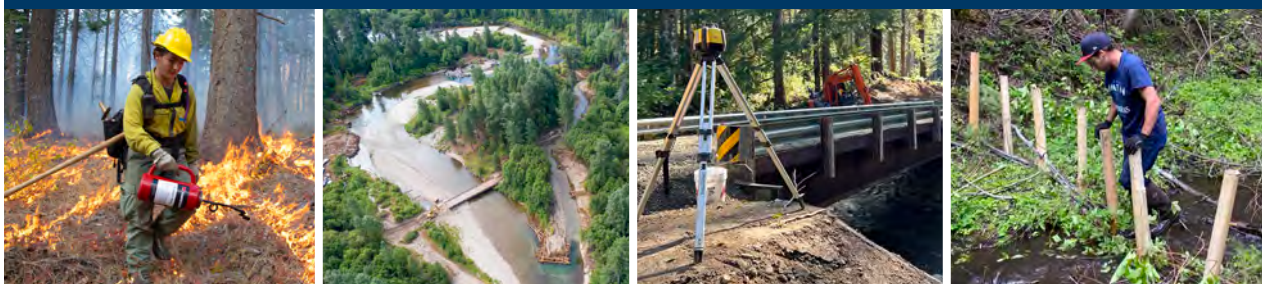

Washington State

2025 FOREST ACTION PLAN

Taking actions to restore and conserve Washington's forests so our environment and communities thrive.

NATURAL RESOURCES

DAVE UPTHEGROVE
COMMISSIONER OF PUBLIC LANDS

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The Forest Health Advisory Committee (FHAC) was established by RCW 76.06.200 in 2017. The mission of the FHAC is to contribute to the improvement of forest health by providing guidance and advice to the Commissioner on forest health conditions and solutions thereby helping to make Washington forests, regardless of ownership, healthier and more resilient to insects, disease, invasive species, catastrophic wildfire, climate change, and other disturbance. Specifically, this committee helps to inform successful implementation of the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and Washington's Forest Action Plan.

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CONTENTS

2 **ACKNOWLEDGEMENTS**
6 **LETTER FROM WASHINGTON'S STATE FORESTER**
7 **INTRODUCTION**
7 Scope and Structure of the Plan
8 Integrated Strategic Plans
10 Anticipated Use of This Action Plan
11 **FOREST RESOURCE ASSESSMENT: ECOLOGICAL CONDITIONS AND THREATS FACING FORESTS**
14 Climate Change
16 Drought
18 Insects and Disease
20 Wildfire
22 Western Washington Wildfire
26 Prevention and Preparedness in Western Washington
26 Reforestation and Seed Supply Challenges
27 Invasive Species
28 Emerald Ash Borer
30 Conversion and Forest Loss
33 **FOREST RESOURCE ASSESSMENT: SOCIOECONOMIC AND CULTURAL CONSIDERATIONS**
34 Ownership Diversity and Management Motivations
36 Equity and Environmental Justice
36 DNR Environmental Justice Implementation Plan
37 Access to Forest Benefits
38 Tribal Inclusion
38 Climate Vulnerability of Forest Communities
39 Infrastructure and Workforce
39 Natural Resources Workforce Housing
40 Collaborative Partnerships and Cross-Boundary Coordination
43 **STRATEGIES**
45 **LANDSCAPE RESILIENCE**
46 20-Year Forest Health Strategic Plan: Eastern Washington
50 Forest Health Tracker
54 Western Washington Forest Health Strategic Plan
56 Western Washington Forest Health Watershed Prioritization and Priority Landscapes
58 Integrating Tribal Sovereignty, Interests, Culture, and Values
59 Prescribed Fire
60 Landscape Scale Restoration Competitive Grant Program
62 Regional Landscape Resilience Initiatives
64 Forest Health Protection
66 Reforestation
69 **COMMUNITY WILDFIRE PREPAREDNESS AND WILDFIRE SUPPRESSION**
70 Community Resilience Program
72 State Fire Assistance
73 Volunteer Fire Assistance
74 Post-Fire Recovery
75 **KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES**
76 Community Forests
79 Forest Legacy Program
81 The State of Forest Carbon Projects in Washington
83 Reducing Risk of Conversion with Small Forest Landowners
85 **STEWARDSHIP OF FAMILY AND WORKING FORESTS**
87 Forest Stewardship Program (FSP)
88 Role of Conservation Districts
89 **RURAL ECONOMIC DEVELOPMENT**
93 **URBAN AND COMMUNITY FOREST RESILIENCE**
94 Urban and Community Forestry Program Impact Summary
96 Unique Challenges and Threats Facing Washington's Urban Forests
97 Urban and Community Forestry Program Priority Actions
99 **WILDLIFE AND SALMON RECOVERY**
102 Priority Actions for Invasive Species
103 Washington Habitat Connectivity Action Plan
107 **WATERSHED RESILIENCE**
109 Investing in National Forest Roads
112 **PLAN IMPLEMENTATION**
112 Leveraging Resources to Support Plan Implementation
113 Monitoring and Progress Reporting
115 **APPENDIX A:** Forest Action Plan Survey Results
125 **APPENDIX B:** Western Washington Forest Health Watershed Prioritization Data and Methods
147 **APPENDIX C:** Forest Legacy Program Scoring Guide
154 **REFERENCES**
155 **CONTACT DNR**

Washington State

2025 FOREST ACTION PLAN

Taking actions to restore and conserve Washington's forests so our environment and communities thrive.

NATURAL RESOURCES
DAVE UPTHEGROVE
COMMISSIONER OF PUBLIC LANDS

DECEMBER 2025

DAVE UPTHEGROVE
Commissioner of Public Lands

GEORGE GEISSLER
State Forester

LETTER FROM COMMISSIONER OF PUBLIC LANDS AND STATE FORESTER

Washington's forests define who we are. They shape our landscapes, sustain our communities, and provide clean air, water, and wildlife habitat. From the rainforests of the Olympic Peninsula to the ponderosa pine forests of eastern Washington, these forests are the foundation of our identity as the Evergreen State.

Yet the challenges facing Washington's forests have never been greater. Intensifying wildfire seasons, drought, invasive species, and the conversion of forestland threaten the health and resilience of our landscapes. In response, the Washington Department of Natural Resources (DNR) and our partners are putting forward a comprehensive roadmap for collective action in the Washington State Forest Action Plan. This plan presents an overarching strategic plan that builds on significant progress and partnerships and brings together the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and 10-Year Wildland Fire Protection Strategic Plan into one cohesive vision.

This Forest Action Plan advances an all-hands, all-lands approach to forest stewardship that spans ownership boundaries and unites local, state and federal public agencies, Tribes, private landowners, conservation organizations, and communities in shared purpose. The Forest Action Plan integrates the best available science and identifies priority landscapes and actions where investments in forest health, community preparedness, and safe and effective wildfire response can yield the greatest long-term benefits for people and ecosystems.

This work will require sustained commitment and collaboration. Implementing the Forest Action Plan is not just about managing our landscapes, it is about investing in the future of Washington. It is about restoring ecological function, creating fire-adapted communities, stewarding working forests, and ensuring that future generations inherit a landscape that is rich, diverse, and resilient.

We invite all Washingtonians to join us in this effort. By working together, across agencies, ownerships, and communities, we can ensure that our forests continue to thrive and that Washington remains the Evergreen State for generations to come.

Sincerely,

DAVE UPTHEGROVE
Commissioner of Public Lands

GEORGE GEISSLER
State Forester

INTRODUCTION

Washington forests are essential to the state's environment, economy, and way of life. They provide clean air and water, habitat for fish and wildlife, wood products, and cultural and spiritual connections. Forests also serve as a natural climate solution by storing carbon, regulating hydrology, and supporting biodiversity across millions of acres.

Washington forests face increasing pressure from wildfires, droughts, insect and disease outbreaks, invasive species, and forest conversion. The changing climate is only intensifying these challenges, threatening not only forest ecosystems, but the communities, infrastructure, and economies that depend on them.

The Washington State Department of Natural Resources (DNR) developed the State Forest Action Plan as a unifying strategy to sustain and restore forest health and resilience across all lands. Building on more than a decade of progress since the first plan was published in 2010, this revision reflects an all hands, all lands approach that engages partners across federal, state, Tribal, local, private, and community levels.

The Forest Action Plan fulfills the state's obligations under the federal Cooperative Forestry Assistance Act, ensuring Washington's continued eligibility for U.S. Department of Agriculture (USDA) Forest Service State and Private Forestry funding. These investments have helped conserve working forests, provide landowner assistance, expand community wildfire preparedness, and strengthen local economies.

The Forest Action Plan integrates the best available science and identifies priority landscapes and actions where investments in forest health, community preparedness, and safe and effective wildfire response can yield the greatest long-term benefits.

Scope and Structure of the Plan

Washington's Forest Action Plan is a comprehevnsive review of forests across all land ownerships that offers proactive, science-based solutions to conserve, protect, and enhance the trees and forests that people and wildlife depend on. It provides a shared framework for addressing statewide threats while empowering local partners and communities to design regionally tailored solutions.

Rooted in the best available science and informed by extensive partner engagement, the Forest Action Plan is organized into three primary sections:

Forest Resource Assessment
Describes the current condition of forest ecosystems and outlines key threats, including climate change, drought, insects and disease, wildfire, forest conversion, and invasive species.

Strategies to Address Issues, Threats, and Opportunities
Integrates and aligns existing plans, including the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and Wildland Fire Protection 10-Year Strategic Plan, among numerous other strategic plans and priorities, under a cohesive set of statewide goals and priority actions. This section of the plan also incorporates the Cooperative Forestry Program priorities.

Implementation Plan
Outlines how DNR and partners will coordinate, report, and track progress over time, ensuring transparency, accountability, and adaptive management.

The Forest Action Plan does not replace existing authorities or regulations. Instead, it provides a strategic framework for voluntary conservation efforts, collaboration, and coordinated investment. The plan encourages partnerships that transcend ownership boundaries and accelerate implementation.

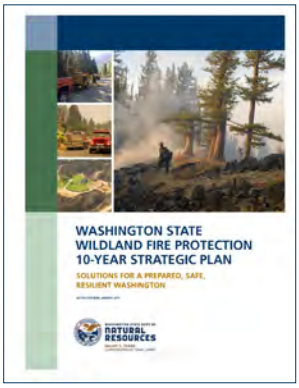
Like other Forest Action Plans, Washington's plan reflects national guidelines but is tailored to the state's unique ecological, economic, and social context. This revision builds on years of progress to expand landscape-scale restoration, strengthen agency and local capacity, and align conservation and socioeconomic objectives. It positions Washington to respond effectively to new and emerging challenges, thus ensuring forests remain a defining feature of the state's identity, landscape, and a foundation for community and ecological resilience in the decades ahead.

Integrated Strategic Plans

The State Forest Action Plan serves as an umbrella strategy, integrating the goals, strategies, and priority actions identified in supporting DNR strategic plans. This State Forest Action Plan specifically links the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and Wildland Fire Protection 10-Year Strategic Plan.

This Forest Action Plan emphasizes the importance of identifying high-priority landscapes, investing in active management, and expanding partnerships to achieve shared goals. Together, through coordinated action and bold investments, we can protect and restore Washington's forests for current and future generations.

WASHINGTON STATE WILDLAND FIRE PROTECTION 10-YEAR STRATEGIC PLAN



The Washington State Wildland Fire Protection 10-Year Strategic Plan outlines a comprehensive approach to managing wildland fires in the state. It aims to create a resilient landscape, ensure safe and effective response, and prepare communities for future wildland fire regimes.

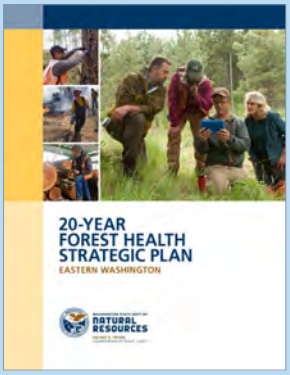
The strategic plan is a collaborative effort involving nearly 1,000 Washingtonians, including experts from the U.S. Forest Service, Washington State Fire Marshal's Office, and local fire agencies. It reflects the input of community members and stakeholders to ensure that the strategies are relevant and effective. The plan also includes a budget request to the state legislature to increase investments in wildfire response capacity and forest health.

The plan includes 40 strategies to achieve four key goals:

- **Landscapes are resilient:** In the face of wildland fire, they resist damage and recover quickly.
- **Response is safe and effective:** The plan emphasizes the importance of a safe and effective response to wildland fires.
- **Suppression Preparedness:** The plan focuses on reducing the impact of wildfires through suppression strategies.
- **Prevention:** The plan aims to prevent wildland fires and use fire where allowable.

THE WASHINGTON WILDLAND FIRE PROTECTION STRATEGIC PLANNING PROCESS BROUGHT TOGETHER LEADERS, PARTNERS, AND STAKEHOLDERS IN WILDLAND FIRE PREVENTION, RESPONSE, AND COMMUNITY RESILIENCE TO ENVISION A NEW FUTURE FOR EFFECTIVE WILDLAND FIRE MANAGEMENT.

20-YEAR FOREST HEALTH STRATEGIC PLAN: EASTERN WASHINGTON



Adopted in 2017, the 20-Year Forest Health Strategic Plan: Eastern Washington established a shared, science-based framework to restore resilient, fire-adapted forests. The plan was developed by the Washington Department of Natural Resources (DNR) in partnership with the USDA Forest Service, Tribes, local governments, forest collaboratives, and other stakeholders. It represents a landmark shift from reactive wildfire suppression to proactive forest restoration and fuels reduction.

The plan's central goal is to treat 1.25 million acres by 2037 through mechanical thinning, prescribed fire, and other restoration activities. Its vision is to create forests that are more resistant and resilient to disturbance including wildfire, drought, insects, and disease while sustaining clean water, wildlife habitat, and local jobs.

The plan identifies five overarching goals:

Goal 1: Conduct 1.25 million acres of scientifically sound, landscape-scale, cross-boundary management and restoration treatments in priority watersheds to increase forest and watershed resilience by 2037.

Goal 2: Reduce risk of uncharacteristic wildfire and other disturbances to help protect lives, communities, property, ecosystems, assets and working forests.

Goal 3: Enhance economic development through implementation of forest restoration and management strategies that maintain and attract private sector investments and employment in rural communities.

Goal 4: Plan and implement coordinated, landscape-scale forest restoration and management treatments in a manner that integrates landowner objectives and responsibilities.

Goal 5: Develop and implement a forest health resilience monitoring program that establishes criteria, tools, and processes to monitor forest and watershed conditions, assess progress, and reassess strategies over time.

WESTERN WASHINGTON FOREST HEALTH STRATEGIC PLAN

The Western Washington Forest Health Strategic Plan establishes a collaborative framework to promote forest resilience, climate adaptation, and proactive stewardship across western Washington's diverse forested landscapes. The plan builds on lessons from the 20-Year Forest Health Strategic Plan: Eastern Washington, while recognizing that west-side forests face distinct challenges. Led by the Department of Natural Resources (DNR) in coordination with Tribes, federal and state agencies, private landowners, and conservation partners, the plan outlines a shared vision and goals to sustain ecological function, support rural economies, and maintain the cultural and social values that forests provide.

The plan identifies five overarching goals to guide forest health and resilience work in western Washington:

Goal 1: Enhance forest and watershed health and resilience in western Washington.

Goal 2: Maintain working forests in western Washington by reducing the risk of forest conversion to non-forest uses.

Goal 3: Support and expand natural resource economies in western Washington by increasing sustainable timber supply and investing in workforce, housing, infrastructure and innovation that advances forest health and resilience.

Goal 4: Increase understanding of wildfire and appropriate actions to mitigate wildfire risk in western Washington forests, communicate the risks and actions effectively and acknowledge that wildfire risk and mitigation actions are inherently different than eastern Washington.

Goal 5: Support western Washington forest health assessments, monitoring, research, and adaptive management.

ANTICIPATED USE OF THIS PLAN

The authors of this report anticipate DNR program managers and partners committed to implementing cooperative forestry programs will use this action plan to guide their program work. Shared priorities identified by Washington Department of Fish and Wildlife and USDA Forest Service are integrated throughout this report and will continue to focus Shared Stewardship Investment Strategy implementation in Washington. Tribes and other critical partners, such as rural fire districts, land trusts, conservation districts, and community-based organizations play an important role in the successful implementation of this plan. The authors hope these partners see value in referencing the goals and priority strategies and actions identified throughout this document as they seek to accelerate their implementation of work on the ground.

The priorities and actions identified in the plan are intended to be used to direct investments to priority landscapes and partnerships over the next five years. The overarching goals, priorities, strategies, and actions set the stage for deeper engagement with partners and the opportunity to leverage additional capacity and resources.

Strategies outlined in this report are organized by theme and include:

- **Landscape Resilience**
- **Community Wildfire Preparedness and Wildfire Suppression**
- **Keeping Forests as Forest: Risk of Conversion to Non-Forest Uses**
- **Stewardship of Family and Working Forests**
- **Rural Economic Development**
- **Urban and Community Forest Resilience**
- **Wildlife and Salmon Recovery**
- **Watershed Resilience**

This action plan reinforces DNR's commitment to existing priority landscapes, sets out new and ambitious priorities to accelerate implementation of critical work to conserve and restore forest ecosystems, and creates the enabling conditions for expanded partnerships and investment in western Washington. All Washingtonians are encouraged to join this effort and to connect with DNR staff to engage in the important forest health and resilience opportunities in front of our state.

CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

THE PRIORITIES AND ACTIONS IDENTIFIED IN THE PLAN ARE INTENDED TO BE USED TO DIRECT RESOURCES AND INVESTMENTS TO PRIORITY LANDSCAPES AND PARTNERSHIPS.

FOREST RESOURCE ASSESSMENT

Describes the current condition of forest ecosystems and outlines key threats, including climate change, drought, insects and disease, wildfire, forest conversion, and invasive species.

13 ECOLOGICAL CONDITIONS AND THREATS FACING FORESTS

16 Drought

18 Insects and Disease

20 Wildfire

27 Invasive Species

30 Conversion and Forest Loss

33 SOCIOECONOMIC AND CULTURAL CONSIDERATIONS

34 Ownership Diversity and Management Motivations

39 Infrastructure and Workforce

40 Collaborative Partnerships and Cross-Boundary Coordination

JOHN MARSHALL

Low severity burn on the Oak Creek Wildlife Management area from the 2024 Retreat Fire.

FOREST RESOURCE ASSESSMENT

ECOLOGICAL CONDITIONS AND THREATS FACING FORESTS

Washington's forests span a wide range of ecosystems from lowland urban forests in the Puget Sound and temperate rainforests on the Olympic Peninsula to dry ponderosa pine forests in the east Cascades. Across our diverse state, the pace and scale of ecological changes are accelerating. Natural disturbance regimes are shifting. Forests are transitioning to new ecological states. Without coordinated intervention, these stressors may cause long-term declines in forest health, productivity, and resilience.

Forests are essential to Washington's environmental, economic, and cultural well-being. They provide clean air and water, habitat for fish and wildlife, recreational opportunities, sustainable timber, carbon storage, and job opportunities. Forests are also deeply connected to the identity of the Evergreen State.

Forest ecosystems in Washington are increasingly at risk. Decades of management decisions – both active and passive approaches – combined with climate change, development pressures, invasive species, and increased human usage have created complex challenges that no single agency or landowner can solve alone. Climate-driven stressors like drought, extreme heat, and altered snowpack are affecting forest productivity, regeneration, and resilience.

At the same time, wildfires are increasing in size and severity, particularly in eastern Washington. Insect and disease outbreaks are becoming more frequent and widespread, compounded by the non-biotic factors that are also leading to the emergence of new mortality agents. Development and conversion of forests continues to fragment habitat and increase the complexity and costs associated with forest management. Invasive species disrupt native plant communities and alter habitat.

This section of the Forest Action Plan provides an overview of the key issues and threats facing Washington's forest ecosystems, as well as opportunities they present. Threats forests face often interact and compound one another, creating multi-jurisdictional, cross-boundary resource management challenges that undermine long-term forest health, biodiversity, and the ecosystem services forests provide.

Assessing current forest conditions helps cement the urgency of aligning around shared goals, fostering collaboration, and investing strategically in forest restoration and stewardship. Washington's forests are not just natural assets; they are critical infrastructure. Like roads and bridges, forests support essential public services. Investing in this infrastructure today reduces future costs, prevents catastrophic losses, and ensures that the benefits of healthy forests endure for generations.

Climate Change

Climate change is accelerating shifts in forest dynamics. Across all emissions scenarios, Washington is projected to experience hotter, drier summers, reduced snowpack and earlier spring runoff, lower late-summer stream flows, higher water temperatures, and more intense rainfall during winter storms. These changes are already altering the growth, regeneration, and disturbance patterns in forests, and are expected to have widespread and lasting impacts on ecosystems, communities, and forest-dependent industries. The DNR Plan for Climate Resilience outlines the major projected impacts of a changing climate on the state's forests.

BUILDING CLIMATE RESILIENCE IN FORESTS

Forest management can play a significant role in reducing the impacts of climate change. Proactive and adaptive strategies may include:

- Forest thinning to reduce stand density and moisture competition.
- Prescribed fire to reduce fuel loads and promote open forest structure.
- Favoring site-appropriate or drought-tolerant species and seed zones during planting and regeneration.
- Designing projects to integrate drought mitigation measures including to retain snow and slow snowmelt by using topography and vegetation.
- Identifying and protecting drought refugia – microclimates that retain soil moisture and provide important habitat under drying conditions.

These strategies can help maintain forest health, reduce the risk of large-scale tree mortality, and support reforestation and long-term forest adaptation.

FOREST ROAD VULNERABILITY

Forest transportation infrastructure is increasingly vulnerable to damage from climate-driven changes, including:

- More precipitation falling as rain instead of snow.
- More frequent and intense storms and peak stream flows.
- Increased sedimentation, washouts, and landslides.
- Post-fire hydrologic shifts that alter runoff patterns.

While significant progress has been made on private lands under the Forest and Fish Rules' Road Maintenance and Abandonment Plans (RMAP), large gaps remain, particularly on federal lands. Additional investments are needed to upgrade culverts, stabilize slopes, and protect water quality on National Forests. See the Watershed Resilience section of this report for more information about priorities for forest roads.

JOHN MARSHALL

JOHN MARSHALL

Photos (from top):
Squilchuck State Park forest health thinning; Prescribed burning at Roslyn Community Forest; Arch pipe installation, Boardman Road Maintenance Project, Mount Baker-Snoqualmie National Forest and DNR Federal Lands Program.

INCREASING WINTER RAINFALL, DECLINING SNOWPACK, AND MORE FREQUENT INTENSE PRECIPITATION EVENTS RAISE THE RISK OF LANDSLIDES, FLOODING, AND DEBRIS FLOWS, ESPECIALLY ON STEEP OR FIRE-AFFECTED SLOPES.

INCREASED RISK OF LANDSLIDES, FLOODING, AND DEBRIS FLOWS

Increasing winter rainfall, declining snowpack, and more frequent intense precipitation events raise the risk of landslides, flooding, and debris flows, especially on steep or fire-affected slopes. Forested areas with unstable terrain may become more hazardous, particularly in post-fire landscapes where vegetation and soil structure are compromised.

Landslide-related threats include:

- Damage to infrastructure and roads.
- Degradation of fish and wildlife habitat and water quality.
- Loss of productive timberland and increased management costs.

The rest of this section details information about key disturbance agents like drought, insect and disease outbreaks, and wildfire. These disturbances are becoming more intense and severe as a result of climate change, exacerbating threats to forests.

Addressing road-related issues on private lands were made as a result of the 2001 Forest and Fish Rules Road Maintenance and Abandonment Plans. Additional investments are required to address issues emerging because of climate change, and the incredible backlog of road maintenance on federal lands within the state.

Above: Post-fire debris flow aftermath following the Easy Fire in Okanogan and Skagit Counties 2024.

