of suitable or highly suitable habitat over time
  - Result in indirect effects over the long term (e.g., increase predation risk)
- Determined that effects could be minimized and mitigated through a series of conservation actions



Terrestrial Conservation Actions

- Establish Habitat Conservation Areas (HCAs)
- Prioritized areas in HCAs where:
  - Species are known to occur,
  - Suitable and highly suitable habitat occurs or will occur,
  - Habitat connectivity on the landscape
  - HCAs encompass nearly all suitable and highly suitable habitat in the permit area now, and nearly all known species occurrences

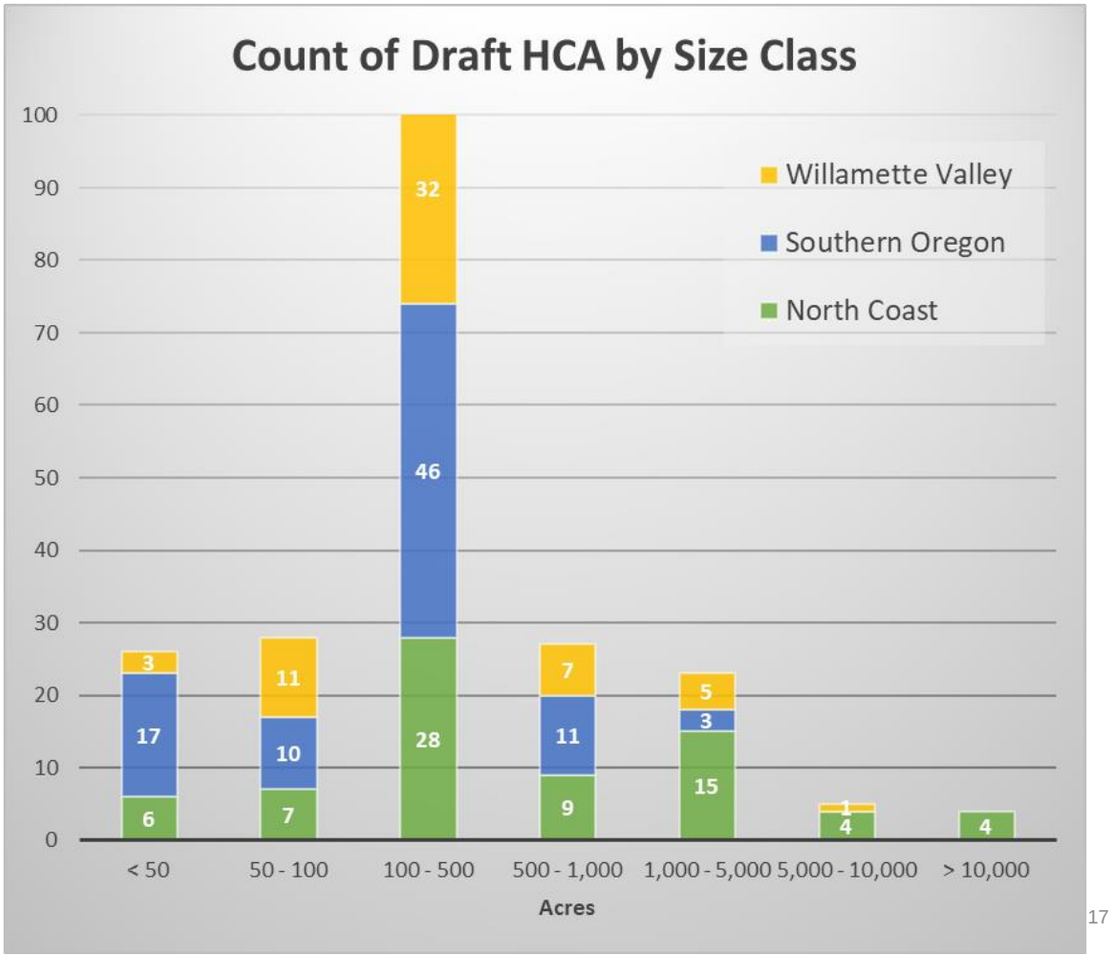


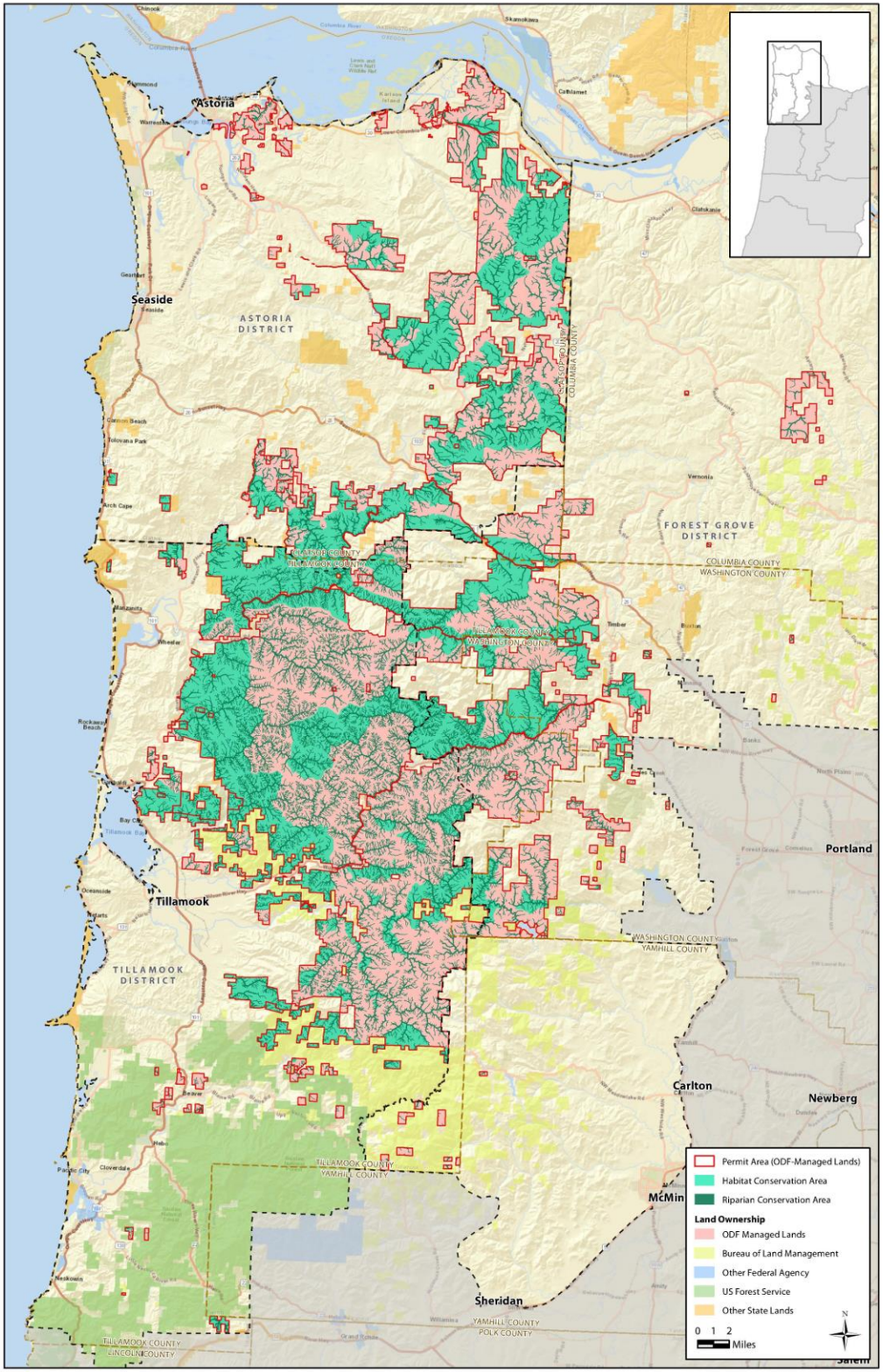
Summary of Draft HCAs

Final Draft HCA Size and Distribution

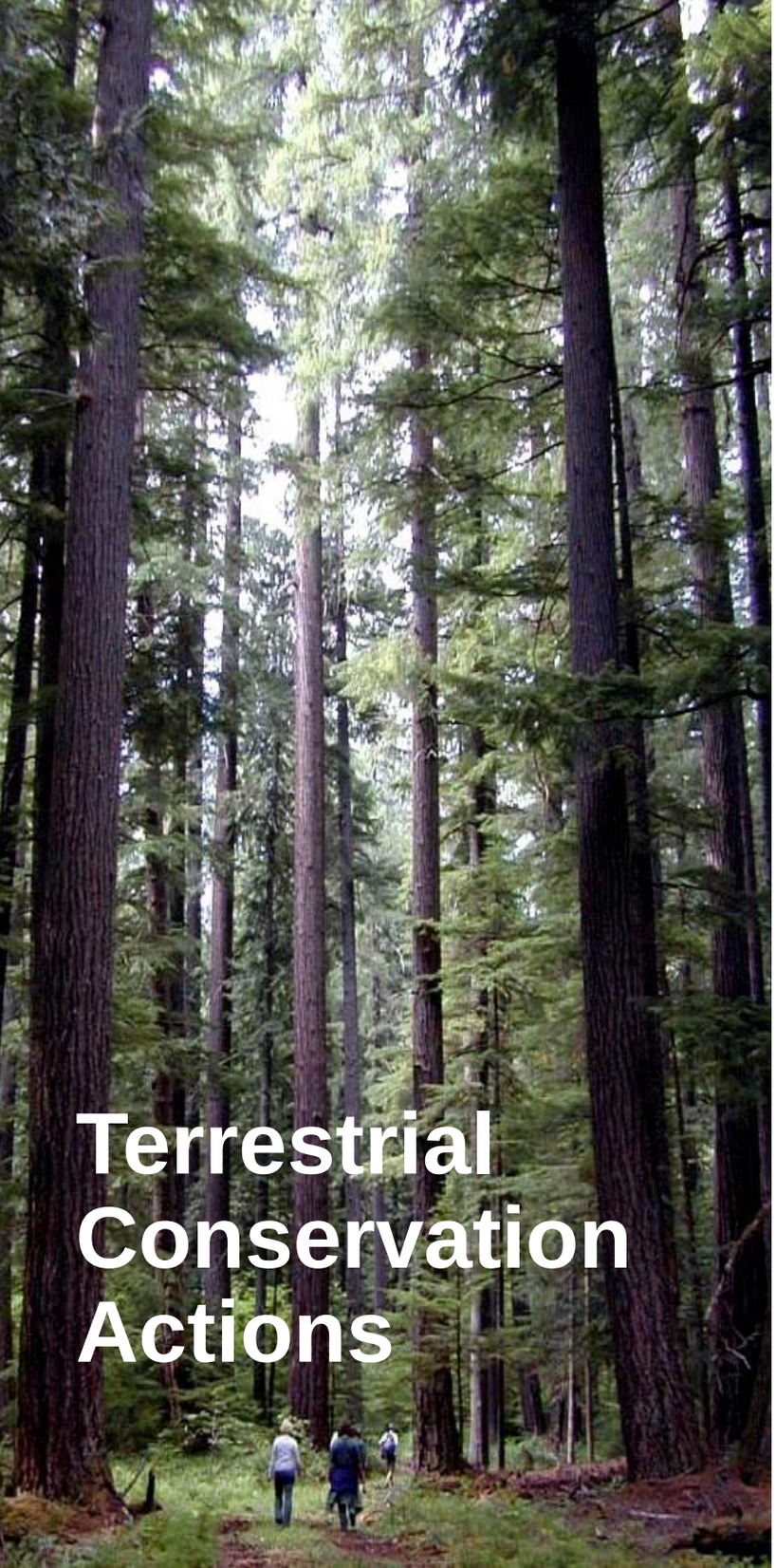
Permit Area	275,000 (43%)
North Coast	217,000 (43%)
Willamette Valley	33,000 (40%)
Southern Oregon	25,000 (47%)

Sizes of Draft HCAs vary across Permit Area



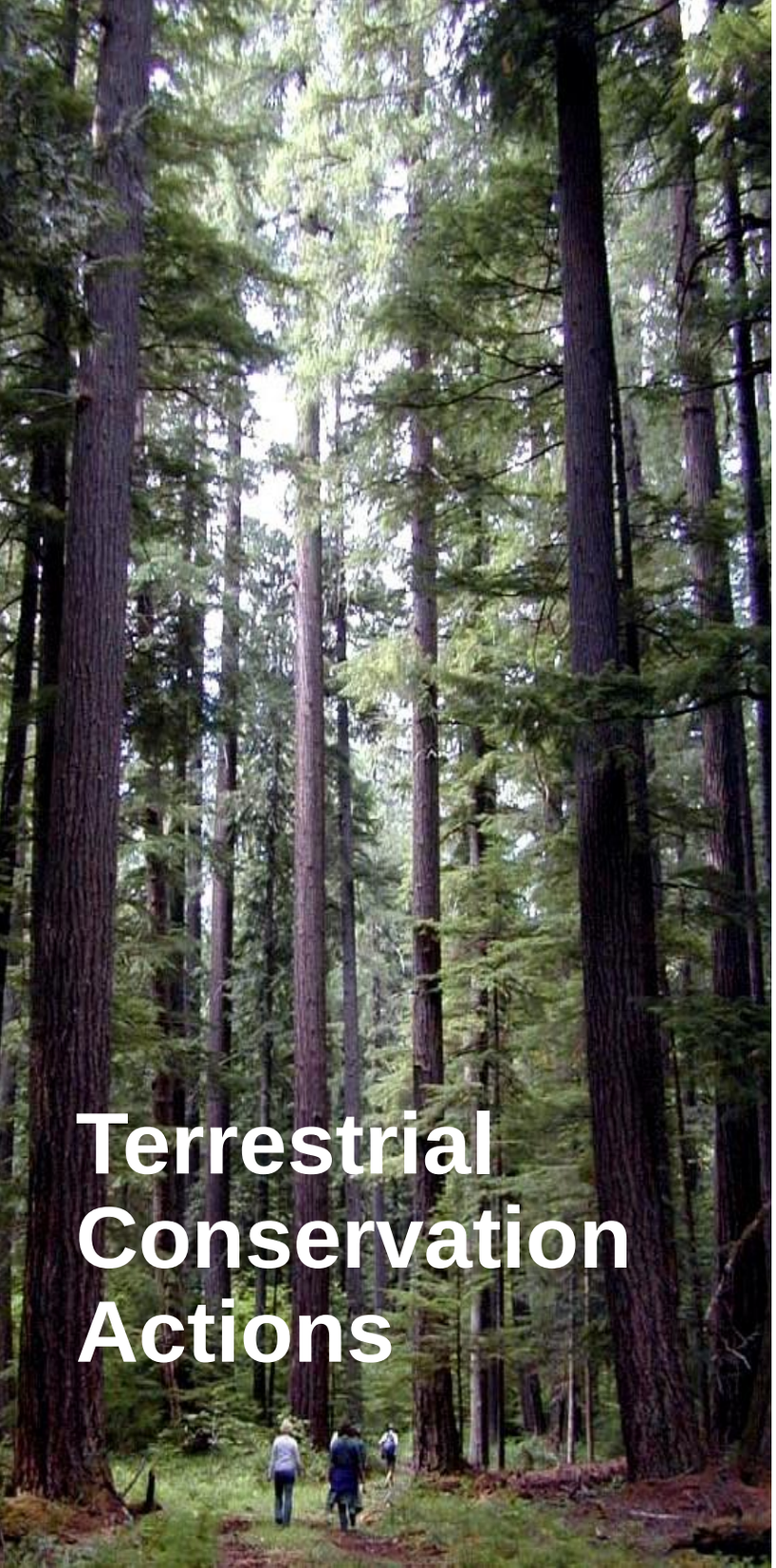


Western Oregon State Forest HCP – Habitat Conservation Areas, Astoria, Forest Grove, and Tillamook Districts

