



*Oregon*TM
STATE FORESTS
Our COMMON GROUND

Forest Management Plan Performance Measures

Board of Forestry
September 9, 2026

Planning context

Western Oregon State Forests Management Plan (FMP)

- Performance measures with targets and trends required
- September Board meeting
 - Discuss process for setting targets and trends
 - Review metrics
 - Discuss general targets and trends

Planning context

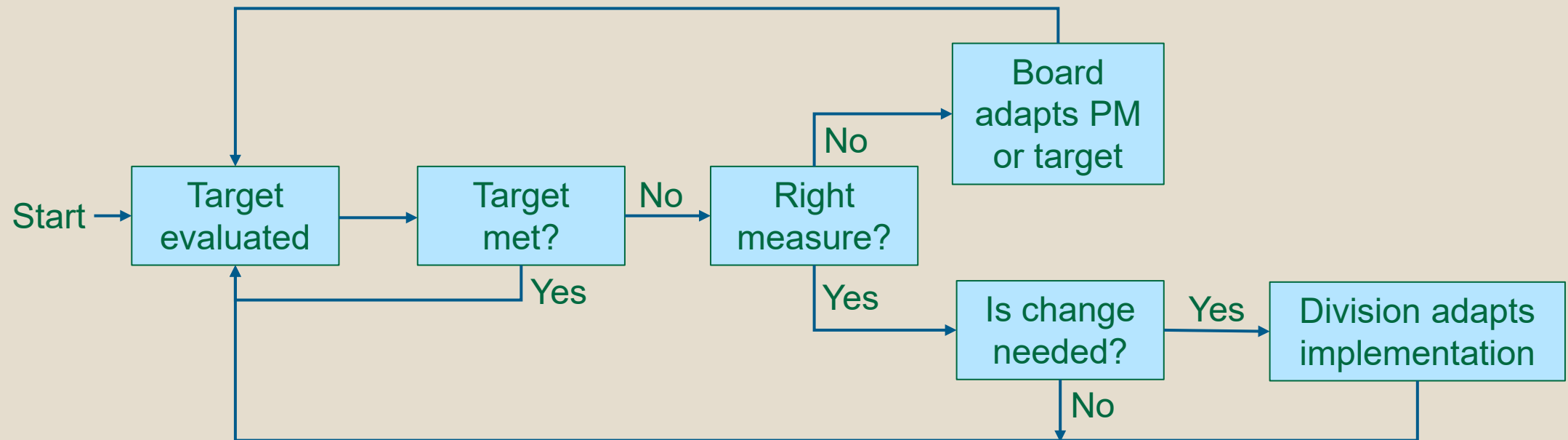
- New Implementation Plan for FY28
 - Modeling ongoing based on FMP scenarios.
 - Model limitations considered for Implementation Plan
 - Specific numbers for FMP performance measures over 10 years based on modeled outcomes for Implementation Plan.

Accountability and Responding to Monitoring

- Implementation Plan seeks to achieve the FMP performance measures targets and trends
- Current monitoring and reporting
 - Annual reports to CFTLC and State Land Board
 - Operations Plan accomplishments reported to SFAC
- Planned monitoring and reporting
 - FMP performance measures reports to Board
 - Annual, 5-, and 10-year reports to HCP regulatory authorities
 - 5- and 10-year reports for Implementation Plan

Accountability and Responding to Monitoring

Board can change performance measures or targets.
State Forester can change implementation of the FMP.



FMP Performance Measures (PM)

(arranged alphabetically)

1. Adaptive Capacity of Forests
2. Aquatics & Riparian Resources
3. Carbon Sequestration & Storage
4. Division Finances
5. Economic Opportunities
6. Financial Support for Counties
7. Habitat Elements for Wildlife
8. Harvest & Inventory
9. Recreation, Education, & Interpretation Opportunities
10. Transportation
11. Tribal Cultural Resources

PM related to Habitat Conservation Plan

Aquatics & Riparian Resources
Habitat Elements for Wildlife
Transportation

Division recommendation

- Board targets would follow HCP triggers for adaptive management
- Simplify metrics

Aquatic & Riparian Resources

Component Metrics	HCP Monitoring	HCP Triggers
2a. Physical attributes in streams (habitat limiting factors)	Current conditions and trends from ODFW Aquatic Inventories Program	Increasing trend for wood recruitment, complexity. No increase in sediment.
2b. Water temperature monitored for permit area	Current conditions and 10-yr trends	<0.24°C mean increase per 10 years above baseline
2c. Catchment assessment of regeneration harvests	Factor used for stream restoration prioritization	None

Habitat Elements for Wildlife

Component Metrics	HCP Monitoring	HCP Triggers
7a. Large trees >30-inch diameter	Retention compliance, effectiveness through time	Legacy features are persisting in uplands.
7b. Large snags and volume of downed wood	Retention compliance, effectiveness through time	Legacy features are persisting in uplands.
7c. Connectivity between late seral forest stands	HCA design, retention compliance, owl dispersal	None
7d. Covered species habitat meets stay-ahead provisions	10-year assessment of net change in habitat quantity	No net loss of habitat for covered species.

Transportation; Harvest & Inventory

Component Metrics	HCP Monitoring	HCP Triggers
10a. Transportation assessment: hydrological connectivity	Roads/trails are surveyed for hydrologic connection and whether mitigated.	Complete assessment, document trends over time.
10b. Transportation assessment: fish passage barriers	Documenting projects completed and compliance with standards.	Increase in available suitable habitat upstream resulting from the removal/upgrade of fish passage barriers.

PM affected by market factors

Division Finances

Financial Support for Counties

Economic Opportunities

Division recommendation

- *Total revenue* replaces Division Finances & Financial Support for Counties.
- Board sets targets or trends informed by Implementation Plan model.

PM affected by market factors

Performance Measures	Component metrics	Division recommendation
4. Division Finances	4a. Forest Development Fund balance and forecast	Remove
	4b. Annual revenue and operating expenses	Remove
5. Economic Opportunities	5a. Timber direct/indirect employment and income	Recalculate every 5 years
	5b. Non-timber direct/indirect employment and income	Recalculate every 5 years
6. Financial Support for Counties	6a. Revenue transferred to counties and taxing districts	Change to <i>Total Revenue</i> from forest, reported for counties and Division.

Recreation, Education, & Interpretation Opportunities

Division recommendation

9a. Percent of recreation facilities (not trails) open annually for the recreation season

9b. Critical trail assets (bridges/culverts) in good or better condition

9c. Educational interactions with school classes or students

- Board sets targets and trends to maintain access and opportunities at a high level.

Tribal cultural resources

Development of new Division policies following the FMP goals: *Tribal Access and Use of Natural Resources and Cultural Resources Protection*

Division recommendation

- Board sets targets and trends to track Division's progress on FMP strategies.

PM affected by environmental factors

Adaptive Capacity of Forests
Aquatics & Riparian Resources
Carbon Sequestration &
Storage
Harvest & Inventory

Division recommendation

- Board sets desired trends and Division brings specific numbers in January.
- Simplify metrics

Carbon Sequestration & Storage

Component Metrics	Discussion Questions
3a. Carbon sequestration in live trees	Include either carbon stock (3b) or the rate of change (3a)?
3b. Live tree carbon storage by emphasis area	What is the appropriate scale of reporting?
3c. Harvested wood product storage	Consider carbon pools other than live trees and harvested wood products?

Adaptive Capacity of Forests

Component Metrics	Discussion Questions
1a. Stand age class distribution by emphasis area	How would Board set intermediate targets for a long-term goal?
1b. Tree species composition by emphasis area	Consider species richness or distribution? Consider plant species beyond trees?
1c. Tree canopy layering (structure) by emphasis area	Replace structure, in terms of current FMP, with covered species habitat?
1d. 10-year growth rates (report by species)	What is needed to assess if forests maintaining productivity?

Harvest & Inventory

Component Metrics	Discussion Questions
8a. Acres of management by type (including forest health)	Acreage target for management in HCAs (i.e., Swiss needle cast and alder treatments)?
8b. Standing merchantable volume in live trees	What is the desired trend in the operable inventory?