Drought

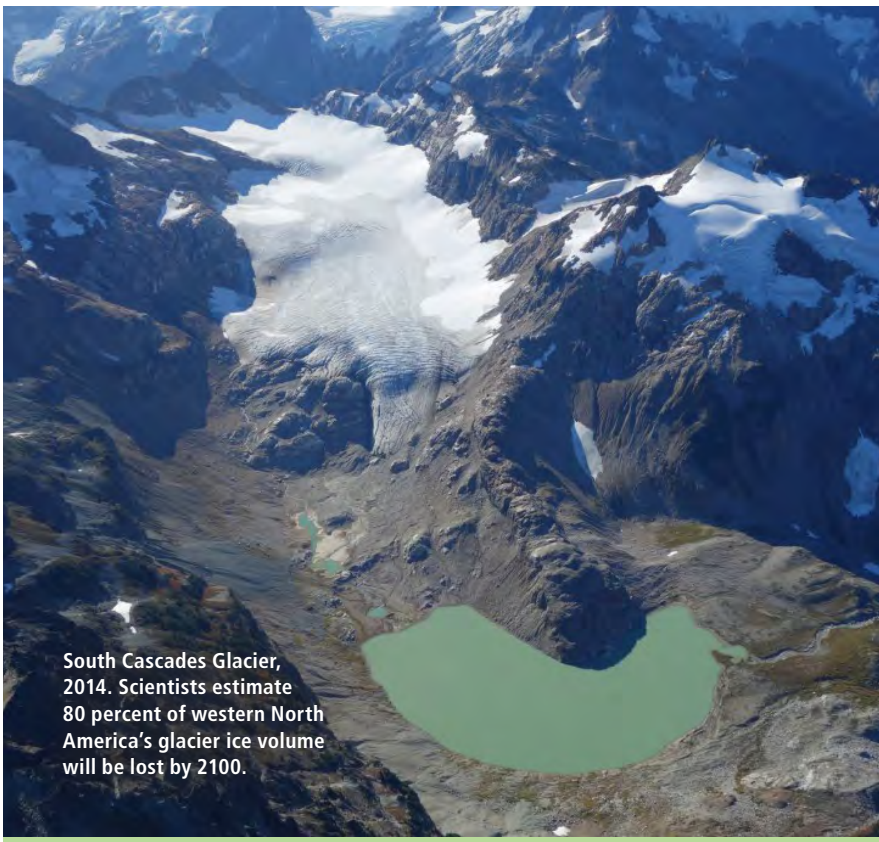
The state's longest drought in recent decades spanned 116 weeks from January 7, 2014, to March 22, 2016. Despite occasional years of high precipitation, drought conditions persist or return quickly to many parts of the state. For example, even after heavy snow and rain in 2016, much of Washington remained classified as "abnormally dry" or in "moderate drought" (U.S. Drought Monitor).

Recent droughts have had widespread ecological and economic consequences:

- In 2015, historic low snowpack led to severely reduced stream flows, record-breaking wildfires, and an estimated $336 million in agricultural losses.
- Prolonged low flows and warming stream temperatures caused widespread fish mortality, including in species critical to Tribal, commercial, and recreational fisheries.
- Washington experienced an extreme temperature "heat dome" event in late June 2021, which severely damaged conifer foliage in some western Washington locations. Excessive temperature events can exacerbate the effects of drought by increasing the rate of moisture loss from foliage.
- Forested landscapes across the state experienced heightened tree stress, increased susceptibility to pests and disease, and lower seedling establishment and regeneration rates.

Warming temperatures and prolonged dry periods are expected to reduce soil moisture. Water stress weakens trees and reduces their resistance to bark beetles, root diseases, foliar pathogens, and other pests. In some areas, such as western Washington lowlands, recurring drought is already linked to localized mortality in species like western redcedar, bigleaf maple, grand fir, and western hemlock.

MATT BACHMANN / WORLD GLACIER MONITORING SERVICE



South Cascades Glacier, 2014. Scientists estimate 80 percent of western North America's glacier ice volume will be lost by 2100.

CLIMATE CHANGE AND FUTURE DROUGHT IN WASHINGTON

Climate change is increasing the likelihood, duration, and severity of drought. Warmer winters and rising snowlines are reducing snowpack and shifting the timing of streamflow. This results in less available water during the critical late spring and summer months when forests, communities, and aquatic ecosystems need it the most.

Key projected drought-related impacts to Washington's forests include:

- **Declining growth and productivity** in low- to mid-elevation conifer forests due to persistent soil moisture deficits.
- **Species shifts at higher elevations,** with cold-adapted species like whitebark pine declining in range due to warming temperatures even as growing seasons lengthen.
- **Increased seedling mortality** during establishment phases, especially following wildfire or harvest.
- **Widespread tree stress and die-off,** leading to shifts in forest composition and structure.
- **Reduced resilience to other disturbances,** such as insect outbreaks and disease.

Longer dry periods and hotter summers will amplify evaporation rates, further drying soils and increasing competition for limited water resources among trees, wildlife, and people.

Nason Creek aquatic restoration project in Chelan County led by Yakama Nation Fisheries.

Foliar damage from winter desiccation on Mission Ridge, south of Wenatchee.

Insect and Disease

A variety of ground and aerial surveys are used annually to identify and monitor insect and disease impacts in Washington forests. For example, the Aerial Detection Survey has been conducted since 1947 under the cooperative effort of DNR and the USDA Forest Service (USFS) in Washington, covering up to 22 million acres of forested lands across all land ownerships. Aerial surveys record the area and intensity of insect and disease caused tree mortality, dieback, and defoliation visible from the air. Aerial survey data and maps are publicly available and used by a wide variety of stakeholders to track current conditions, historic trends, and evaluate future risk to forest health. The summaries of this and other surveys are reported in the annual Forest Health Highlights Report.

The number of forested acres affected by insect and disease observed by Aerial Detection Survey has stayed relatively consistent since 2021, with 500,000-700,000 acres mapped as containing some level of tree mortality, tree defoliation, or dieback. The largest acreages affected are typically attributed to a variety of native bark beetles, though large-scale outbreaks of other agents, such as defoliators, during certain years is not uncommon.

As the climate shifts:

- **Native insect and disease outbreaks may expand in frequency and range.**
- **Non-native pests and pathogens may establish or spread more rapidly.**
- **Tree mortality may increase, altering forest composition and structure.**

Recent insect and disease observations are attributed in part to hotter, drier weather. Increasing drought and temperature can directly influence tree vigor and significantly influence outbreaks of forest insects and pathogens.

Washington experienced a "heat dome" in June 2021 when extremely high temperatures occurred over a period of three days. This weather event caused direct damage to trees, scorching (red dead foliage) some of the most exposed southwest portions of mature tree foliage and mortality of young seedlings. Other impacts from hot droughts tend to cause top-down, outside-in dieback or tree mortality during or even many years after extreme weather events.

Impacts from drought can be difficult to confirm, but correlating dieback locations to past weather events can help determine the cause. Correlating dieback locations to past weather events can help determine the cause. For example, western redcedar dieback and bigleaf maple dieback events have been observed throughout the state over the past decade. Research supported by DNR, USDA Forest Service, and Washington State University first ruled out any significant insect or disease agent, then correlated the dieback to hotter, drier site conditions.

In addition to direct impacts of hotter and drier weather, drought intensity and extreme heat events can increase risks related to insects and disease. Intense drought can lead to increases in successful attacks by certain bark beetle species, which can dramatically increase populations to outbreak levels capable of overwhelming defenses of otherwise healthy trees. Some recent examples include increases in mortality from fir engraver, western pine beetle, and Douglas-fir engraver all linked to cumulative drought stress on conifers over the past decade.

A REDUCTION IN AVAILABLE SOIL MOISTURE CAN INCREASE TREE STRESS AND RESULT IN GREATER VULNERABILITY TO OTHER DISTURBANCES SUCH AS INSECTS AND PATHOGENS.

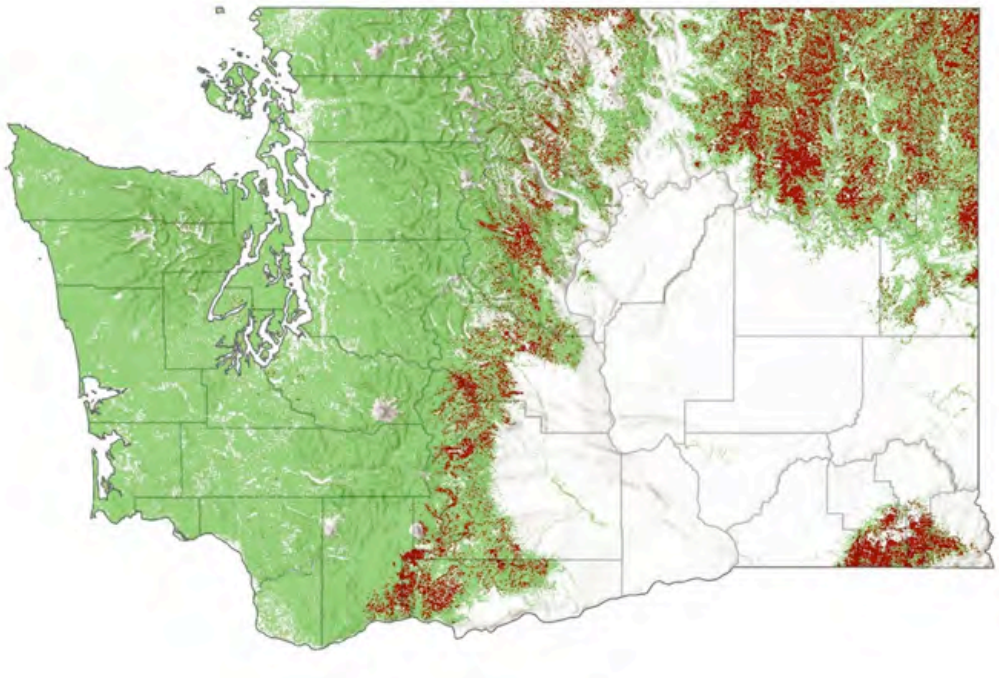
California fivespined Ips, a bark beetle species not known to kill pines in Washington prior to 2010, has become a frequent cause of pine mortality in areas west of the Cascades previously not known to be affected by said beetle. This expanded range is likely tied to drought and extreme heat stress. Drought events may also increase the likelihood of outbreaks of certain defoliators such as western spruce budworm in eastern Washington by concentrating more nutrients in needles of stressed host trees. Drought stress is also known to make trees more susceptible to damage from root disease, defoliators, and foliar diseases by compromising defense mechanisms and reducing growth resources needed to recover following non-lethal damage.

Understanding the interactions between drought and the biological controls that keep insects in check is crucial in determining future forest productivity, species distributions, and other forest ecosystem services.

A number of insects and diseases have increased or remained active in recent years. In 2024, an outbreak of western spruce budworm began in the north Cascades along the Canadian border. Mountain pine beetle, western pine beetle, and fir engraver activity remains high in parts of eastern Washington. Other insects or disease of note are:

- **California five-spined Ips**
- **Western blackheaded budworm**
- **Balsam woolly adelgid**
- **White pine blister rust**
- **Douglas-fir beetle**
- **Root diseases**

Lodgepole pines killed by mountain pine beetle with fall coloring in western larch in Okanogan County (Mount Bonaparte).



TREE MORTALITY RISK IN WASHINGTON STATE

SOURCE: USDA FOREST SERVICE NATIONAL INSECT AND DISEASE RISK MAP

- Treed Area
- Risk of Mortality

Wildfire

Fire has long played a fundamental, ecological role in Washington's forests by shaping species composition, maintaining structural diversity, and supporting fire-adapted landscapes. Over the last century, fire suppression policies, land use changes, and past forest management practices have significantly altered the frequency, size, and severity of wildfires. These changes have increased wildfire risk, made suppression more challenging, and drastically raised the financial, ecological, and human costs associated with wildfire.

Fire regimes in Washington vary widely based on climate, topography, forest type, and historical Tribal and cultural burning practices. Across much of central and eastern Washington, frequent, low- to moderate-severity fire ignited by lightning as well as Tribal stewardship once maintained open forests. In western Washington, forest composition and structure were shaped by relatively infrequent, stand-replacing fires, as well as more frequent cultural burning, especially in the Puget lowlands and close to tribal communities and travel routes.

Longer and hotter summers intensified by drought are extending fire seasons and increasing the frequency of large, high-severity wildfires. USDA Forest Service estimates that the fire season in the western United States is now at least 78 days longer than in 1970 (USDA 2017). Wildfire suppression costs have escalated on a parallel track.

INCREASED WILDFIRE POTENTIAL ACROSS THE STATE

As the climate warms and dry seasons lengthen, the frequency, size, and severity of wildfires are projected to increase on both the east and west sides of the state. Warmer temperatures, lower soil and fuel moisture, and earlier snowmelt contribute to longer fire seasons and more extreme fire behavior. Forest resources, communities, and firefighter safety are increasingly at risk.

Increased fire activity may also:

- Reduce timber availability and disrupt harvest cycles.
- Complicate conservation and habitat management goals.
- Increase the need for post-fire recovery, including reforestation and vegetation management.
- Strain nursery and seed supplies needed for replanting.

Bolt Creek fire in King County, 2022.

Learn more: For more information about the relationship between forest health and wildfire in eastern Washington read the 20-Year Forest Health Strategic Plan: Eastern Washington.

LONGER AND HOTTER SUMMERS INTENSIFIED BY DROUGHT ARE EXTENDING FIRE SEASONS AND INCREASING THE FREQUENCY OF LARGE, HIGH-SEVERITY WILDFIRES.

WESTERN WASHINGTON WILDFIRE

Western Washington forests evolved with wildfire and cultural burning, yet in a very different way than the fire-prone forests of eastern and central Washington. Most of the east Cascades experienced regular, low and mixed severity wildfire, which shaped species composition, forest structure, and created fire-adapted ecosystems. In western Washington, there are significant variations in fire regimes. Large areas historically experienced relatively infrequent, stand-replacing fires; while some portions of western Washington, such as lowland and rain shadow areas, experienced more frequent, mixed-severity fire. Many intermediate fires were due to cultural burning.

Large wildfires in western Washington today pose significant risks to communities, infrastructure, drinking water, critical habitat, and other high value resources. Wildfires that are low likelihood, high consequence natural disasters can be difficult to plan for given the long-time horizons between events. Climate change is anticipated to increase the likelihood of wildfire in western Washington, and human population growth may also increase the potential for human-caused fires.

This plan lays out the current state of knowledge about western Washington wildfire, as well as areas of uncertainty. Given the uncertainty associated with wildfire on the west side of the Cascades, investments in scientific research are critical to better understand changing fire dynamics and the most effective mitigation measures. This plan includes present-day actions, based on best available evidence, with the goal of reducing risk and being more prepared and resilient when wildfires occur. The plan also recommends investments in scientific research, monitoring, and planning to ensure our strategies adapt to changing climatic conditions over time.

Western Washington Fire: Historical Regimes and Timing

Fire regimes are used to describe and categorize the frequency, size, severity, and seasonality of fires in a given area (Agee 1993). Historical fire regimes in western Washington include a variable mix of low, moderate, and high-severity fires at a range of return intervals from frequent to very infrequent. Insights on these complex fire regimes are evidenced by inventories of tree ages and studies utilizing fire scars (Wendel and Zabowski 2010; Wetzel and Fonda 2000, Bakker et al 2019), fire scars on tree rings (Merschel et al. in prep), and traditional knowledge and records of fire by Indigenous peoples. Indigenous knowledge and other records are supplemented by additional non-native accounts and in early 20th century forest inventory and mapping (Reilly et al 2021, WA DNR 2023, WA DNR 2025).

Current research identifies three main fire regime types in western Washington:

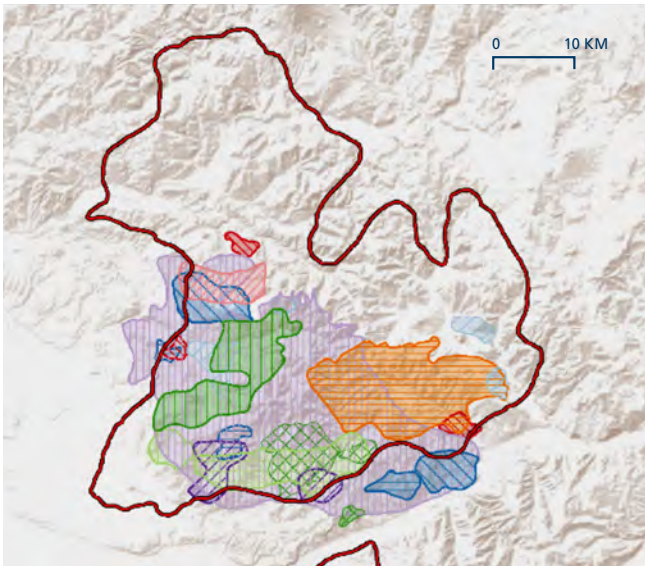
- **FIRE REGIME TYPE 1** includes a large proportion of high-severity, stand-replacing, infrequent fire, with very few other fire events. There are often three factors that need to happen simultaneously for these larger, high-severity fires to occur: sustained seasonal drought conditions, an ignition source, and a strong east wind event. Return intervals for these large, high-severity burns range from 100 to 600 years, depending on different topographic, ecological, and social factors (Fales and Donato, Donato and Blazina 2020, Reilly et al. 2022).

  A few examples of this type of large-scale, stand-replacing fire include the 1902 Yacolt Burn in Washington and the 2020 Labor Day fires in Oregon (Reilly et al 2022). Despite occurring 118 years apart, these fires burned during the exact same week, during the seasonal late-August-to-mid-September window when these large, high-severity burns typically occur (Fales and Donato 2024).

- **FIRE REGIME TYPE 2** includes infrequent stand-replacing fires similar to those in Regime Type 1, along with reburns and other sporadic intermediate fires. Reburns, which typically occur in the first several decades following stand-replacing fire, are quite common, sometimes affecting or partially affecting a burn footprint several times over. The Yacolt Burn, which partially reburned at least 13 times between 1910 and 1952, is a prominent example of this dynamic (Reilly et al. 2022). Fire return intervals for other intermediate fires (between stand-replacing-fire/reburn episodes) are widely variable, but typically occur every 60 to 150 years.

- **FIRE REGIME TYPE 3** includes infrequent stand-replacing fires with smaller reburn patches, as well as more frequent intermediate fires. Due to the location of these fires – along historic travel corridors and river bottoms, as two examples – Regime 3 tends to be associated with Indigenous burning. Fire was used by Indigenous peoples across western Washington (Anderson 2009, Hooper 2015, Norton et al. 1999, White 1999, Bakker 2019, Eisenberg 2021 et al., Hennebelle et al. 2020, Wetzel and Fonda 2000, Storm and Shebitz 2006). For example, Garry Oak (Oregon white oak; Quercus garryana) ecosystems are particularly noted for their history of being managed through fire (Grand and Berger 2024). Historical records, place names, oral histories, tree burn scars, and lake sediment deposits also demonstrate that frequent, intermediate fires occurred in wetlands, upland forests, alpine forest openings, and forest meadows.

It is important to note that, with abundant, fast-growing fuel and infrequent, stand-replacing fire regimes on the west side, interventions normally associated with reducing wildfire severity, such as thinning and prescribed fire, are not as likely to influence subsequent fires as they are in dry eastside forests (Halofsky et al. 2018; Reilly et al. 2022). Landscape-scale fuel treatments are a key wildfire risk mitigation measure in eastern Washington and a large component of forest health. In western Washington, treatments such as prescribed fire can carry important socio-ecological or cultural benefits, however little is known about the efficacy of fuels management at a landscape-scale.



Yacolt Burn State Forest footprint overlaid with subsequent smaller wildfire reburns (between 1910 and 1952). Source: Reilly et al. 2022.

Wildfire Hazard Potential

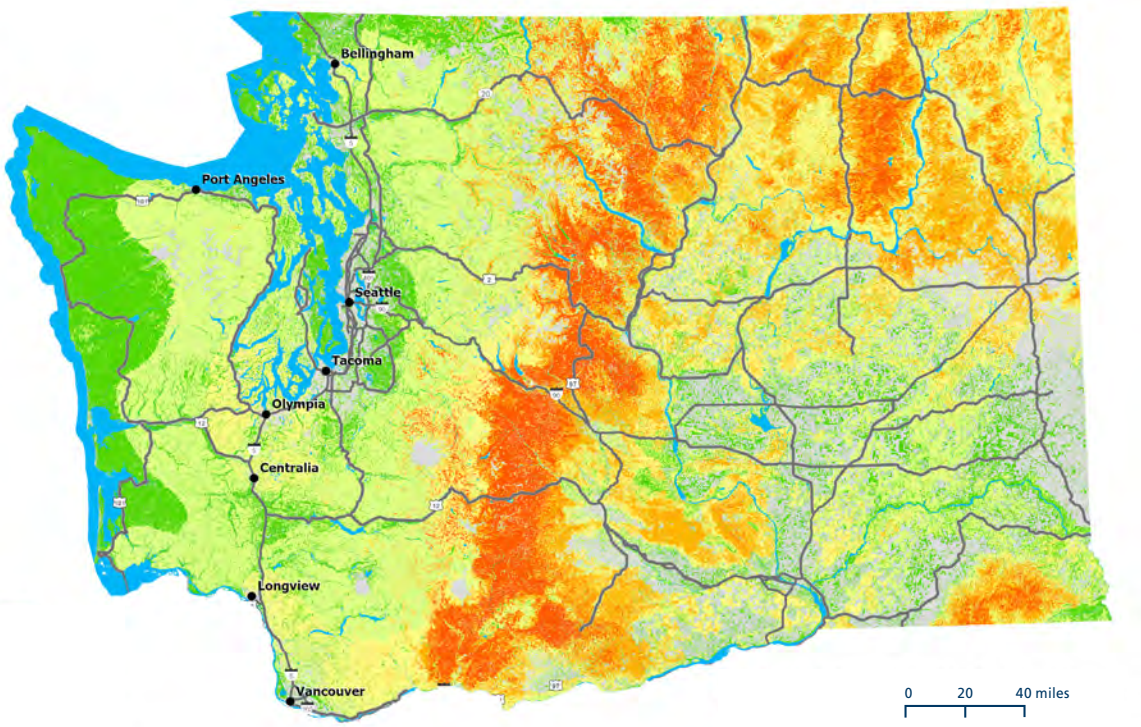
- Very Low
- Low
- Moderate
- High
- Very High
- *Non-burnable
- Water

Wildfire hazard potential represents a combined index of burn probability and fire intensity.