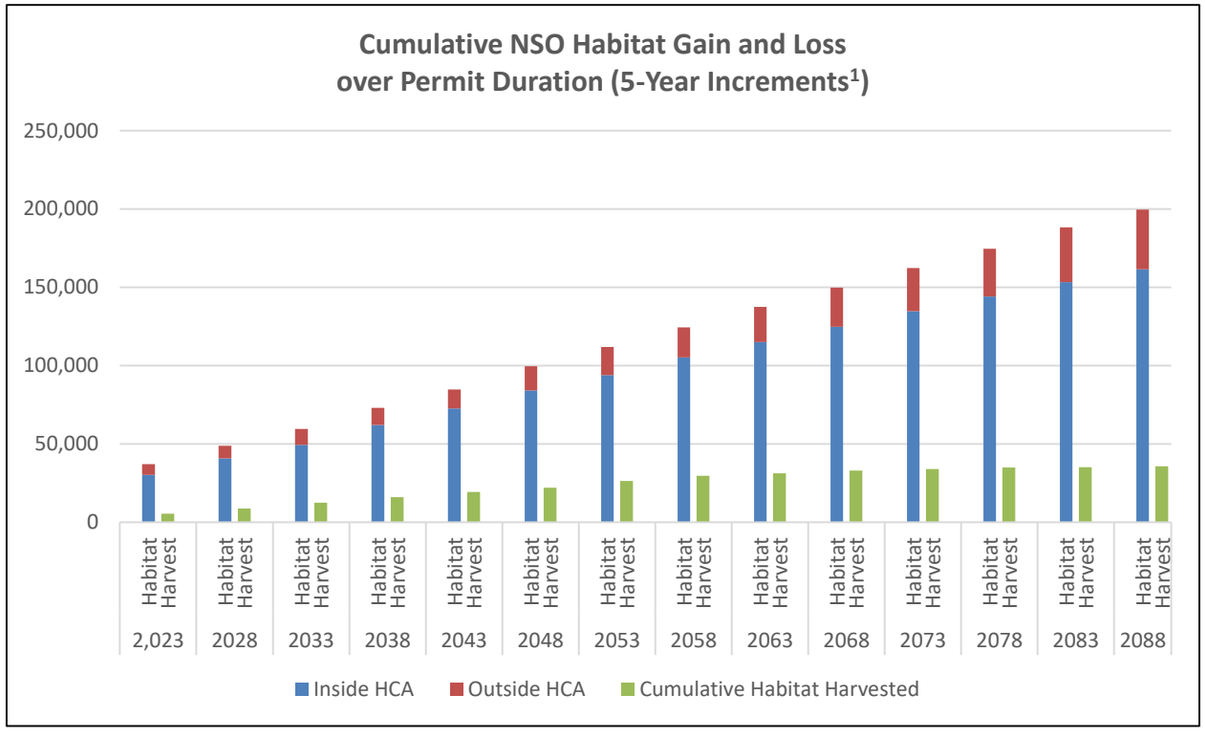


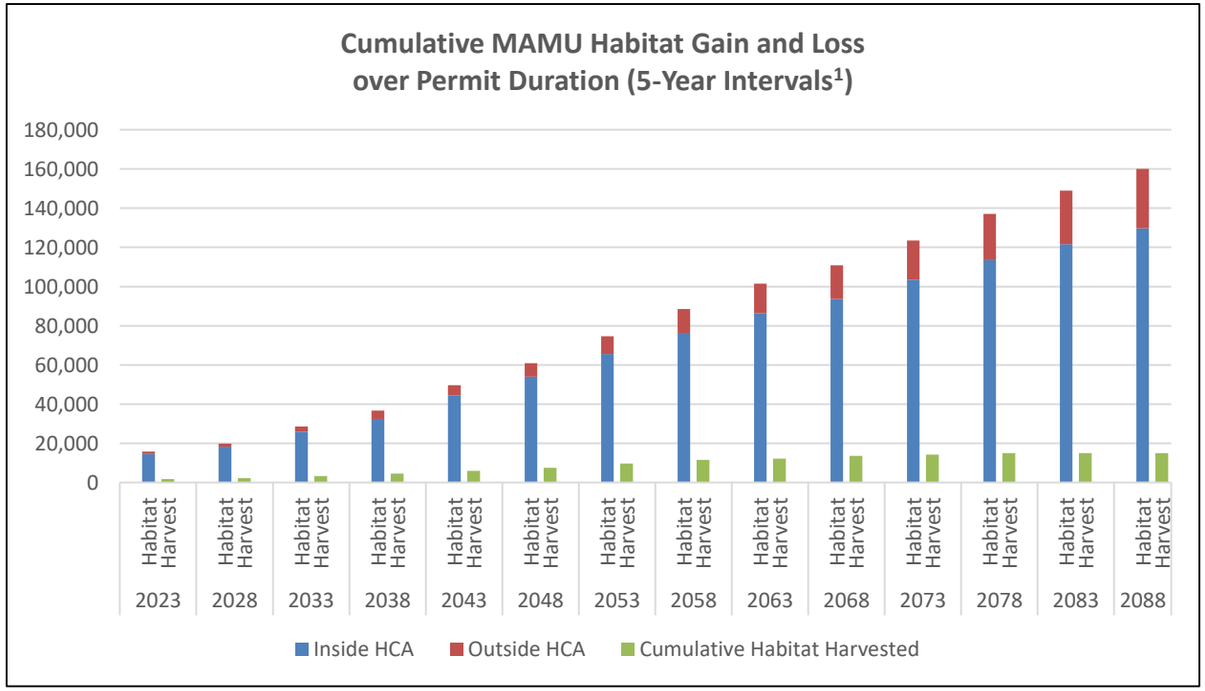
Terrestrial Conservation Actions

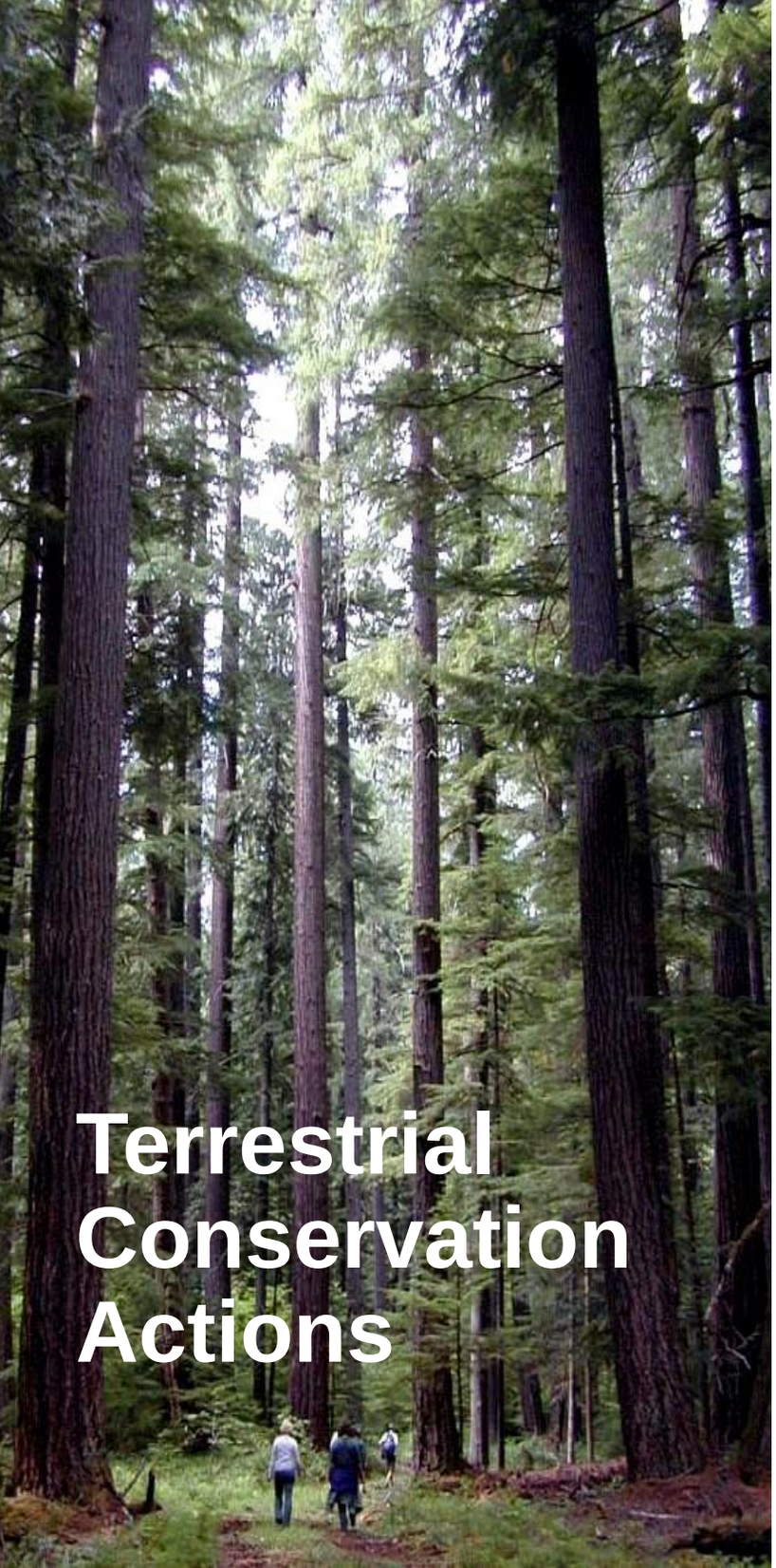
- Conduct management actions in HCAs to improve habitat over time
- Focus:
  - Young, simple stands/plantations
  - Conifer restoration (alder, SNC)
- Pace:
  - First 30-years of permit term
  - Annual targets (ac/yr)
- Scale:
  - 1/3rd inoperable, RCAs, inner gorges
  - 1/3rd existing T&E sites or high quality habitat
  - 1/3rd candidates for management



Terrestrial Conservation Actions

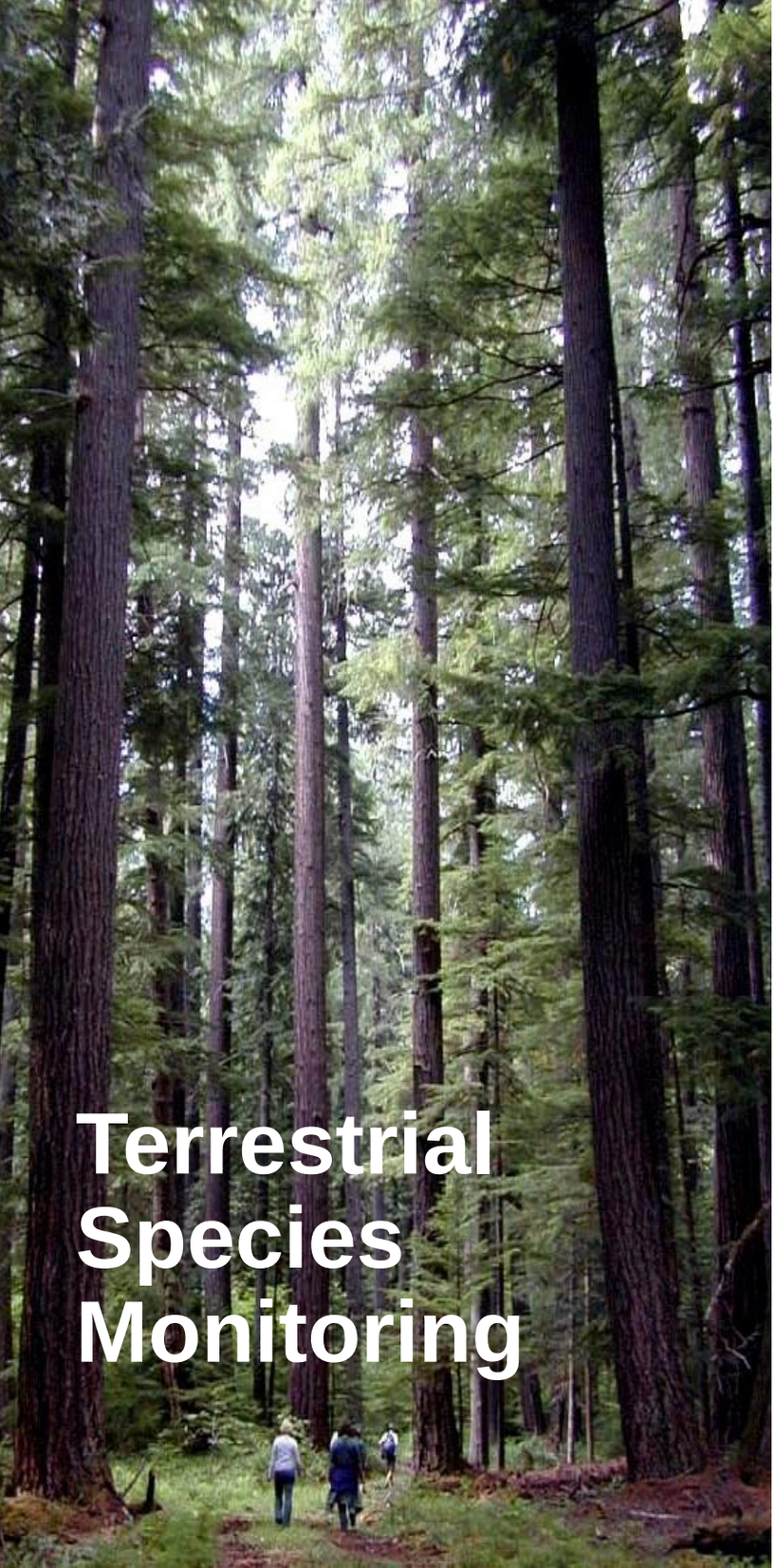






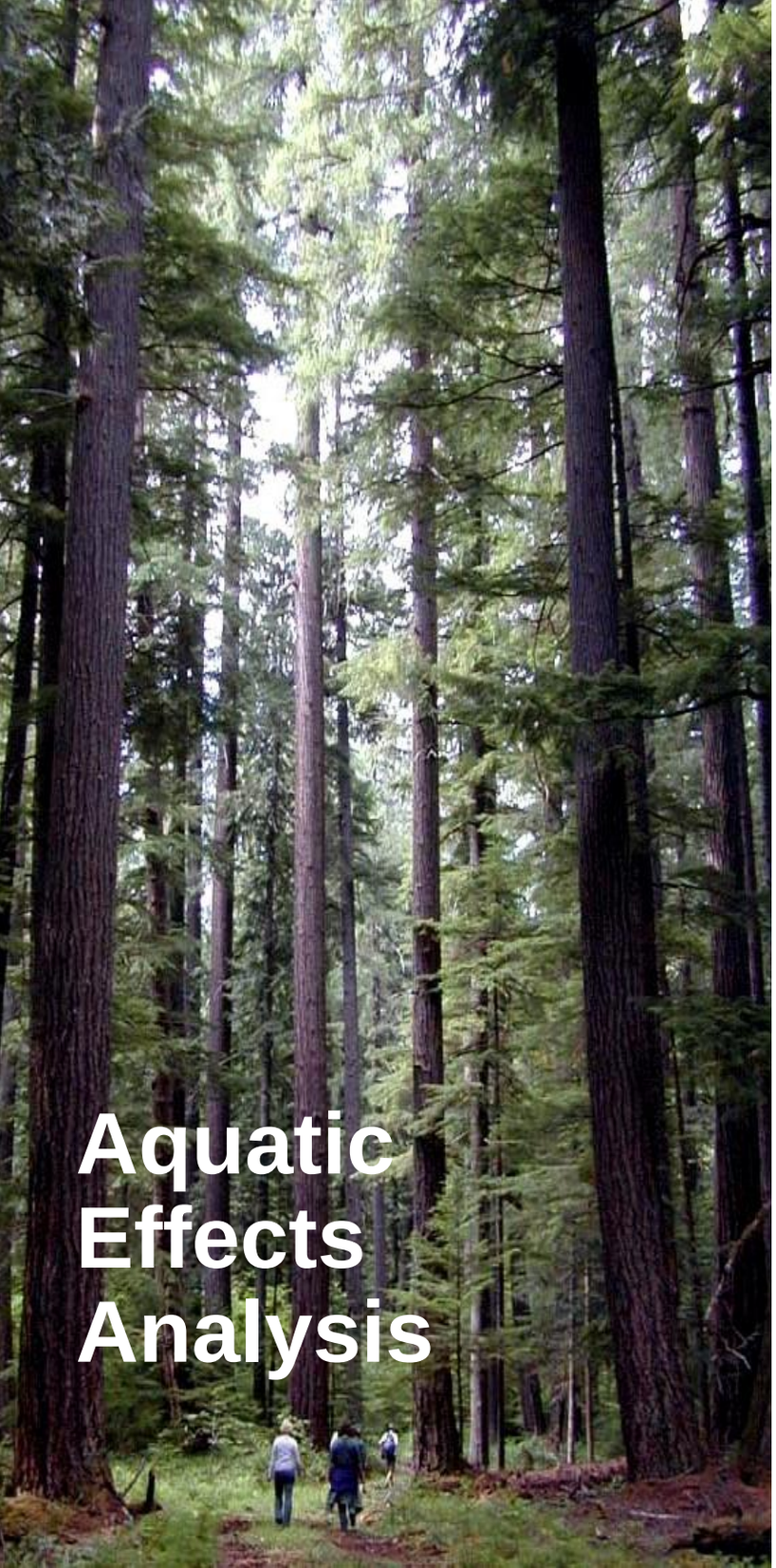
Terrestrial Conservation Actions

- Minimize effects on known species locations (i.e., nest sites) through seasonal and other restrictions
- Utilization of the conservation fund for
  - Reforestation activities in HCAs
  - Targeted species conservation actions
    - Barred owl management
    - Captive breeding and reintroduction
    - Other research
    - New stressors
- Monitoring Program