Next steps

After this meeting, the Division will:

- Incorporate Board feedback on FMP performance measures
- Complete Implementation Plan modeling to inform targets
- Present revised FMP performance measures for approval in January 2027
- Complete new Implementation Plan (to begin in FY2028) aligned with FMP performance measures

Below are the staff report slides from previous presentations if needed

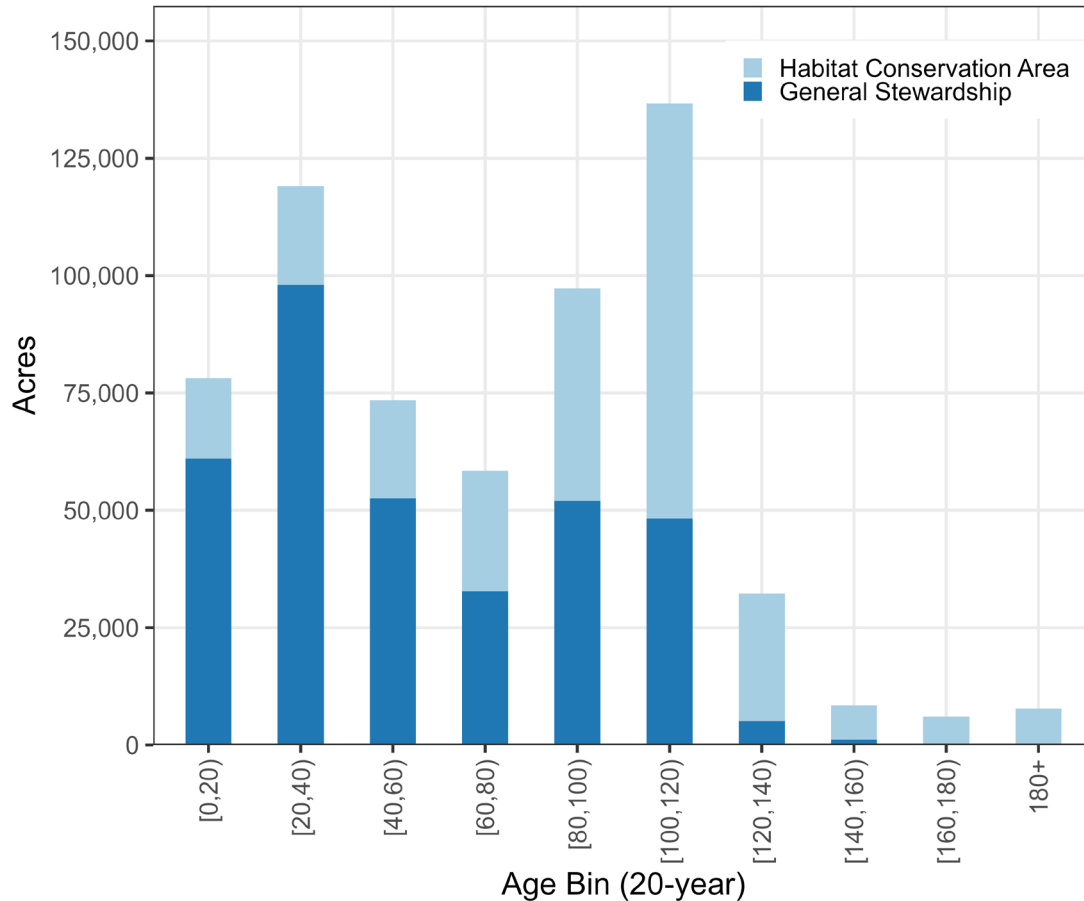
Performance Measures	Component Metrics
1. Adaptive Capacity of Forests	1a. Stand age class distribution by emphasis area
	1b. Tree species composition by emphasis area
	1c. Tree canopy layering (structure) by emphasis area
	1d. 10-year growth rates by species
2. Aquatic and Riparian Resources	2a. Physical attributes in streams (habitat limiting factors)
	2b. Water temperature monitored for permit area
	2c. Catchment assessment of regeneration harvests
3. Carbon Sequestration & Storage	3a. Carbon sequestration in live trees
	3b. Live tree carbon storage by emphasis area
	3c. Harvested wood product sequestration & storage
4. Division Finances	4a. Forest Development Fund balance and forecast
	4b. Annual revenue and operating expenses
5. Economic Opportunities	5a. Timber direct/indirect employment and income
	5b. Non-timber direct/indirect employment and income
6. Financial Support for Counties	6a. Revenue transferred to counties and taxing districts

Performance Measures	Component Metrics
7. Habitat Elements for Wildlife	7a. Large trees >30-inch diameter
	7b. Large snags and volume of downed wood
	7c. Connectivity between late seral forest stands
	7d. Covered species habitat meets stay-ahead provisions
8. Harvest and Inventory	8a. Acres of management by type (including forest health)
	8b. Standing merchantable volume in live trees
9. Recreation, Education, and Interpretation Opportunities	9a. Percent of recreation facilities (not trails) open annually for the recreation season
	9b. Critical trail assets (bridges/culverts) in good or better condition
	9c. Educational interactions with school classes or students
10. Transportation	10a. Transportation assessment (hydrological connectivity and fish passage barriers of road system)
11. Tribal Cultural Resources	11a. Development of new Division policies following the FMP goals: <i>Tribal Access and Use of Natural Resources</i> and <i>Cultural Resources Protection</i>