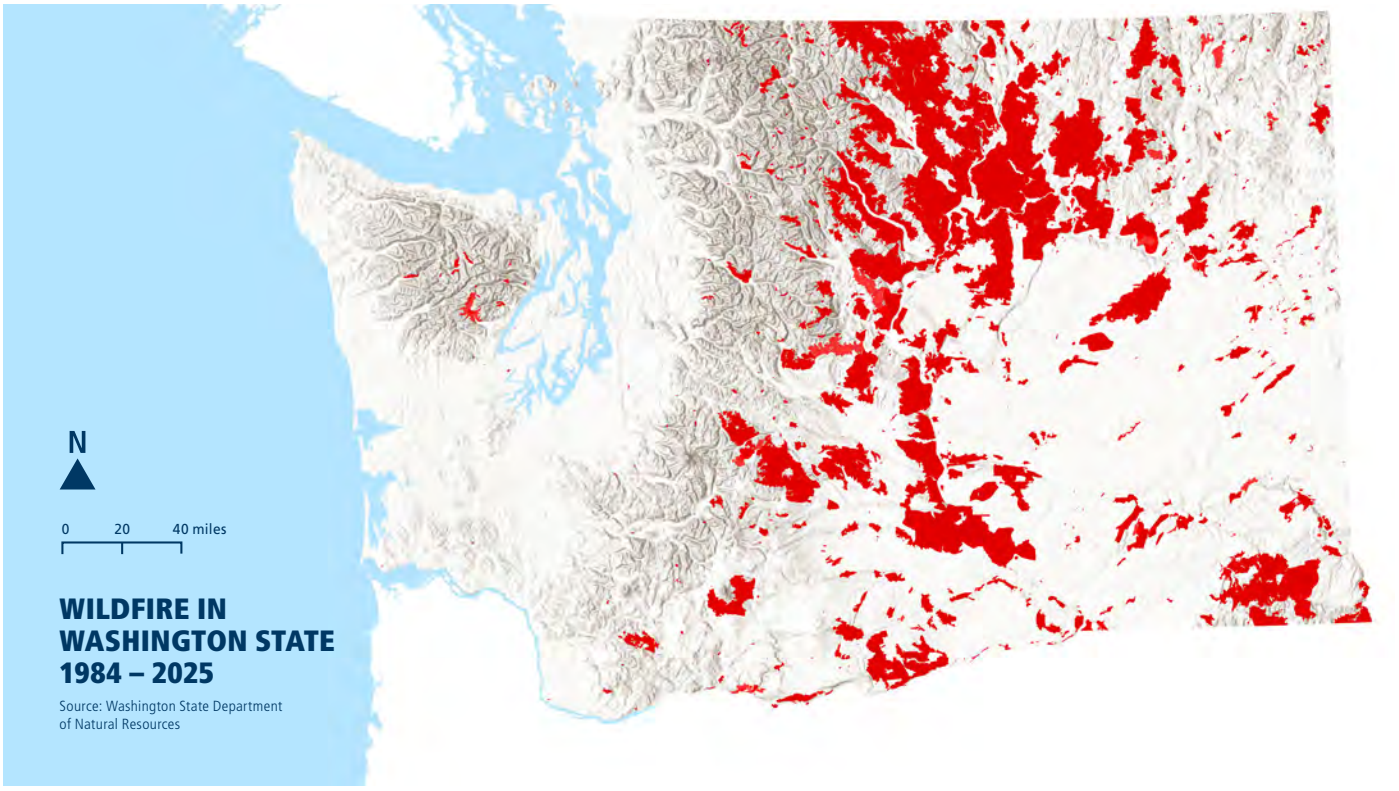
*Non-burnable is developed, agricultural fields, perennial snow/ice, and bare ground.

Source: USDA Forest Service, Rocky Mountain Research Station.

WILDFIRE HAZARD POTENTIAL IN WASHINGTON STATE



▲ Wildfire hazard potential map is a raster geospatial product produced by the USDA Forest Service, Fire Modeling Institute 2023. Areas mapped with higher wildfire hazard potential values represent fuels with a higher probability of experiencing torching, crowning, and other forms of extreme fire behavior under conducive weather conditions, based primarily on landscape conditions. The source data for this product is 2020 data.



WILDFIRE IN WASHINGTON STATE 1984 – 2025

Source: Washington State Department of Natural Resources

Wildfire Hazard in Western Washington

Western Washington has a complex and unique relationship with wildfire compared to eastern Washington. The differences in frequency and size of recent fires between eastern and western Washington is strikingly apparent (see map below). The number of large wildfires and the average annual area burned, are significantly higher in eastern Washington.

A wildfire hazard potential map is a geospatial product that can help to inform evaluations of wildfire risk or prioritization of fuels management needs across large spatial scales. The specific objective of a wildfire hazard potential map is to depict the relative potential for high-intensity wildfires that may be difficult to manage.

The most recent version of Washington's wildfire hazard potential map (previous page) is based on landscape conditions at the end of 2020 and wildfire simulation modeling that incorporates a wide range of possible weather scenarios. Western Washington forests are mainly classified as low to very low wildfire hazard, whereas most eastern Washington forests are classified as high and very high hazard. This is primarily a function of the annual burn probabilities for western Washington, which are an order of magnitude lower than eastern Washington.

While wildfire hazard remains relatively low in western Washington, the risks associated with fire to human communities, critical habitat, and infrastructure are often higher. Western Washington, which accounts for only one-third of the state's area, is home to more than 60% of the state's residents. Given the density of people and values at risk in western Washington, community-level wildfire preparedness including home hardening, defensible space, and evacuation planning are the highest priorities (Calkin et al. 2023, Oregon Building Code 2023, NRDC 2025).

ADDITIONAL RESEARCH IS NEEDED TO BETTER UNDERSTAND AND EVALUATE THE ISSUES AND CHALLENGES POSED BY INCREASING WILDFIRE RISK IN WESTERN WASHINGTON

2022 Nakia Creek Fire, Clark County.

Future of Western Washington Wildfire and Additional Research Needs

Fire modeling shows that wildfire risk will increase in western Washington (Halofksy et al. 2018, Dye et al. 2024). None of the models, however, show an increase that puts western Washington in a fire regime with the frequency of fire currently seen in eastern Washington.

Humans start the vast majority of wildfires in Washington. As a result of increasing human population growth, especially in western Washington, the number of wildfire starts and the number of wildfires that threaten communities may increase. Investments in fire prevention are critical to reduce the number of fire starts.

When fires occur, it will be important to have capacity to quickly detect and suppress fires that threaten values at risk. Adequate suppression capacity will be especially important for wildfires in the wildland urban interface (WUI) where fires are more dangerous and expensive to suppress. Wildfires that move into suburban and urban areas can also become conflagrations that spread from structure to structure.

Investments in scientific research on both historic fire regimes as well as future fire scenarios in western Washington are a high priority for the state. The knowledge and tools used to better understand past fire history in western Washington need to be expanded to include additional fire history reconstruction research and oral histories and passed-down knowledge of Indigenous peoples (Kinkade 1991, Hoskins 1941, Hooper 2015). Research is also needed to determine how climate change will influence future fire regimes, the role of forest management in influencing fire behavior, fuels treatment effectiveness and longevity, and best management practices to prepare for post-fire impacts (Rivershed SPC and WA DNR 2025).

PREVENTION AND PREPAREDNESS IN WESTERN WASHINGTON

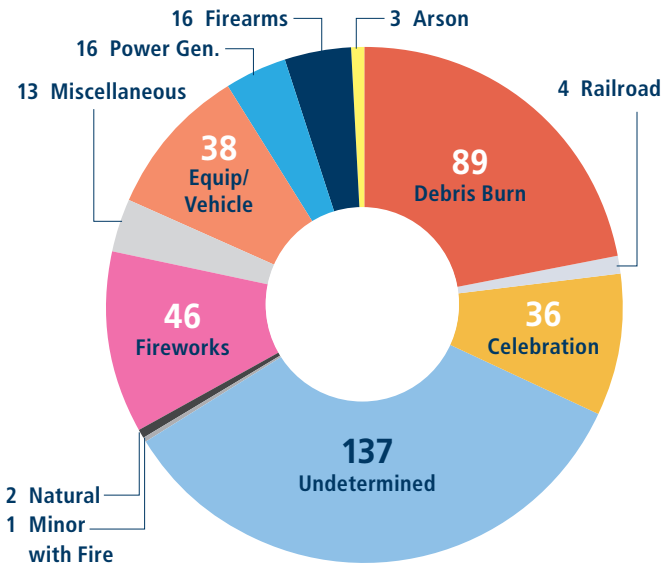
Humans are responsible for the vast majority of wildfire ignitions in western Washington. As of Sept. 5, 2025, only two of the 401 western Washington fire ignitions in 2025 on DNR lands were due to natural causes, such as lightning strikes. Having a greater collective understanding of what activities can cause a wildfire and when and where those activities are most risky can help us all reduce the number of starts, as well as reduce our chances of one start becoming a region-wide wildfire emergency.

To help prepare homes communities, use resources such as:

Ready.gov/evacuation and the Wildfire Home Retrofit Guide: How to Harden Homes Against Wildfire.

WESTERN WASHINGTON FIRE IGNITIONS ON DNR-MANAGED LANDS (2025)

DATA AS OF 9/5/25 FROM FIRE INCIDENT REPORTING SYSTEM (FIReS). SOURCE: DNR



REFORESTATION AND SEED SUPPLY CHALLENGES

"Washington State faces a growing reforestation need from timber harvest and high-severity wildfires, currently estimated together at 983,275 acres. Washington State's reforestation needs are projected to rise sharply, particularly in fire-prone Eastern Washington, where demand could increase by over 500% by the 2060s. " (Truettner et al. 2025).

Reforestation is a key management action that supports sustainable timber harvest practices, promotes watershed health, increases forest cover under a changing climate, facilitates carbon sequestration, enhances biodiversity, and cleans water. Reforestation is an essential tool for restoring forests on lands that have been previously cleared for various management purposes or natural disasters.

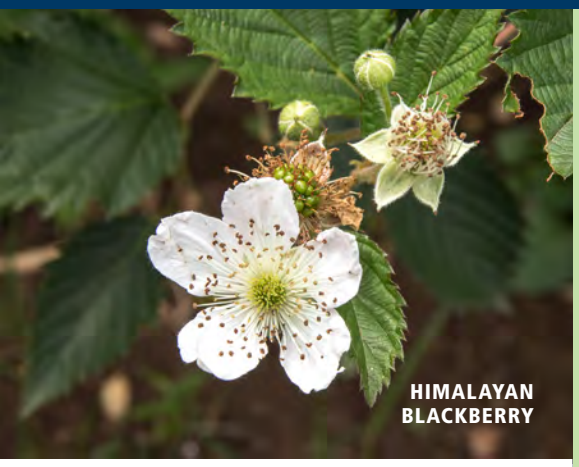
Over the past two decades, wildfires have become an increasing driver of reforestation needs in eastern Washington. While our forest ecosystems have evolved with fire, research demonstrates that we are experiencing an increase in fire severity in the state, particularly in both dry and moist forests where the amounts of high-severity fire now exceed historical levels.

The increased frequency of high-severity wildfires and other disturbances will likely outpace current seed and seedling supply, especially for drought-adapted or genetically appropriate stock. Some species may no longer be suitable for particular locations, necessitating shifts in species selection or seed sources (i.e. assisted migration).

Key challenges include:

- **Limited availability** of regionally adapted seed.
- **Potential mismatch between** seed zones and future climate conditions.
- **Reduced success of natural regeneration** in large, severely burned areas.
- **Increasing need** for climate-adapted reforestation planning.

High-severity fires can create conditions where natural tree regeneration is unlikely due to multiple factors, including the size of the severely burned area and the loss of seed sources (Coop et al. 2020). Further limiting natural tree regeneration are cumulative impacts from other disturbances such as drought, post-fire soil loss, insects and disease. While long-term climate shifts may render some previously forested areas unsuitable for forests in the future, many forests can be restored and maintained with active reforestation assistance (Davis et al. 2019).


HIMALAYAN BLACKBERRY

SCOTCH BROOM

CHEATGRASS

VENTENATA

TOP TO BOTTOM: ŞĪ64; CHRISTIAN FERRER; MATT LAVIN; MATT LAVIN.

Invasive Species

Invasive species are non-native organisms that cause environmental, economic, or social harm with the potential to spread across landscapes. Invasive plants and pests in Washington forests disrupt native ecosystems, impede forest regeneration, degrade wildlife habitat, increase wildfire risk, and undermine restoration investments.

A coordinated network of state agencies – the Washington Invasive Species Council (WISC); Washington State Departments of Natural Resources, Agriculture, Ecology, Transportation, and Fish and Wildlife; Washington State Parks; and the Washington State Noxious Weed Control Board – collaborate to detect, monitor, and respond to invasive species threats across the state. the Legislature established WISC in 2006 to play a central role in aligning these efforts and advancing proactive, statewide strategies.

INVASIVE SPECIES WITH SIGNIFICANT IMPACTS ON FOREST HEALTH

Some invasive species have particularly harmful effects on forest health and regeneration. Scotch broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus armeniacus*) are among the most ecologically disruptive invaders in western Washington.

- Scotch broom thrives in disturbed sites, forming dense stands that outcompete native vegetation and inhibit establishment of tree seedlings. Its high oil content and woody structure also pose a significant fire hazard, especially in wildland-urban interface (WUI) areas and dry forest zones. Once established, Scotch broom can dominate early successional forest stages, delaying or preventing reforestation and altering long-term forest development trajectories.

- Himalayan blackberry is widely spread throughout western Washington. It aggressively colonizes roadsides, forest edges, riparian zones, and open canopies. Its sprawling thickets smother native understory plants, obstruct access for forest management, and reduce habitat value for wildlife. The species can also impede efforts to restore native riparian forests essential for salmon recovery.

In eastern Washington, invasive annual grasses like cheatgrass (*Bromus tectorum*) and ventenata (*Ventenata dubia*) are of significant concern. These species quickly colonize disturbed or open forest conditions, including areas affected by wildfire or drought. Once established, they can outcompete native grasses and forbs, alter soil structure and nutrient cycling, and create a highly flammable, continuous fuel bed that elevates wildfire frequency and intensity.

The presence of invasive grasses complicates forest restoration goals and demands integrated weed and fuel management strategies. Once established, invasive species are difficult and costly to control, highlighting the need for early detection, rapid response, and sustained investment in prevention.

USFS PACIFIC

The emerald ash borer burrows beneath the bark of ash trees to consume the phloem layer, leaving serpentine galleries (right) that girdle and eventually kill trees.

MICHIGAN DEPARTMENT OF AGRICULTURE, BUGWOOD.ORG

EMERALD ASH BORER

The emerald ash borer (EAB; *Agrilus planipennis*), a small metallic green wood boring beetle native to Asia, continues to pose severe threats to ash trees across the United States. First discovered in southeastern Michigan in 2002, the beetle burrows beneath the bark of ash trees to consume the phloem layer, leaving serpentine galleries that girdle and eventually kill trees.

Common symptoms of infestation include crown and branch dieback, galleries under tree bark, and one-eighth-inch wide, D-shaped exit holes through the bark. With no successful eradication examples in the U.S., modern management efforts focus on removal and replacement; chemical treatments are considered for significant or historic trees. Researchers are attempting to develop EAB-resistant ash trees using the genetics of "lingering ash" that survive infestations. This effort has taken on increased urgency as EAB has expanded its presence in the Pacific Northwest since its initial detection on the West Coast in 2022 in Forest Grove, Oregon.

Recognizing the imminent threat EAB poses, Washington has proactively undertaken several initiatives to help partners prepare for its eventual detection and spread. The DNR Urban and Community Forestry Program (UCF) has a long history of pest readiness work in partnership with WISC. Since 2020, the program has hosted numerous workshops, summits, and online webinars aimed at raising awareness of EAB and helping communities prepare of its inevitable detection and management.

Through outreach efforts and resource development, UCF encourages communities to inventory their ash trees, begin development of EAB response plans, and consider potential management options. These may include chemical treatments, biocontrol, or removal and replacement with non-ash species. It also emphasizes the importance of not moving firewood, since this practice accelerates the spread of invasive pests like EAB.

Washington's EAB response will be carried out as an interagency approach, with numerous programs providing technical assistance and support to land managers, local governments, Tribes, and private forest landowners. The Washington Invasive Species Council is currently leading the development of an interagency EAB Resources and Management Guide to help land managers navigate the anticipated invasion.

KEY LINKS:

- **Report a Sighting WISC—Washington Invasive Species Council**
- **About EAB/EAB Fact Sheet: WISC—Washington Invasive Species Council**
- **A Public Service Announcement about Emerald Ash Borer from DNR**

Help your community develop an EAB preparedness strategy using the Pest Readiness Playbook.

MICHAEL HUNTER

Large ash tree dying from emerald ash borer infestation

Conversion and Forest Loss

The conversion of forestland to non-forest uses, such as residential and commercial development, transportation infrastructure, and agricultural expansion, is one of the most significant and permanent threats to Washington forests. When forests are lost to development, the ecological functions, carbon storage, sustainable timber production, wildlife habitat, and public benefits they provide are lost as well.

Western Washington lost approximately 700,000 acres of forestland from 1978-2021. During that same time period, central and eastern Washington experienced similar losses, with peak conversion rates exceeding 1% annually from 1988-2004 (Bradley et al. 2007).

In addition to outright conversion, forest fragmentation – the breaking up of large, contiguous forests into smaller parcels – undermines habitat connectivity and forest management options. Fragmentation limits the movement of wildlife, increases vulnerability to invasive species, alters hydrology, and erodes the resilience of forests to wildfire, drought, and climate change. Isolated forest patches are more difficult to manage and often face greater pressures from nearby development, creating a compounding cycle of ecological degradation and forest loss.

Some of the state's most ecologically and culturally important landscapes have already been dramatically altered. More than 80 percent of old-growth forests have been lost since statehood in 1889. More than 75 percent of Puget Sound estuaries and adjacent lowland habitats, including floodplain forests and mixed woodlands, are now so heavily modified that they no longer function as natural ecosystems (SWAP 2015).

Avoiding conversion of working and natural forestlands is one of the most cost-effective and long-lasting strategies to protect ecosystem services, carbon storage, wildlife habitat, timber production, and the sustainability of rural economies. A recent analysis highlights the ongoing urgency:

- **A 2009 University of Washington study projected that at least 18 percent of the 5.4 million acres of private forestland in western Washington is at risk of conversion by 2080.**
- **Between 2007 and 2019, Washington State lost an estimated 394,000 acres of forestland statewide, or roughly 30,000 acres per year – an area the size of an average sub-watershed in Washington.**

Development pressures remain especially high in fast-growing areas. In western Washington, forests near the I-5 corridor (particularly in Clark, King, Pierce, Snohomish, and Thurston counties) are under the greatest pressure. In central and eastern Washington, increasing population and development are expected to drive conversion risks, especially in counties such as Kittitas, Spokane, and Stevens.

POLICY TOOLS AND PLANNING EFFORTS

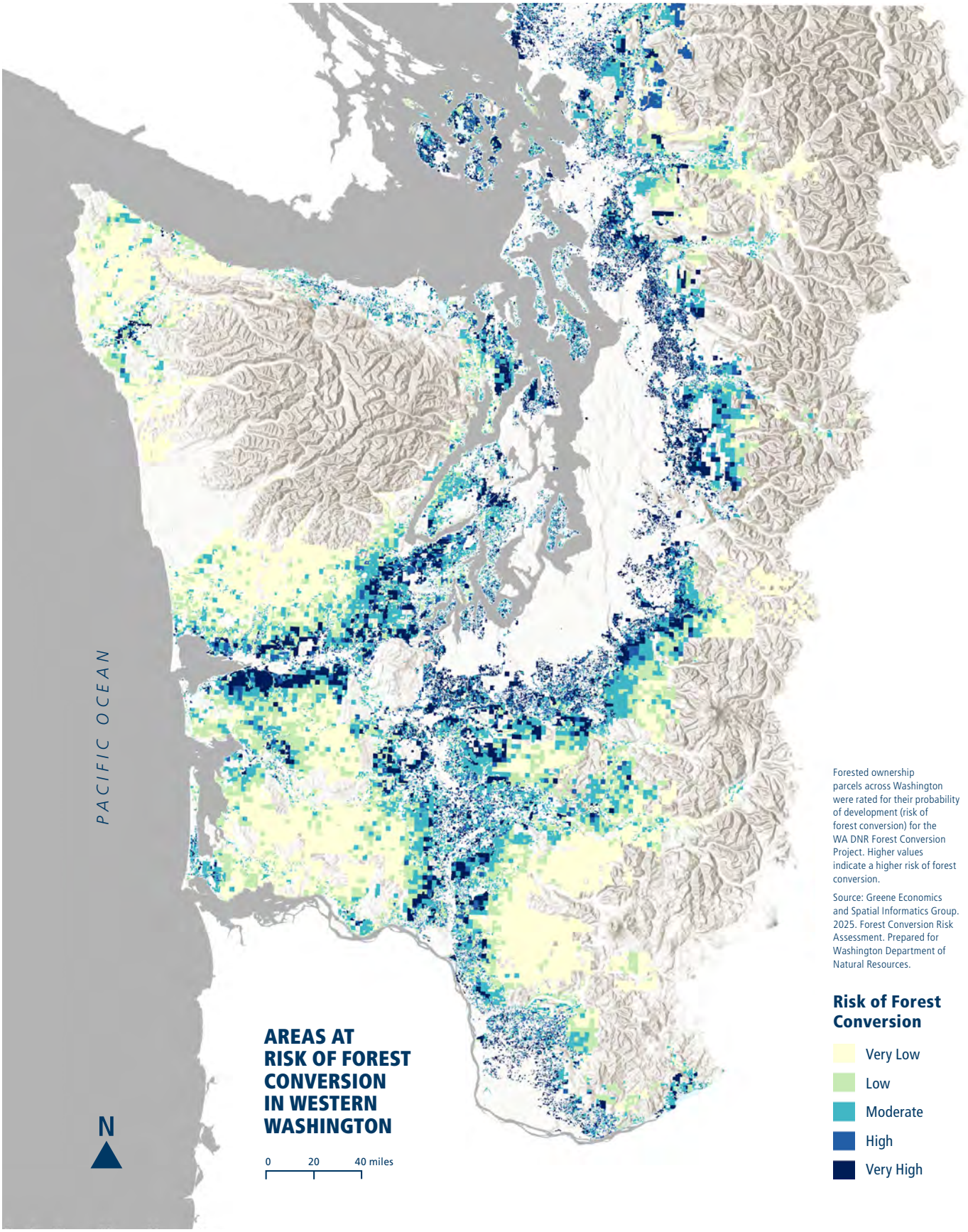
The Growth Management Act (GMA) requires Washington cities and counties in high-growth areas to adopt comprehensive land use plans that direct new development toward urban areas. These plans help conserve "rural" and "resource" lands by reducing infrastructure costs and minimizing sprawl. Strategies that proactively avoid conversion by securing working forest easements, supporting private landowners, investing in community forests, and prioritizing conservation acquisitions are needed to complement local planning and zoning tools.

Avoiding forest conversion provides these lasting benefits:

- Climate mitigation through long-term carbon storage.
- Habitat protection for fish and wildlife.
- Water quality protection through forested watersheds and stream buffers.
- Flood control and slope stability in developed areas.
- Cultural and recreational access for local communities and Tribes.
- Economic resilience through sustainable forestry, tourism, and ecosystem services.

The decisions made today about where development occurs, which forests are protected, and how working forests are supported will have lasting impacts on Washington communities, its economy, and the environment. By investing in avoided conversion strategies now, Washington can conserve its forests as a foundation for climate resilience, biodiversity, and quality of life for generations to come.

CONVERSION OF FORESTLANDS TO NON-FOREST USES IS ONE OF THE MOST SIGNIFICANT AND PERMANENT THREATS TO WASHINGTON FORESTS.



AREAS AT RISK OF FOREST CONVERSION IN WESTERN WASHINGTON

Forested ownership parcels across Washington were rated for their probability of development (risk of forest conversion) for the WA DNR Forest Conversion Project. Higher values indicate a higher risk of forest conversion.

Source: Greene Economics and Spatial Informatics Group. 2025. Forest Conversion Risk Assessment. Prepared for Washington Department of Natural Resources.

VANS
OFF THE WALL

FOREST RESOURCE ASSESSMENT

SOCIOECONOMIC AND CULTURAL CONSIDERATIONS

Washington forests are shaped not only by ecological processes, but by the people who manage and depend on them. Forest ownership patterns, demographics, cultural values, and economic conditions all influence forest conditions and management outcomes across the state.

This section of the Forest Resource Assessment explores the intersections between people and forests, integrating the latest findings from key reports and planning processes. Topics include the diversity of forest ownership and management motivations, equity and Tribal inclusion, infrastructure and workforce development, and cross-boundary coordination and collaboration.

THE STEWARDSHIP AND MANAGEMENT OF WASHINGTON'S FORESTS DEPEND ON PEOPLE, AND HEALTHY FORESTS ARE CRITICAL TO THE STATE'S SOCIAL, CULTURAL, AND ECONOMIC VITALITY.