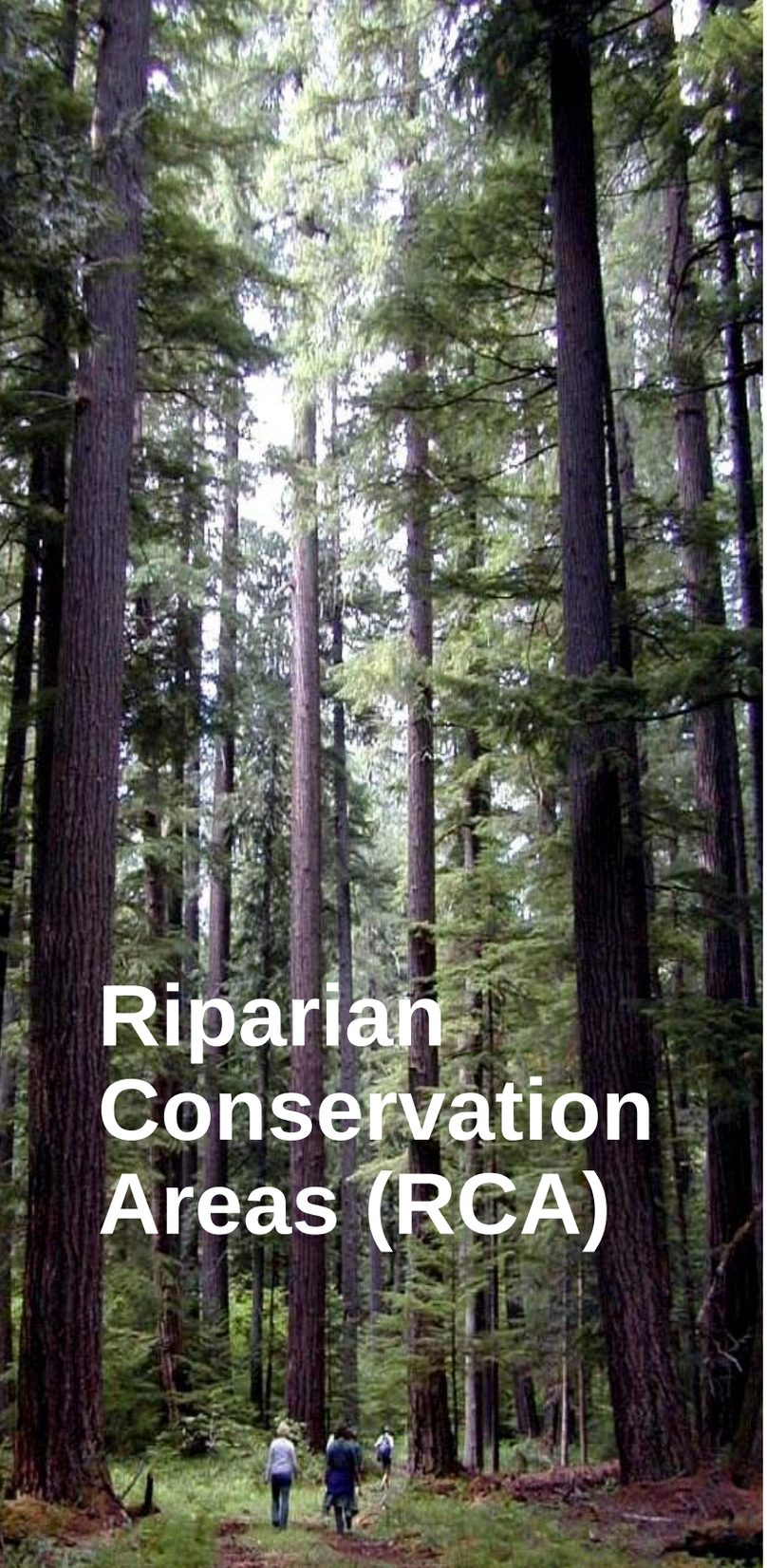
Terrestrial Species Monitoring

- Focus on changes in habitat quality over time (every 5-years)
  - Habitat lost to covered activities
  - Habitat gained through growth
- Currently suitable habitat and species occurrence
- Species response to newly suitable habitat
- Silvicultural actions in HCAs to manage the pace and scale
- Tied to broader AM program and IP process.



Aquatic Effects Analysis

- Conducted analysis by Evolutionarily Significant Unit (ESU) for each covered species
- Evaluate whether covered activities would:
  - Cause direct mortality to covered fish or aquatic amphibians
  - Inhibit the recruitment of large wood
  - Increase stream temperature in fish-bearing waters
  - Increase sediment delivery into the stream network
- Address how conservation actions will minimize and mitigate negative effects



Riparian Conservation Areas

Table 4-3. Minimum Buffer Widths (Horizontal Distance) for All Type F and Large and Medium Type N

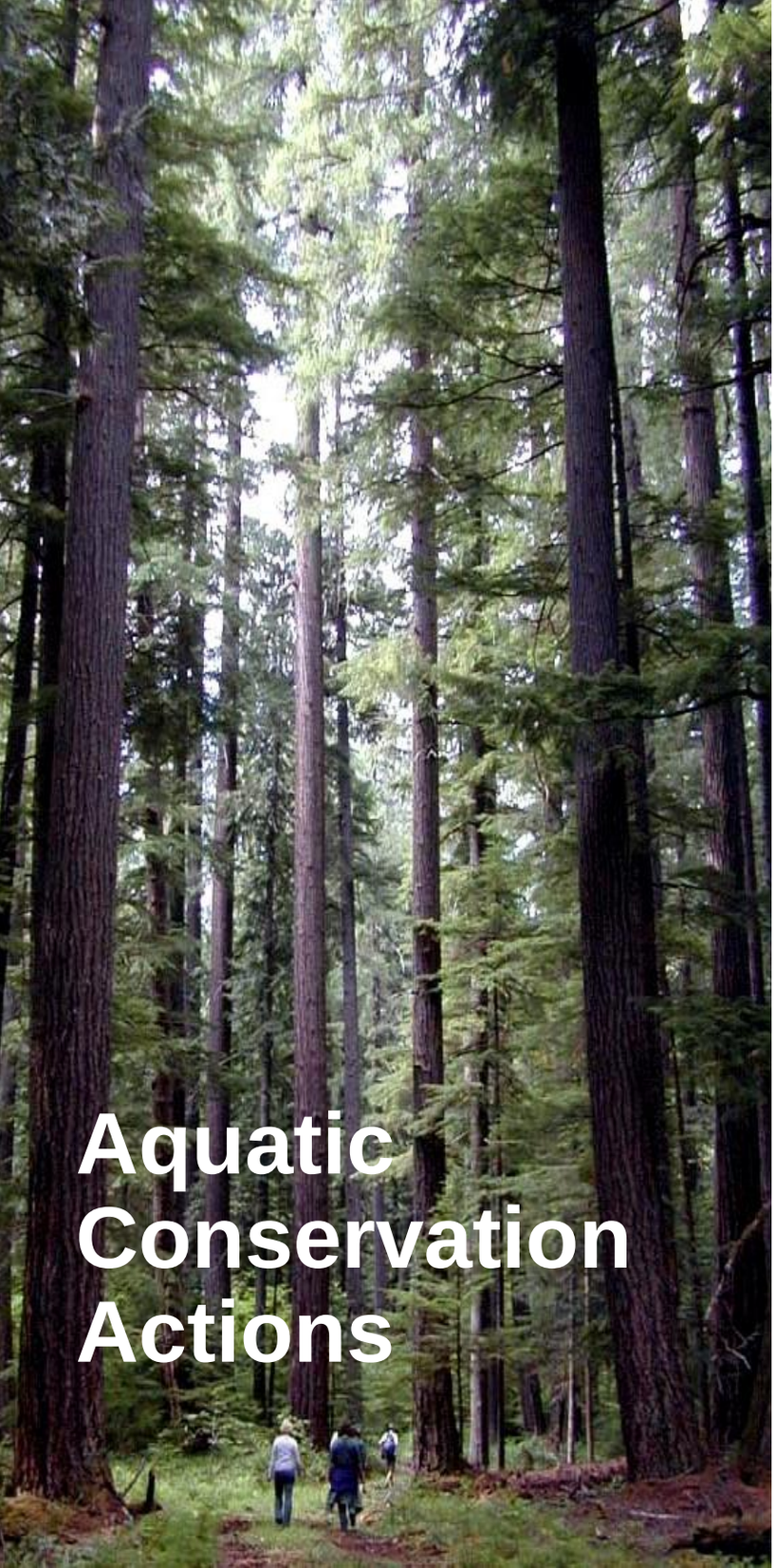
Stream Type	Minimum Management Area Width (feet)	
	Type F	Type N
Large	120	120
Medium	120	120
Small	120	See Table 4-4
Seasonal[a]	120	See Table 4-4

[a] Seasonal: A stream that does not have surface flow after July 15.

Table 4-4. Minimum Riparian Conservation Area Widths (Horizontal Distance) for Small Perennial and Seasonal Type N Streams

Stream Type	Minimum Management Area Width (feet)	
	Within 500-foot Temperature Zone	Upstream of 500-foot Temperature Zone
Perennial small Type N	120	35
Potential debris flow track (Seasonal Type N)[a]	50	35
High energy (Seasonal Type N)[b]	50	35
Seasonal other (Type N)[c]	0[d]	0 [d]

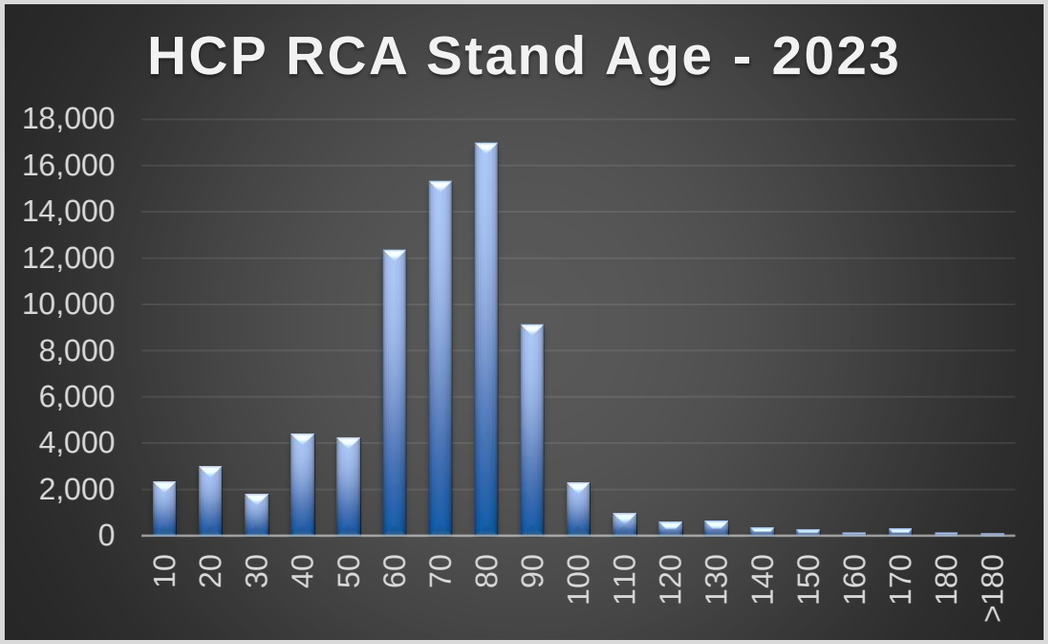
Notes:
[a] Potential debris flow tracks: Reaches on seasonal Type N streams that have a high potential of delivering wood to a Type F stream.
[b] High Energy: Reaches on seasonal Type N streams that have a high potential of delivering wood and sediment to a Type F stream during a high-flow event.
[c] Seasonal: A stream that does not have surface flow after July 15.
[d] A 35-foot equipment restriction zone will apply to these streams.

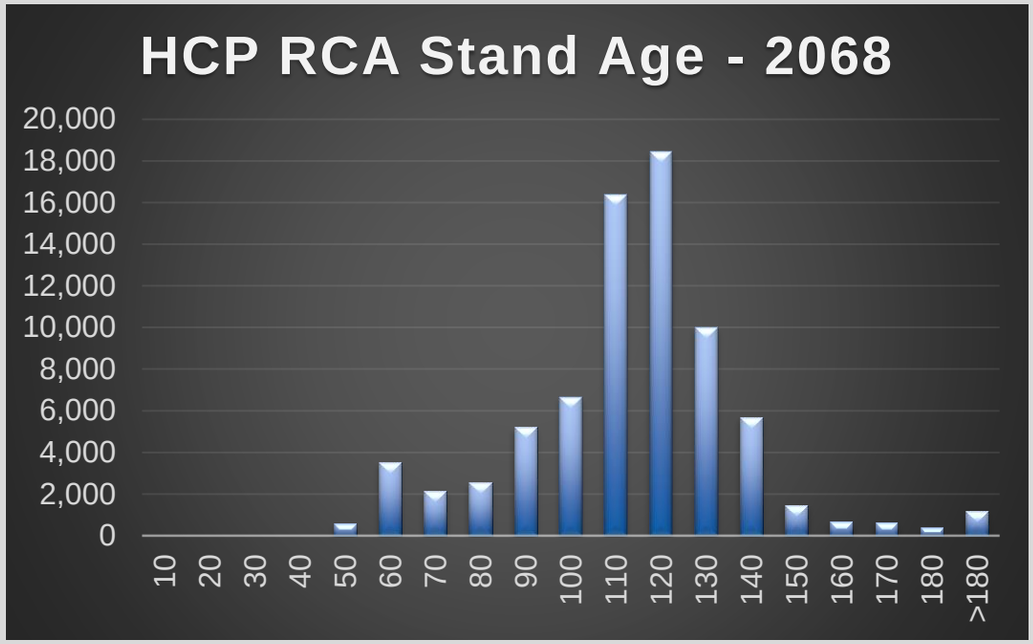


Aquatic Conservation Actions

- **Commit** to aquatic enhancement projects through the conservation fund that focus on:
  - Addressing limiting factors for each ESU
  - Improving fish habitat, including LWD enhancement in strategic locations
  - Removal of fish barriers to increase access to habitat
  - Floodplain reconnection projects
- **Monitoring**
  - Coordinated with ODFW's Aquatic Inventory Program
  - Stream temperature changes over time
  - Sedimentation related to fish habitat quality
  - Number of pieces and volume of large woody debris