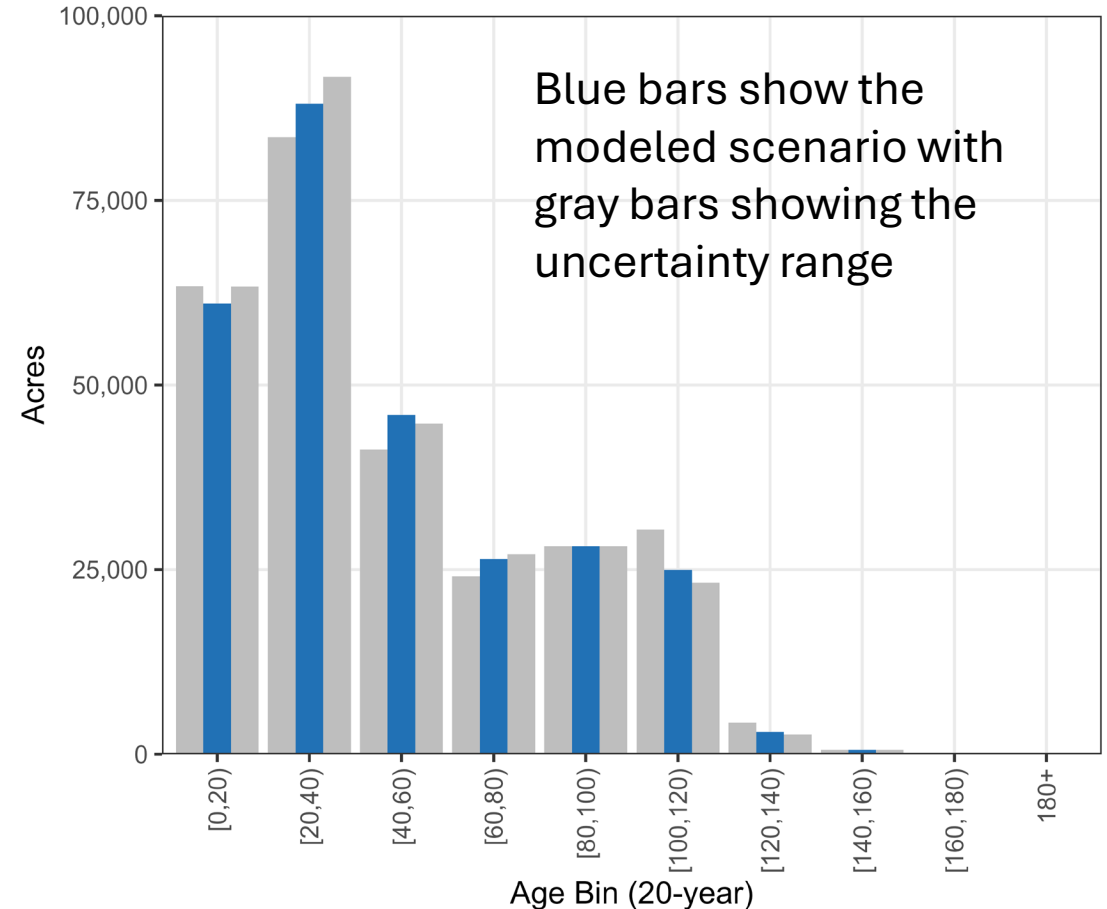
1. Adaptive Capacity of Forests

1a. Stand age class distribution by emphasis area

Current age classes by emphasis area



General stewardship age classes in 30 years

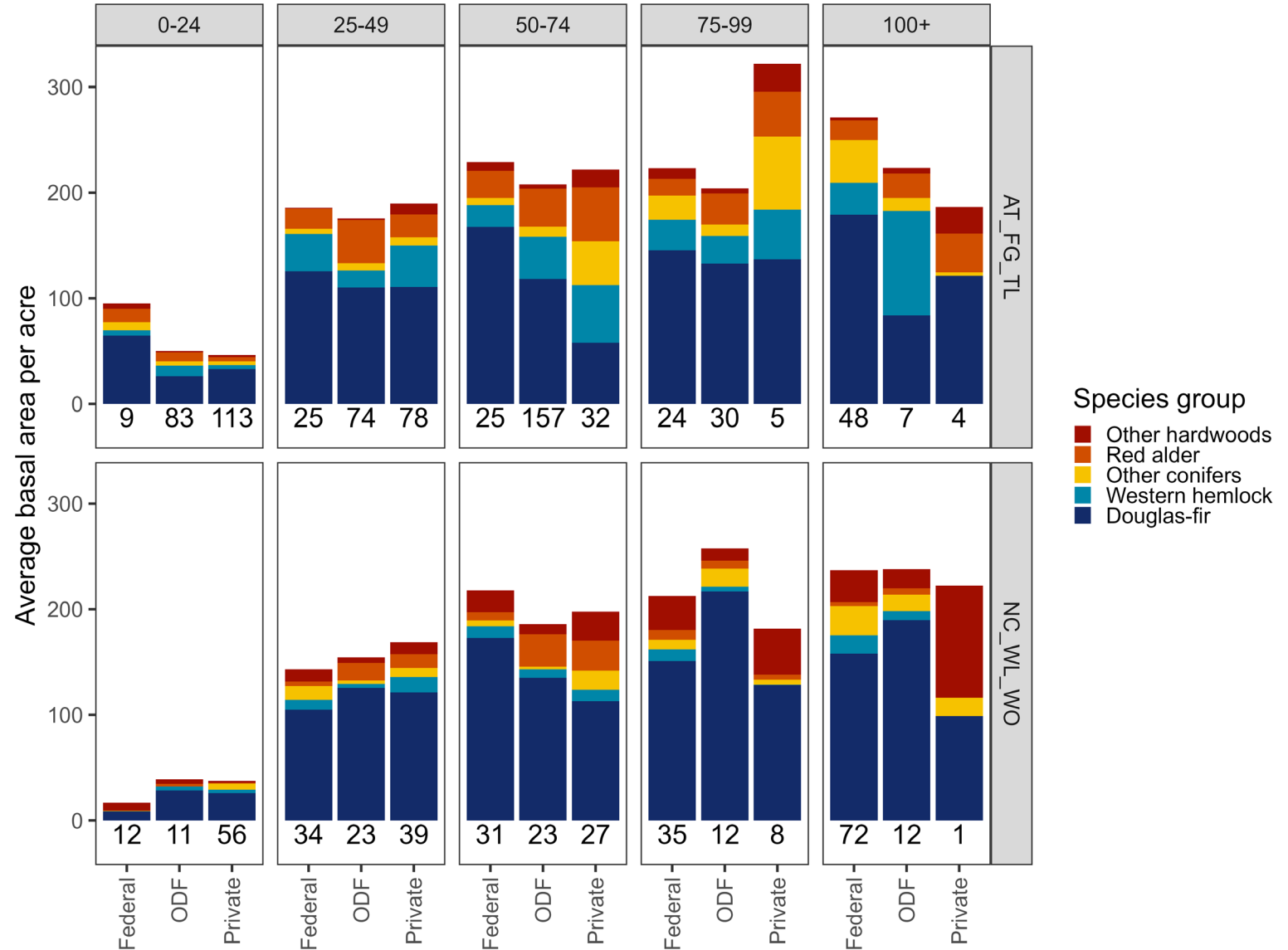


1. Adaptive Capacity of Forests

1b. Tree species composition by emphasis area (slide 1 of 2)

This graph shows the most recent FIA estimates (2013-2022 measurements) of species basal area per acre by ownership group stand age, and georegion.

Stand age is in 25-year groups (columns). Georegion is divided by North Coast districts (top row) and other districts (bottom row). The number of FIA plots averaged in each sample is indicated below the bars.

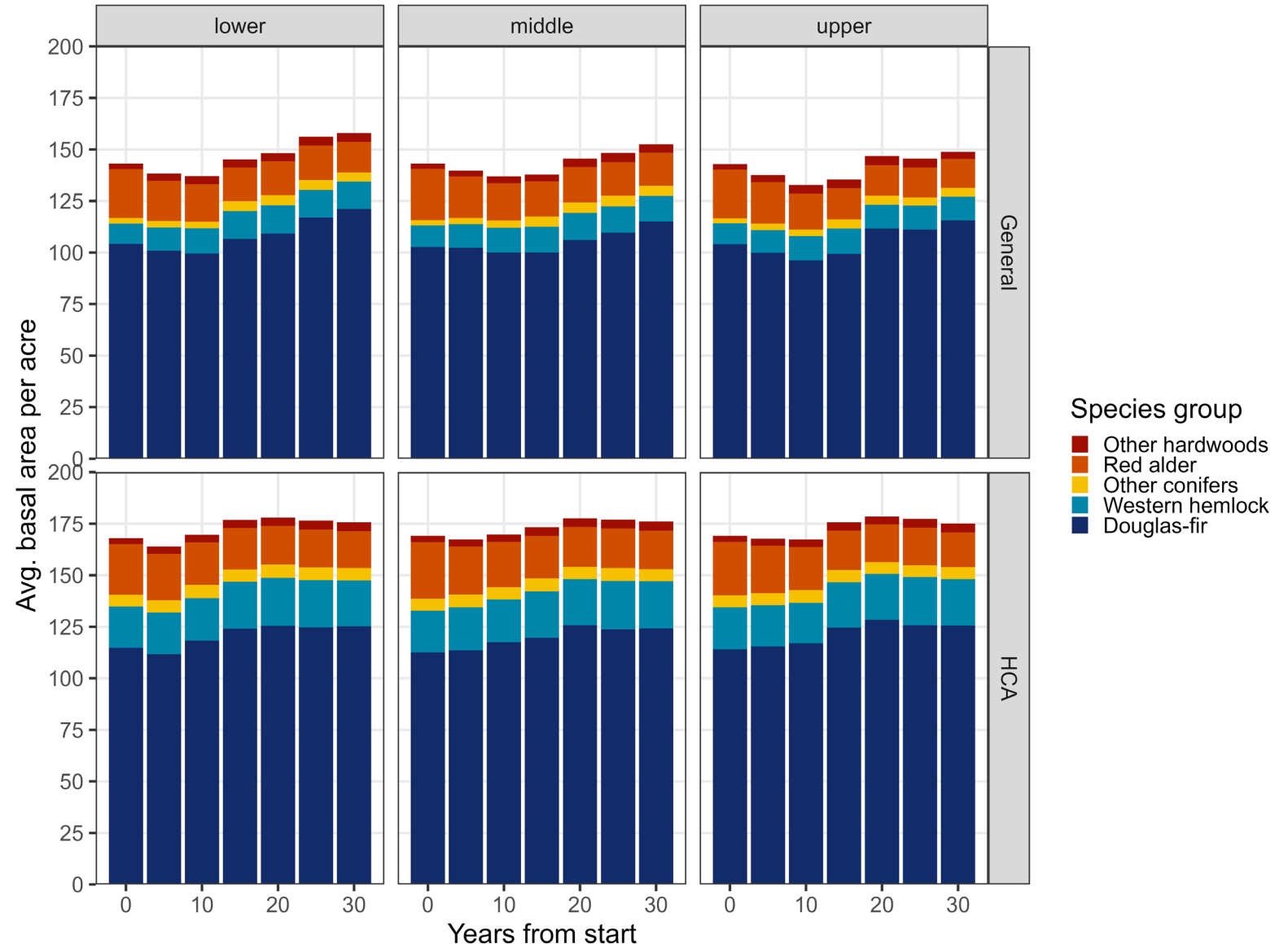


1. Adaptive Capacity of Forests

1b. Tree species composition by emphasis area (slide 2 of 2)

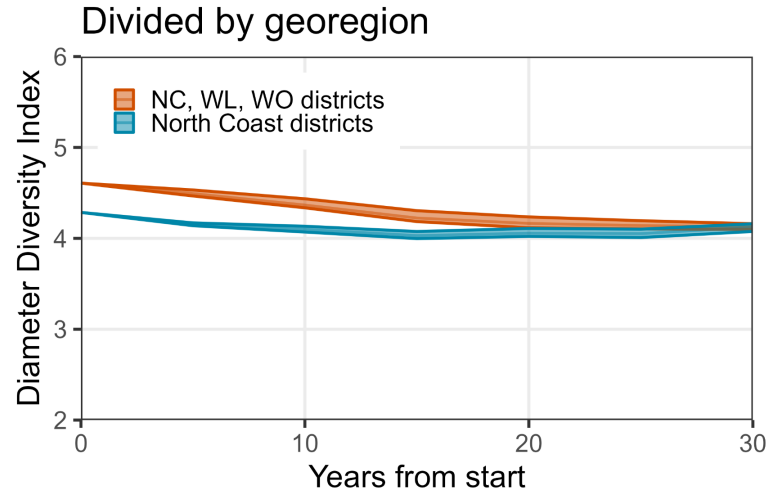
This graph shows the scenario forecast of tree basal area per acre for State Forests by emphasis area (General in top row, and HCA in bottom row).

The columns show the uncertainty range for the presented scenario (middle) and the outcomes with harvest volume of 5% lower (left) or 5% higher (right).