OWNERSHIP DIVERSITY AND MANAGEMENT MOTIVATIONS

Washington forests are owned and managed by families, industrial landowners, conservation organizations, Tribes, and public agencies, each with unique values and land management objectives. Understanding ownership motivations helps tailor programs and policies that support shared stewardship goals.

Forest conservation and management are statewide priorities with consequences for all Washingtonians. Forests support billions of dollars in regional economic activity, provide clean water and carbon storage, and offer habitat for a remarkable diversity of species, some of which are found nowhere else on Earth.

Ownership and management responsibilities are shared among Tribal nations, private landowners, and public agencies. Approximately 57% of the 22 million acres of Washington forests are publicly owned. The largest public landholder is the USDA Forest Service, which manages more than 8 million acres. DNR manages more than 2 million acres of working forests to support timber production, clean water, wildlife habitat, outdoor recreation, and revenue for public schools and other trust beneficiaries. Forest ownership patterns vary significantly between western and eastern Washington. In western Washington, private industrial timber companies are the largest owners, followed by the USDA Forest Service. In eastern Washington, the USDA Forest Service manages approximately 48 percent of forestland, with Tribes managing 16 percent and private non-industrial landowners managing about 14 percent.

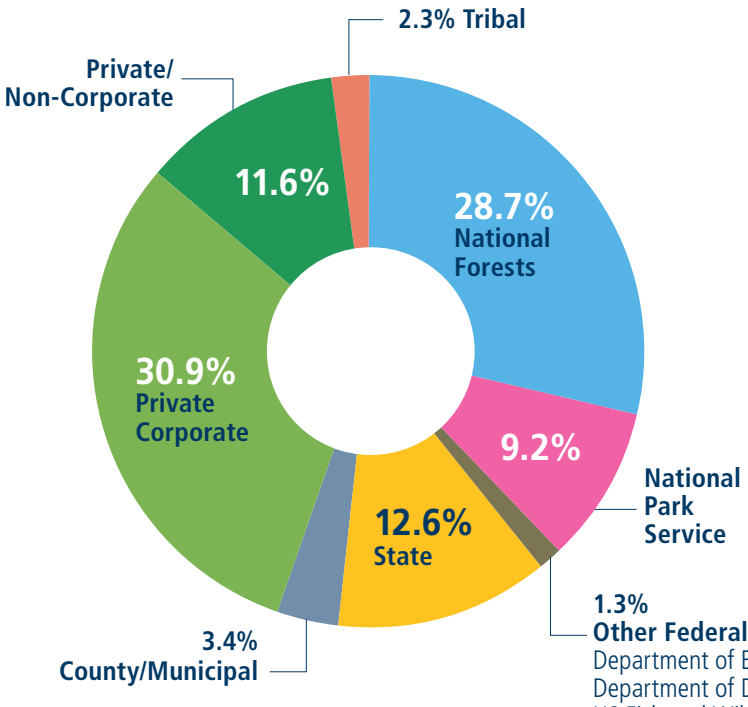
THE FOREST ACTION PLAN ADVANCES VOLUNTARY CONSERVATION ACTIONS TO SUPPORT FOREST HEALTH AND RESILIENCE ACROSS ALL LANDOWNERSHIPS.

This Forest Action Plan supports a range of voluntary conservation programs and practices. Successful implementation of this plan relies on understanding and respect for the diverse landowner objectives in the state. The programs and priorities described in this plan recognize that some landowners prioritize habitat and aesthetics, while others require consistent financial returns. Creating flexible tools helps to accommodate this diversity. Supporting all landowners and maintaining forests as working forests is a win-win opportunity for all.

Photo right: Twisp River aquatic restoration project led by the Confederated Tribes of the Colville Reservation.

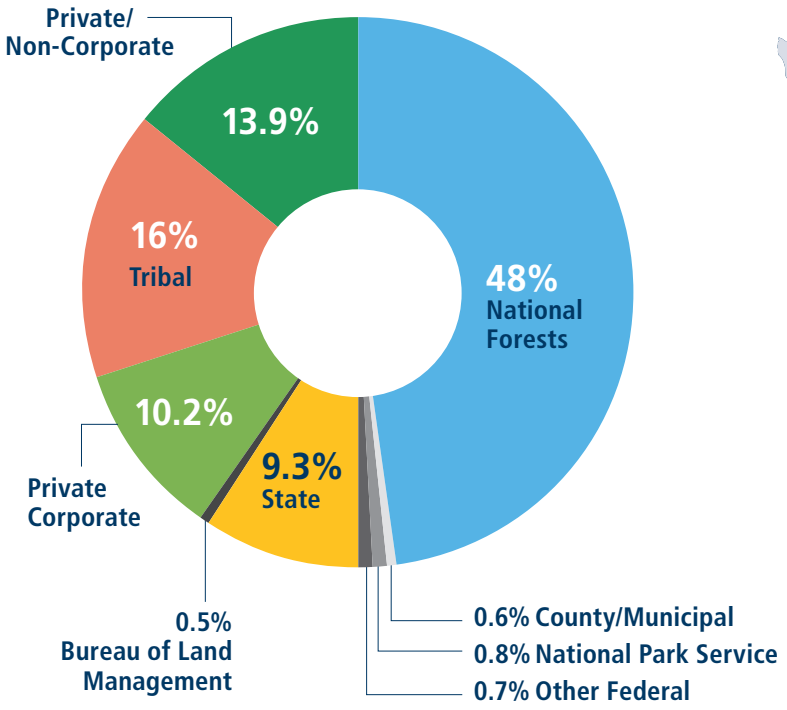
CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

UNDERSTANDING OWNERSHIP MOTIVATIONS HELPS TAILOR PROGRAMS AND POLICIES THAT SUPPORT SHARED STEWARDSHIP GOALS.



WESTERN WASHINGTON FORESTLAND OWNERSHIP

The largest category of forestland owners in western Washington are private industrial timber companies, followed by the USDA Forest Service.



EASTERN WASHINGTON FORESTLAND OWNERSHIP

In eastern Washington, approximately 48 percent of forestland is federally managed, while private, non-industrial forestland owners manage approximately 30 percent of all forestland.

Equity and Environmental Justice

It is critical that forest policies and programs advance environmental justice and support Indigenous self-determination in the name of forest stewardship. This Forest Action Plan revision includes goals and actions related to DNR implementation of Senate Bill 5141, also known as the Healthy Environments for All (HEAL) Act, which became law on July 25, 2021. The bill established mandates for seven agencies in Washington, including DNR.

Studies have found that communities with high percentages of people of color, as well as those who routinely experience economic hardship, are disproportionately exposed to environmental hazards and risks which result in cumulative health impacts. The first DNR Forest Resilience Environmental Justice implementation plan was published in 2023. While originally published as a standalone document, it is now integrated into this revision of the State Forest Action Plan.

DNR ENVIRONMENTAL JUSTICE IMPLEMENTATION PLAN

The Environmental Justice Implementation Plan outlines key actions to improve equity outcomes for forest resilience work. Those include development of inclusive decision-making structures, strengthening of outreach to historically underserved and marginalized communities, and tracking outcomes with equity metrics.

In developing the implementation plan, DNR focused on listening, relationship-building, supporting, and partnering with: Tribal nations, indigenous individuals, historically underrepresented communities and minority forest workers, and communities in and around rural and urban forests. The plan seeks to address issues related to treaties and worker rights, as well as incorporating results of community-led, community-centered initiatives.

The plan includes five overarching goals and 58 associated actions. Since spring 2023, DNR has continued to listen and learn from its partners. Additional goals and strategies based on that work are also included throughout this revision.

PHOTO COURTESY CITY OF CHELAN

ENVIRONMENTAL JUSTICE GOALS
Goal 1: increase and enhance tribal partnerships to achieve forest resilience goals
Goal 2: Develop, strengthen, and expand partnerships and resources for groups and demographics historically underserved by our programs.
Goal 3: Make forest resilience communication materials more accessible to a wider number of Washingtonians.
Goal 4: More equitably partner with and support communities in forest resilience planning and implementation efforts.
Goal 5: Review and identify opportunities to improve internal policies, contracting, education, and training requirements to better prioritize equitable implementation practices.

Environmental Justice Progress to Date

A number of equity-centered partnerships and projects have been launched and supported by DNR across the state. Highlights include:

- Supporting youth and young adult outdoor education and internship programs for Indigenous youth and Title 1 Schools through the Kids in Hills Program and Careers in Conservation Summer Program.
- Working with the Spokane Regional Clean Air Agency, Latinos En Spokane, Meals on Wheels Spokane, Yakima County Department Of Human Services, Northwest Community Action Center, and Opportunities Industrialization Center to distribute air filter kits and standalone air filter units to support underhoused and socioeconomically disadvantaged families and individuals, senior centers, and community spaces needing access to clean air during wildfire-related smoke events.
- Added accessibility features to key forest health documents to make them useable and navigable for users with visual and physical disabilities.
- Developed and implemented 50 forest health projects across 417 acres with historically disadvantaged and underinvested small forest landowners

THIS FOREST ACTION PLAN REVISION INCLUDES GOALS AND ACTIONS RELATED TO DNR IMPLEMENTATION OF SENATE BILL 5141, ALSO KNOWN AS THE HEALTHY ENVIRONMENTS FOR ALL (HEAL) ACT.

ACCESS TO FOREST BENEFITS

Forests provide a range of benefits, including but not limited to: recreation, cultural practices, subsistence gathering, spiritual renewal, and education. In urban spaces, trees provide shade and reprieve from the summer heat, reducing air temperatures by as much as nine degrees Fahrenheit. City forests help clean urban air, with urban trees removing an estimated 711,00 metric tons of air pollution per year. However, access to these forest benefits is not equitably distributed. Structural and systemic barriers prevent many communities (including, but not limited to low-income households, communities of color, immigrants, youth, people with disabilities, and Tribal members) from enjoying the full range of forest values. These barriers include lack of affordable transportation, proximity to forestlands, language and cultural disconnects in land management, and financial costs such as user fees, permits, and equipment expenses.

Cultural and historical inequities compound these challenges. Many Indigenous communities retain ancestral ties and treaty rights to forested landscapes but lack full representation in land management decision-making, reducing the relevance and inclusivity of stewardship programs.

Expanding equitable access to forests requires a multi-faceted approach:

- **Community forest models** like locally-managed forest ownerships, particularly those developed through partnerships with community-based organizations, Tribes, land trusts, or local governments, can provide opportunities for community-defined stewardship. These models support shared governance and enhance local economic, cultural, and ecological benefits.
- **Inclusive planning** by agencies and organizations by engaging underrepresented groups to ensure facilities, signage, programs, and outreach efforts reflect the diversity of Washington's population.
- **Recognition of Indigenous land-use rights** – state and federal agencies must actively honor and uphold treaty-reserved rights and co-management responsibilities with Tribes. This includes securing access to culturally significant species and landscapes and restoring forest health so these rights can be realized for generations to come.

Ensuring that all Washington residents can connect with forests for recreation, healing, ceremonies, or livelihoods only serves to advance environmental justice, strengthen public support for conservation, and foster a more inclusive forest stewardship ethic.

LUIS PRADO

TRIBAL INCLUSION

Washington is home to 29 federally recognized Tribes, many of which retain treaty rights and cultural ties to forested landscapes. The 25-Year Monitoring Report on Tribal Inclusion that informed the Northwest Forest Plan amendment process emphasizes the need for stronger federal-Tribal consultation, consistent recognition of indigenous knowledge, and increased Tribal access to co-management opportunities. Priorities identified by this and other Tribal planning efforts include:

- **Enhancing Tribal sovereignty** and co-management authority.
- **Expanding funding** for Tribal-led restoration, wildfire prevention, and cultural resource protection.
- **Integration of indigenous knowledge** into forest management planning.
- **Ensuring meaningful**, early, and ongoing consultation.

Partnerships with Tribes must be grounded in respect and shared governance. Investments in cultural resource protection, Indigenous stewardship practices, and Tribal workforces are critical to these partnerships. These efforts may include co-developing restoration projects, honoring access rights, and funding Tribal-led forest health, wildfire resilience, and climate adaptation initiatives. This action plan includes numerous strategies and priority actions supporting tribal inclusion further expanded on in the Western Washington Forest Health Strategic Plan.

CLIMATE VULNERABILITY OF FOREST COMMUNITIES

Forest-adjacent communities, particularly those located in rural areas and the wildland-urban interface (WUI), face heightened exposure to the effects of climate change. Rising temperatures, prolonged drought, and more frequent and severe wildfires threaten lives, infrastructure, air quality, and local economies. For rural and historically underserved communities, these risks are often amplified by existing social vulnerabilities, such as limited healthcare access, inadequate housing, under-resourced emergency services, and decades of economic decline.

The health impacts of wildfire smoke disproportionately affect children, elderly, and outdoor workers. Fire evacuations and property loss can be especially devastating for low-income residents who may lack insurance or financial resources to rebuild.

A growing body of research and practice recognizes the need for place-based resilience strategies that are tailored to community risk profiles and capacities. Key approaches include:

- Fire Adapted Communities: programs that engage residents, local governments, and land managers in proactive fire risk reduction. Examples include neighborhood organizing and communication systems that ensure all community members, especially non-English speakers and elderly residents, receive timely emergency information.
- Community clean air shelters: establishing air filtration shelters at schools, libraries, and community centers offer a public health safety net during periods of wildfire smoke and poor air quality. These facilities also serve as hubs for resilience education, cooling during heat waves, and broader emergency preparedness.
- Resilience planning and cross-agency coordination: agencies working together with counties, Tribes, fire districts, and non-profit organizations to identify vulnerable communities and direct investments to the highest risk areas. Planning efforts must continue to incorporate climate projections, social vulnerability, and local input to ensure effective outcomes.
- Workforce and economic resilience: creating jobs in fuels reduction, prescribed fire, and forest restoration offers the dual benefit of enhancing ecological resilience while supporting economic activity. Community members trained in resilience practices can support and sustain long-term adaptation efforts.

Investing in climate resilience of forest-dependent communities is a public safety imperative and central to sustaining Washington's forests and the people who live in and around them. Successful implementation of the Forest Action Plan and related programs and initiatives must account for the well-being of those who face the greatest risks.

Infrastructure and Workforce

Timber-dependent communities have experienced major economic and demographic shifts due to modernization of mill and harvest technology, mill closures, changing forest management priorities, and contemporary land ownership regimes. These combined factors have led to job losses, reduced public services and county revenues, and the erosion of local forestry knowledge and skills.

The ability to manage forests sustainably depends on having infrastructure and skilled workers. Future forest stewardship efforts depend on investments in natural resources education today. Degraded road systems, declining mill capacity, and a shortage of trained workers are limiting forest restoration and fuel reduction progress in many areas of the state. Increased access to natural resource education programs is a critical part of ensuring young people have opportunities to explore forestry careers.

Washington has lost significant milling capacity over the past 30 years, particularly in rural and eastern Washington communities. This limits the economic viability of forest health treatments due to their distance from markets and high haul costs. Removing small-diameter trees and woody biomass is essential for reducing wildfire risk and improving forest health but is made more difficult when there are no local markets for the material. Simultaneously, skilled forestry professionals from equipment operators to road engineers are in short supply due to an aging workforce and retirements. Key strategies include investing in transportation infrastructure and forest roads, supporting community-scale wood processing facilities, and expanding workforce training programs through community colleges, vocational programs, and Tribes.

JERIDEN VILLEGAS / UNSPLASH

Creating healthy and resilient forest ecosystems contributes to revitalized rural communities by aligning forest health goals with local jobs, businesses, and value-added wood markets. Reinvestment in youth education through outdoor learning, technical training, and Tribal youth programs helps build awareness, skills, and leadership for the next generation of forest stewards. Programs that support entrepreneurship, climate resilience, and community forestry create long-term economic sustainability.

NATURAL RESOURCES WORKFORCE HOUSING

A sustainable natural resource economy depends not only on healthy forests and functioning markets, but also on the people who live and work in forested communities. Across Washington, a growing housing crisis in rural and natural resource dependent communities is undermining efforts to recruit, retain, and support the workforce necessary for forest stewardship, wildfire response, conservation, recreation management, and related fields.

Many forestry and natural resources professionals are being priced out of the communities they serve. The shortage of available, affordable, stable housing in rural areas limits our ability to restore forest resilience. New approaches to address the housing shortage are needed to connect sustainable land use, economic development, and forest management goals.

There is growing recognition that forest management and affordable housing can and should be linked. New technologies and materials, including mass timber and other wood innovations, make it possible to create durable, climate-smart housing while supporting local wood product markets and rural economies. Sustainable harvesting from forest restoration and fuel reduction projects reduce wildfire risk while generating the raw materials required for housing developments.

DNR is leading an innovative initiative to help meet the state's housing needs by leasing state trust lands for affordable housing development in appropriate areas, particularly in rural communities where the needs are most acute. The agency's work, supported by legislative investments, enables long-term leases for low-income, workforce, and emergency housing while maintaining public ownership of trust land assets.

DNR's housing work has focused on several key strategies:

- **Identifying state trust lands** near community infrastructure (e.g., schools, roads, utilities) that can support housing development.
- **Partnering with local governments**, housing authorities, Tribes, and nonprofit developers to advance housing projects on public lands.
- **Demonstrating the viability** of mass timber construction and wood innovation in affordable housing design.
- **Aligning housing investments** with wildfire response needs, including bunkhouses and seasonal workforce housing for firefighters and forest restoration crews.
- **Encouraging co-location of housing** with natural resources infrastructure such as wood innovation campuses and vocational training centers.

These efforts complement statewide initiatives to expand the use of modular, prefabricated, and cross-laminated timber (CLT) construction as cost-effective and climate-friendly housing solutions. They also create new demand for wood sourced from forest health projects, helping to close the loop between ecological restoration and economic development.

For more detailed information about infrastructure, rural communities, and affordable housing initiatives, review the Rural Economic Development section of this plan.

THERE IS GROWING RECOGNITION THAT FOREST MANAGEMENT AND AFFORDABLE HOUSING SOLUTIONS CAN AND SHOULD BE LINKED.

Collaborative Partnerships and Cross-Boundary Coordination

Effective cross-boundary management is essential for restoring forest health and reducing wildfire risk. Continued investment in data sharing, monitoring, cross-boundary project planning, and community engagement is key to meeting future challenges, as is coordination at multiple scales – from neighbors to entire watersheds and large landscapes. DNR staff are working with landowners and community members and engaging at these various scales to support implementation.

Forest collaboratives serve as important governance platforms for local governments, state and federal agencies, conservation groups, timber companies, Tribes, and community members to identify shared priorities and collaborative forest restoration opportunities. These place-based partnerships foster trust, leverage diverse expertise, and provide more inclusive forums for decision-making.

The DNR Building Forest Partnerships grant program supports this work by investing in the facilitation, coordination, and planning capacity needed to sustain forest collaboratives across the state. These partnerships are central to Washington's strategy for advancing landscape-scale resilience.

Coordination is also central to wildfire preparedness and response. The DNR Wildland Fire Management Division works across jurisdictions to conduct pre-planning, organize interagency response teams, and support local fire districts. The DNR Community Resilience Program also integrates Fire Adapted Communities principles into wildfire planning focused on defensible space, home hardening, and community engagement in high-risk areas.

The next section of the Forest Action Plan describes the goals, strategies, and priority actions that DNR and partners will advance over the life of this plan to address the threats impacting forests.

Next Page: The Department of Natural Resources brought the Wildfire Ready Neighbors program to Walla Walla County in 2025.

Let's Get
WILDFIRE REA
WALLA WALLA CO.
FIRE

STRATEGIES

The State Forest Action Plan integrates and aligns existing plans, including the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and Wildland Fire Protection 10-Year Strategic Plan, among numerous other strategic plans and priorities, under a cohesive set of statewide goals and priority actions. This section of the plan also incorporates the Cooperative Forestry Program priorities.

45 LANDSCAPE RESILIENCE
69 COMMUNITY WILDFIRE PREPAREDNESS AND WILDFIRE SUPPRESSION
75 KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES
85 STEWARDSHIP OF FAMILY AND WORKING FORESTS
89 RURAL ECONOMIC DEVELOPMENT
93 URBAN AND COMMUNITY FOREST RESILIENCE
99 WILDLIFE AND SALMON RECOVERY
107 WATERSHED RESILIENCE

Washington's Forest Action Plan is an overarching strategic document offering proactive solutions to conserve, protect, and enhance the trees and forests that people and wildlife depend on. The Forest Action Plan includes a comprehensive review of forested conditions across the state and identification of strategic priorities to address threats to forest health and resilience. This ambitious statewide plan seeks to restore forest resilience and advance ecological, community, and socio-economic objectives.

Each state maintains a Forest Action Plan as required by the 2008 Farm Bill. The plan enables states to access federal funding for Cooperative Forestry Programs. Funding is administered by the USDA Forest Service in cooperation with state forest agencies to restore forest health and address threats afacing forests.

Cooperative Forestry Programs include:

- Community Forest and Open Space Conservation Program
- Forest Legacy Program
- Urban and Community Forestry Program
- Forest Health Protection
- Forest Stewardship
- Landscape Scale Restoration
- State Fire Assistance
- Volunteer Fire Assistance

The most recent Washington State Forest Action Plan was published in 2020. Since then, DNR has produced annual reports summarizing key accomplishments and plan updates.

Forest Action Plans are required to be reviewed and revised every five years. In 2025, Washington State assessed progress against existing goals and revised its Forest Action Plan accordingly. This section of the plan outlines the overarching goals, strategies, and priority actions for the next five years.

In addition to identifying strategic priorities for the Cooperative Forestry Programs funded through our partnership with the USDA Forest Service, this Forest Action Plan incorporates priorities of DNR programs and partner priorities addressing forest health and resilience across the state.

There are eight overarching goal areas identified in this strategic plan, including:

- Landscape Resilience
- Community Wildfire Preparedness and Wildfire Suppression
- Keeping Forests as Forests: Risk of Conversion to Non-Forest Uses
- Stewardship of Family and Working Forests
- Rural Economic Development
- Urban and Community Forest Resilience
- Wildlife and Salmon Recovery
- Watershed Resilience

The following sections of the Forest Action Plan describe the goals and strategic priorities related to each of these overarching strategic areas.

STRATEGIES

LANDSCAPE RESILIENCE

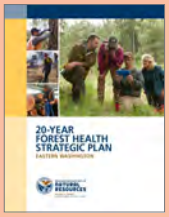
Landscape resilience refers to the ability of a landscape to sustain desired ecological functions, robust native biodiversity, and critical landscape processes over time and under changing conditions. This section of the Forest Action Plan focuses on forest health and resilience at a landscape scale. It draws heavily from the two overarching strategic plans guiding landscape-scale forest restoration and management in Washington State:

- **20-Year Forest Health Strategic Plan: Eastern Washington**
- **Western Washington Forest Health Strategic Plan**

This section of the plan also highlights the DNR Prescribed Fire Program and Cooperative Forestry programs focused on landscape resilience, including the Landscape Scale Restoration competitive grant program and Forest Health Protection.

THE 20-YEAR FOREST HEALTH STRATEGIC PLAN: EASTERN WASHINGTON AND WESTERN WASHINGTON FOREST HEALTH STRATEGIC PLAN SERVE AS THE FOUNDATION TO LANDSCAPE RESILIENCE WORK IN WASHINGTON STATE.

20-Year Forest Health Strategic Plan: Eastern Washington



The 20-Year Forest Health Strategic Plan: Eastern Washington (20-Year Plan), adopted in 2017, provides a science-based, landscape-scale framework to restore forest health and resilience. The plan was developed collaboratively by DNR, USDA Forest Service, Tribes, conservation organizations, industry partners, local governments, and community organizations. The plan aims to address the growing risks of uncharacteristic wildfire, drought, insect outbreaks, and disease, while also sustaining ecological, cultural, and economic values forests provide. The plan is a national model for landscape-scale, cross-boundary restoration and forest management.