Change in RCA Stand Age During Permit Term

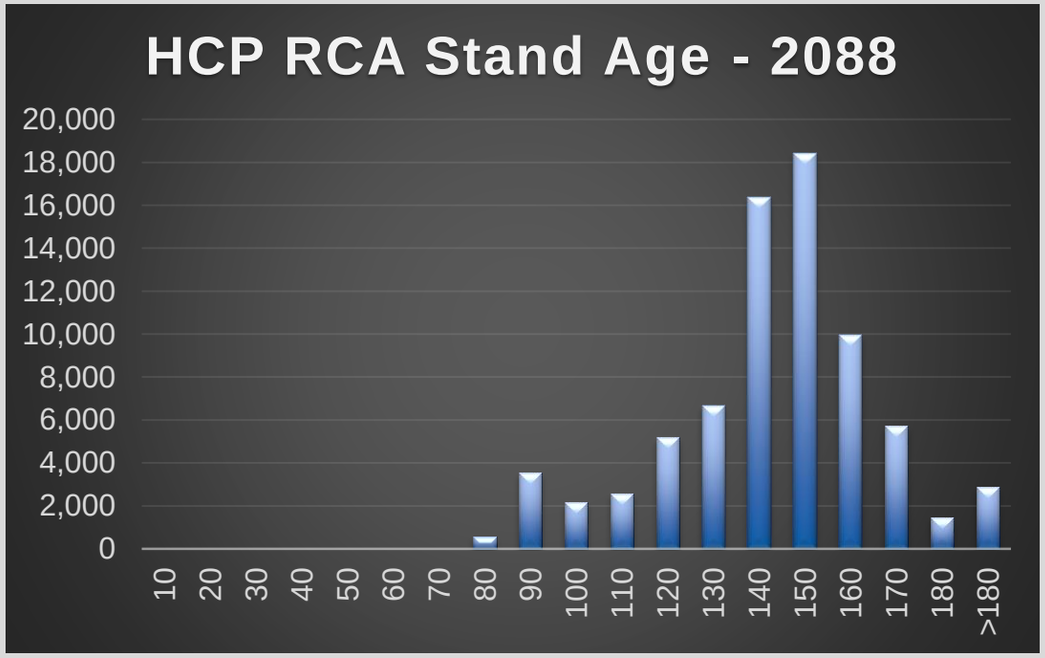




77,000 acres total

- 37,000 inside HCAs

- 40,000 outside HCAs



HCA and RCA Statistics

All covered species benefit from both

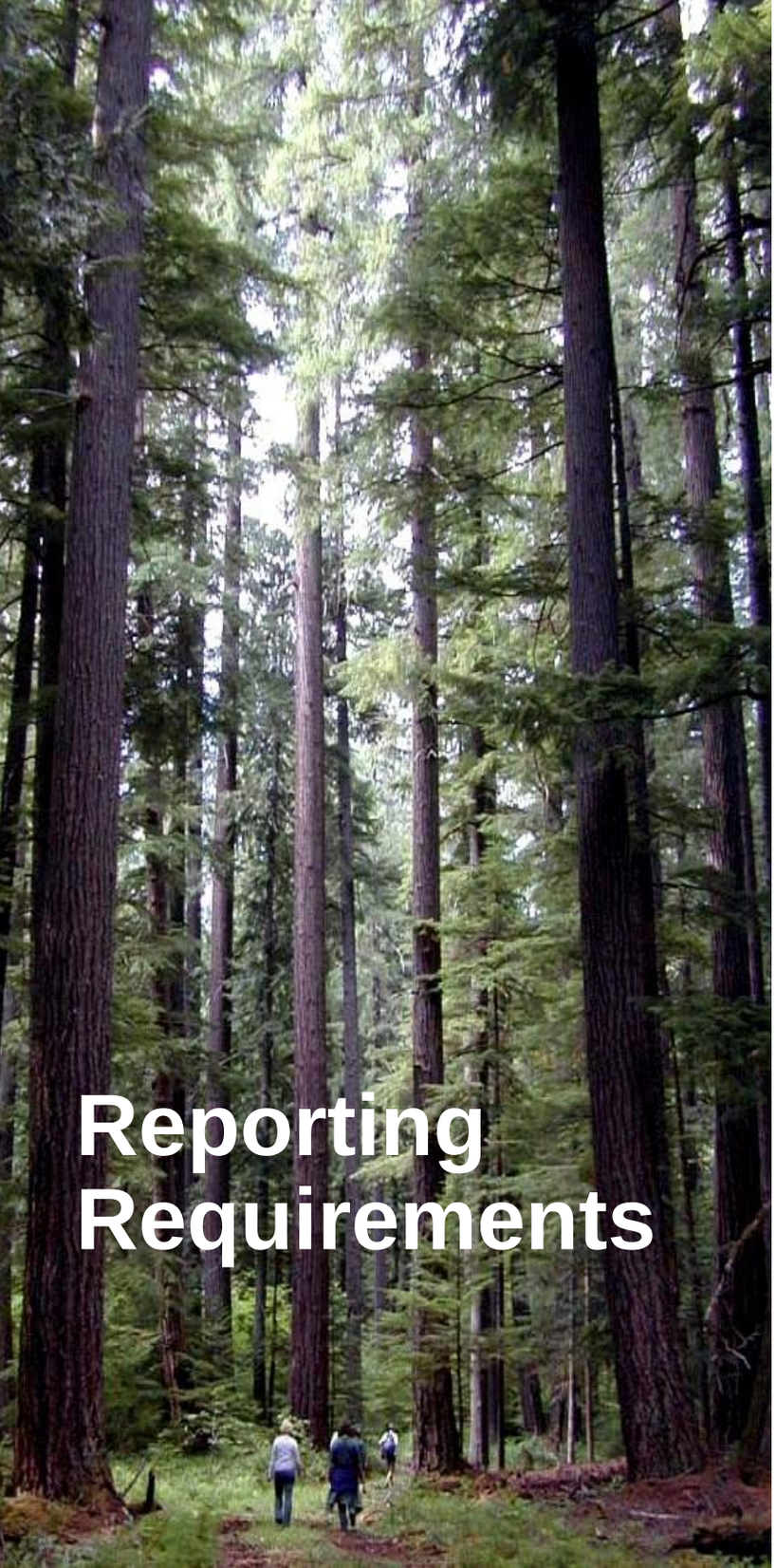
50% of Permit Area combined

7% of Permit Area in RCA

48% of RCA is within HCA

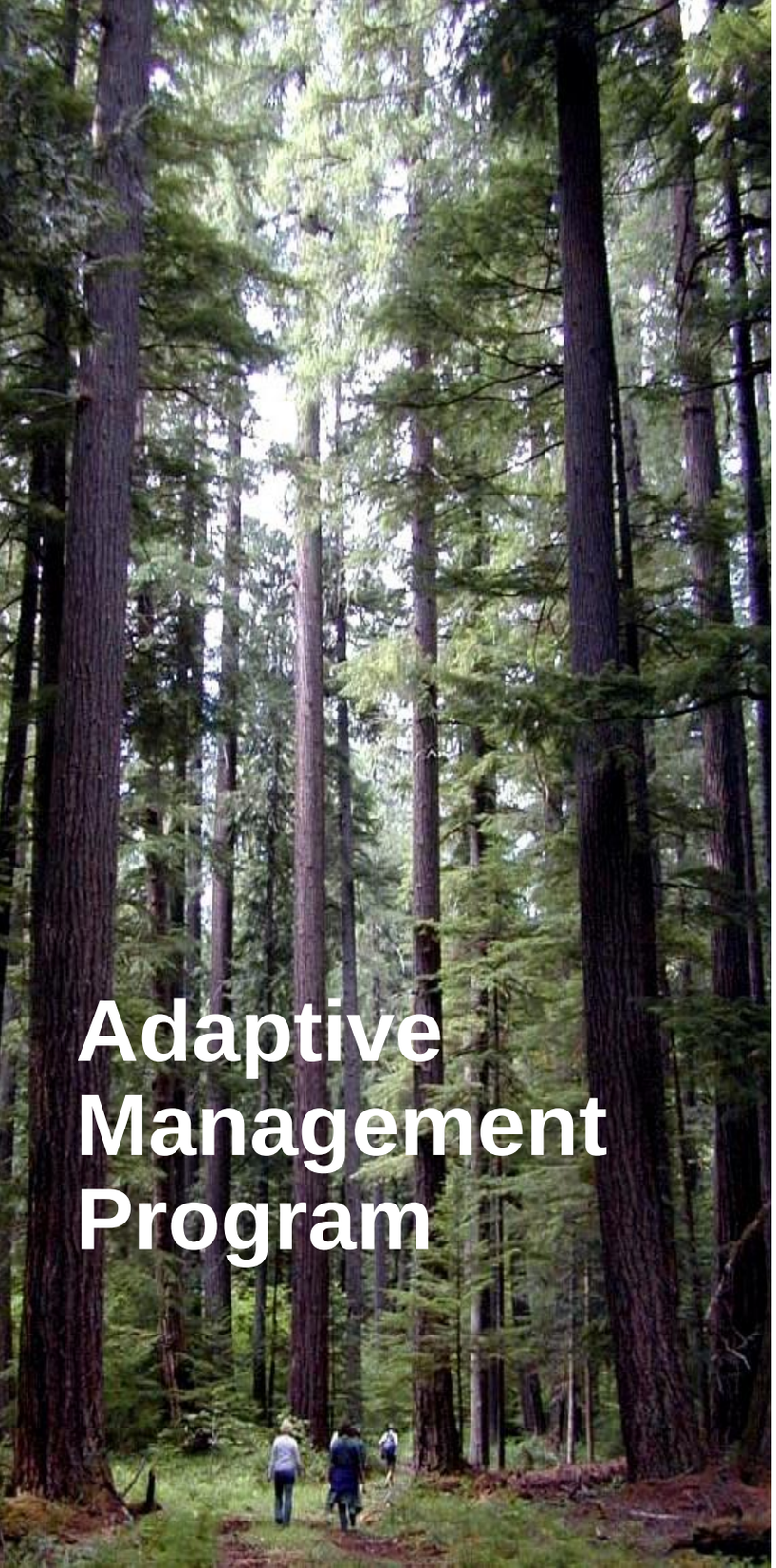
Total Combined HCA and RCA (to nearest 1,000 acres)

Location	HCAs	RCAs	Total
Permit Area	**275,000 (43%)**	**42,000 (7%)**	**317,000 (50%)**
North Coast	217,000 (34%)	36,000 (6%)	253,000 (40%)
Willamette Valley	33,000 (5%)	4,000 (<1%)	37,000 (6%)
Southern Oregon	25,000 (4%)	2,000 (<1%)	27,000 (4%)



Reporting Requirements

- **Annual Reporting**
  - Compliance reporting on covered activities
  - Species and habitat survey results
  - Conservation Fund expenditures
- **5-Year Midpoint Check In**
  - All annual reporting items
  - Update on terrestrial species habitat changes (loss/gain)
- **10-Year Comprehensive Review**
  - Assess last 10 years in preparation for next 10-year IP cycle
  - Opportunity to adjust policies and programs to more efficiently implement HCP (*adaptive management*)



Adaptive Management Program

- Identifies need for potential adjustments in conservation actions
- Informs changes at both a policy and operational level to most effectively achieve biological goals and objectives
- Timed primarily to match ODF's 10 year Implementation Plan cycle
- Adaptation to climate change in conjunction with other state and federal agencies
- Establishes triggers based on monitoring

Cost and Funding

- Required to estimate cost of HCP and that funding to implement it is assured
- Key HCP Cost Centers include:
  - HCP Administration and Staffing
  - Conservation Strategy
    - Aquatic and terrestrial restoration and enhancement activities
    - Strategic species conservation actions
  - Monitoring
  - Adaptive Management
  - Remedial Measures for Changed Circumstances (defined in HCP)

Western Oregon Comparative Analysis: cFMP, dFMP and HCP

Mark Buckley

ECONorthwest
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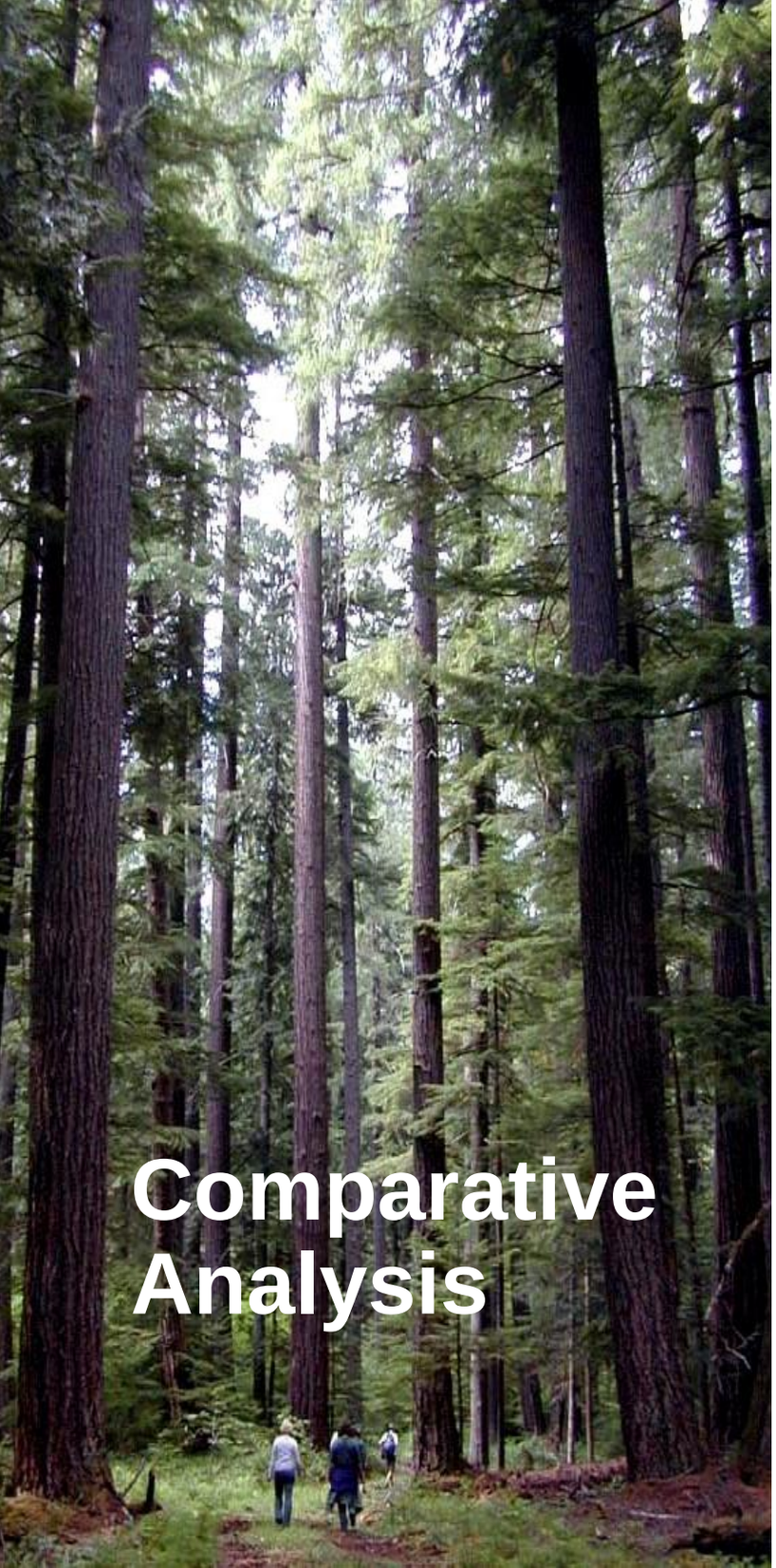
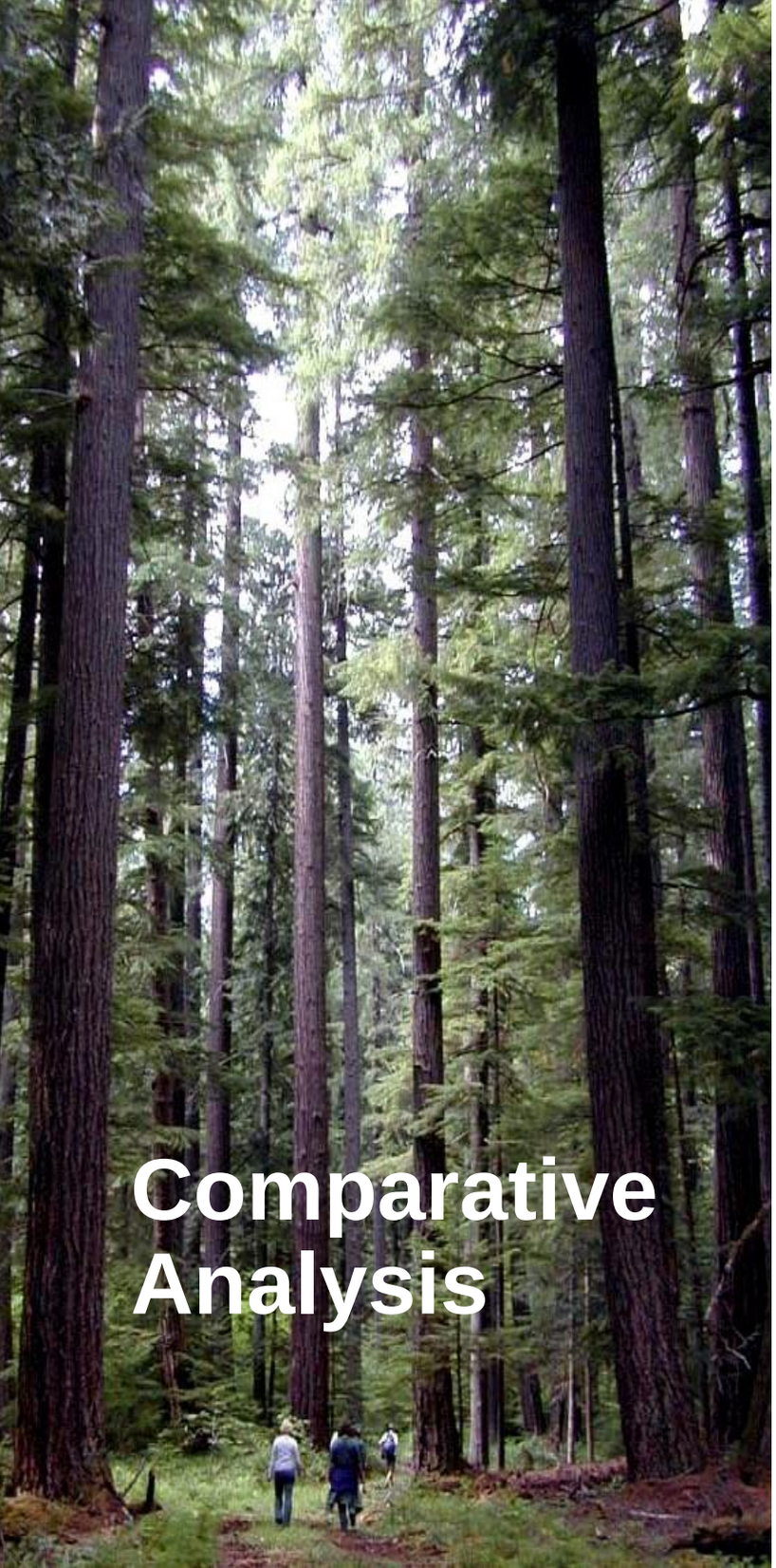