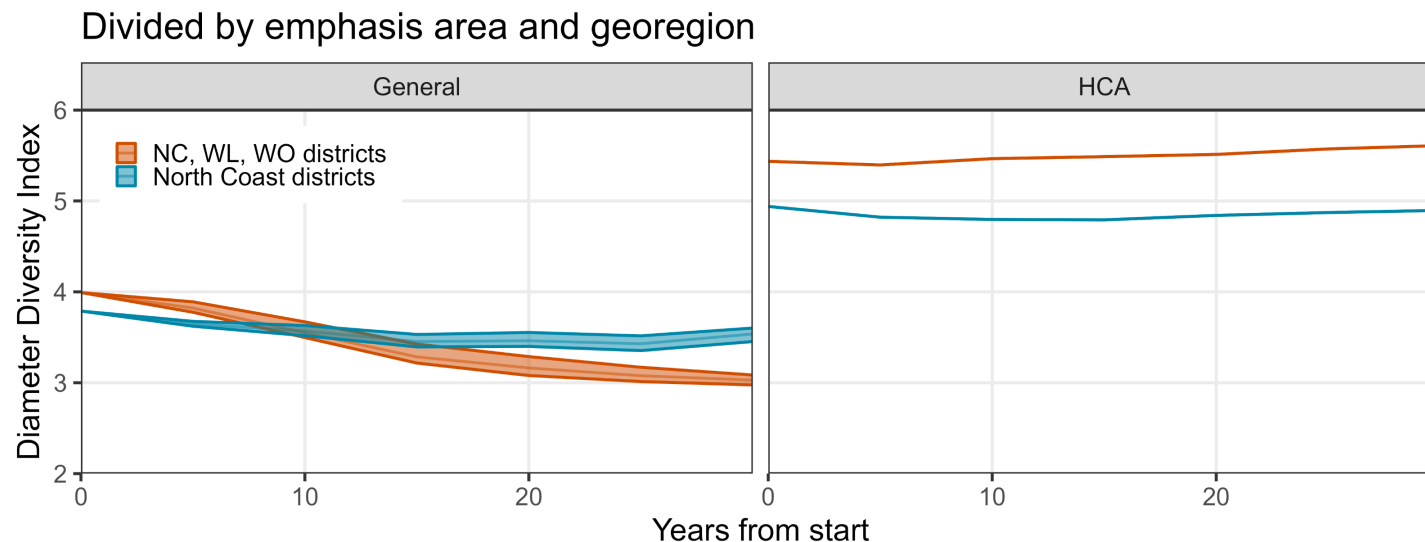
1. Adaptive Capacity of Forests

1c. Tree canopy layering (structure) by emphasis area



Diameter Diversity Index (DDI) is commonly used to describe the similarity of a stand's layering to an old-growth stand based on the number of trees in different size classes.

Graphs show the average across all stands in each category.



DDI is a component of the complex forest structure designation in the 2010 FMP (threshold varied by forest type from 5.8-6.5). It is displayed by georegion because the previous Performance Measure for complex forests was for the North Coast districts only.

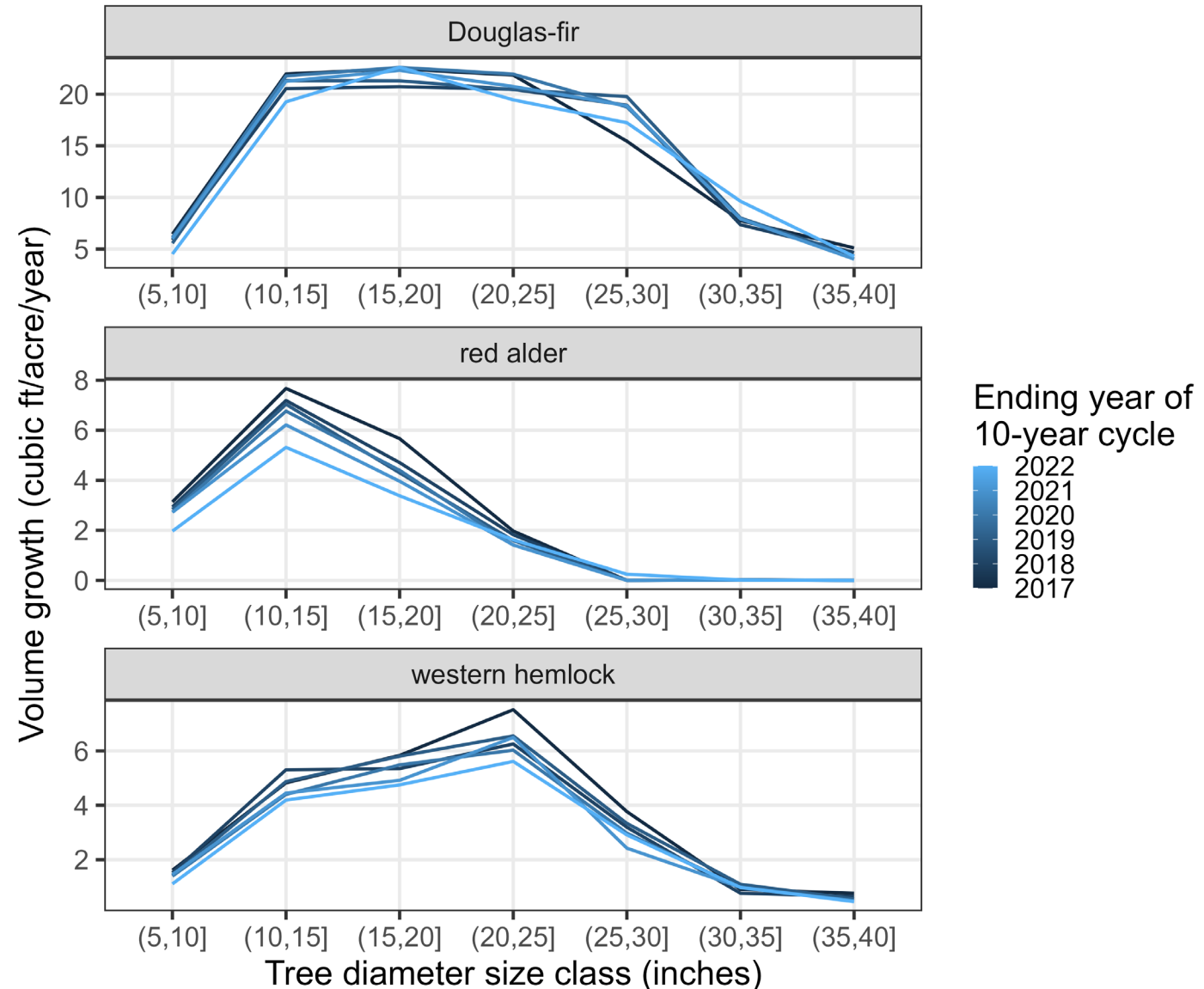
1. Adaptive Capacity of Forests

1d. 10-year growth rates by species

FIA remeasures the same trees on a 10-year cycle. Average growth rates can be analyzed by species, forest type, or region to assess vulnerability to climate change.

In this example, average volume growth per acre varies by species and tree size. The lines for each species show remeasurement year. Of these trees, red alder and western hemlock growth has been trending lower in recent years.

The modeled scenarios did not include changes in growth rates due to climate change.



2. Aquatic and Riparian Resources

2a. Physical attributes in streams (habitat limiting factors)

2b. Water temperature monitored for permit area

These components are monitored as HCP commitments and will be available for the Board when they are reported to the Federal Services. The first HCP monitoring report would be expected in November 2027. Physical attributes will be measured in partnership with the ODFW Aquatics Inventories Program. Water temperature monitoring will be developed with HCP adoption.