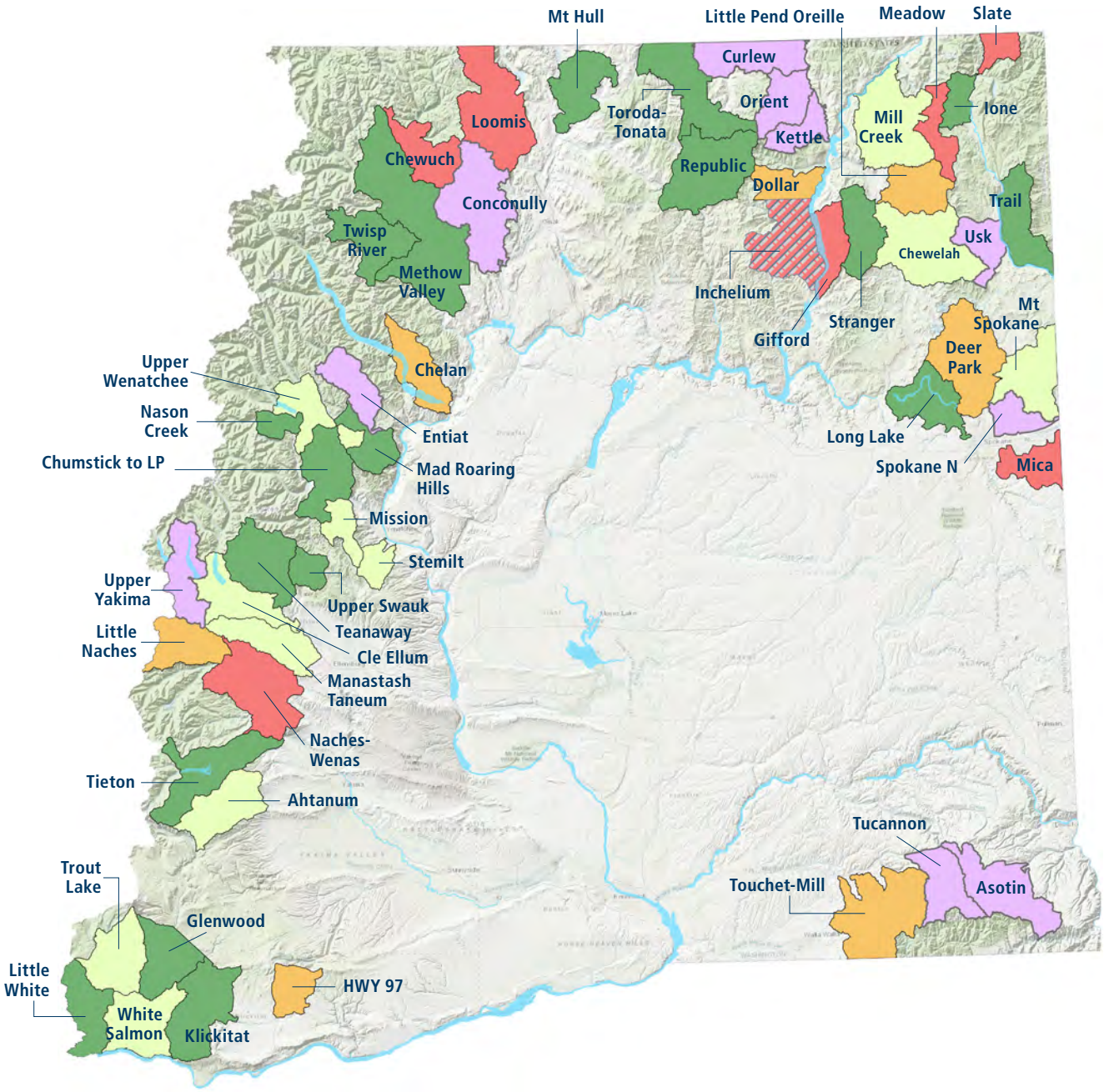
There are five strategic plan goals guiding the implementation of the 20-Year Plan that are integrated into this Forest Action Plan:

PLAN GOALS
Goal 1: Conduct 1.25 million acres of scientifically sound, landscape-scale, cross-boundary management and restoration treatments in priority watersheds to increase forest and watershed resilience by 2037.
Goal 2: Reduce risk of uncharacteristic wildfire and other disturbances to help protect lives, communities, property, ecosystems, assets and working forests.
Goal 3: Enhance economic development through implementation of forest restoration and management strategies that maintain and attract private sector investments and employment in rural communities.
Goal 4: Plan and implement coordinated, landscape-scale forest restoration and management treatments in a manner that integrates landowner objectives and responsibilities.
Goal 5: Develop and implement a forest health resilience monitoring program that establishes criteria, tools, and processes to monitor forest and watershed conditions, assess progress, and reassess strategies over time.

CHUCK HERSEY / DNR

The plan set an ambitious goal of treating 1.25 million acres by 2037, a target requiring sustained investment, innovation, and partnerships. To achieve this goal, the plan emphasizes:

- All-lands approach: coordinating across ownership boundaries to ensure treatments are strategically placed for maximum impact.
- Collaborative planning: working through local forest collaboratives, Tribes, and county governments to build trust and secure broad support.
- Science and adaptive management: using the best available science, monitoring outcomes, and adjusting strategies as conditions change.
- Economics: linking restoration projects with mill capacity, workforce training, and new markets for small-diameter timber and biomass.



PRIORITY PLANNING AREAS FOR 20-YEAR FOREST HEALTH STRATEGIC PLAN EASTERN WASHINGTON

OCTOBER 2024

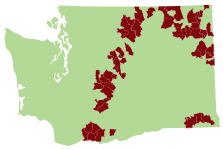
N

0 15 30 miles

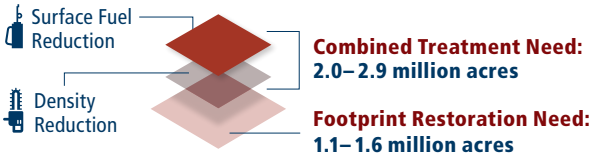
Planning Area Analysis

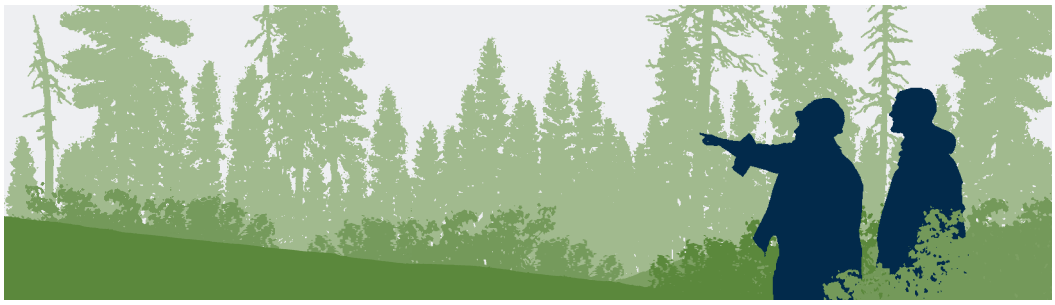
- 2018
- 2020
- 2022
- 2024
- 2026
- Joint Colville Tribes / DNR

Combined Treatment Need to Restore Resilient Forest Conditions in Eastern Washington Priority Planning Areas



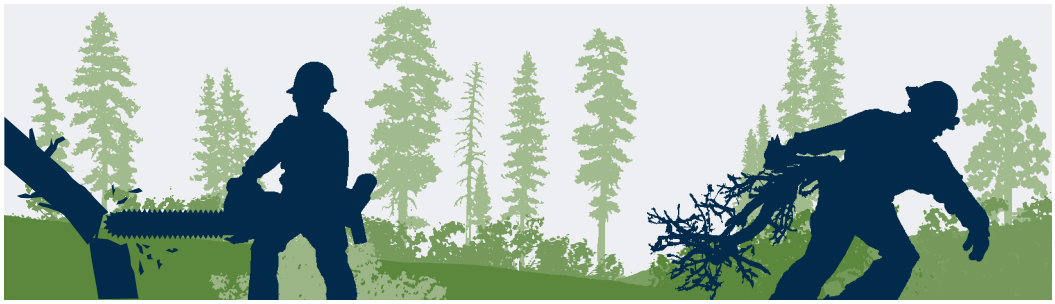
Priority Planning Area





1

Dense Forest
Scientists assess forest health treatment needs in planning areas, especially dense forest at high fire and drought risk in need of restoration.



2

Density Reduction
Thinning, removal of smaller trees to reduce density and shift species composition.

3

Surface Fuel Reduction
Broadcast burn—a type of controlled, prescribed low-intensity fire is applied to reduce surface fuels.

4

Restored Forest
Restored forest resistant to fires and drought will require maintenance every 10-20 years.

PROGRESS TO DATE

Since adoption, the plan has catalyzed significant action:

- **As of December 2024, DNR scientists have assessed forest conditions** across 45 priority planning areas, covering 5,026,895 acres.
- **As of December 2024 DNR has identified 2.0–2.9 million combined treatment acres** that are needed to restore 1.1–1.6 million footprint acres of forest to resilient forest conditions in eastern Washington forest health priority planning areas.
- **589,520 acres of combined treatments completed** in 45 forest health priority planning areas as of October 31, 2025 representing 20% to 29% of the combined treatment need in those planning areas.
- **Expanded federal-state partnerships,** particularly through Good Neighbor Authority projects and Shared Stewardship agreements.
- **Leveraged new funding streams,** including state forest health appropriations, federal wildfire resilience programs, and private investments through innovative conservation finance tools.
- **Expansion of prescribed fire capacity** through training, partnerships, and pilot projects.
- **Advances in planning and reporting tools,** such as the Forest Health Tracker, which provides transparent reporting on progress, investments, and acres treated.

While progress has been substantial, the work is not done. Progress must be maintained for our results to reduce wildfire risk and increase resilience. Over the life of this Forest Action Plan, it is imperative we continue to see meaningful public and private investments. This investment is critical to increasing our use of prescribed burning, addressing workforce capacity constraints, expanding mill infrastructure in key parts of the state, and reducing potential wildfire impacts.

The 20-Year Forest Health Strategic Plan: Eastern Washington presents the foundation for a resilient, collaborative, and science-based approach to forest restoration at a landscape-scale. Sustained investments are essential for continued progress made on the goals of the 20-Year Plan.

To learn more, visit: 20-Year Forest Health Strategic Plan: Central and Eastern Washington | Department of Natural Resources.

KEN BEVIS / DNR

5 MILLION

acres of forest conditions assessed by DNR scientists across 45 priority planning areas as of December 24, 2024.

589,520

acres of combined treatments completed in 45 forest health priority planning areas as of October 31, 2025, representing 20% to 29% of the combined treatment need in those planning areas.

Forest Health Tracker

Funded by the Washington State Legislature, the Washington Department of Natural Resources leads development and maintenance of Forest Health Tracker — an online tool to compile and present projects to improve forest health across all-lands in Washington. This platform increases our shared awareness and understanding of what forest health activities are proposed, planned, and completed on the landscape toward our strategic plan goals established in the Forest Action Plan and strategic plans nested within it (e.g. 20-Year Forest Health Strategic Plan: Eastern Washington).

For all users, Forest Health Tracker functions as a visual dashboard that displays and connects data in various forms from a multitude of inputs. Forest Health Tracker combines and connects financial, spatial, and additional project data such as photos, reports, and external links on forest health projects in Washington across all-land ownerships as provided by willing landowners and managers. Knowing the location and details of forest health projects and relevant other information increases our situational awareness of forest health activities across land ownerships, facilitating greater strategic planning and monitoring of progress through shared stewardship of our natural resources.

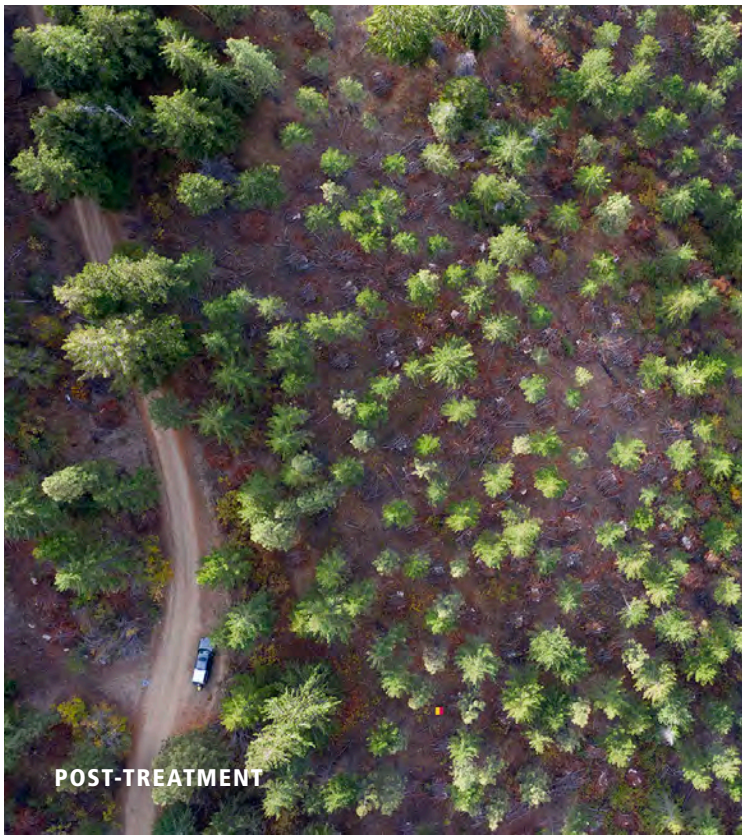
Projects in the Forest Health Tracker can be viewed in a project map or sortable project list, while they can also be viewed through their association to the specific fund source that contributed to them.

For each project in the system the project detail page offers additional information on the project including the lead implementer, date of project initiation, date of project completion, and project location including the association to Forest Action Plan priority landscapes. The project detail page can also indicate fund sources such as federal grants that made a project possible, and monitoring photos. View a sample of a Project Detail Page for the Tillicum Creek Watershed Restoration Project in Chelan County in the DNR Tillicum Priority Landscape.

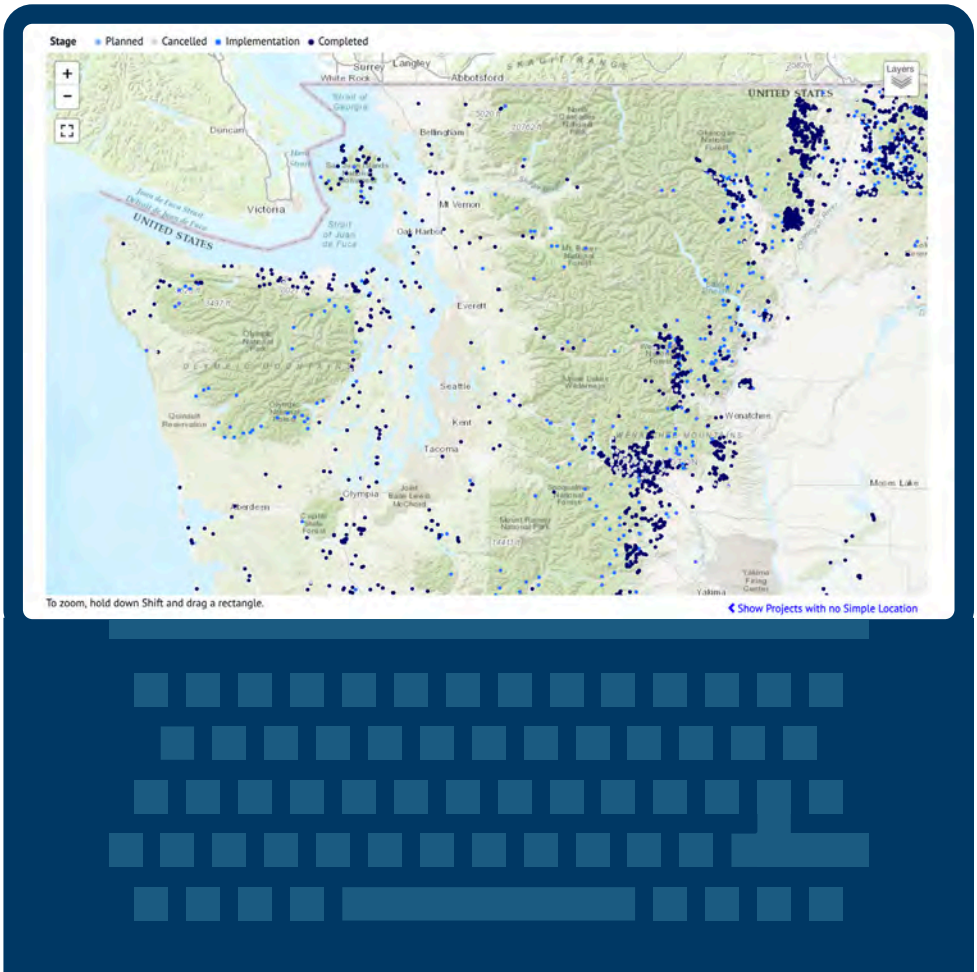
In addition to viewing individual projects, Forest Health Tracker aims to provide data to inform forest health planning. Priority landscape pages present information, resources, and prioritization analyses as completed to help inform the forest health and resilience needs in a specific geography.

Forest Health Tracker depends upon and benefits from the contributions of forest health project data from tribal, federal, state, local, and private partner organizations and individuals. It also continues to evolve based on the feedback of users, both in direct system improvements and links to connect users to other valuable resources to help in planning, implementing, and tracking our collective progress on shared forest health and resilience goals for Washington.

WASHINGTON DEPARTMENT OF NATURAL RESOURCES LEADS DEVELOPMENT AND MAINTENANCE OF FOREST HEALTH TRACKER – AN ONLINE TOOL TO COMPILE AND PRESENT PROJECTS TO IMPROVE FOREST HEALTH ACROSS ALL-LANDS IN WASHINGTON.



PHOTOS BY JF MARSHALL



▲ Example of monitoring photos from the Tillicum Creek Watersheaad Restoration Project detail page.

Projects in the Forest Health Tracker can be viewed in a project map or sortable project list, while they can also be viewed through their association to the specific fund source that contributed to them.

Learn more at:
foresthealthtracker.dnr.wa.gov/

JOHN MARSHALL

JOHN MARSHALL

JOHN MARSHALL

Forest Health Treatment Types (clockwise from top left): Buckshot forest health timber sale on the Okanogan-Wenatchee National Forest in the Methow Priority Planning Area administered by DNR Federal Lands Program; Prescribed burning on the Roslyn Community Forest in the Cle Elum Priority Planning Area; Non-commercial thinning on the Okanogan-Wenatchee National Forest in the Tillicum Priority Planning Area; Mixed severity wildfire from the 2024 Retreat Fire in the Tieton Priority Planning Area.

JOHN MARSHALL

Pre-treatment stand conditions (top) and post-treatment stand conditions (bottom) following a commercial timber sale to restore resilient forest conditions in the Upper Wenatchee Project on the Okanogan-Wenatchee National Forest.

Western Washington Forest Health Strategic Plan

In the 2020 State Forest Action Plan, DNR committed to advancing an all-lands vision for forest health and resilience across western Washington. The Western Washington Forest Health Strategic Plan builds upon the lessons learned from the 20-Year Forest Health Strategic Plan: Eastern Washington and represents the outcome of extensive public engagement and collaboration. This State Forest Action Plan update provides a critical opportunity to strengthen our shared vision for western Washington's forests at a time of rapid environmental and social change, marked by evolving federal priorities, constrained state budgets, and increasing pressures from climate change and development.

The Western Washington Forest Health Strategic Plan establishes a collaborative framework to promote forest resilience, climate adaptation, and active management across western Washington's diverse forest landscapes. It identifies a shared Vision, Mission, and five Goals to guide action and investment over the next decade, emphasizing the importance of leveraging limited resources for the greatest collective impact.

This work is now fully integrated into the State Forest Action Plan, ensuring alignment and coordination across existing forest health and resilience initiatives statewide.

THE WESTERN WASHINGTON FOREST HEALTH STRATEGIC PLAN ESTABLISHES A COLLABORATIVE FRAMEWORK TO PROMOTE FOREST RESILIENCE, CLIMATE ADAPTATION, AND ACTIVE MANAGEMENT.

VISION

Western Washington's forested landscapes are ecologically healthy and meet the socioeconomic and cultural needs of current and future generations.

MISSION

Foster coordinated, voluntary actions and investments across western Washington that promote forest and watershed health and climate resilience; respect landowner objectives; enhance the cultural, social, and economic vitality of historically forest-dependent rural communities; and strengthen collaborative stewardship across Tribes, agencies, landowners, and communities.

PLAN GOALS

Goal 1: Enhance forest and watershed health and resilience in western Washington.

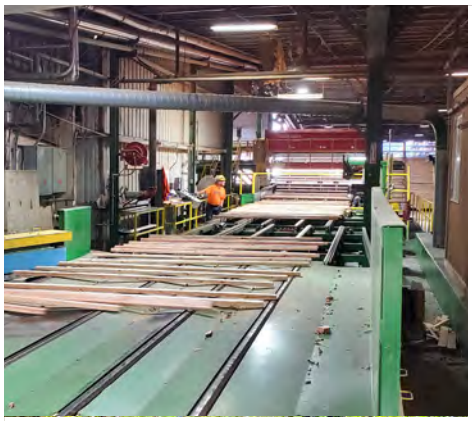
Goal 2: Maintain working forests in western Washington by reducing the risk of forest conversion to non-forest uses.

Goal 3: Support and expand natural resource economies in western Washington by increasing sustainable timber supply and investing in workforce, housing, infrastructure and innovation that advances forest health and resilience.

Goal 4: Increase understanding of wildfire and appropriate actions to mitigate wildfire risk in western Washington forests, communicate the risks and actions effectively and acknowledge that wildfire risk and mitigation actions are inherently different than eastern Washington.

Goal 5: Support Western Washington forest health assessments, monitoring, research, and adaptive management.

Selegsen 2 forest health restoration thinning project on the Mount Baker-Snoqualmie National Forest.



HAL BERGMAN

Photos (from upper left): Hamton Lumber Sawmill, Randle WA; 2022 Nakia Creek Fire, Clark County; Forest monitoring on the Olympic Experimental State Forest; Restored Elwha River; Recently installed open bottom culvert on the Mount Baker Snoqualmie National Forest that replaced washed out culvert during storm event.

Western Washington Forest Health Watershed Prioritization and Priority Landscapes

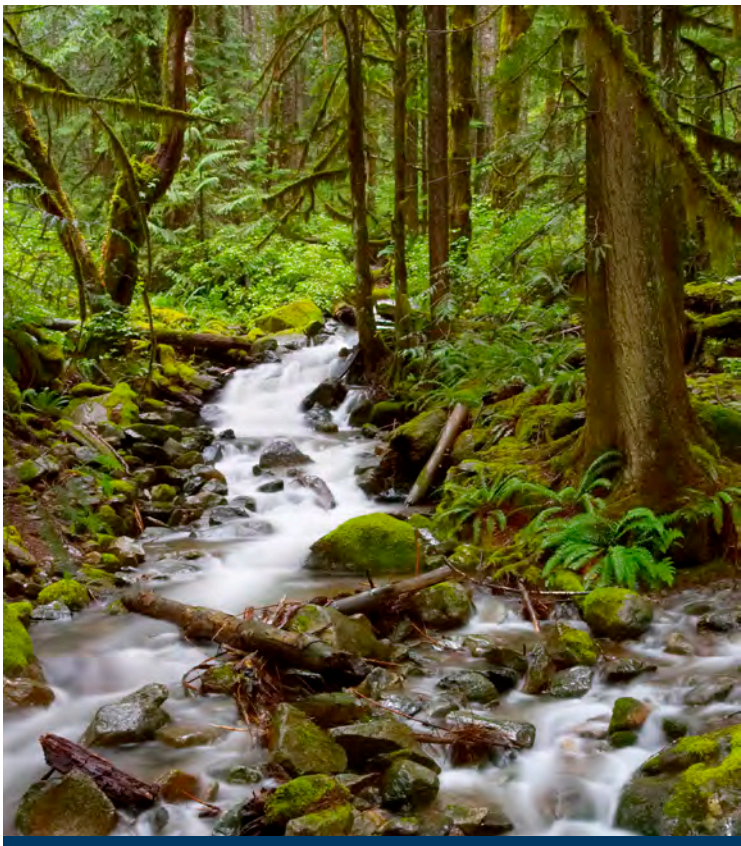
As a part of our 2020 Forest Action Plan, scientists and natural resource practitioners from DNR, University of Washington, USDA Forest Service, Washington Department of Fish and Wildlife, Natural Resource Conservation Service, and U.S. Fish and Wildlife Service worked together to develop a methodology to use existing spatial datasets to map and inform a landscape prioritization process. Spatial data of forest health and resilience indicators and values at risk were combined to create a landscape prioritization map. The map provided the foundation for discussions internally at DNR and with external partners to identify priority landscapes for coordinated planning, active management, and focused investments.