HCP Findings Related to Greatest Permanent Value

- Productive, and sustainable forest ecosystems that provide a full range of social, economic, and environmental benefits to the people of Oregon
- Habitat quality and quantity that effectively provides benefits for native wildlife with long-term certainty
- Harvest levels that are sustainable and predictable to generate revenues for the state, counties and local taxing districts



HCP Findings Related to Policy and Business

- Most effective way to comply with the Endangered Species Act (ESA)
- Delivers business certainty on requirements to comply with ESA
- Provides benefits to 16 listed species and overall landscape conservation
- Reduces risk of litigation for ESA species
- Provides a more dependable harvest level over the long-term

Comparative Analysis Purpose

- Compare expected outcomes for alternatives facing the Board of Forestry regarding the HCP and FMP
- Utilize information developed during the HCP process
- Expand analyses beyond financial implications to include conservation objectives

Differences between BCA and CA

- More detailed spatial and non-spatial data on conservation areas and covered species habitat
- Clarity on HCP requirements
- Stand-level habitat suitability and harvest net revenue optimization model

Comparative Analysis Process

- HCP development process
  - Habitat models
  - Scoping and technical committees
- Forest Management Model
  - Linear programming model
  - Optimizes for net present value

Scenarios for Analysis

- cFMP – current FMP
- dFMP – draft revision to current FMP
- HCP – Habitat Conservation Plan
- 75-year timeframe (2023-2097)
- Consider all categories of differences between scenarios

Variables for Analysis

Conservation

- Habitat quality and quantity
  - Terrestrial, Aquatic, Non-covered
- Species monitoring and management
- Habitat fragmentation

Economic

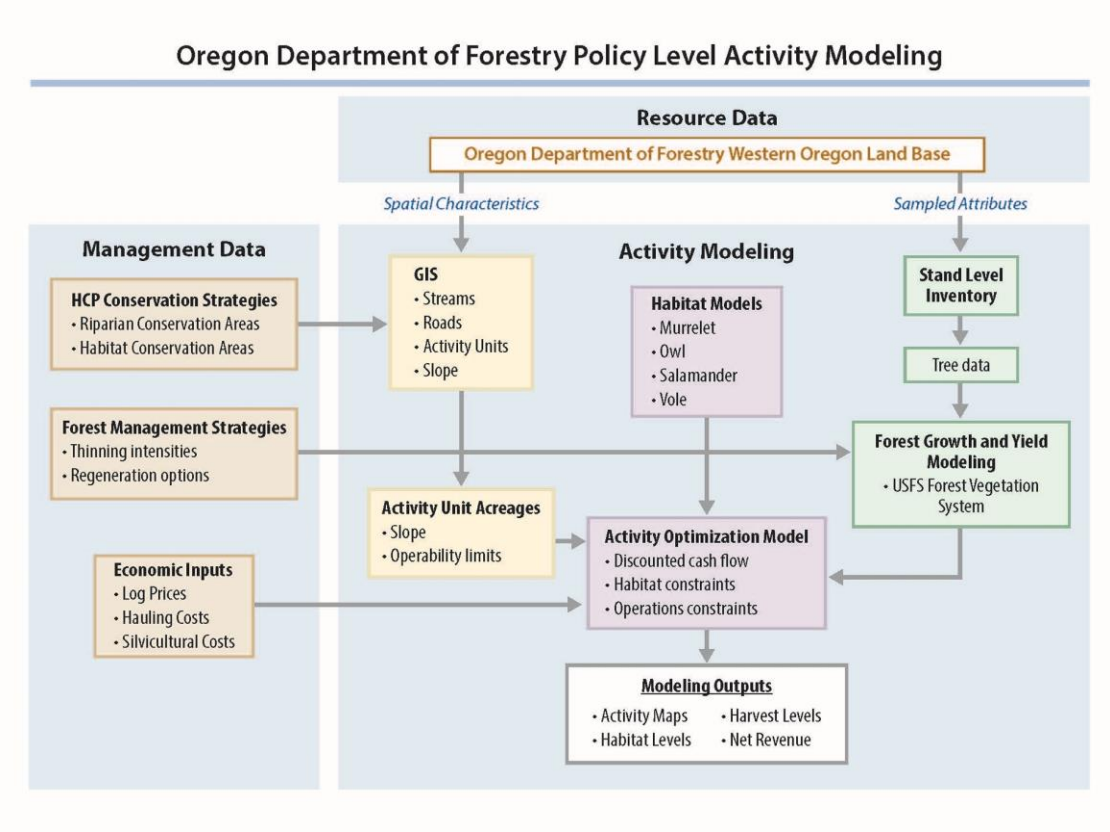
- Timber harvest volume
- Harvest revenue and costs
- Revenue distributions
- ODF net operating income
- Timber inventory

Social

- Carbon sequestration
- Recreational and cultural activities

Policy Level Forest Management Model

- Built by Greg Latta (PhD) with ODF staff
- Stand-level, net harvest revenue optimization model (linear programming)
- Includes land-use constraints
- Includes application of species-specific habitat models
- Provides harvest, revenue, cost, forest inventory, carbon, and habitat outputs



Key Model Assumptions

- 75-year timeframe
- 2017 Stand Level Inventory
- 2019 timber prices
- 2014 harvest costs
- Acres of new habitat constraints outside of landscape designs under cFMP (82k) and dFMP (95k)
- 3k acre increase in riparian buffers with HCP
- Some cost categories increasing over time
  - Species surveys, staff costs, ESA administration

Acreage Constraints (2097)

- HCP has most acreage available for harvest, cFMP has least
- cFMP has most constrained acres, HCP has the least

Conservation Area Configuration

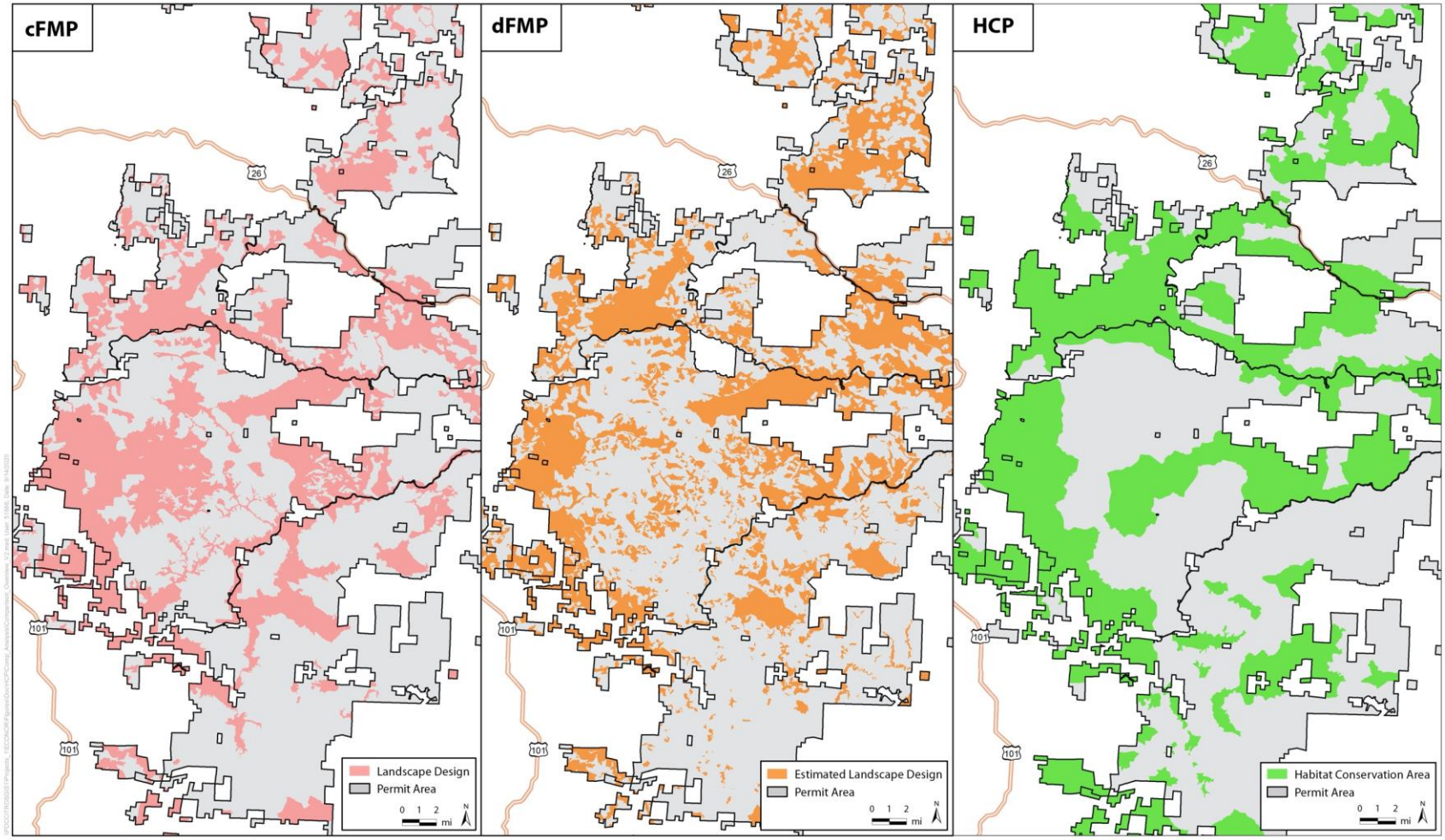
Patches of conservation acres

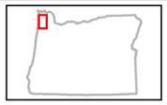
- HCP has the largest patch sizes (more resilient habitat)
- HCP has the lowest edge ratios (more interior habitat)
- dFMP has smallest patch sizes, least interior habitat

Protected habitat

- dFMP protects largest share of habitat
- HCP protects slightly more habitat than cFMP

Landscape Designs



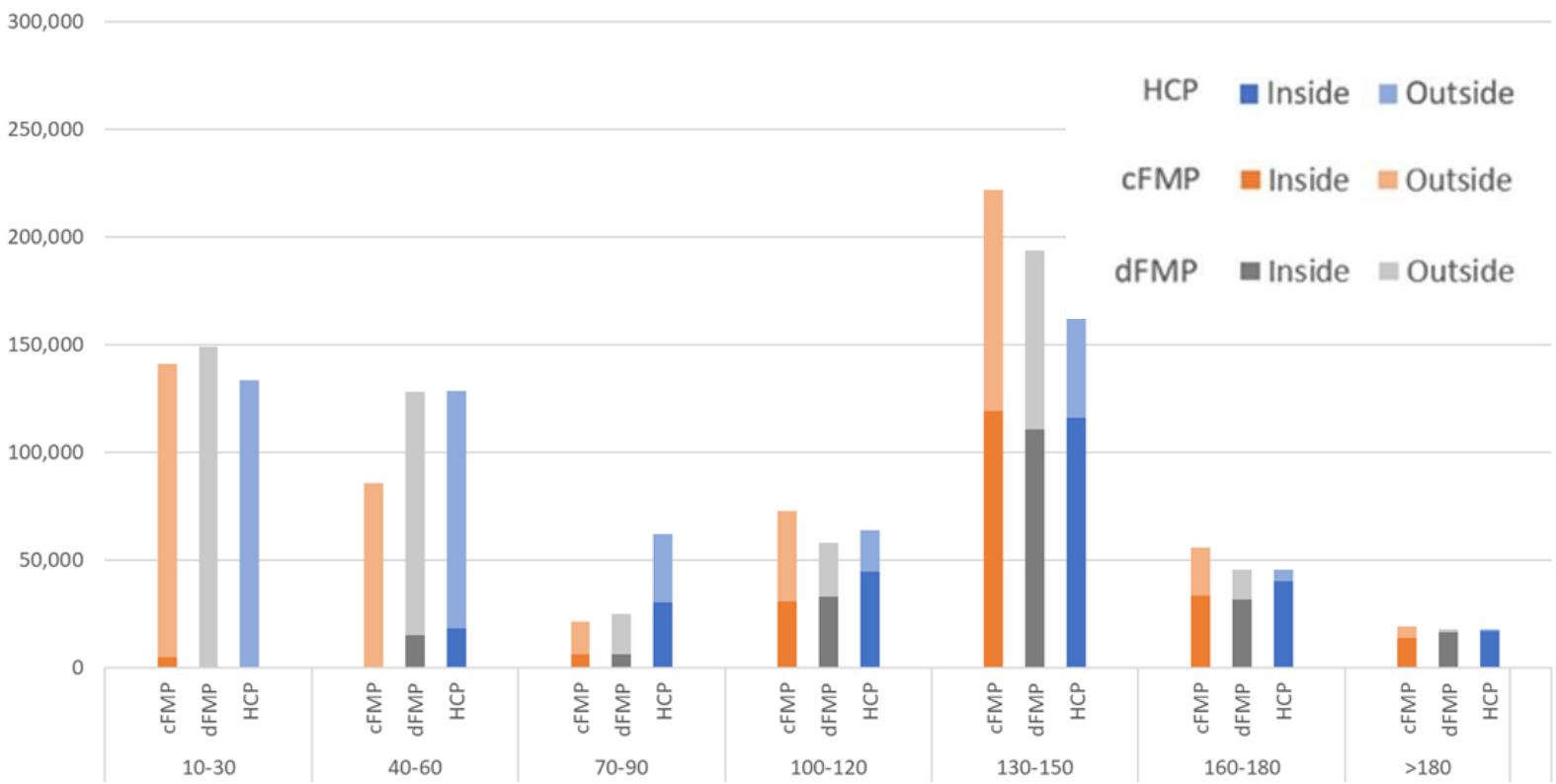


Comparison between the landscape design (cFMP), estimate landscape design (dFMP), and habitat conservation areas (HCP)

- HCP conservation areas in largest clusters

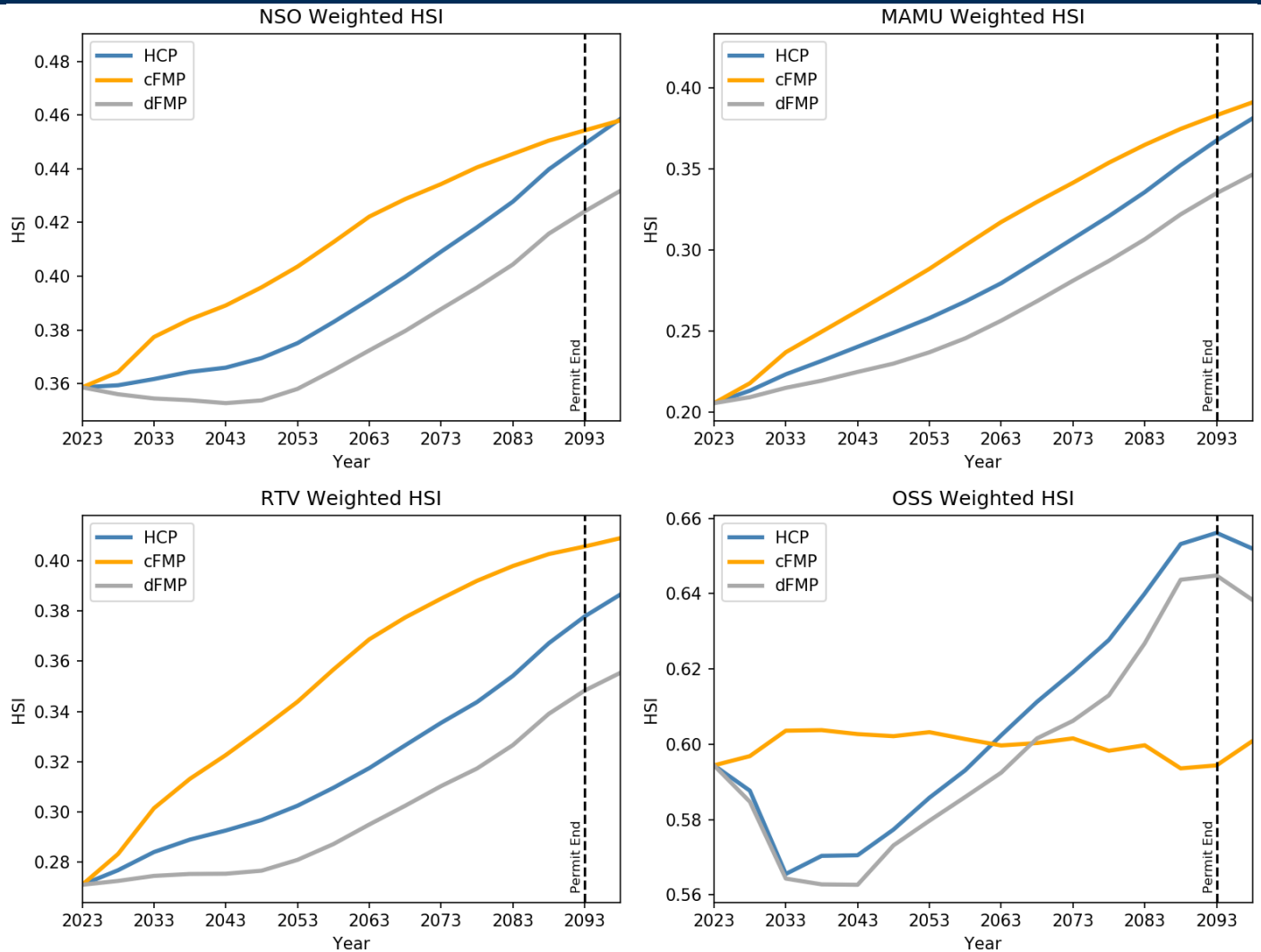
Stand Age and Conservation Protections

Average Forest Stand Age Class Distribution Inside and Outside Areas Designated for Conservation - 2083 - 2097 (acres)