2. Aquatic and Riparian Resources

2c. Catchment assessment of regeneration harvests

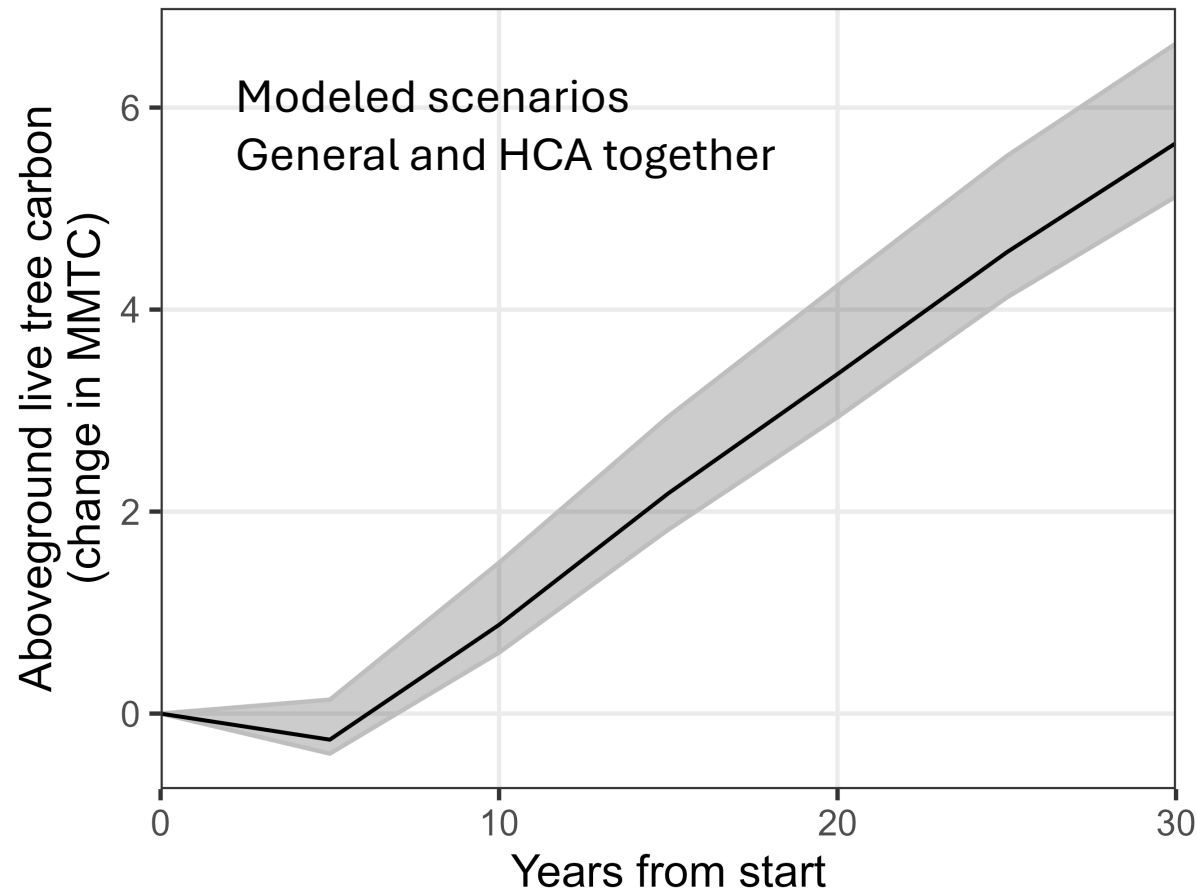
Drinking water source assessment for Public Water Systems with ODF-managed lands comprising more than 10% of the catchment. Forecasted range of the average % of recent (i.e., within 10 years) clearcut harvests over the first 30 years.

PWS Name	Catchment Acres	ODF % of catchment	Average % <10 years old (lower)	Average % <10 years old (upper)
BEAVER WATER DISTRICT	18,647	13	9	13
BERNDT CREEK WATER CORP	35,304	41	7	8
DETROIT WATER SYSTEM	184	32	0	0
FISHHAWK LAKE RECREATION CLUB	10,004	30	7	9
GEORGIA-PACIFIC CPLP WAUNA	86,310	14	4	7
HILLSBORO-CHERRY GROVE	15,565	51	11	17
HILLSBORO-FOREST GROVE-BEAVERTON	115,415	16	7	11
JEWELL SD #8	31,913	58	7	8
LYONS MEHAMA WATER DISTRICT	107,684	14	8	10
PHILOMATH PUBLIC WORKS	85,972	10	8	11
SILVERTON, CITY OF	31,659	14	8	13
TILLAMOOK WATER DEPT, CITY OF	3,074	63	6	7
TIMBER WATER ASSOCIATION	7,787	98	8	11

ODF will assess HUC10 watersheds by management activity for its prioritization of stream-enhancements projects under the HCP commitments. These assessments will be reported to the Board when performed for the HCP.

3. Carbon Sequestration and Storage

3a. Carbon sequestration in live trees

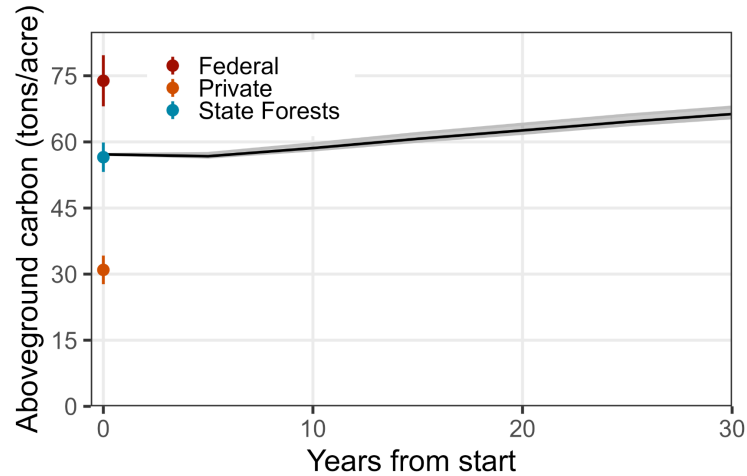


The aboveground carbon is the carbon pool most reliably measured by FIA and State Forests' inventory, even though it excludes belowground tree biomass, soil carbon, and dead wood carbon pools.

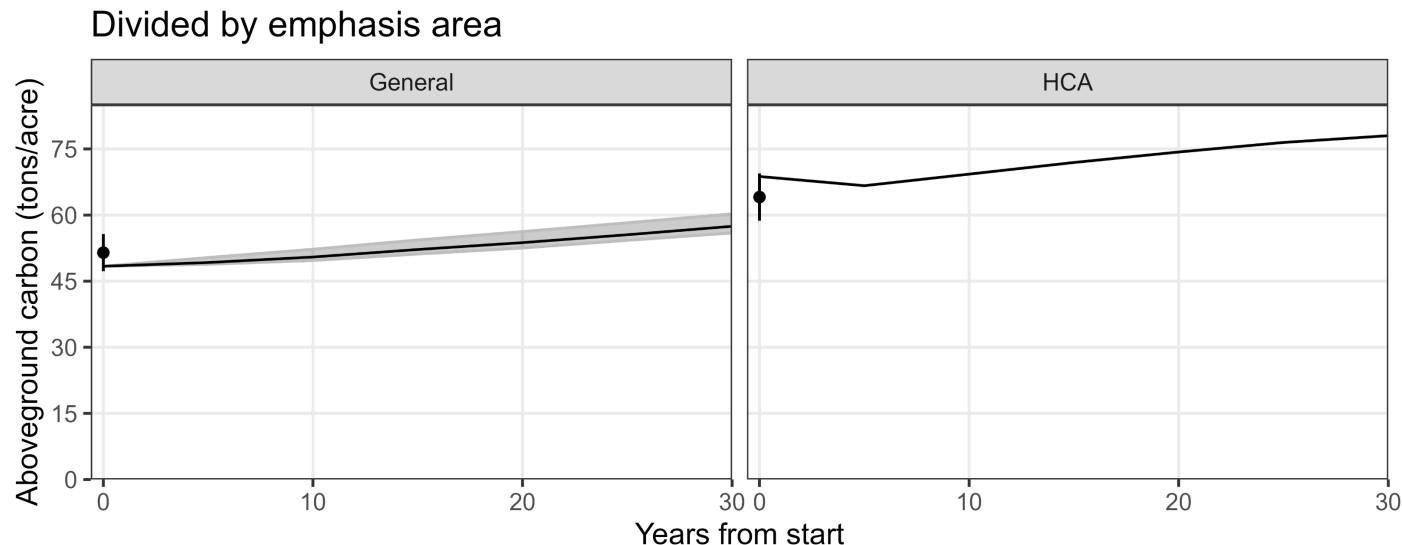
The decline in carbon in year 5 of the scenario is a result of a modeling artifact, where most of the permitted HCA harvests were performed in the first 5 years, rather than being distributed over the first 30 years.

3. Carbon Sequestration and Storage

3b. Live tree carbon storage by emphasis area



The aboveground carbon is the carbon pool most reliably measured by FIA and State Forests' inventory, even though it excludes belowground tree biomass, soil carbon, and dead wood carbon pools.



The decline in carbon in HCAs in year 5 of the scenario is a result of a modeling artifact, where most of the permitted HCA harvests were performed in the first 5 years, rather than being distributed over the first 30 years.

3. Carbon Sequestration and Storage

3c. Harvested wood product sequestration and storage

Sequestration in harvested wood products was calculated from the scenarios with two sets of assumptions about emissions (substitution for more carbon-intensive products and energy capture from biomass burning).



4. Division Finances

4a. Forest Development Fund balance and forecast

4b. Annual revenue and operating expenses

4a. These are reported annually by State Forests Asset Management Unit but were not modeled in the scenarios.

4b. Forecasted annual revenue from the scenarios is below. Operating expenses were not forecasted.

Average annual net revenue distribution modeled over the first 30 years

Scenario	Total net revenue	To Counties	To CSF	To ODF
Lower harvest range	83.4	51.5	2.4	29.3
5: Departure steps, 215 MMBF start	90.0	55.6	2.7	31.6
Higher harvest range	94.1	58.2	2.8	33.1

5. Economic Opportunities

5a. Timber direct/indirect employment and income

5b. Non-timber direct/indirect employment and income

5a. Average annual economic (direct, indirect, induced) contributions of timber harvests (in millions, 2024 dollars), first 10 years of scenario forecast

5b. Not included, as non-timber output from the new scenarios could not be modeled from the Socioeconomic Report.