The key framing question guiding prioritization is:

> *Where will coordinated planning, active management and implementation, and focused investments lead to improved forest health and resilience?*

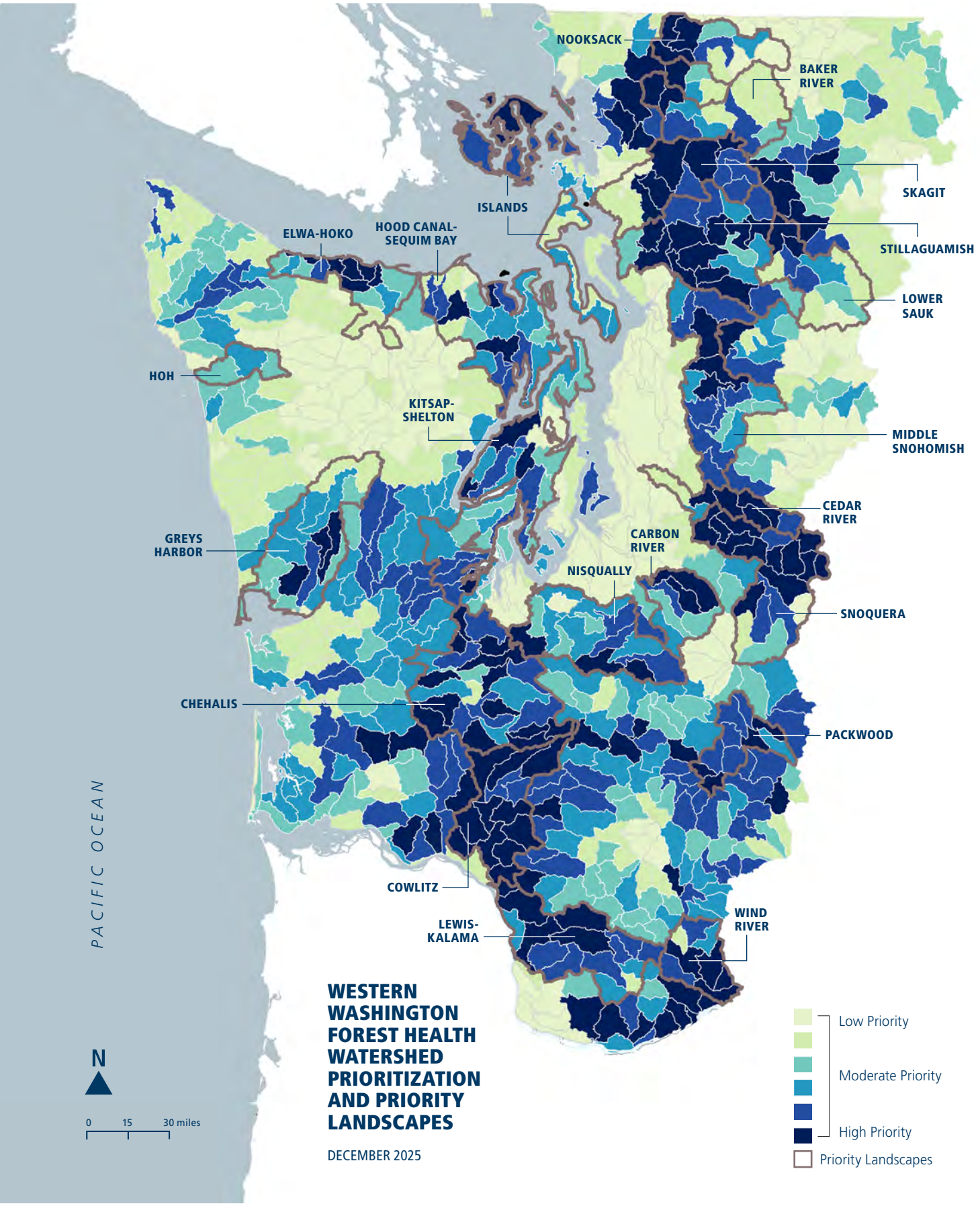
In 2025, DNR updated the landscape prioritization map using newly available spatial datasets and added three data layers to inform the 2025 Forest Action Plan and Western Washington Forest Health Strategic Plan. Of the original 12 data layers used in 2020, 10 were updated with new and improved datasets. New data layers included wildfire hazard, risk of forest conversion, and a customized wildlife habitat connectivity map to capture immerging forest health and resilience concerns for western Washington. The resulting data-driven prioritization map, along with input from partners about their geographic priorities, informed conversations between DNR and external partners to revise priority landscape designations. Input from USDA Forest Service, DNR Service Forestry Program, and tribes was critical to identifying shared priority landscapes. For more details regarding the data and methods refer to the Appendix.

Focusing agency investments and collaboration in these priority landscapes will lead to increased forest health and landscape resilience in western Washington (see the Appendix for a full description of the methodology and data sets). Priority landscapes provide a geographic focus of the Shared Stewardship Investment Strategy for landscape resilience in western Washington over the life of this Forest Action Plan. Priority actions in these watersheds use existing resources and programs at DNR, such as the Good Neighbor Authority, to accelerate outcomes on federal lands; the Forest Stewardship Program, which provides assistance to non-industrial private forestland owners; and DNR Urban and Community Forestry Program, which supports local governments and municipalities.



FOCUSING AGENCY INVESTMENTS AND COLLABORATION IN THESE PRIORITY LANDSCAPES WILL LEAD TO INCREASED FOREST HEALTH AND LANDSCAPE RESILIENCE IN WESTERN WASHINGTON.

Right: DNR and parrtners selected priority landscapes to focus implementation of forest health and resilience work in western Washington. This priority map is a composite of 15 different data layers, such as fish and wildlife, climate change, and drinking water. Each of these priority landscapes face a unique set of threats and challenges that will require collaboration among partners. For a full description of methods and data sets used in this prioritization effort please see Appendix B.


NOOKSACK
BAKER RIVER
SKAGIT
ISLANDS
ELWA-HOKO
HOOD CANAL-SEQUIM BAY
STILLAGUAMISH
LOWER SAUK
HOH
KITSAP-SHELTON
MIDDLE SNOHOMISH
CEDAR RIVER
GREYS HARBOR
CARBON RIVER
NISQUALLY
SNOQUERA
CHEHALIS
PACKWOOD
COWLITZ
WIND RIVER
LEWIS-KALAMA
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0 15 30 miles
WESTERN WASHINGTON FOREST HEALTH WATERSHED PRIORITIZATION AND PRIORITY LANDSCAPES
DECEMBER 2025
Low Priority
Moderate Priority
High Priority
Priority Landscapes

Integrating Tribal Sovereignty, Interests, Culture, and Values

Tribes maintain deep spiritual and cultural connections to forested landscapes and play a critical role in addressing the threats forest ecosystems face today. Those threats pose risks to historic sites, traditional places, traditional materials, Tribal and Treaty Rights, and more. The First People of Washington hold deep knowledge and provide crucial scientific and cultural perspectives that support, enhance and sustain cooperative natural resource management. DNR is committed to strengthening government-to-government relationships with tribal partners by working to implement several key strategies, listed below.

	PRIORITY ACTIONS FOR INTEGRATING TRIBAL SOVEREIGNTY, INTERESTS, CULTURE, AND VALUES
1	Develop strategic partnerships and leverage funding to support planning and implementation of projects important to tribal sovereigns. These include projects that may benefit or affect tribal resources on all forested landscapes.
2	Promote government-to-government relationships between tribes and the agency.
3	Support and initiate activities that increase capacity of tribal governments to respond to extreme events such as wildfires, drought, flooding and sea-level rise, and other climate change impacts.
4	Invest in meaningful engagement with tribes through relationship building that integrates and respects tribal values and tribal sovereignty.
5	Respect Indigenous knowledge to deepen understanding of place and the threats facing forest ecosystems. Integrate seventh generation thinking into resource assessments and priority actions.
6	Reference, utilize, coordinate, and uplift existing tribal sovereign resource plans and analyses in land management planning.
7	Apply Indigenous knowledge and approaches to climate adaptation and landscape resilience that promote forest health and resilience.

TRIBAL-CENTERED FOREST HEALTH: SUMMARY OF MAJOR PROJECTS (2020-2025)

A number collaborative projects and support for tribal-led forest health work have successfully been implemented since 2020. These include, but are not limited to:

A number collaborative projects and support for tribal-led forest health work have successfully been implemented since 2020. These include, but are not limited to:

- Partnering and supporting reforestation efforts with the Tulalip Tribes on their properties affected by the Bolt Creek Fire.
- Coordinating distribution of air filter kits and standalone units to high-need families and citizens of the Kalispel Tribe and Colville Confederated Tribes.
- Funding aquatic restoration and beaver dam analog installation in partnership with Colville Confederated Tribes.
- Funding aquatic restoration and forest health treatments in partnership with Yakama Nation in the Tieton Priority Planning Aea and other high priority areas.
- Supporting the long-term restoration efforts of the Lower Elwha Klallam Tribe in reforesting the former Elwha Dam sites.
- Co-developing the Inchelium Joint Tribal-DNR Priority Planning Area with the Confederated Tribes of the Colville Indian Reservation.
- Partnering with the Yakama Nation on the environmental assessment for the Okanogan-Wenatchee National Forest portions of the Tieton Priority Planning Area.
- Investing in the restoration and resiliency efforts for Tátwin, formerly known as Rainwater Wildlife Area, led by the Confederated Tribes of the Umatilla Indian Reservation.
- Partnering with the Confederated Tribes of the Chehalis Reservation and the Washington Department of Fish and Wildlife to implement priority ecocultural restoration work.
- Partnering with the Samish Indian Nation as well as several partners in the San Juan Islands to implement ecocultural restoration work within 13 remnant Garry oak ecosystems across four islands.
- Supporting invasive species removal work conducted by Mountains to Sound Greeenway that aligns with Snoqualmie Tribe priority habitat restoration areas.

THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES LAUNCHED ITS PRESCRIBED FIRE PROGRAM IN THE FALL OF 2021 WITH THE GOAL OF REINTRODUCING A COST-EFFECTIVE TOOL WITH A HIGH RATE OF SUCCESS FOR FOREST RESTORATION AND WILDFIRE RISK REDUCTION IN THE DRY FORESTS OF CENTRAL AND EASTERN WASHINGTON.

Prescribed Fire

Prescribed fire is an essential tool for restoring the health and resilience of Washington's forests. By reintroducing fire, DNR and its partners can reduce hazardous fuel loads and enhance the effectiveness of mechanical thinning treatments. Prescribed fire also plays a critical role in restoring and maintaining wildlife habitat, protecting culturally important resources, and re-establishing ecological processes that forests evolved with over centuries.

As wildfire seasons grow longer and more severe, expanding the safe and effective use of prescribed fire is a statewide priority. DNR will continue to invest in building capacity and expanding training and certification programs, strengthening partnerships with Tribes and local implementing partners, and increasing opportunities to apply prescribed fire across landownerships. These actions will help ensure the increased use of prescribed fire to meaningfully reduce risk, restore ecosystem function, and support community and cultural values across Washington.

To learn more, visit: Prescribed Fire Program/DNR.

	PRIORITY ACTIONS FOR PRESCRIBED FIRE
1	Coordinate an all-hands, all-lands review and update of the 2023 Washington Prescribed Fire Barriers Assessment Report and Strategic Action Plan.
2	Facilitate statewide prescribed fire training to accelerate large landscape restoration, increased training opportunities, and accelerated attainment of prescribed fire knowledge, skills, and expertise by prescribed fire practitioners across the state.
3	Maintain and expand the Certified Prescribed Burn Manager Program as funding allows at a minimum of two courses per year along with field evaluations and continuing education.
4	Continue supporting the DNR competitive prescribed fire grant program when funding is available. The program creates funding opportunities across the state for prescribed fire implementation projects, prescribed fire trainings, and prescribed burn association (PBA) support.
5	Continue development and data collection for the All Lands Prescribed Fire Planning Database, which is used to help determine where prescribed fire resource needs are throughout the state to better plan for supporting the implementation of burns.

Landscape Scale Restoration Competitive Grant Program

The Landscape Scale Restoration Program (LSR) is a USDA Forest Service cooperative forestry program and competitive grant. The program promotes collaborative, science-based, landscape-scale restoration of priority forest landscapes and furthers priorities identified in Forest Action Plans.

Beginning in 2008, the USDA Forest Service, in partnership with state foresters, embarked on a new effort to take an all-lands approach to addressing nationally significant resource challenges. The group focused on identifying the highest priority landscapes and integrating State, Private, and Tribal Forestry Program authorities to enact targeted and meaningful change on the landscape. The approach focuses on:

- **Addressing issues of national importance** and sustaining a diverse range of public benefits from forests and trees.
- **Prioritizing the best available science** and information to assess forest conditions and trends at the national and state level to identify the best opportunities for investment toward meaningful change.
- **Achieving significant outcomes** by emphasizing collaboration, innovative partnerships, and working at appropriate scales by improving our ability to assess and demonstrate our effect on the ground. Resources are focused on a competitive process administered through a joint effort between the Forest Service and regional state forestry organizations including the Council of Western State Foresters.

In 2014, Congress recognized the LSR Program through annual appropriations and approved it as the funding mechanism for a competitive process focused on the priorities identified in State Forest Action Plans. The 2018 Farm Bill amended the Cooperative Forestry Assistance Act (CFAA) to direct the Forest Service, in consultation with state foresters or appropriate state agencies, to provide financial and technical assistance to encourage collaborative, science-based restoration of priority forest landscapes.

Washington State has secured seven Landscape Scale Restoration grants since 2020 totaling $2,068,154 in federal funding to make meaningful progress on our Forest Action Plan goals across six priority landscapes. See the table on next page for more information on these grant projects.

The LSR Program will continue to provide important financial support to leverage resources and achieve the goals and priority actions identified in this Forest Action Plan on non-industrial private, tribal, and state forestland in priority landscapes. The LSR grant program is an essential funding source, as it is one of the main grant programs tied to implementing the actions and priorities of State Forest Action Plans. It also funds a wide variety of forest related treatments, technical assistance, and education and outreach, which allows states and partners to be innovative in achieving forest goals.

THE NATURE CONSERVANCY

Right: The Nature Conservancy mechanical thinning project on Cle Elum Ridge, Kittitas County.

LANDSCAPE RESTORATION GRANTS

YEAR	COUNTY	PROJECT NAME	GRANT DELIVERABLES	PARTNERS
FY 2020	**Chelan**	Integrated restoration across multiple land ownerships in the Stemilt watershed	Implement 1,355 acres of forest health treatment in Stemilt Priority Landscape	Chelan County, Okanogan-Wenatchee National Forest, WA Dept. of Fish and Wildlfie, Stemilt Partnership, WA Dept. of Natural Resources
FY 2021	**San Juan**	San Juan Archipelago Garry Oak Ecosystem Restoration	Restore 13 remnant Garry Oak ecosystems using local and indigenous knowledge in the San Juan Islands Priority Landscape	San Juan Island Conservation District, Island Conservation Corps, Samish Indian Nation, WA State Parks, Western WA University, Rainshadow Consulting, San Juan County Land Bank, San Juan Preservation Trust, WA Dept. of Natural Resources
FY 2022	**Kittitas**	Collaborative landscape and community resilience in the Cle Elum Priority Landscape	Implement 365 acres of forest health treatments on private and community forests in the Cle Elum Priority Landscape	City of Roslyn, Roslyn Fire Dept., Kittitas Fire Adapted Communities Coalition, The Nature Conservancy, WA Prescribed Fire Council, Okanogan-Wenatchee National Forest, Kittitas Conservation District, Tapash Sustainable Forest Collaborative, WA Dept. of Natural Resources
FY 2022	**Snohomish**	Riparian Restoration for Watershed Resilience, Salmon, and Forest Health in the Middle Snohomish	Restore function and connectivity across 107 acres of riparian forest and floodplain systems to improve watershed function, forest health, and habitat	Tulalip Tribes, Mountains to Sound Greenway Trust, Emerald Alliance, WA Dept. of Natural Resources
FY 2023	**Klickitat**	Klickitat Forest Health and Wildfire Risk Reduction Project	Implement 275 acres of forest health treatments in the Klickitat Priority Landscape	Columbia Land Trust, Yakama Nation, Bureau of Land Management, DGS Timber, Mount Adams Resource Stewards, WA Dept. of Fish and Wildlife, US Fish and Wildlife Service, WA Dept. of Natural Resources
FY 2024	**Pend Oreille**	Trail (Sxwuytn) All Lands Forest Health and Wildfire Resilience	Implement 280 acres of forest health treatments on private lands in the Trail Priority Landscape	Kalispel Tribe of Indians, Colville National Forest, Pend Oreille Conservation District, Gonzaga University and Eastern WA University, WA Dept. of Natural Resources
FY 2024	**Spokane**	Building resilience through implementation of landowner post-fire recovery strategies in Spokane County	Implement 450 acres of post fire recovery treatments on private land in Spokane County	Spokane Long-Term Recovery Group, WA Emergency Mgt. Division, Spokane Fire Districts, Spokane Conservation District, State Conservation Commission, Natural Resources Conservation Service, Farm Service Agency, Spokane County, WA Dept. of Natural Resources

Regional Landscape Resilience Initiatives

Washington forests face threats, including drought and wildfire, requiring us to look beyond our state's border and to coordinate with regional partners. Existing regional agreements and efforts recognize this need and provide a venue for DNR to contribute to and benefit from coordination with partners across state and provincial lines. Examples of these opportunities include:

Council of Western State Foresters: A nonpartisan, nonprofit membership organization composed of state, territorial, and commonwealth foresters whose role is to protect, conserve, and enhance Western and Pacific Island forests. DNR will continue engagement in this organization with its state forester as lead and relevant program-level staff on specific issues being addressed by the council workgroups.

Northwest Wildland Fire Fighting Compact: The Northwest Fire Fighting Compact (NW Compact) is one of eight forest fire fighting Compacts operating across North America. Compact members include wildland fire agencies in the U.S. States and Canadian Provinces. Within each compact, fire fighting resources and personnel can be deployed efficiently and quickly to suppress wildfires.

Cascadia Partner Forum: Established in 2012, the forum brings together a network of natural resource practitioners from Washington and British Columbia working with partner entities focused on landscape resilience. DNR program staff participate in the forum to inform planning, co-develop applied science on priority issues in this Forest Action Plan, and monitor progress toward specific goals of this plan.

Pacific Coast Collaborative: In 2013, California, Oregon, Washington, and British Columbia established this collaborative by signing the Pacific Coast Action Plan on Climate and Energy, which was updated three years later as the Pacific Coast Climate Leadership Action Plan. The collaborative established a Wildfire and Smoke Committee where DNR participates to work across state lines on priority issues including Prescribed fire, biomass utilization, smoke, and post-fire recovery.

Council of Western State Foresters Good Neighbor Authority Committee Meeting in Issaquah in 2023.

LAURA WAGNER / USDA FOREST SERVICE

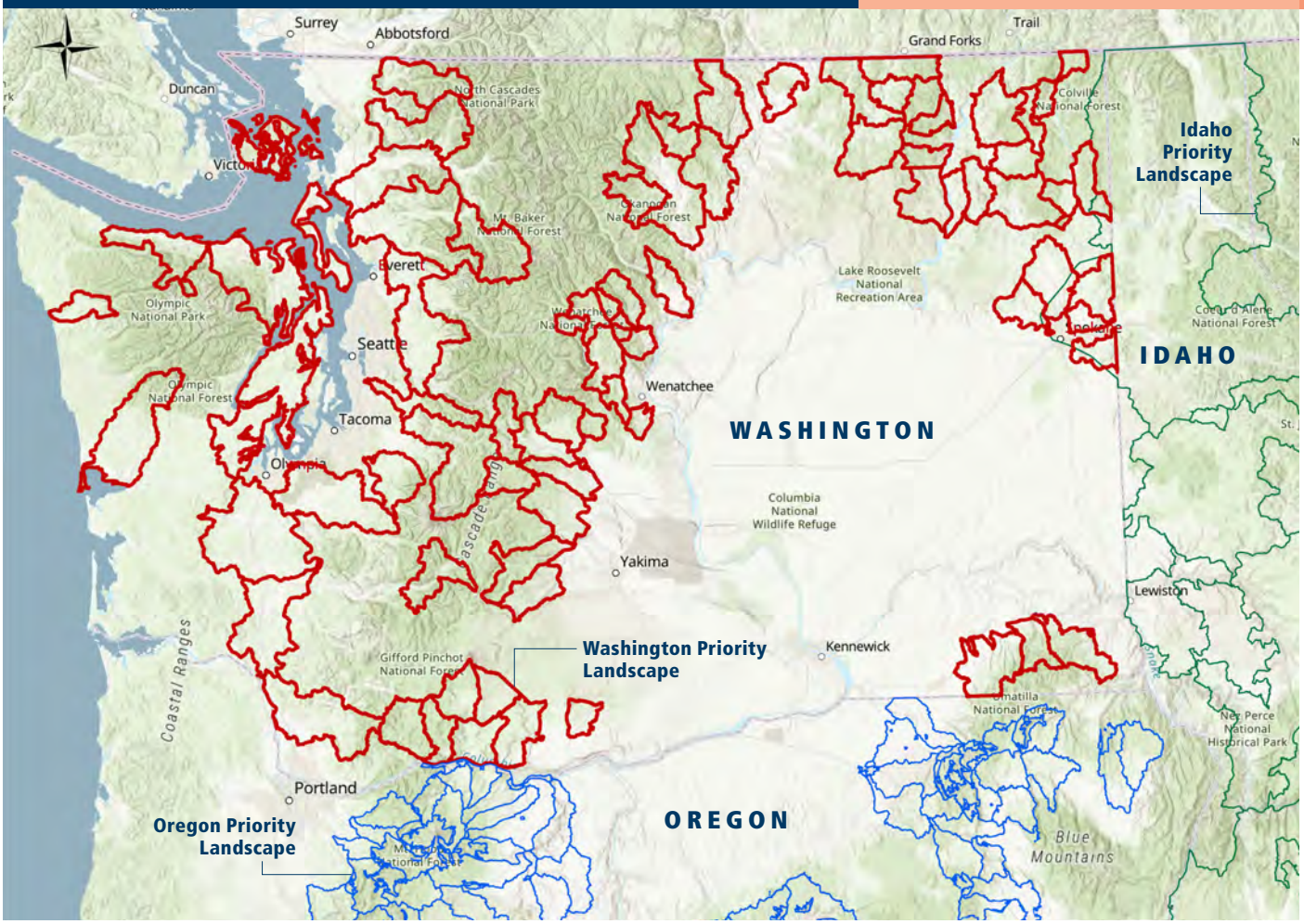
MULTI-STATE PRIORITY LANDSCAPES

Neighboring states have identified priority landscapes through their Forest Action Plans and related strategic planning efforts. Strengthening coordination of relevant forest health and wildfire activities with Idaho and Oregon creates an important opportunity to accelerate implementation across boundaries. The priority areas identified below serve as the focus for multi-state priority landscapes.