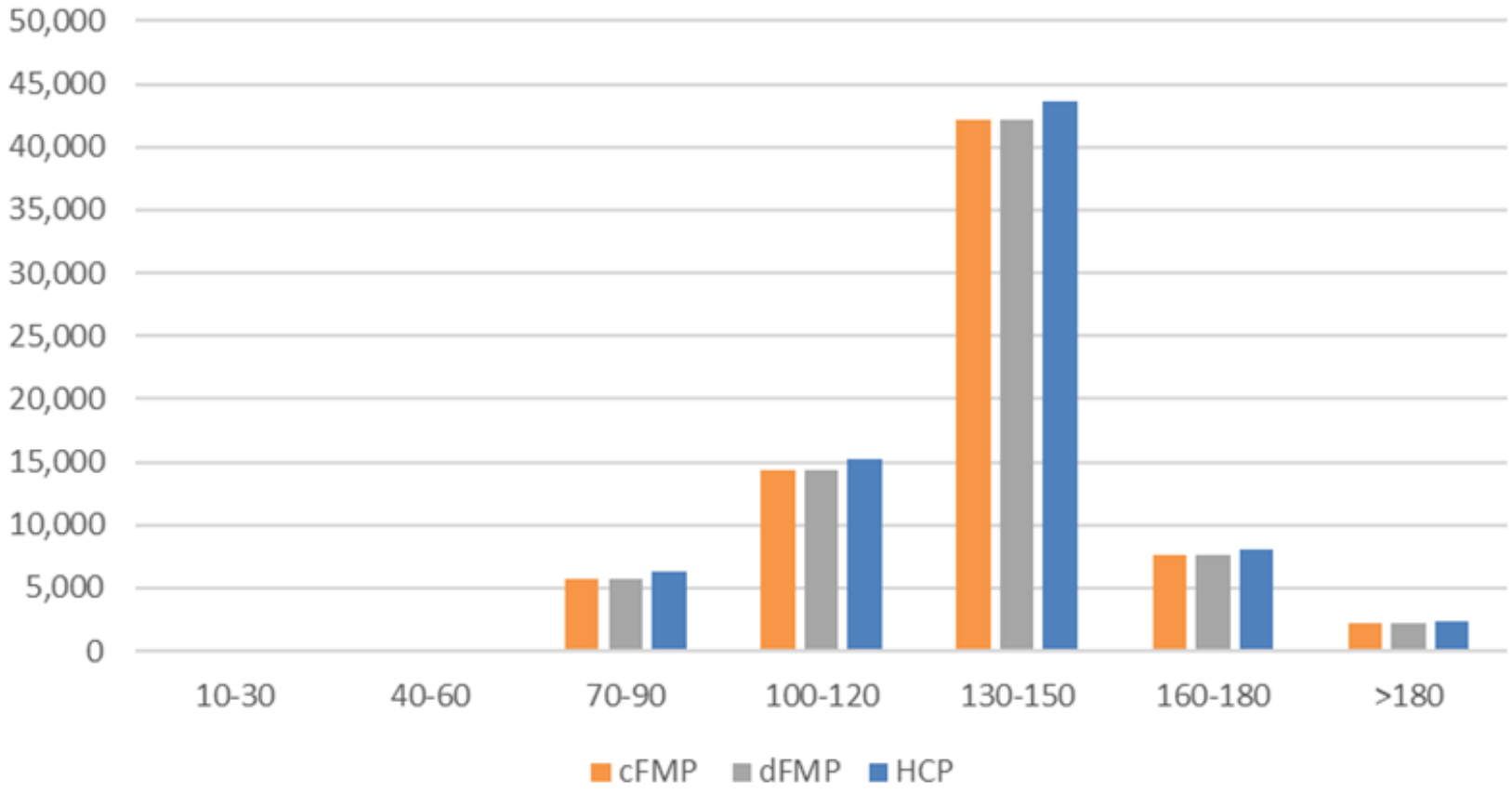
- cFMP has oldest stands
- HCP protects the most old stands

Habitat Suitability



- Suitable habitat increases for all three scenarios
- cFMP has the most suitable habitat (weighted by area)

Riparian Age Classes (2097)

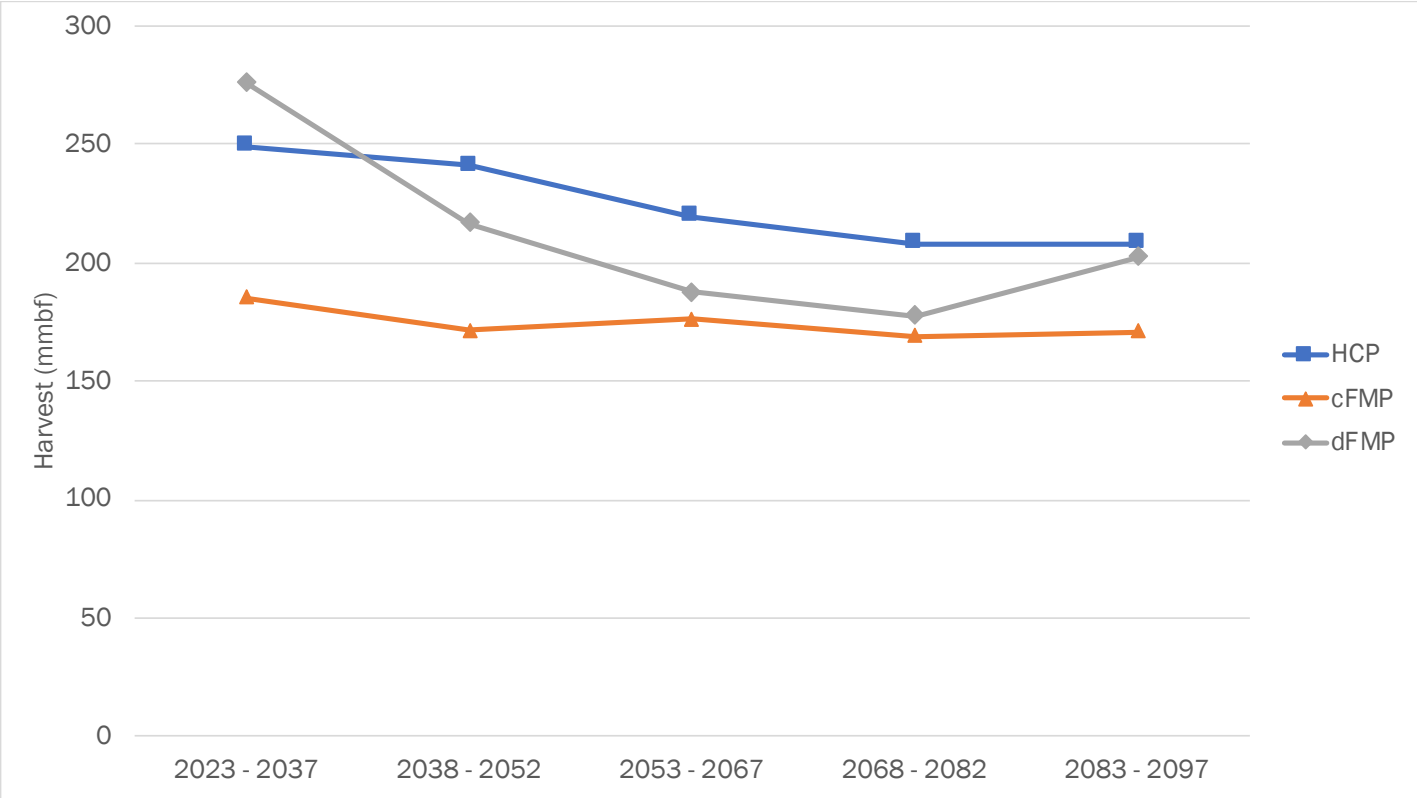


- Aquatic strategies for all three scenarios are strong
- HCP provides the best potential outcomes

Timber and Economic Analysis

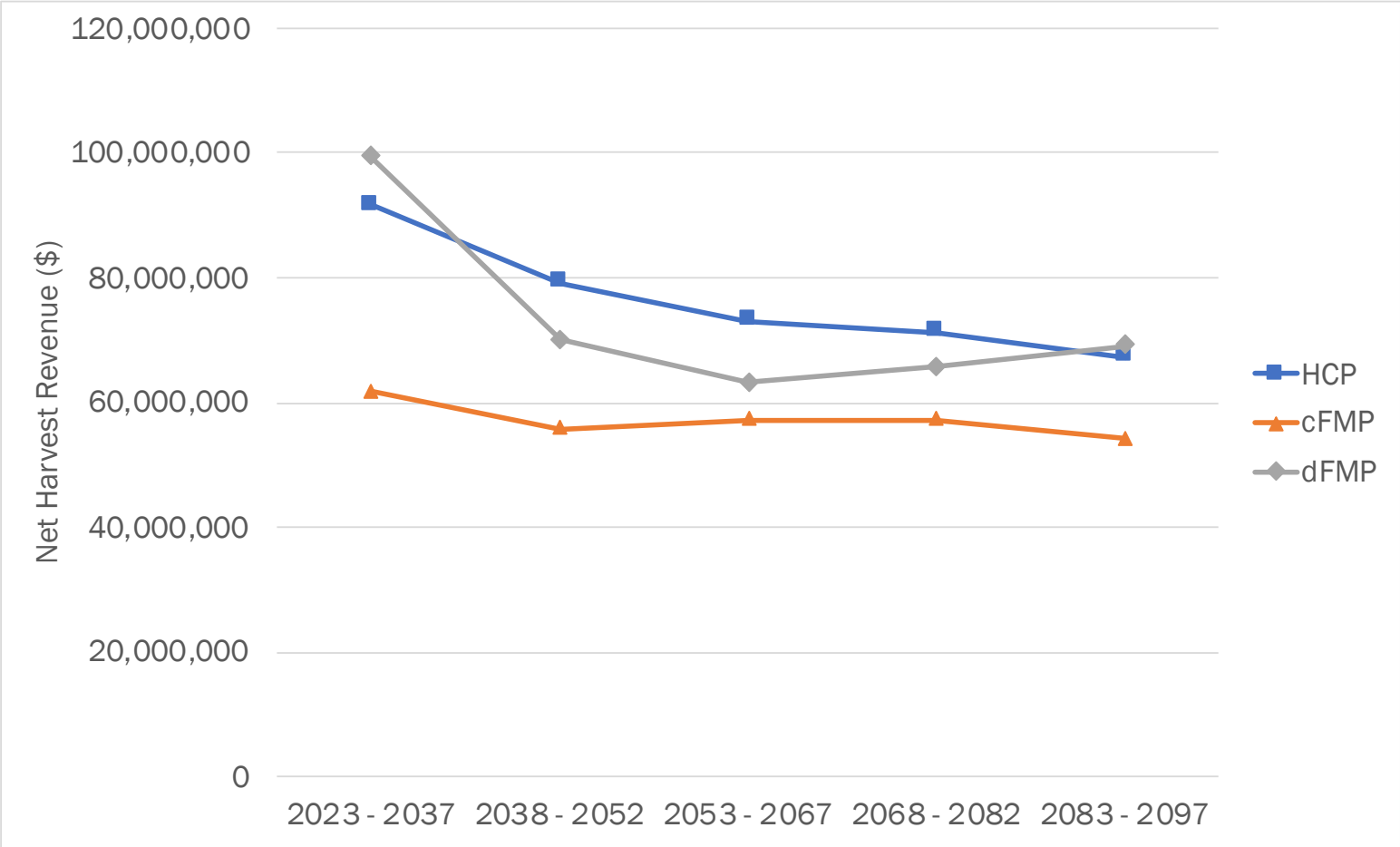
- Harvest Volume
- Harvest Costs and Revenue
- ODF Costs
- Net Revenue
- Distributed Revenue
- ODF Net Operating Income (NOI)

Average Annual Harvest Volume



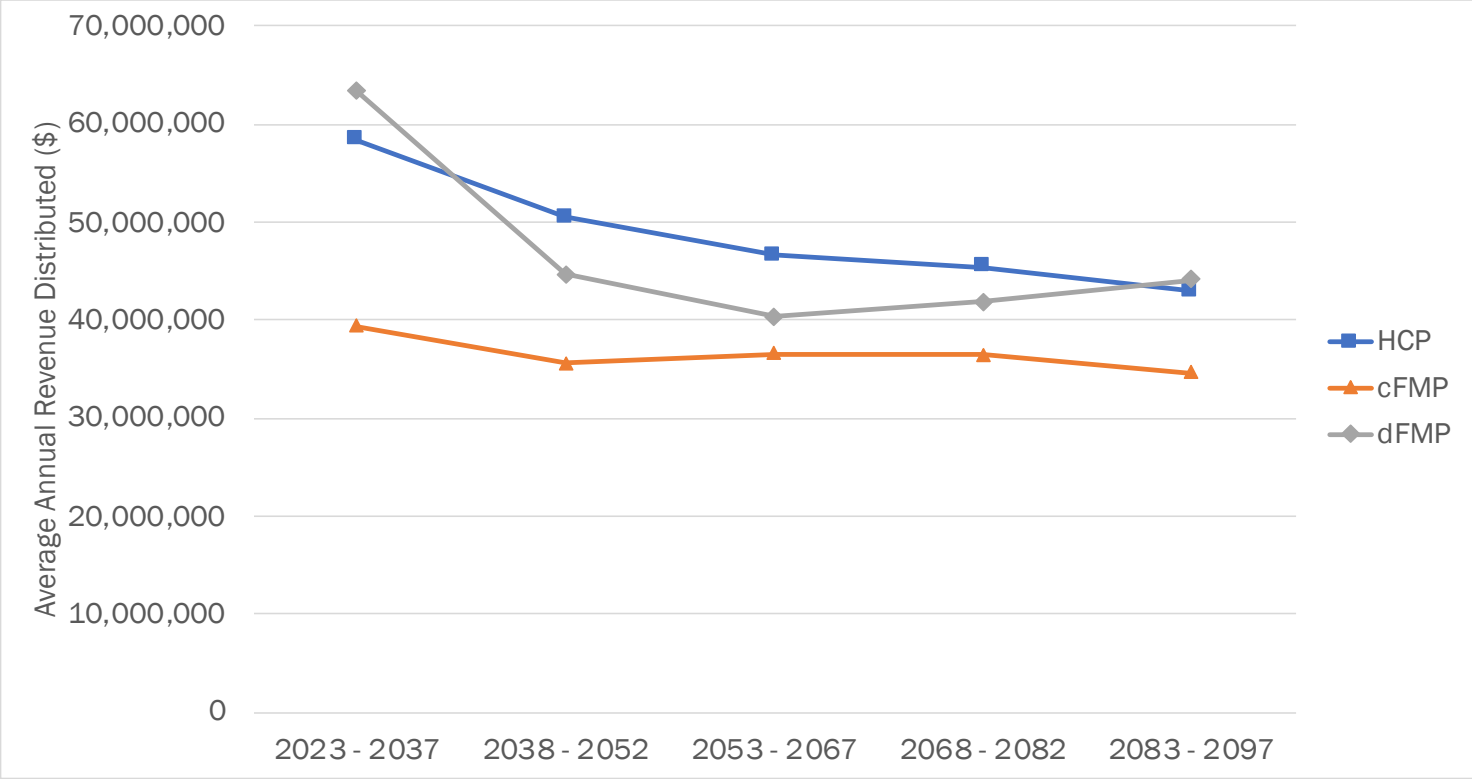
- HCP has the most annual harvest volume (225 mmbf)
- Least under cFMP (175 mmbf)