Scenario	Jobs	Direct	Indirect	Induced
Lower	3472	298	489	1101
Middle*	3866	329	541	1212
Higher*	4094	349	575	1285

*These scenarios were not modeled in the July 2025 Socioeconomic Report. Values obtained from regression of 10 other modeled scenarios.

6. Financial Support for Counties

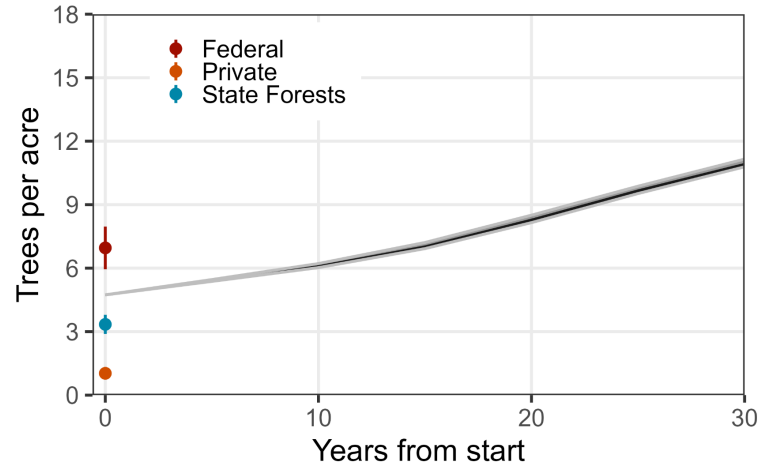
6a. Revenue transferred to counties and taxing districts

Average annual net revenue distribution modeled over the first 30 years

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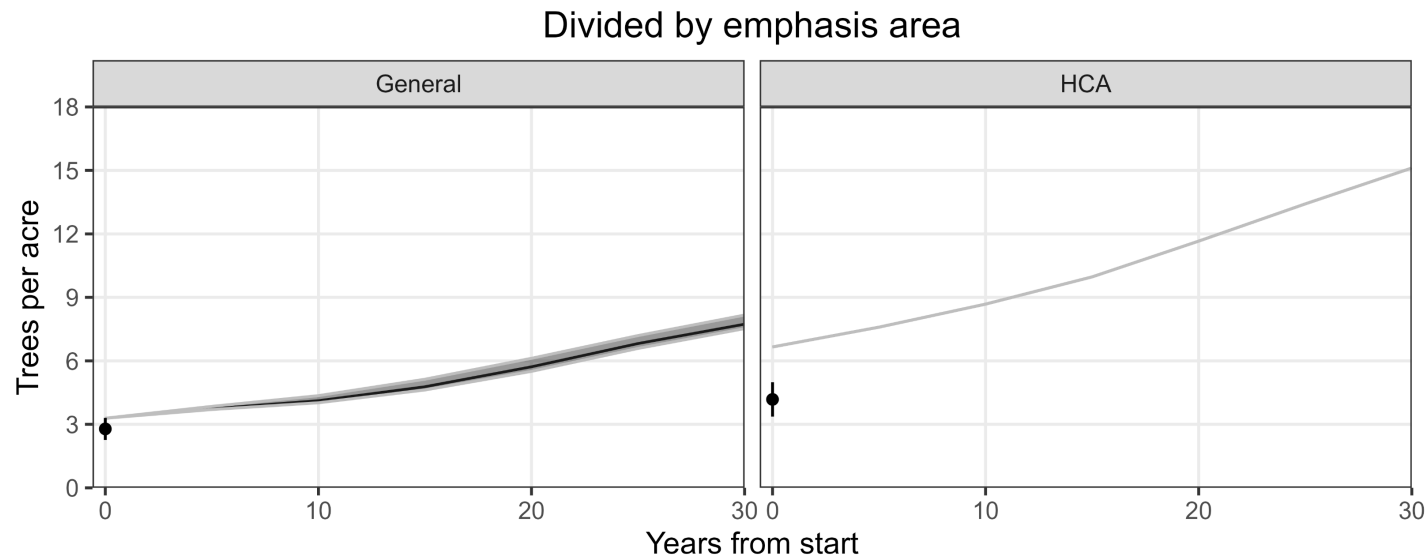
7. Habitat Elements for Wildlife

7a. Large trees >30-inch diameter



Large trees are important for covered species in the HCP as well as other native wildlife. It is one component of the complex forest structure designation in the 2010 FMP.

Graphs show the average number of large trees per acre across all stands in each category.



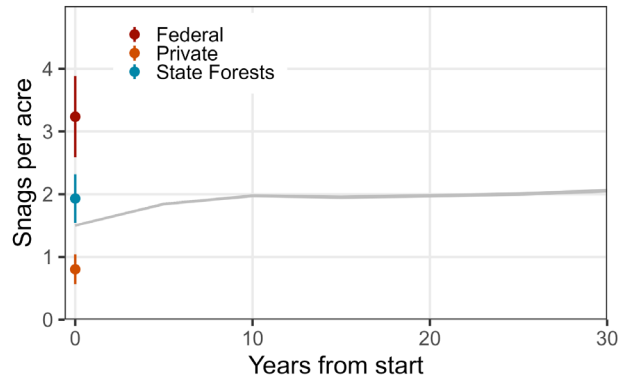
The notable difference in the HCA estimate by FIA (point at year 0) and the scenario may be due to the inventory methods that imputed tree lists for unmeasured stands in the modeling.

7. Habitat Elements for Wildlife

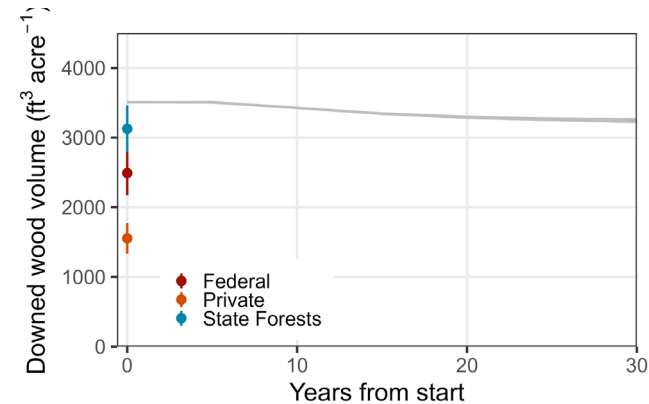
7b. Large snags and volume of downed wood

Note: These metrics were components to assign the “Older Forest Structure” class in the 2010 FMP.

Dead trees >24” diameter (average number per acre)

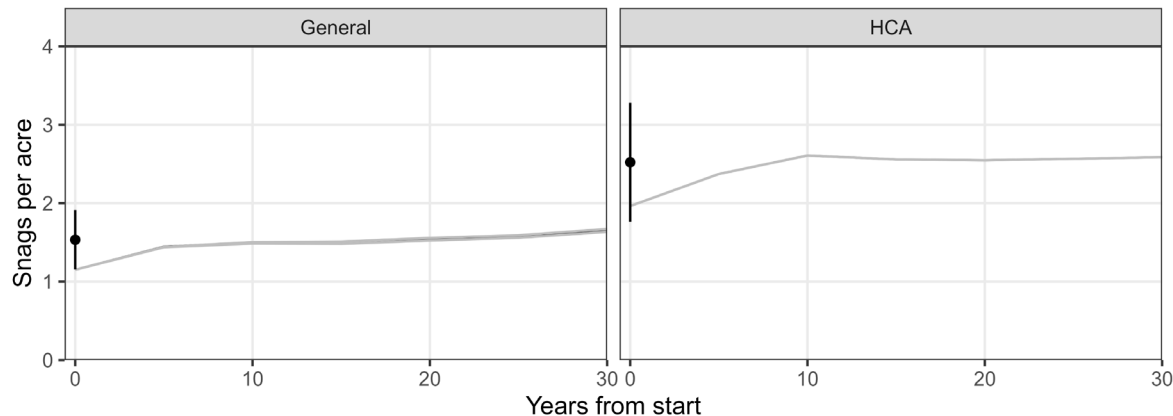


Downed wood >3” diameter (average volume per acre)

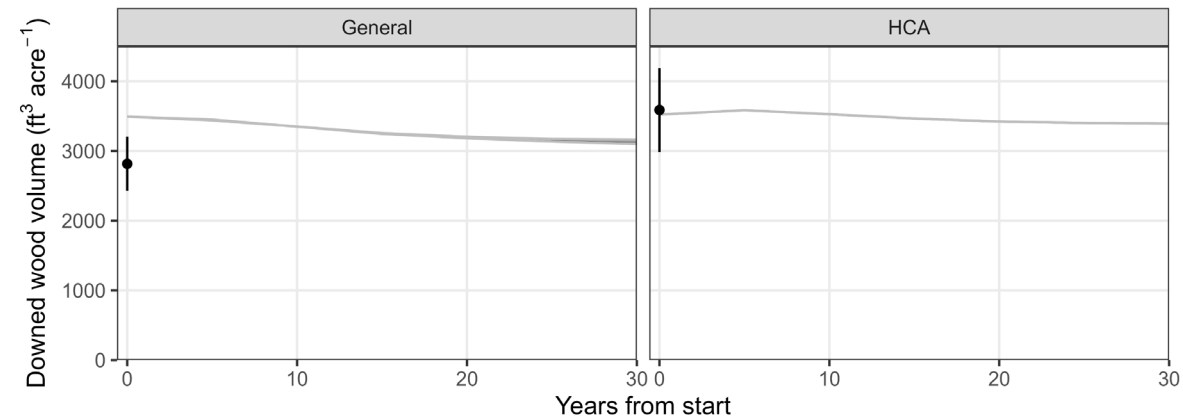


Note that FIA measures wood with different methods than ODF. Volumes will be different in HCP compliance monitoring reports.