The Oregon Department of Forestry leads the 20-Year Landscape Resiliency Strategy to improve forests and rangelands to reduce wildfire risk and promote landscape health. Priority landscapes in the Blue Mountains of Southeast Washington cover the northern portions of the Umatilla National Forest, which spans the Oregon-Washington border. There are also several planning areas along the Columbia River Gorge near the Gifford Pinchot National Forest and Columbia River Gorge National Scenic Area.

The Idaho Department of Lands State Forest Action Plan identifies priority landscape areas. Priority actions focus on coordinated planning with the Forest Service, Natural Resource Conservation Service, and small forest landowners to conduct forest health treatments and wildfire risk reduction activities.

WORKING ACROSS BOUNDARIES IS CRITICAL TO ACHIEVING OUR LANDSCAPE RESILIENCE, FOREST HEALTH, AND WILDFIRE RISK REDUCTION GOALS.



Forest Health Protection

Forest entomologists, pathologists, and forest health specialists at DNR provide technical assistance and education to private landowners and state land managers with identification and management of forest insect pests and diseases. This work is supported through an agreement with the USDA Forest Service.

Forest Health Protection is one of the Cooperative Forestry Programs tied to this Forest Action Plan. Washington's Forest Health Protection Program focuses primarily on insects and diseases that cause mortality, growth loss and stress, or affect wood quality. DNR emphasizes integrated forest pest management methods that focus on increasing stand resistance to insect and disease attack and resilience following any damage that may occur.

Landowner education about forest insects and diseases includes close coordination with Washington State University (WSU) Extension and the DNR Service Forestry Program, both of which lead presentations at coached planning workshops and field days. Other examples include teaching at Washington Contract Loggers Association (WCLA) trainings, guest lecturing at local universities, writing newsletter articles or fact sheets, completing media interviews, and distributing outreach materials.

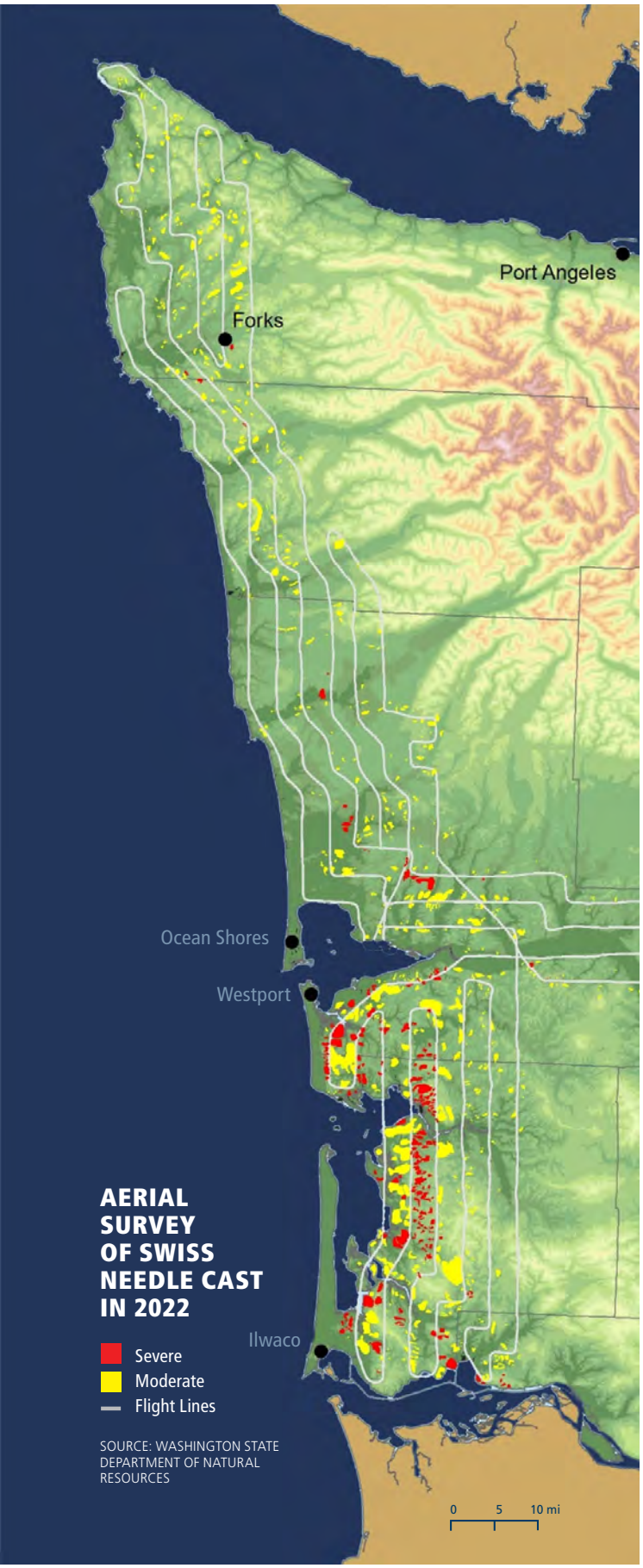
Annual monitoring programs include insect and disease aerial detection surveys, monitoring for invasive *Phytophthora ramorum* in waterways, and monitoring populations of Douglas-fir tussock moth in central and eastern Washington. When other unexpected levels of damage occur, DNR conducts special monitoring projects to determine levels of mortality and potential causes.

Systematic aerial surveys are conducted to collect and report on forest insects, diseases, and other disturbances across federal, state, tribal, and private lands. The USFS and DNR has conducted the Pacific Northwest aerial surveys annually since 1947. Aerial surveys have proven to be an efficient and economical way to detect and monitor forest change events over large, forested areas. Forest health conditions and findings of monitoring projects are reported annually in the Forest Health Highlights report and as needed through other reports, posters, or presentations at professional meetings and trainings.

DNR forest health specialist conducting aerial detection survey.

Management strategies have been proposed for current and changing climate scenarios to enhance resistance and resilience to insect and disease outbreaks. That said, a changing climate will likely create novel conditions for which previous experience is unavailable. Therefore, in addition to increasing landscape resiliency and drought mitigation, an emphasis is also needed on forest health strategies that consider ecosystem adaptability, such as:

- **Selectively removing species** that are or may soon be maladapted for their current location.
- **Planting with seed sources well adapted** to the predicted climate(s) during the tree's lifespan.
- **Employing treatments that reduce** or do not exacerbate tree stress.
- **Monitoring increased activity** or new detections of invasive forest pests that pose serious threats to Washington forests, such as Sudden Oak Death and other Phytophthoras, white pine blister rust, spongy moth, emerald ash borer, and Mediterranean oak borer.
- **Monitoring increased activity or new areas** impacted by native pests, such as Douglas-fir engraver, flatheaded fir borer, and California fivespined Ips, all of which are historically known as minor damage agents typically secondary to other damage causes.
- **Adopting other less-developed practices,** such as fostering biological control.



	PRIORITY ACTIONS FOR FOREST HEALTH PROTECTION
1	Address both native and invasive forest pest species and their effects on forest resources.
2	Detect, monitor, evaluate, and report forest pests and forest health conditions. Conduct activities to improve or maintain forest health conditions and sustainability, including production of an annual Forest Health Highlights report.
3	Coordinate with Forest Service and Forest Inventory and Analysis (FIA) to review annual FIA and forest health monitoring data to detect and evaluate forest health problems.
4	Continue active cooperation with the Forest Service to conduct the annual insect and disease aerial survey and regularly communicate ways to improve safety, training, technologies, and methodologies.
5	Reduce damage through effective integrated pest management, including prevention, suppression, and eradication.
6	Work closely with the Forest Stewardship Program to provide cost-share assistance to landowners specific to reducing risk of insect and disease damage.
7	Represent the forest health, forest entomology, and forest pathology expertise in the state. Review forest stewardship plans and best management practices for forest health guidance.
8	Continue to provide science-based education and technical assistance to as many landowners and land managers as possible through close cooperation with stewardship programs, universities, and other agencies.
9	Include education efforts where needed to limit the spread of invasive insects, such as the "Don't Move Firewood" campaign and educational efforts led by conservation districts.
10	Involve the WSDA as a partner where they are the lead agency for cooperative forest health. Elsewhere, engage them as a key stakeholder, as most states share pest management responsibilities between agriculture and forestry agencies.
11	Collaborate regionally and nationally on insect pests. Collect geo-referenced forest health data using national standards provided by the Forest Service, so that cross-boundary comparisons can be made.
12	Ensure flexibility and seek funding sources to respond to emerging situations that threaten forest health, such as new insect and disease outbreaks or introductions.

Reforestation

Successful reforestation requires multiple factors working in sequence. The reforestation pipeline encompasses a sequential process involving seed collection and production, nursery seedling production, tree planting, and post-planting activities. To achieve successful reforestation, seed from the appropriate seed zone must be grown carefully under tightly controlled nursery conditions, then planted correctly into a site that has been specifically selected and prepared to nurture the seedling.

Following planting, protection of the seedling and maintenance of the site may be required to ensure seedling survival. Lastly, monitoring seedling growth and establishment is an essential part of an adaptively managed reforestation program (see figure below).

Additionally, successful reforestation at scale in Washington requires partnerships between local, state, federal, Tribal, industrial, and private organizations. Diverse and cross-boundary partnerships are particularly beneficial for post-fire reforestation in areas with little or no economic incentive for reforestation. Multiple DNR programs are committed to supporting the health of Tribal lands and communities. Reforestation supported by DNR enables the agency to collaborate with multiple partners leveraging technical expertise and sharing resources to ultimately restore landscapes that transcend boundaries.

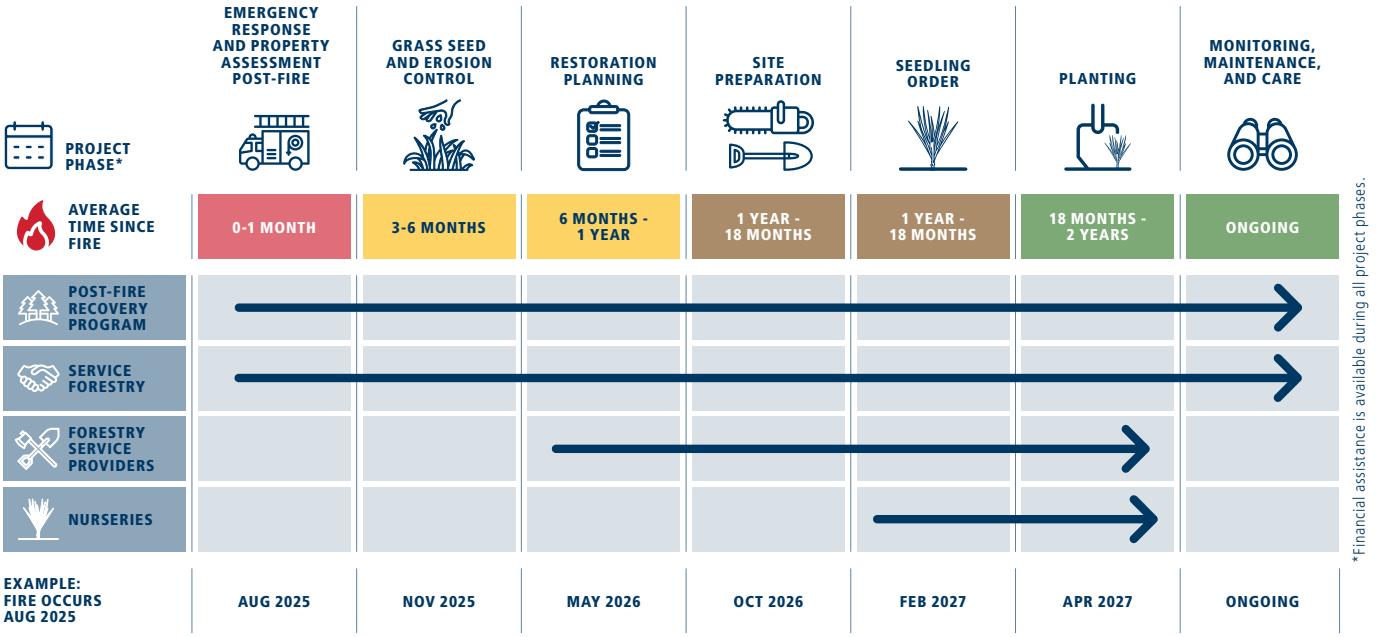
Significant challenges hamper the reforestation pipeline (Fargione et al. 2021). Some exist outside of the control of state agencies, including weather and climate. Other factors, such as effective planting practices, workforce training, seed sourcing, seedling stock types, proper site selection, and monitoring, are within the control of DNR (see graphic) and its partners.

Outside of timber production, which largely focuses on producing large quantities of a limited number of species, most notably Douglas-fir, the reforestation pipeline has significant gaps and breakdowns on both sides of the Cascades. Seed banks are depleted for many non-timber species, including ponderosa pine and other regionally adapted species, which creates challenges when matching the correct seed to the site in need of reforestation. Ensuring the right seeds are sourced and stored for intended deployment areas is crucial to the success of the reforestation pipeline.

Nursery space to grow seeds into seedlings may be limited or inadequate due in part to a lack of consistent demand and size of orders for reforestation projects unrelated to timber production. Site selection in hot and dry areas is increasingly difficult; some of the areas in need of reforestation require more intensive and costly site preparation. In some cases, sites are no longer able to support trees due to climate change. Lastly, to improve seedling survival, training for foresters, contractors, and partners with limited experience with reforestation, especially in hot, dry, or post-fire environments, is lacking. Addressing these gaps in the reforestation pipeline is essential for building a resilient and adaptive reforestation system across the state.

Post-Fire Restoration Timeline in Eastern Washington

The graphic below shows the typical timeline for post-fire restoration in eastern Washington, with components and target timeframes in the columns. The rows show which DNR programs are engaged in the post-fire recovery effort and the specific points in the post-fire timeline when they engage.



PRIORITY ACTIONS FOR REFORESTATION

Reforestation Goal 1: Improve the Reforestation Pipeline across all of Washington

1	Expand nursery capacity in Washington to produce a sufficient number of high-quality seedlings to meet the comprehensive reforestation needs across the state. Establish a supply of tree seedlings ready for post-fire reforestation in wildfire-prone areas. Simultaneously, establish a supply of non-conifer seedlings for post-wildfire restoration for the same year or later. Both goals should leverage existing private nurseries and encourage new seedling growers to enter the market.
2	Expand existing seed collection programs to support both timber and non-timber species. A specific strategy is required for post-fire reforestation efforts. Potential actions include establishing a post-fire seed collection program and forming a seed sourcing cooperative among multiple agencies, Tribes, landowners, organizations, and neighboring states to ensure the production of genetically diverse and climate-resilient seedlings for reforestation of burned lands and other deforested areas.
3	Restore and manage federal, state, and other public forest seed orchards in multiple states as critical sources of diverse, genetically appropriate seed.
4	Initiate pilot projects in wet forests to plant native conifer trees to support forest structures and reduce the presence of flammable invasive species such as scotch broom and blackberry. Once completed, these projects will reduce fire risk by accelerating the successional processes and mitigating the hazard posed by fine, easily ignitable fuels.
5	To achieve all strategic goals and the inherent long-term nature of reforestation, secure long-term and consistent funding for reforestation initiatives. Additionally, secure funding for establishing and maintaining long-term partnerships that enable investments to maximize their impact.
6	Utilize and expand the use of intergovernmental agreements, such as the Good Neighbor Authority and interstate agreements, to support seed sourcing, strategic planting, and to fill gaps in reforestation programs on federal lands.

SUCCESSFUL REFORESTATION REQUIRES MULTIPLE FACTORS WORKING IN SEQUENCE.

PRIORITY ACTIONS FOR REFORESTATION

Reforestation Goal 2: Develop and maximize available reforestation workforce and partners.

1	Support the diverse range of partners in the reforestation sector and acknowledge the valuable contributions of these organizations. Collaborate to establish new partnerships and networks where there are still gaps in the current landscape.
2	Sponsor reforestation-focused training for foresters and restoration practitioners. Training should focus on key areas where knowledge gaps are repeatedly identified including prescription writing, familiarity with the seedling procurement process, contracted labor procurement, cone scouting, and ecological expertise. Ensure the necessary on-the-job training exists to facilitate mentorship and knowledge transfer between employees.
3	Improve the reforestation pipeline capacity throughout the Pacific Northwest, particularly cone collections, nursery production, and workforce using an "all lands" approach.
4	Increase the capacity for post-fire reforestation work along entire reforestation pipeline. Find ways to manage the unpredictable work volume and funding situation for contractors year-to-year.

PRIORITY ACTIONS FOR REFORESTATION

Reforestation Goal 3:
Work from a foundation of critical science.

1	Provide and develop data and information on both tree survival and moisture deficit models to enhance the likelihood that trees planted in the coming decades will continue to thrive into the future.
2	Develop climate-ready methods, strategies, and a template for planting prescriptions that consider the future impact of climate change on seedling survival. This will necessitate reforestation goals tailored to each land management agency or landowner, along with mapping of planting sites before and after planting to support monitoring and adaptive management.
3	Develop or adapt calculation tools to capture baseline, potential, and actual net carbon sequestration resulting from reforestation activities across reforestation projects in Washington.
4	Engage with social science researchers to ensure the equitable distribution of reforestation resources and program development. Further social science research is required to identify unique gaps and make recommendations for smaller parcels, non-industrial landowners, and Tribal lands.
5	Develop and implement monitoring protocols to track capacity in seed collection, nursery capacity, site preparation, seedling handling, planting and seedling survival.
6	Identify and prioritize opportunities for reforestation to ensure forests are sustained for the long-term in high priority sites to facilitate habitat connectivity and climate adaptation as well as on areas disturbed by natural disasters, such as landslides, windstorms and severe wildfire.

SUCCESSFUL REFORESTATION AT SCALE IN WASHINTON REQUIRES PARTNERSHIPS BETWEEN LOCAL, STATE, FEDERAL, TRIBAL, INDUSTRIAL, AND PRIVATE ORGANIZATIONS.

STRATEGIES

COMMUNITY WILDFIRE PREPAREDNESS AND WILDFIRE SUPPRESSION

Wildfire is a natural part of Washington's landscape, but its impacts on communities, ecosystems, and economies have grown more severe in recent years. Longer fire seasons, higher temperatures, and accumulated fuels combine to create conditions where fires burn hotter, faster, and closer to people.

Shortly after DNR published the 2020 Forest Action Plan, the 2021 wildfire season provided yet another reminder of the growing intensity and unpredictability of these events. More than 674,000 acres burned across the state, with approximately 88% of wildfires that year determined as human-caused. The Gray Fire and Oregon Road Fire in 2023 near Spokane destroyed more than 360 homes and claimed two lives.

These events reinforce the urgency of building fire-adapted communities, restoring resilient forest landscapes, and ensuring safe and effective wildfire response. They also demonstrate the critical importance of coordination among state, local, federal, and Tribal partners across land ownership boundaries and between prevention, suppression, and recovery programs.

The Department of Natural Resources and its partners continue to advance this work via the Wildland Fire Protection 10-Year Strategic Plan, which charts a path toward reducing wildfire risk and protecting lives, property, and natural resources. Rooted in the principles of the National Cohesive Wildland Fire Management Strategy, the plan emphasizes proactive measures to reduce human-caused ignitions, expand the use of prescribed and cultural fire, enhance firefighter training and safety, and support post-fire recovery that accelerates ecological and community resilience.

In November 2024, the Washington State Forester requested the assistance of DNR's Wildland Fire Advisory Committee to review progress against the goals identified in the Washington State Wildland Fire Protection 10-Year Strategic Plan. The committee and DNR staff developed an addendum to the Strategic Plan. The Committee reviewed all goals and strategies identified in the original plan, and recommended continued attention and resources focused on those priorities. The Addendum presents the results of the Committee's review of the Plan and recommendations for its successful implementation over the next 5 years. The State Forest Action Plan integrates and supports the Wildland Fire Protection 10-Year Strategic Plan and addendum. Through sustained investment, collaborative planning, and local capacity building, DNR and partners are working toward a future where fire is managed safely, used intentionally as a restoration tool, and lived with responsibly.

PRIORITY ACTIONS FOR WILDFIRE

Wildfire Goal 1: Reduce risk of wildfire to lives, communities, property, ecosystems, and working forests and ensure wildfire suppression response is safe and effective.

1	Conduct interagency pre-response analysis and planning, including evacuation planning.
2	Increase use of prescribed fire and mechanical fuels treatments, prioritizing wildland urban interface areas and associated access roads and highways to increase firefighter and public safety and protect communities.
3	Increase funding for wildfire prevention, preparedness, and response, including funding to reduce human-caused fires and acquire necessary firefighting equipment.
4	Enhance and sustain a wildfire workforce to support safe and effective fire response.
5	Improve retention of entry-level firefighters and encourage basing of private vendor hand crews and engines. Emphasize use of private contract firefighting resources whenever possible. Maintain partnerships with the Washington State Department of Corrections and other state agencies that can provide trained fire personnel.
6	Support interagency initiatives to provide succession planning for Incident Management Teams and overhead positions identified as critical shortage positions. Standardize training, qualifications, and certifications across local and state agencies and response organizations.
7	Partner with interested organizations to develop and maintain hazard maps that integrate wildfire management expertise and can be used to inform risk mitigation and community preparedness efforts.

Community Resilience Program

DNR's Community Resilience Program has grown in leaps and bounds since 2020. Previously a program with two full-time staff based in Olympia, the program has expanded to include nine staff across the state who provide localized expertise and support to communities and partner organizations implementing wildfire resiliency plans and projects.

The Community Resilience Program has three main areas of focus:

- **Wildfire Ready Neighbors**
- **Firewise USA Sites**
- **Community Wildfire Protection Plans**

The program oversees the Wildfire Ready Neighbors Program. Launched in 2021 in three eastern Washington counties, the program has expanded across the state and is now active in both eastern and western Washington. Nearly 7,000 individuals have signed up for wildfire or forest health assessments of their homes and properties since 2021. From those visits, participants have committed to implementing nearly 35,000 individual actions to make their homes and properties more resilient to wildfire.

The program also oversees Firewise USA sites in Washington. These are typically centered around communities or neighborhoods working together on actions to make their communities more resilient to wildfire. There are currently 144 Firewise USA sites in good standing throughout the state.

Through additional grants and state appropriations, Community Resilience has substantially expanded the amount of support it can offer to partners, residents, and landowners. The program made126 awards in 2025 totaling more than $500,000 to Firewise USA sites and communities across the state. These microgrants, which averaged around $4,000 per community, helped implement everything from fuel reduction work and home-hardening activities to evacuation planning. The program has given out more than $1.3 million dollars to partners and communities since 2022.

The program has also been a lead partner in planning and supporting implementation of Community Wildfire Protection Plans (CWPPs). Eleven CWPP's were completed in 2025 in partnership with counties and communities across the state. Several of these communities and counties with recently updated or new CWPPs have been awarded federal Community Wildfire Defense Grants, with 25 awards totaling more than $81 million dollars awarded to Washington communities and counties since 2022.

Looking to 2026 and beyond, the Community Resilience Program is poised to continue helping communities across the state. The program will work with partners to implement grants as well as to help communities understand and implement wildfire preparedness measures appropriate to their localized needs.

Home that survived the 2023 Oregon Fire in Spokane County. Home owners participated in the DNR Service Forestry cost-share program to reduce fuels on their property which likely helped the house survive the fire.