Annual Average Harvest Revenue



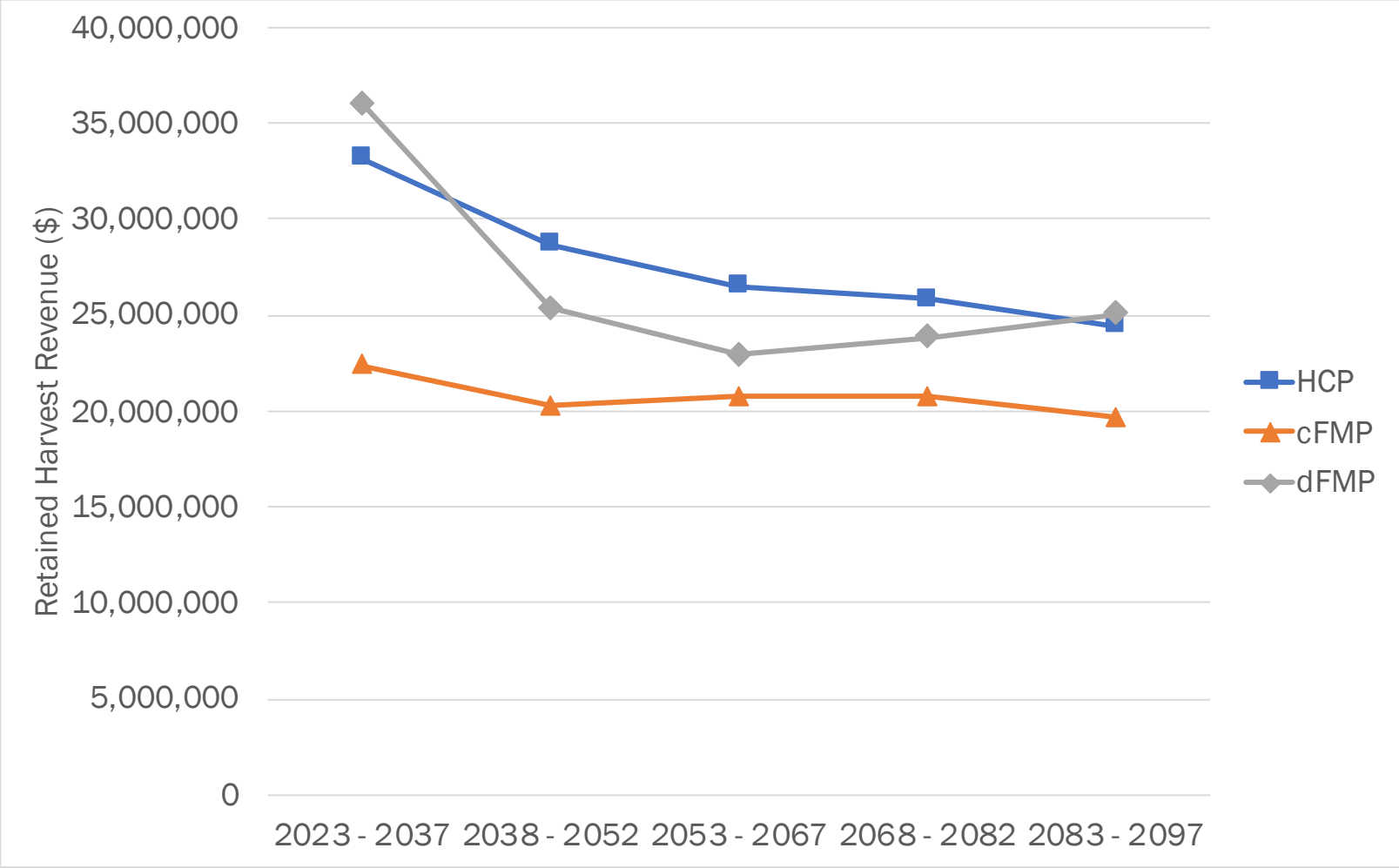
- Harvest revenue (after harvest costs) is greatest with the HCP
- Least with cFMP

Revenue Distributed to Counties



- HCP provides the most distributed revenue ($3.7 billion)
- cFMP provides the least distributed revenue ($2.7 billion)

ODF Retained Harvest Revenue



ESA-Related Costs

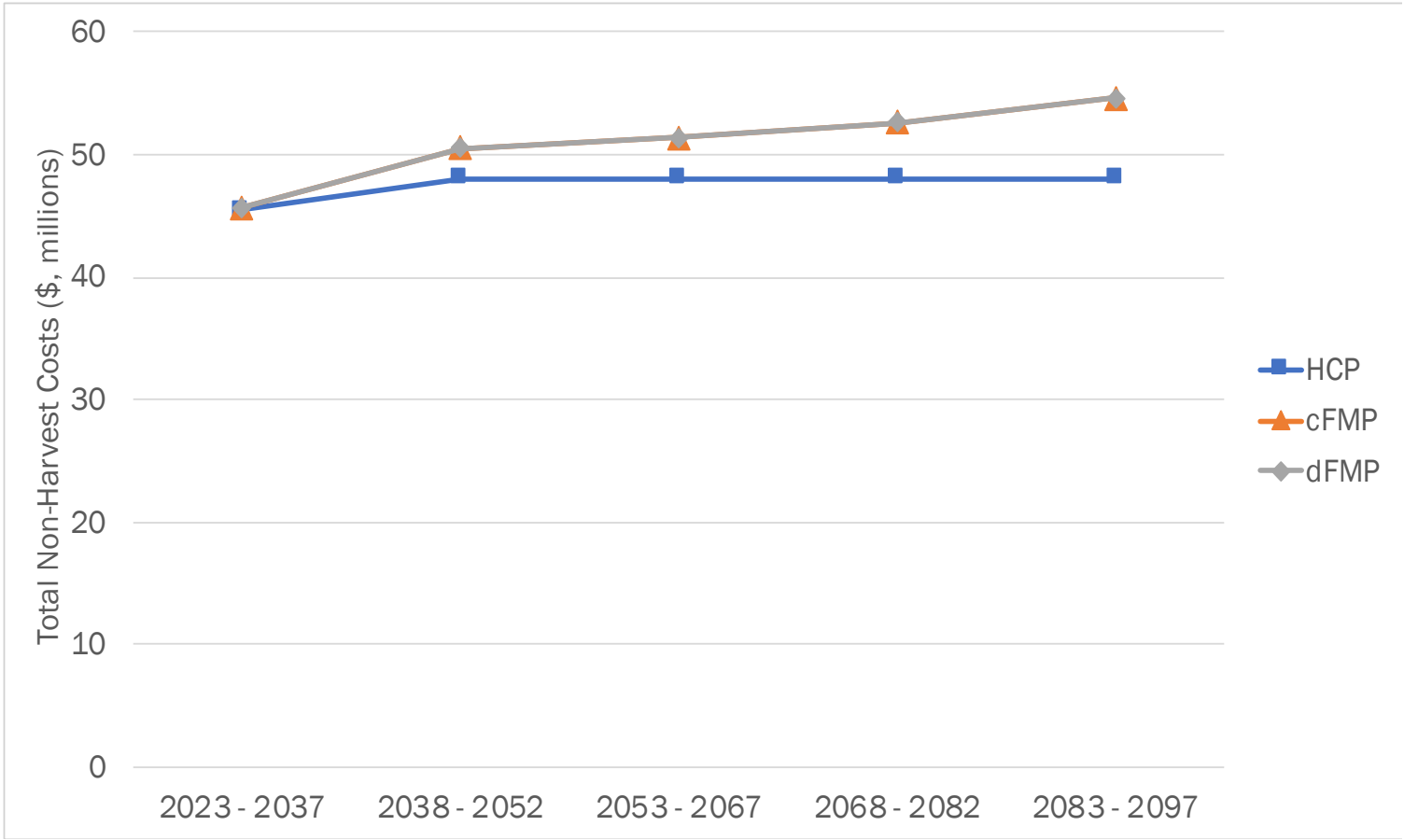
Table 1. Average Annual ESA Compliance Costs for ODF by Scenario

Cost Category	cFMP and dFMP	HCP	Annual HCP Cost Savings
ESA Administration	$3,165,000	$348,000	$2,816,000
Species Management [a]	$4,216,000	$3,095,000	$1,121,000
Total	$7,381,000	$3,444,000	$3,937,000

Notes: [a] Assumes new species listing would result in over $1.7 million of additional annual survey costs for cFMP and dFMP. Some totals affected by rounding.

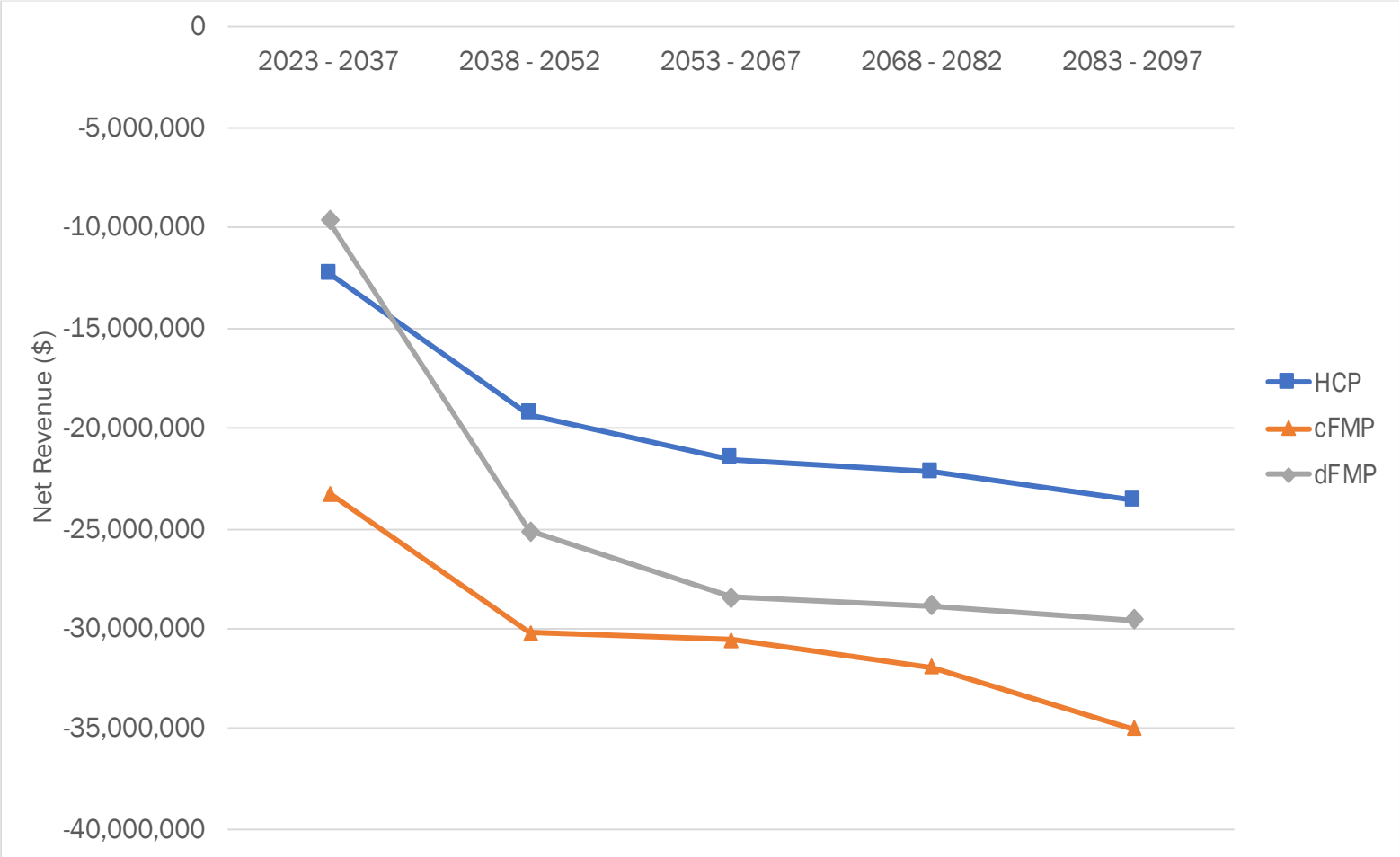
- ESA-related costs are lowest with the HCP, providing $ millions in annual savings
- ESA spending under the HCP would be productive (beneficial) vs. compliance-only
- Survey costs increase under cFMP/dFMP
- ESA admin costs increase under cFMP/dFMP

Non-Harvest Costs



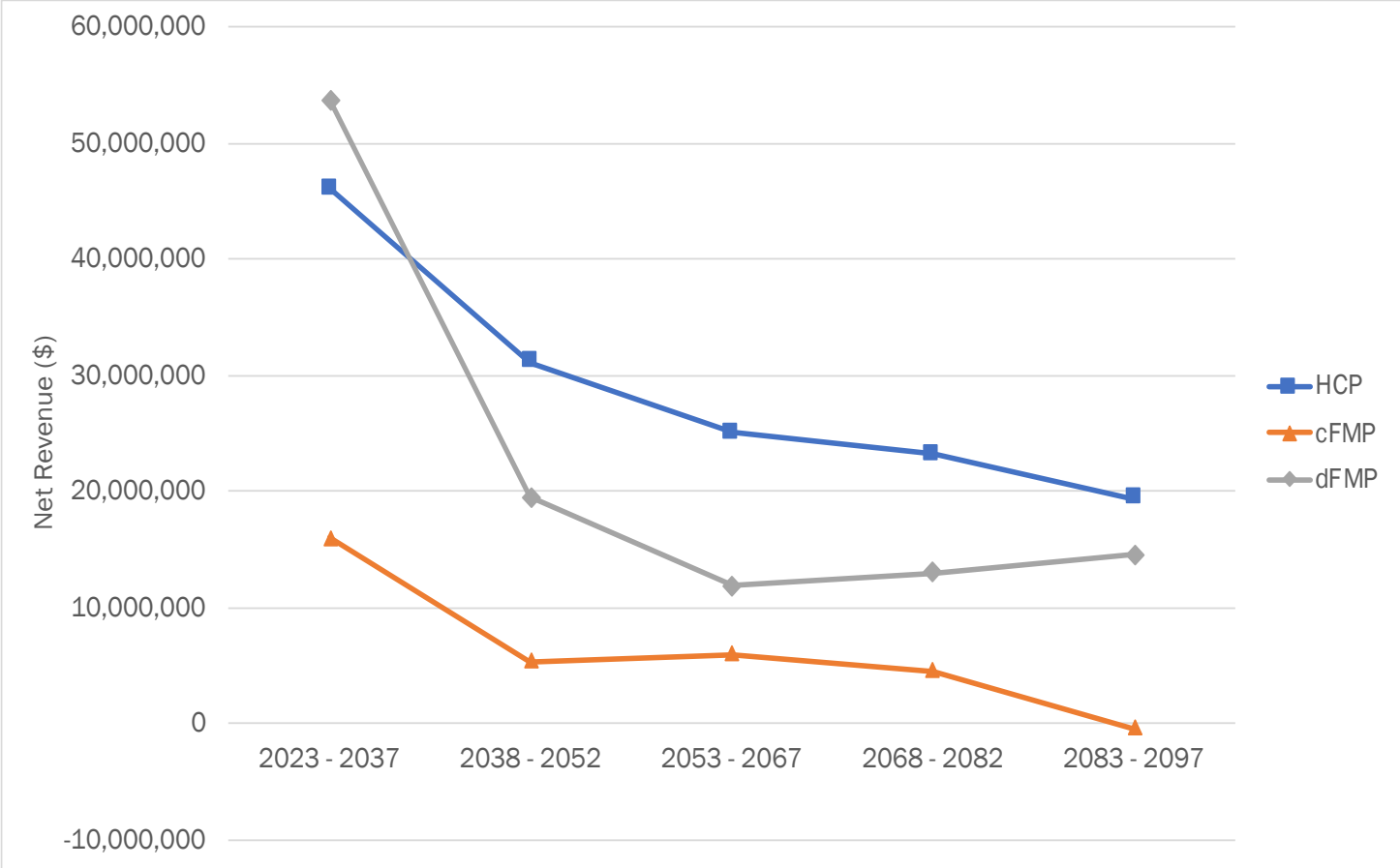
- dFMP and cFMP have similar expected non-harvest costs
- Costs increase for all scenarios for the first 10 years due to staff admin
- cFMP/dFMP Survey costs increase after 10 years, ESA admin costs continue up

Net Operating Income (After County Payments)



- HCP provides the most favorable net operating income
- cFMP provides the least favorable