Divided by emphasis area



Divided by emphasis area



7. Habitat Elements for Wildlife

7c. Connectivity between late seral forest stands

The draft FMP Wildlife strategy for functional landscapes: Maintain connectivity between habitats, and broad landscape permeability, for diverse wildlife species including species of conservation concern.

The arrangement of Habitat Conservation Areas was designed with future landscape connectivity in mind. This component metric will assess the landscape changes in habitat connectivity for species relying on late seral forest stands. This will help prioritize HCP conservation actions, such as those benefiting Northern spotted owls, to HCAs with higher landscape connectivity to support dispersal.

7. Habitat Elements for Wildlife

7d. Covered species habitat meets stay-ahead provisions for HCP

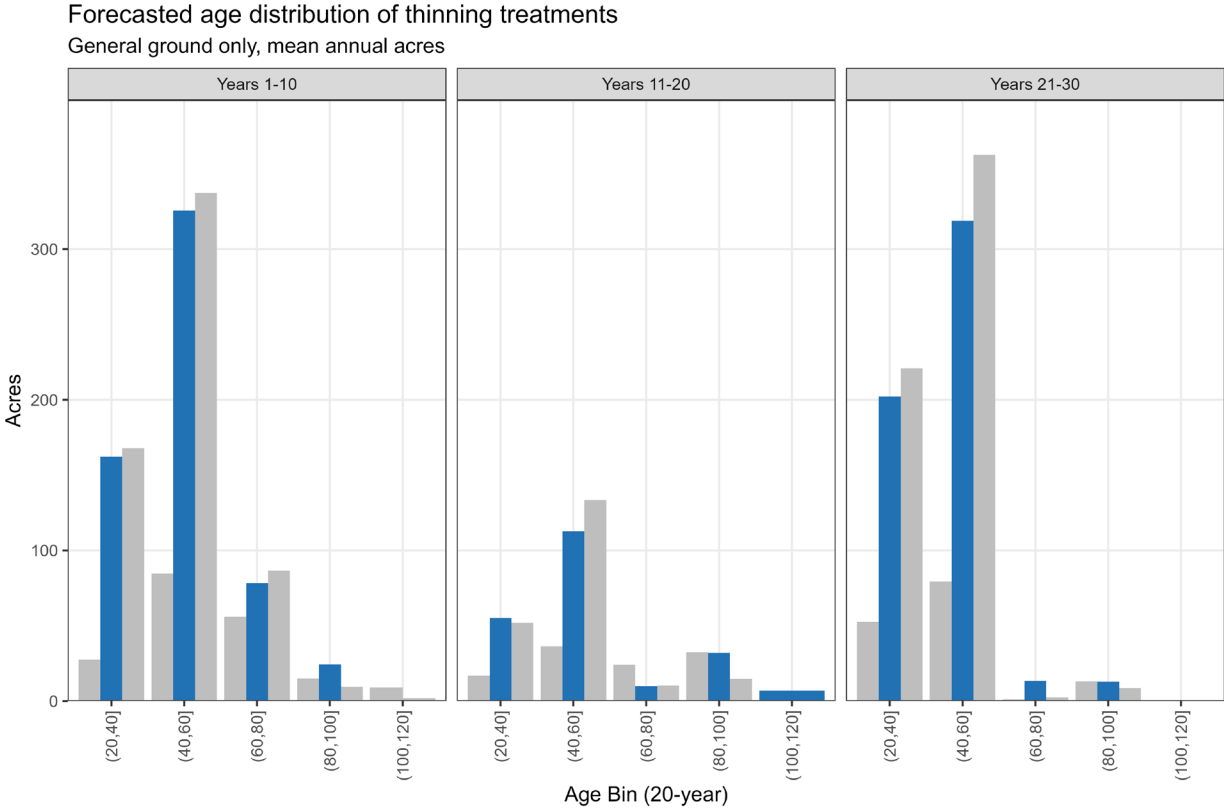
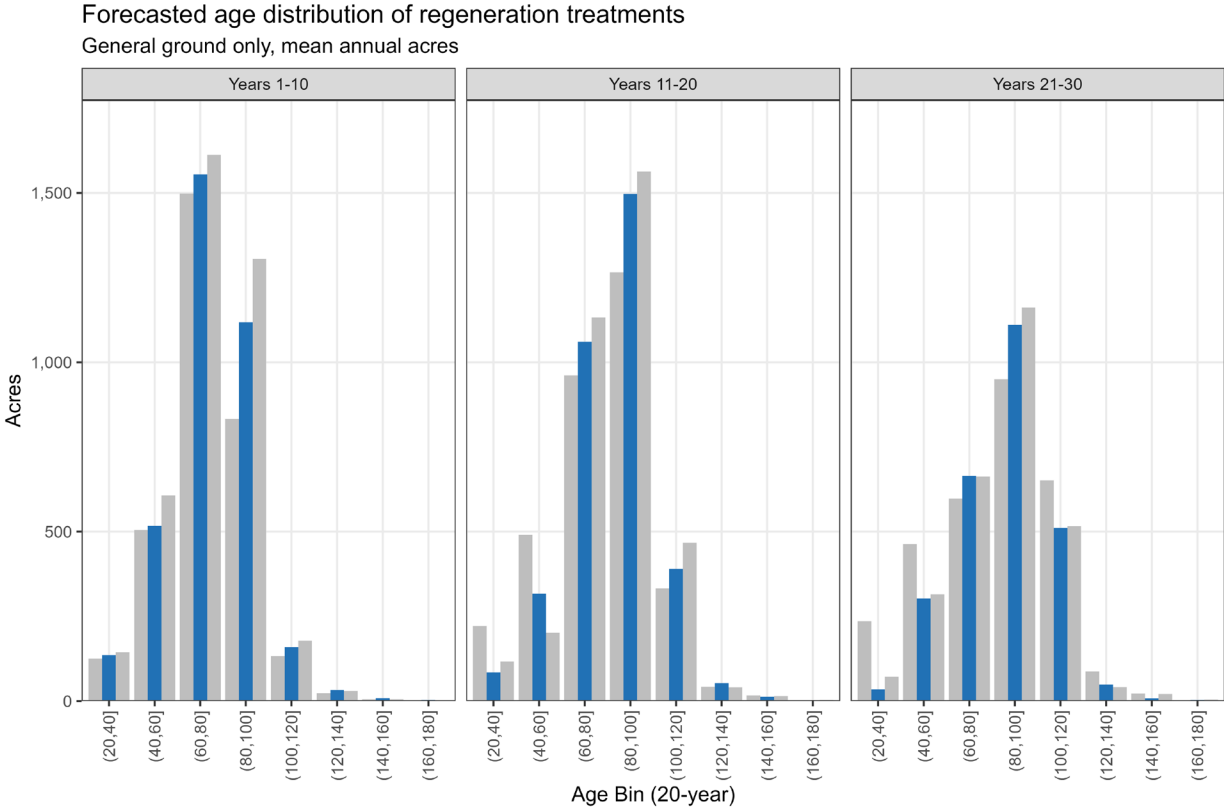
All scenarios were modeled to meet the HCP Conservation Action 13: Stay Ahead Provision. The current HCP draft reads: “The Stay-Ahead provision will minimize or eliminate the risk of any temporal net losses of habitat associated with the impacts from covered activities; there will always be more acres of new habitat grown and maintained in HCAs than lost to harvest across the permit area—both in any 10-year implementation period and cumulatively throughout the permit term.”

This component metric will be reported to the Board when it is reported to USFWS and NOAA Fisheries annually and during the 5-year check-in and 10-year comprehensive reviews of the HCP. It is derived from modeling covered species habitat from the forest inventory, accounting for modeled growth and depletions from covered activities each year.

8. Harvest and Inventory

8a. Acres of management by type (including forest health treatments)

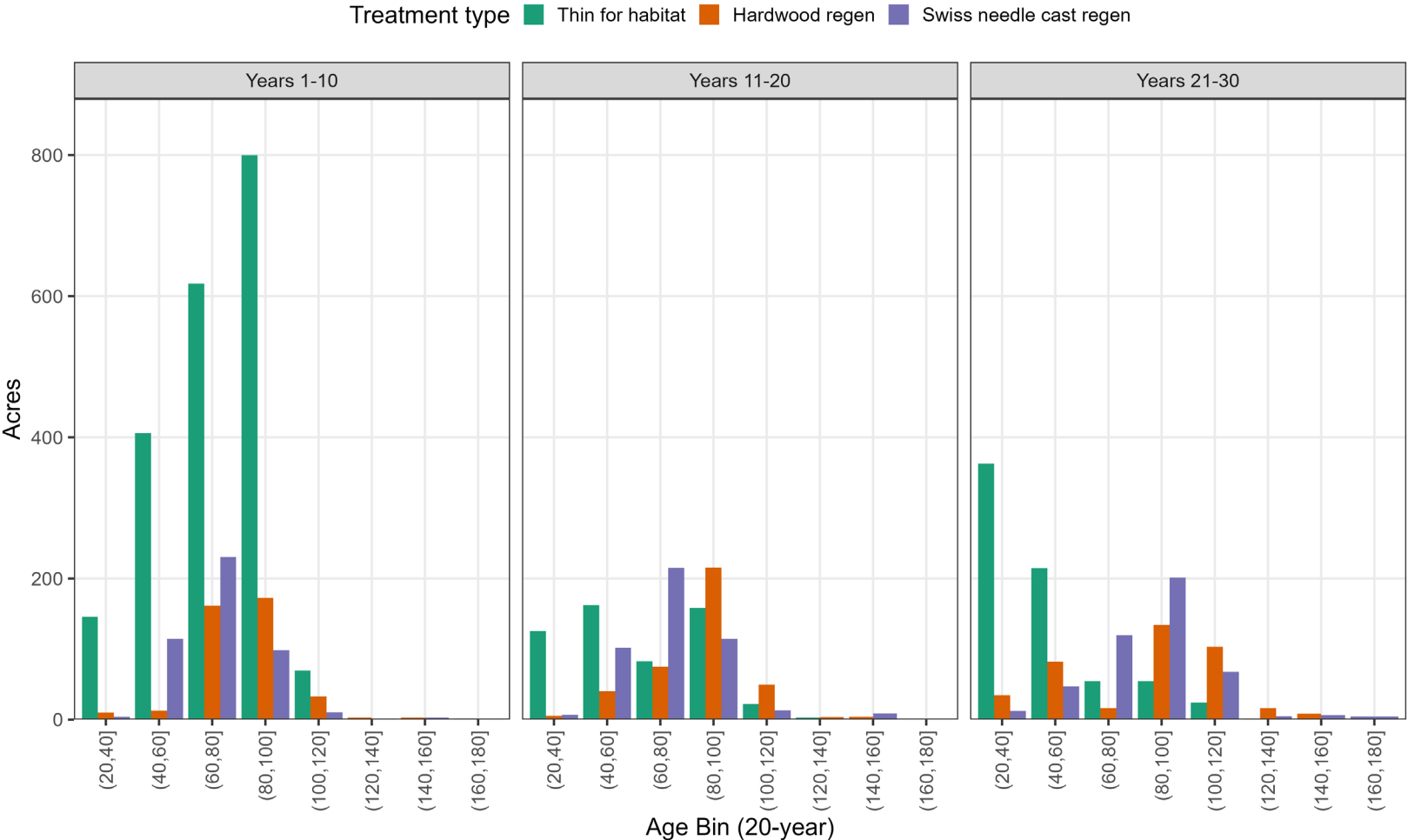
Regeneration and thinning acreage for general stewardship emphasis area in the modeled scenario (blue bars) with uncertainty range (gray bars).



8. Harvest and Inventory

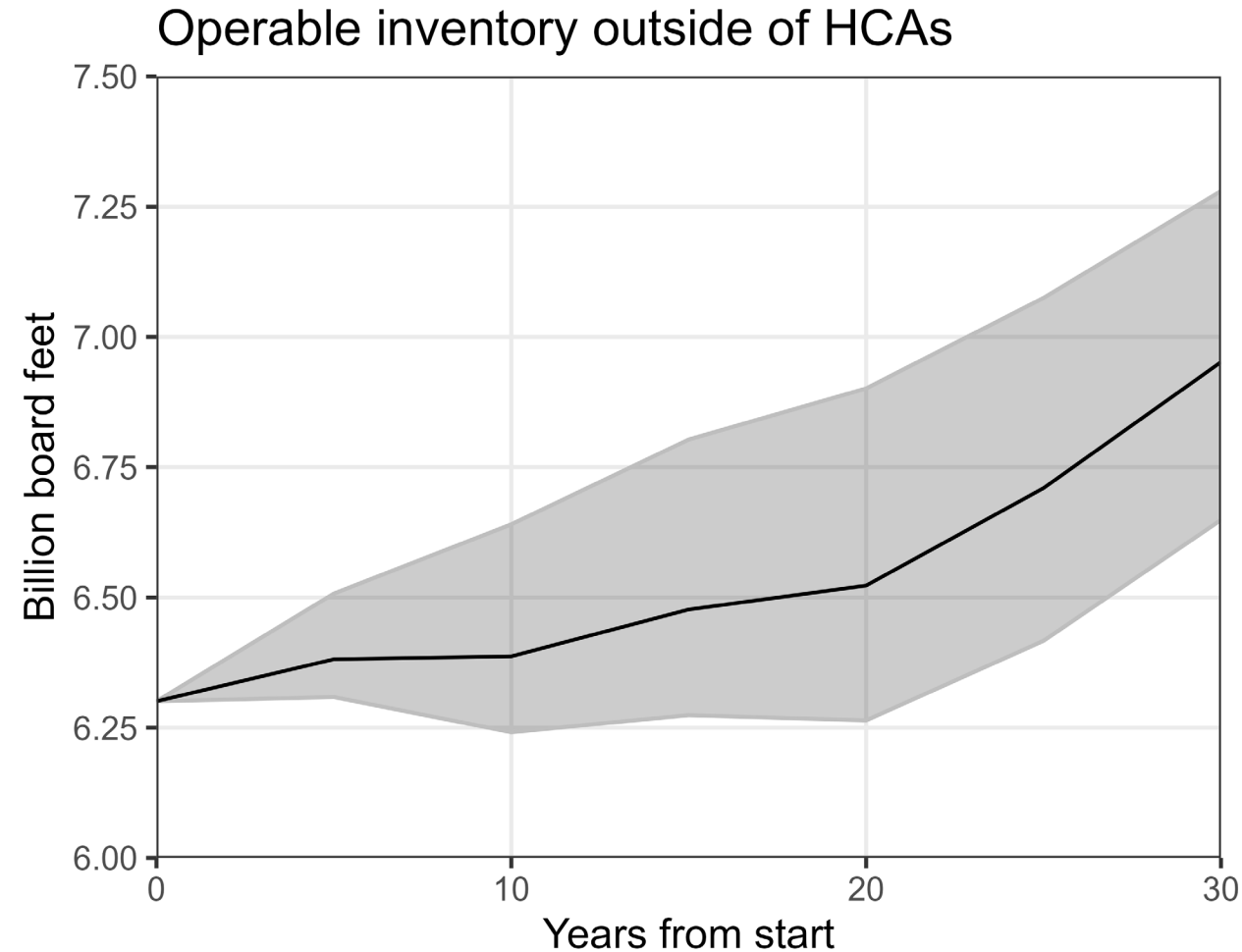
8a. Acres of management by type (including forest health treatments)

Forecasted age distribution of treatments in HCAs
Same across scenarios, mean annual acres



8. Harvest and Inventory

8b. Standing merchantable volume in live trees



9. Recreation, Education, and Interpretation (REI) Opportunities

- 9a. Percent of recreation facilities (not trails) open annually for the recreation season
- 9b. Critical trail assets (bridges/culverts) in good or better condition
- 9c. Educational interactions with school classes or individual students

These component metrics are proposed Key Performance Measures (KPMs) for the Oregon Legislature. The Board Performance Measures will match the KPMs and will be reported annually once the KPMs are adopted.

They are derived from the FMP REI goals and the HCP commitments to protect aquatic resources.

10. Transportation

10a. Transportation assessment (hydrological connectivity and fish passage barriers of road system)

Assessing and minimizing hydrological connectivity and fish passage barriers on the road network is part of the FMP Transportation goals and the HCP commitments. This assessment is ongoing and will be reported to the Board when it is finalized for HCP reporting.

11. Tribal Cultural Resources

11a. Development of new Division policies following the FMP goals:
*Tribal Access and Use of Natural Resources and Cultural Resources
Protection*

Progress on the Cultural Resources FMP goals and strategies will be reported to the Board as a narrative after FMP approval.