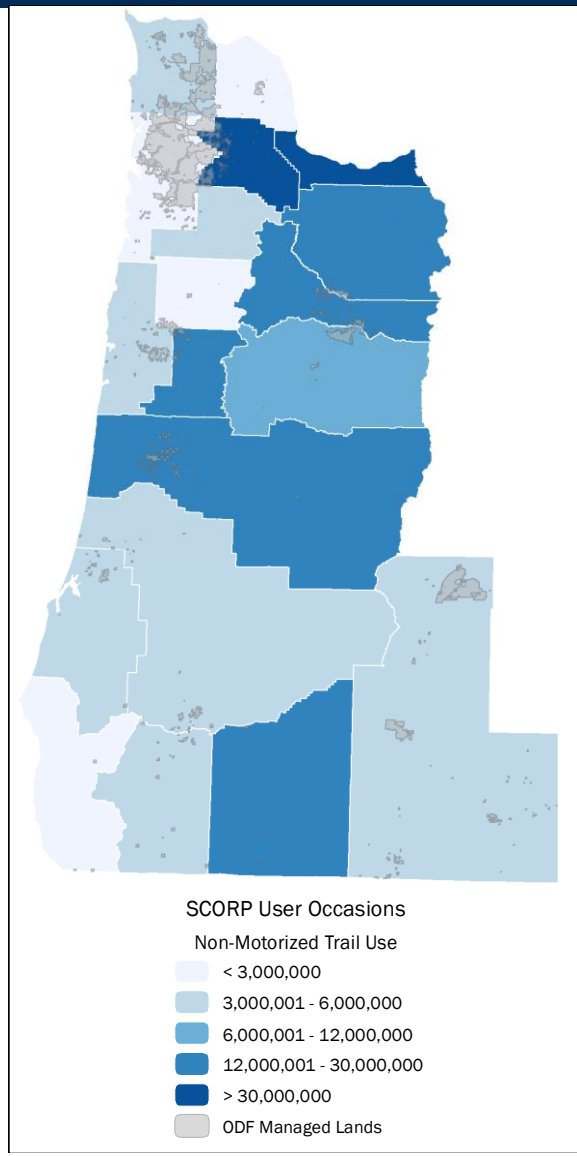
Net Revenue (w/out County Payments)



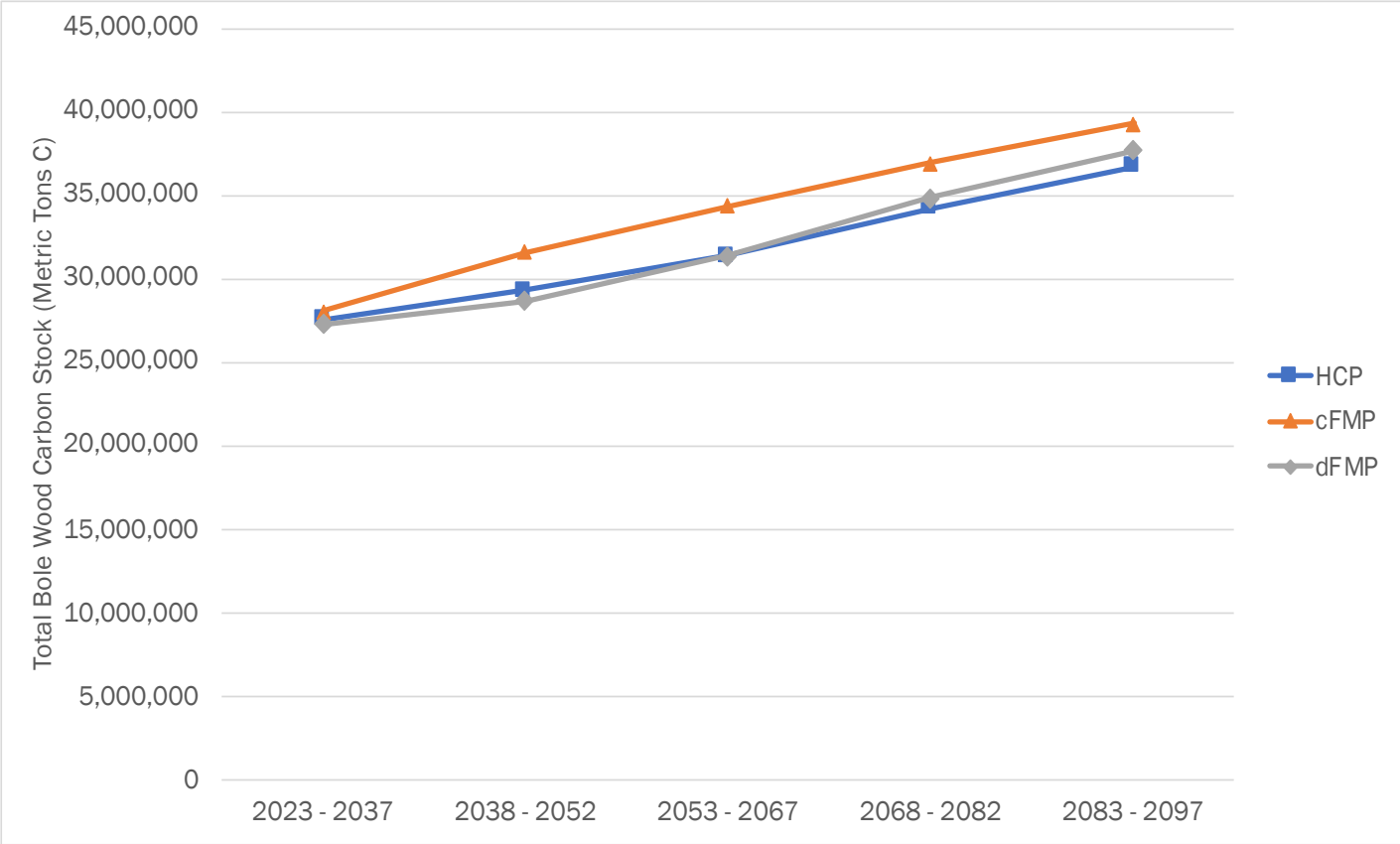
- HCP provides the most net revenue
- cFMP provides the least net revenue

Social Analysis

- **Carbon** – storage increasing across all scenarios
- **Recreation** – no major differences across scenarios, more reliable funding and investment context with HCP
- **Cultural** - no major differences across scenarios, more reliable protections and investment context with HCP



Carbon Stock Volume



Carbon stock increases for all scenarios
Highest stock with cFMP (lowest harvest volume)

Risk Management Benefits of HCP

Risk Management Outcome	Rationale
Reduced habitat risk	Long-term commitments to habitat protection for covered species
Reduced timber harvest risk	Certainty of encumbrances from currently listed species and new species listings
Reduced litigation risk	Defined conservation commitments as well as timber management commitments
Reduced timber market vulnerability	Improved timber sale process to better time market and capture high market prices
Reduced disturbance event vulnerability	More resilient and connected habitat conditions for storms, wildfires, and other disturbances
Reduced outdoor recreation investment vulnerability	More predictable long-term land use designations provide a more predictable setting to plan and implement outdoor recreation investments such as facilities and trails.

- HCP functions as an insurance policy across all categories of value provided by state forests

Final Scenario Rankings

		cFMP	dFMP	HCP
Conservation	Covered Terrestrial Species Habitat Quality	High	Low	Medium
	Covered Aquatic Species Habitat Quality	Tied	Tied	High
	Quantity and Quality of Monitoring	Low	Medium	High
Economic	Acres Available for Harvest	Low	Medium	High
	Annual Harvest Volume	Low	Medium	High
	ODF Costs	Low	Medium	High
	Net Revenue	Low	Medium	High
Social	Carbon Storage	High	Tied	Tied
	Recreation and Culture	Low	Medium	High

- HCP provides the most overall benefit across all categories of analysis
- cFMP is strong on conservation variables
- dFMP is strong on harvest/economic variables
- In several cases, two scenarios have very similar outcomes
- Recreation and Culture outcomes qualitative, minor differences

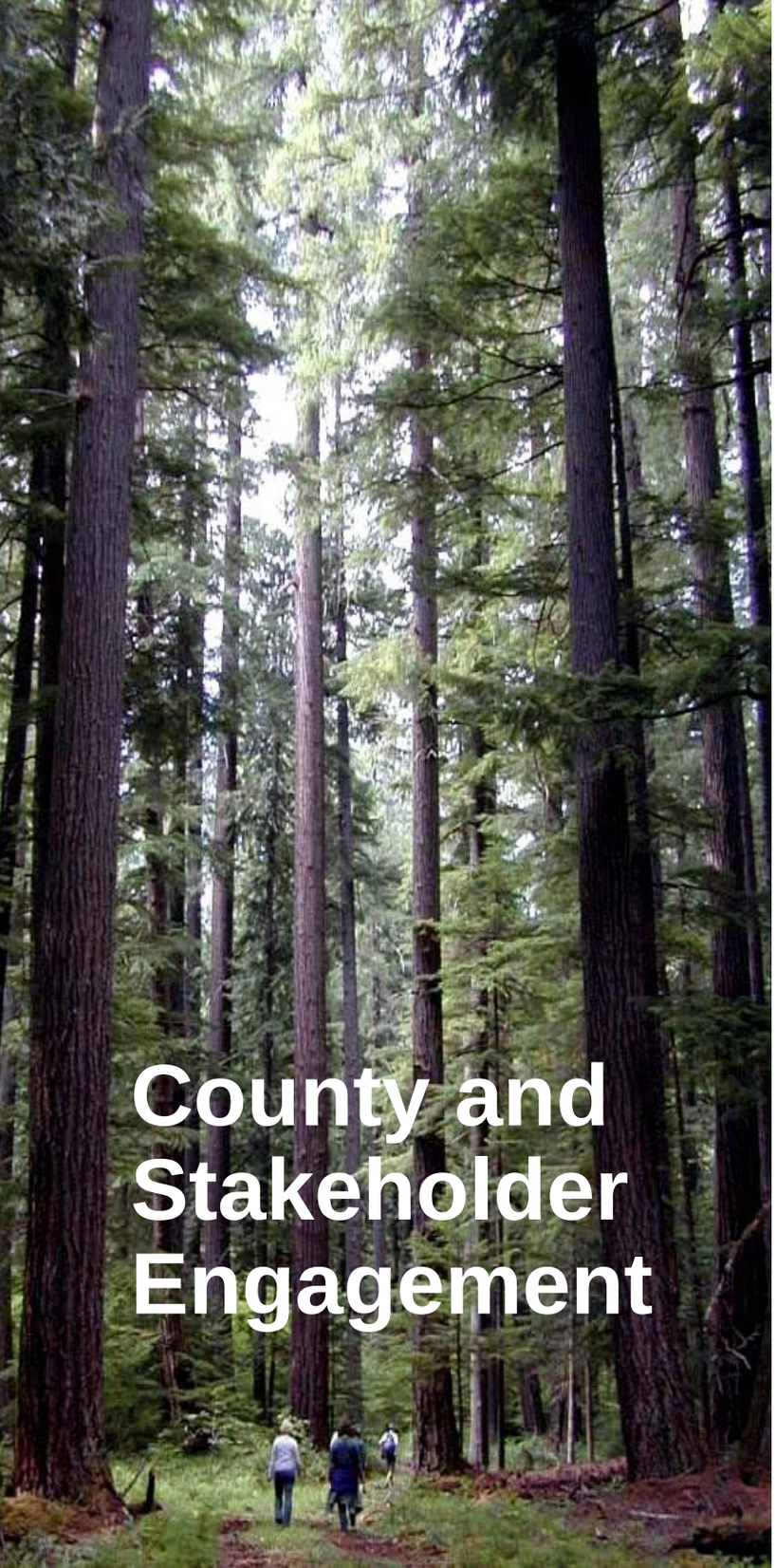
Key Findings

- The **HCP Scenario** generates the **greatest total harvest volume** over the 75-year timeframe.
- ODF's **costs are lowest** under the **HCP Scenario**.
- **Net revenue is greatest** for the **HCP Scenario**, followed by the dFMP and finally the cFMP.
- The **HCP Scenario** would result in the **protection and stewardship** of **more suitable habitat for covered species** within areas designated for conservation relative to the cFMP and dFMP.
- The **cFMP and HCP both** have **strong conservation outcomes for terrestrial species**. The cFMP results in development of more suitable habitat for covered species in the entire permit area.

Key Findings (cont.)

- **HCP conservation areas** protect **larger, less fragmented** occupied and suitable habitat for covered species.
- **Aquatic strategies for all three scenarios are strong**; however the HCP provides the best potential outcomes.
- **Carbon sequestration is highest under the cFMP**, due to anticipated reductions in harvest levels over time.
- **All management scenarios** provide benefits for **recreation** opportunities and **culturally-significant uses**. However, the funding stability afforded by the HCP provides more opportunity for investment.

County and Stakeholder Engagement Update



County and Stakeholder Engagement

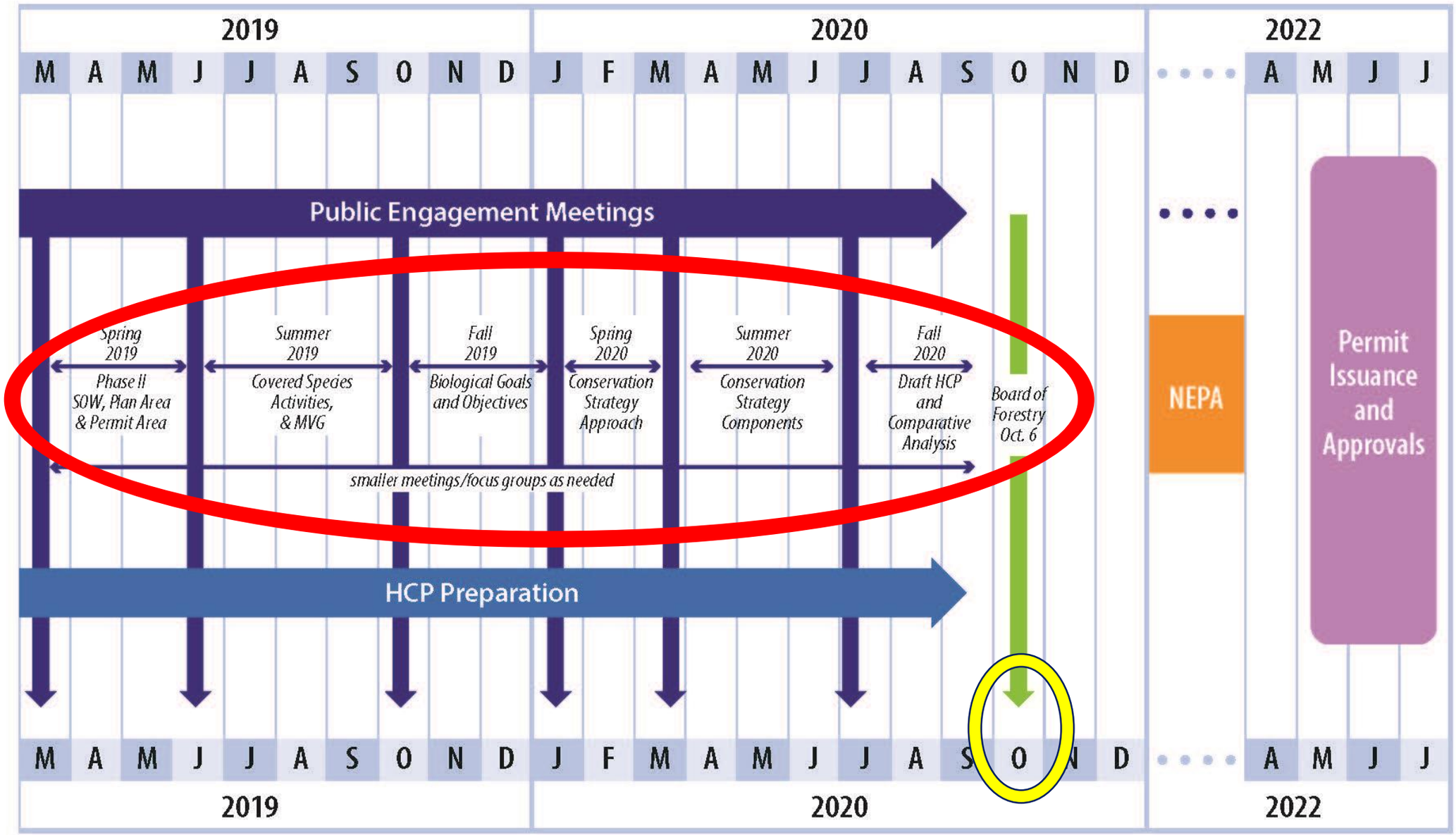
External Engagement

- Broad Public Outreach—open to everyone
- FTLAC and CFTLC
- Stakeholder Meetings
  - Joint
  - Individual
  - SFAC

Internal Engagement

- Scoping Team
- Steering Committee

Western Oregon State Forests HCP Stakeholder Engagement



Western Oregon HCP
Staff Recommendation

Direct staff to finalize the administrative draft HCP and complete the NEPA process.

Next Steps

- Continue work with the Scoping Team & Steering Committee to complete administrative draft HCP
- Begin development of Companion FMP
- NEPA process to begin in spring 2021
- HCP/ Companion FMP update to Board in June 2021
- Final HCP and Companion FMP to the Board in June 2022

Western Oregon State Forests HCP

More Information

https://www.oregon.gov/ODF/AboutODF/Pages/HCP-initiative.aspx

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