MICROGRANTS

YEAR	AMOUNT AWARDED	AWARDS
2022	$511,040.82	126
2024	$411,023.99	99
2023	$305,417.00	112
2022	$116,881.20	36
Totals	**$1,344,363.01**	**373**

COMMUNITY WILDFIRE DEFENSE GRANTS

YEAR	AMOUNT AWARDED	AWARDS
2022	$21,133,125	12
2023	$30,976,991	9
2025	$29,041,990	4
Totals	**$81,152,106**	**25**

	PRIORITY ACTIONS FOR WILDFIRE
Wildfire Goal 2: Communities are prepared and adapted for wildfire.	
1	Work with partners such as non-governmental organizations, fire districts and conservation districts to engage and educate the public on the risk of living in the wildland-urban interface; enhance, expand, and align education programs, messaging, and regulations.
2	Support Firewise USA® sites, the Washington Fire Adapted Communities Learning Network, and other community organizations to build capacity to coordinate and implement defensible space and planning.
3	Support the development and integration of Community Wildfire Protection Plans (CWPP) with state and federal resources and priorities.
4	Fully fund and integrate the work of a coordinator position to facilitate community assistance programs, coordinate with and support partner efforts in community preparedness, and enhance engagement with limited English proficiency communities.
5	Reduce human-caused wildfire ignitions and address increasing wildfire risk in the wildland-urban interface.

State Fire Assistance

State Fire Capacity (SFC) is a grant program used to support the infrastructure and personnel necessary for timely, professional, and coordinated wildland fire suppression actions throughout Washington. The funding can be used to enhance wildfire prevention and response by:

1. Supporting collaboration between the state and partners to improve methods for wildfire prevention, suppression, and prescribed burns.

2. Strengthening Local Firefighting Capacity by investing in the training of firefighting forces, which ensures communities have the necessary personnel and resources to respond to wildfire threats to homes, farms, rangelands, orchards, and wildlife habitats.

The Department of Natural Resources primarily utilizes grant funding to support the training of interagency, volunteer fire service, and DNR personnel. This is accomplished through in-house instruction of nationally approved courses or by facilitating participation in certified training programs offered elsewhere. Funding also helps cover the costs associated with administering the training program.

Beyond training, grant funding enhances wildfire prevention efforts by strengthening outreach and education on Washington's top human-related wildfire causes: escaped debris burns, recreational activities, and equipment use. These initiatives focus on reducing fire risks through increased public awareness and responsible land management practices.

The Wildland Fire Protection 10-Year Strategic Plan emphasizes the importance of a well-trained workforce (Goal 1, Strategy 3). Funding via SFC directly supports this objective. Key activities include conducting, coordinating, and implementing National Wildfire Coordinating Group (NWCG) training and qualification standards. These efforts ensure an adequate number of qualified personnel are consistently available to respond to wildfires while also promoting standardized training, equipment use, and communication methods in partnership with interagency collaborators. A strong emphasis is placed on safety across all wildfire response operations.

In addition to workforce development, the third strategy outlined in the Wildland Fire Plan focuses on expanding the state's wildland fire prevention workforce. Goal 3, Strategy 7 leverages data-driven approaches to reduce human-caused wildfires, increase prevention planning capacity, and improve implementation.

Through the SFC grant program, the DNR Wildland Fire Management Division actively supports the vision of safely managing and coexisting with wildland fire across Washington. By ensuring wildfire suppression efforts are led by nationally certified firefighters and bolstering prevention capabilities, DNR is taking proactive steps to minimize human-related wildfire occurrences and protect communities.

STATE FIRE ASSISTANCE AND VOLUNTEER FIRE ASSISTANCE ARE USDA FOREST SERVICE COOPERATIVE FORESTRY PROGRAMS THAT PROVIDE CRITICAL SUPPORT TO ENSURE WASHINGTON CAN SAFELY AND EFFECTIVELY MANAGE WILDLAND FIRE.

Volunteer Fire Assistance

In areas served by fire districts and fire departments, volunteer firefighters are frequently the first responders to wildland fire incidents. DNR supports fire districts and departments through a suite of programs including Volunteer Fire Assistance (VFA), Federal Excess Personal Property (FEPP), and Firefighter Property (FFP). These federal programs provide Fire districts and departments with the training, equipment, and vehicles needed to suppress wildland fires while they are still small. Doing so helps protect natural resources, reducing overall fire suppression costs, and managing risks to lives and property.

The objective of the VFA program is to improve the capacity and capability of rural and volunteer fire districts and departments. These districts and departments protect rural communities from wildland fire and play a substantial cooperative role with DNR and federal agencies in minimizing wildland fire impacts across the state. The program provides critical Forest Service funding for fire district wildland fire missions. Funding also helps DNR implement FEPP to provide districts and departments with equipment that is cost-effective for conversion for wildland fire suppression and emergency service missions.

The VFA program strategy focuses funding to meet the following priorities, while maintaining flexibility to adjust priorities to meet emerging needs:

- **Support fire districts and departments** providing services to rural communities with a population of 10,000 or less.
- **Support newly formed fire districts** and departments.
- **Target fire districts and departments** with volunteer membership that is 70 percent or greater.
- **Target fire districts and departments** with low yearly or biannual wildland fire operational budgets.
- **Target fire districts and departments** that assist DNR and federal land management agencies with wildland fire suppression responses.
- **Target fire districts and departments** with fewer available resources.
- **Target areas of the state** with a medium to high fire probability or potential.

PRIORITY ACTIONS FOR WILDFIRE

Wildfire Goal 3: Washington's wildfire preparedness, response, and recovery systems are fully capable, integrated, and sustainable.

1	Establish effective fire suppression protection for all lands, including forestlands not currently protected in the state.
2	Address under-protected lands by exploring opportunities to extend DNR wildland response authorities beyond forest protection zones, consistent with the legislative intent in HB 1498.
3	Establish a Wildland Fire Risk Management, Mitigation, and Protection Planning program at DNR.

Post-Fire Recovery

The DNR Post-Fire Recovery Program prioritizes place-based capacity by working with local governments to sustain recovery beyond the immediate aftermath of wildfires. By strengthening professional networks and providing communities with resources, DNR assists landscapes and communities through short-term stabilization and long-term resilience, all while preparing for the next fire. In 2025, DNR sponsored an update to the AftertheFireWA.org, which aims to provide emergency managers, landowners, and recovery practitioners with sound management practices, case studies, and regularly updated recovery information.

The Washington legislature has provided direction on post-fire recovery to prioritize activities to stabilize and prevent unacceptable degradation to natural and cultural resources and minimize threats to life and property resulting from the effects of a wildfire in RCW 76.04.511, and to provide leadership in post-fire debris flow monitoring and coordinated state and local stabilization, response, and recovery after a fire in RCW 76.04.187.The State's statutory direction is integrated into the state's DNR's strategic planning.

The Post-Fire Recovery Program aligns with broader state and federal strategies, including the Washington Restoration Framework, the State Enhanced Hazard Mitigation Plan, the Climate Resilience Strategy, and the National Disaster Recovery Framework. This alignment ensures that recovery efforts leverage existing authorities, avoid duplication, and maximize impact through a combination of federal, state, and private funding.

Recent Examples of Post-Fire Recovery

The significance of cross-boundary recovery is made evident by recent events. The Gray and Oregon Fires in 2023 burned over 23,000 acres and destroyed 366 homes. Local leaders stressed that recovery is not possible in isolation; it requires collective action involving agencies, landowners, and community members.

Similarly, the Retreat Fire in 2024 underscored the compounding economic consequences of wildfires. Burning through south-central Washington, the fire damaged a century-old irrigation flume crucial to the Yakima Tieton Irrigation District, which supplies water to over 35,000 acres of orchards, pastures, and residences. With over $700 million in annual agricultural revenue at stake, even a single landslide could devastate regional and state economies. In response, the Post-Fire Recovery Program helped secure over $2 million in immediate funding demonstrating the urgency and innovation required to safeguard both livelihoods and ecosystems.

PRIORITY ACTIONS FOR WILDFIRE

Wildfire Goal 4: Implement post-wildfire recovery and restoration strategies. Assess and address high-risk burned areas for risks to public safety and adverse impacts to public resources.

1	Work with the Federal Emergency Management Agency (FEMA) and the Washington Emergency Management Division to develop a statewide post-fire resilience and recovery plan.
2	Identify funding opportunities and build capacity to support implementation of post-fire forest restoration across all- landownerships to improve ecological recovery, mitigate hazards, and increase resilience.
3	Increase public awareness of risks post-wildland fire and facilitate access to resources to mitigate those risks.
4	If resources are made available, fulfill Washington legislature's direction to establish interagency state and private lands Burned Area Emergency Response (BAER) teams to assess and mitigate post-fire cascading hazards.
5	Develop tools to identify and prioritize post-fire recovery strategies and activities, especially for areas with disproportionate environmental health disparities and risks.
6	Monitor post-fire events where the fire was beneficial to forest health and resilience goals. Publish the Work of Wildfire annual report to interpret and explain the findings to enhance public understanding of beneficial fire.

STRATEGIES

KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES

Forests are among the most valuable and enduring assets in Washington. They are essential for clean water, carbon storage, wildlife habitat, cultural connection and rural economies. They form the green infrastructure that supports life and livelihoods across the state by filtering drinking water, moderating floods, and sustaining a $36 billion wood products industry (Washington State Department of Commerce 2025).

Washington's forests face mounting pressure from development, climate stress, and economic and demographic changes. When forests are converted to housing, roads, and other hard infrastructure, communities lose not only open space but also the suite of "green utilities" that forests provide; natural systems that would cost millions to replicate through engineered alternatives.

In 2025, Washington completed an Avoided Conversion Assessment. The results of the assessment underscore the urgency of this challenge. Between 2007 and 2019, Washington lost an estimated 394,000 acres of forestland (nearly 30,000 acres each year during that time period), with small forestland owners accounting for more than 103,000 acres of that loss. Population growth, rising land values, aging landowners, and climate-driven disturbances are accelerating this trend. If left unchecked, these pressures could eliminate another half million acres of forest by the end of this decade, threatening salmon recovery, increasing flood risk, and eroding the economic and cultural foundations of rural communities.

To reverse these trends, Washington must invest strategically in keeping forests as forests to ensure working forests remain intact, productive, and resilient. This requires a coordinated approach that blends voluntary conservation tools, economic incentives, and community-based ownership models. DNR will work with partners to expand the use of conservation easements, community forest acquisitions, and programs such as the USDA Forest Service Forest Legacy Program, which provides permanent protection for working forests while supporting sustainable timber production and public access.

By combining these approaches with new data from the Avoided Conversion Assessment, Washington can prioritize investments in high-risk landscapes, promote equitable access to conservation funding, and empower local communities, Tribes, and land trusts to secure the forests which define their identity and future.

Prescribed fire on the Mt. Adams Community Forest. Klickitat County, WA.

COMMUNITY FORESTS

A community forest is a working forest owned and managed by, or on behalf of, a local community. Community forests provide jobs, enhance rural economic development, conserve working forests from conversion, protect drinking water and water quality, support recreational access, and generate locally driven economic, social, and environmental benefits. The Community Forest and Open Space Conservation Program is a USDA Forest Service Cooperative Forestry effort that provides competitive funding for communities interested in acquiring and permanently conserving working forests. This important funding tool supported the establishment of some of the first community forests in Washington State.

Community forests represent an important opportunity in to address the threat of conversion.

The core tenets of a community forest include:

- The community is involved in the establishment of the community forest.
- The community forest is owned and managed by, or on behalf of a community.
- The governance structure ensures collaboration and community participation in management decisions.
- The community has access to the value and benefits of the forest that support and reinforce community priorities.
- The forest is permanently protected from conversion to development.

In recognition of the expanding role of communities in forest stewardship and management, in 2020 Washington State established the Community Forests Program administered by the Washington State Recreation and Conservation Office. The creation of this grant program cemented Washington's role as a national leader in the community forest movement and provided a great complement to leverage the federal program to empower communities in managing the future of their forests.

Community forest projects received $27,021,650 in state funding between 2019 and 2027, which led to permanent protection of 12,736 acres of forestland. Project partners, from community-based organizations to land trusts, have leveraged an additional $12,031,729 in matching funds to support these critical acquisitions. These state investments make Washington State highly competitive for the federal Community Forest and Open Space Conservation Program. See the table on the following page for details.

WASHINGTON STATE RECREATION AND CONSERVATION OFFICE COMMUNITY FOREST PROGRAM INVESTMENTS (2019-2027)

YEAR	PROJECT NAME	GRANT AWARD AMOUNT	APPLICANT MATCH
2019-2021	Gold Hill Community Forest	$676,000	$300,000
	Mt. Adams Community Forest	$213,000	$122,156
2021-2023	Nason Ridge Community Forest	$3,000,000	$2,221,000
	Chimacum Ridge Community Forest	$3,000,000	$897,500
	Nisqually Community Forest	$2,313,000	$2,313,250
	Mt. Adams Community Forest	$1,399,000	$246,900
	Cle Elum Ridge Community Forest	$3,000,000	$800,250
	North Kitsap Divide Block Community Forest	$2,935,000	$1,200,000
2023-2025	Montesano Community Forest	$1,612,450	$284,550
	Nisqually Community Forest	$2,873,200	$1,560,000
	Stewart Mountain Community Forest	$3,000,000	$1,470,123
2025-2027	Mt. Adams Community Forest	$3,000,000	$616,000
Total		**$27,021,650**	**$12,031,729**

The USDA Forest Service Community Forest and Open Space Conservation Program has funded more than a dozen projects in Washington State, providing nearly $5 million in federal funding to conserve approximately 5,000 acres of forestland at risk of conversion. Washington ranks in the top three among all states for the number of projects funded, total amount of federal funding awarded, matching funds, and total number of acres conserved.

Program Requirements for the USDA Forest ServiceCommunity Forest and Open Space Conservation Program include:

- A full fee title acquisition is required. Conservation easements are not eligible.
- Community Forests can be owned by local governments, tribal governments, and qualified nonprofit entities.
- The program pays up to 50% of the project costs and requires a 50% non-federal match.
- Public access is required for Community Forest Program projects.
- Lands acquired through the program are actively managed in accordance with a community forest plan to provide community benefits.

PRIORITY ACTIONS FOR KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES

Forest Conversion Goal 1: Prevent conversion and strengthen long-term conservation of working forests.

1	Implement the findings of the 2025 Avoided Conversion Assessment report and utilize new statewide spatial data to identify and prioritize forests at highest risk of conversion.
2	Strengthen project development and grant readiness through technical assistance, match support, and integration of prioritization tools such as statewide spatial data.
3	Work with local government and planning agencies to integrate forest retention goals into comprehensive plans and growth management strategies.
4	Provide technical and financial assistance to support transfer of development rights (TDR) programs and other land use incentives that retain working forests.
5	Explore innovative funding mechanisms including ecosystem service payments, carbon markets, and public-private partnerships to sustain conservation outcomes.
6	Increase outreach and engagement to family forest owners, Tribes, and underserved communities to ensure equitable access and participation in forest conservation programs. Additional strategies and actions to support family forest owners are described under Goal 2 in this section.

BETWEEN 2007 AND 2019 WASHINGTON LOST AN ESTIMATED 394,000 ACRES OF FORESTLAND TO DEVELOPMENT, WHICH IS NEARLY 30,000 ACRES EACH YEAR.

PRIORITY ACTIONS FOR KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES

Forest Conversion Goal 2: Establish and expand community forests to permanently conserve forestland and strengthen community connections to forests.

1	Provide technical assistance and support to community-based organizations, land trusts, municipalities, and tribes interested in establishing and expanding community forests.
2	Connect community forests with local workforce development, outdoor education, and recreation programs that provide jobs, training, and access for underserved communities.
3	Encourage development of community-based wood product enterprises, such as small sawmills or biomass utilization facilities, that add value to restoration activities and support local economic development.
4	Increase resources and active management of DNR-owned-and-managed community forests and ensure public involvement in management decision making.
5	Support development of bridge financing, revolving loan funds, matching grants, and other funding mechanisms to help communities respond to time-sensitive acquisition opportunities.
6	Partner with the Northwest Community Forest Coalition and Washington Association of Land Trusts to maintain a list of community forest projects currently under development in Washington.

FOREST LEGACY PROGRAM

The Forest Legacy Program (FLP) is a cornerstone of Washington's forest conservation strategy. It provides federal funding through the USDA Forest Service's Cooperative Forestry Program to protect working forests threatened by conversion to non-forest uses. The program operates on a voluntary model that allows willing private landowners to permanently conserve forestlands through either land acquisition or conservation easements. By maintaining forests as forests, the program helps secure clean water, safeguard wildlife habitat, sustain rural economies, and preserve opportunities for recreation, cultural use, and sustainable timber production.

Washington has received more than $53 million in federal FLP funds since the program launched in the early 1990s, protecting over 77,500 acres of high-priority forestland across the state. These projects have leveraged millions more in matching contributions from local governments, land trusts, Tribes, and private partners. Together, these investments have strengthened local economies by maintaining a reliable timber supply for mills, safeguarding critical drinking water sources, and protecting habitat for endangered fish and wildlife species, including salmon and other at-risk populations.

As part of this plan revision, DNR updated the Forest Legacy Program Assessment of Need (AON) to reflect current data on forest conditions, ownership patterns, conversion risk, and ecological priorities. The updated AON incorporates findings and spatial data from the 2025 Avoided Conversion Assessment to guide project prioritization and focus investments on landscapes where forest loss is most acute. The AON will also define how the program is applied in Washington, ensuring alignment with national FLP implementation guidelines and related state conservation initiatives.

Through these actions, DNR will continue to position Washington as a national leader in forest conservation by demonstrating how partnerships, science, and voluntary stewardship can keep forests working for people, communities, and the environment.

WASHINGTON HAS RECEIVED MORE THAN $53 MILLION IN FEDERAL FOREST LEGACY PROGRAM FUNDS SINCE THE PROGRAM LAUNCHED... PROTECTING MORE THAN 77,500 ACRES OF HIGH PRIORITY FORESTLAND.

Green Mountain West Forest Legacy Project in Kitsap County, WA. The project was selected for funding in FY24.

FOREST LEGACY PROGRAM PROGRAM GOALS & OBJECTIVES

In accordance with the federal Forest Legacy Program, the purpose of Washington's Forest Legacy Program is to protect environmentally important forest areas and the public values they provide.

GOALS

- Provide present and future timber management opportunities.
- Protect water quality.
- Provide habitat for native fish, wildlife and plants.
- Protect existing landscapes to discourage further fragmentation.
- Incorporate federal program goals to ensure Washington's projects meet the intent of the authorizing legislation.

OBJECTIVES

TIMBER MANAGEMENT OPPORTUNITIES

- Promote the continued or potential use of lands for commodity production.
- Link working forest landscapes.
- Promote continued use of the most productive forests within the major ecological forest types of the state.
- Protect habitat and water quality through appropriate forest management regimes.
- Contribute to large forest landscapes of 1,000 acres or greater that are actively managed for forest use and are not overly fragmented with developed parcels, protecting sustainable multiple use forest management practices.

WATER QUALITY

- Protect important riparian functions such as properties with shorelands, wetlands, water bodies, river and year-round streams.
- Enhance recharge benefit to important aquifers and/or enhance protection of privacy watersheds.
- Make upland connections to saltwater ecosystems.

HABITAT

- Protect critical habitat for threatened or Endangered Species.
- Enhance and/or buffer important habitat.
- Promote protection of wildlife corridors.
- Protect dwindling or uncommon ecological forest communities.

LANDSCAPES

- Link protected forest landscapes.
- Provide recreational opportunities whenever possible.
- Contribute to the protection of forest landscapes that are part of an organized state, federal, local or private planning effort or initiative where long term protection of forests makes up a critical component of the plan.
- Buffer currently unthreatened forest land base by protecting transitioning forest lands.
- Support goals of the state fire plan.

FEDERAL INTENT

- Provide landowners with alternatives to development of forest properties.
- Protect the most threatened lands from conversion to other uses.
- Slow or eliminate development potential of adjacent forest properties.
- Protect and enhance lands with special scenic values.
- Preserve and protect existing cultural or historic resources sites.
- Leverage other funding sources (preferably non-federal) for projects that can directly contribute toward the cost of the Conservation Easement.
- Complement other federal lands and investments.
- Provide for increased public access.

Refer to the appendix for more details on the FLP requirements, including scoring criteria and the 2025 Forest Legacy Program Assessment of Need.

THE FOREST LEGACY PROGRAM IS A USDA FOREST SERVICE COOPERATIVE FORESTRY PROGRAM DESIGNED TO PROTECT WORKING FORESTS AT RISK OF CONVERSION TO NON-FOREST USES.

The State of Forest Carbon Projects in Washington

Carbon markets in Washington are creating new revenue opportunities for forestland owners while enabling them to enhance the climate benefits of their forests. Forest carbon projects can take many forms; they are all designed with a common principle in mind: landowners agree to manage their forests in ways that increase carbon storage beyond what would have occurred without the project. This "additional" carbon is quantified into credits which can then be sold as offsets on the carbon market.

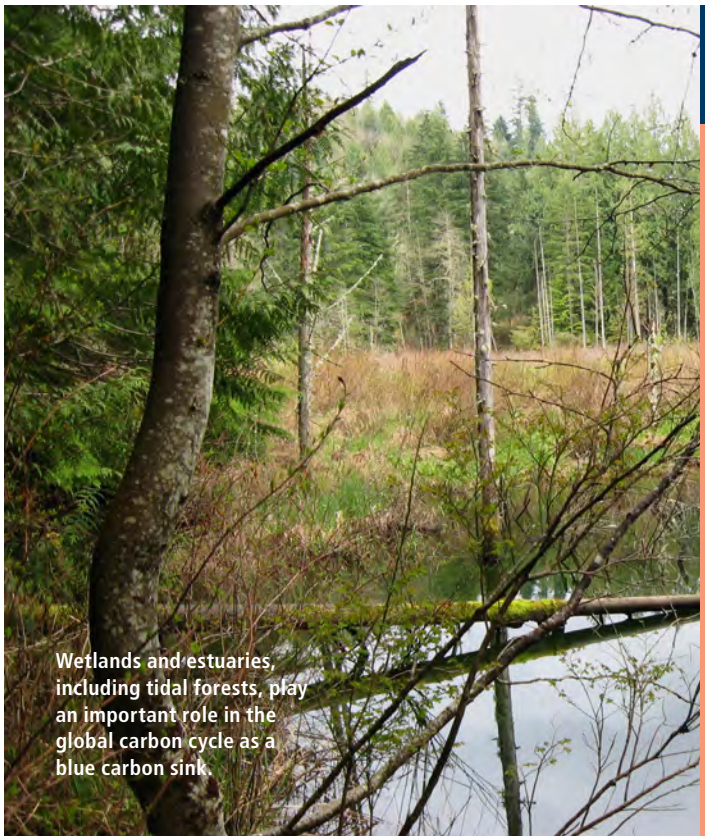
While global carbon markets have been evolving for decades, Washington has seen a substantial increase in active forest carbon projects in recent years. This growth is likely driven by several factors, including rising demand for forest-based carbon credits, increasing credit prices, and the development of new offset methodologies that make participation more accessible to a broader range of landowners.

PROJECT TYPES

Forest carbon projects generally fall into one of three primary categories:

- **Improved Forest Management (IFM):** These projects aim to increase carbon storage in existing forests through enhanced management practices. Management activities might include extending harvest rotations, expanding riparian buffers, thinning to promote growth, or reducing harvest intensity.
- **Afforestation/Reforestation (AR):** These projects aim to restore forest cover on land that has not supported forests for an extended period (afforestation) or was previously forested but remains degraded and unlikely to recover without carbon finance (reforestation). In the U.S., reforestation projects usually target abandoned agricultural or mining land or areas impacted by wildfires; they typically do not include routine post-harvest tree planting efforts.
- **Avoided Conversion (AC):** These projects prevent the loss of existing forests and reduce the risk of deforestation or land conversion to non-forest uses.

As of 2025, all active forest carbon projects in Washington are IFM projects.



Wetlands and estuaries, including tidal forests, play an important role in the global carbon cycle as a blue carbon sink.

COMPLIANCE VERSUS VOLUNTARY PROJECTS IN WASHINGTON

Some forest carbon projects in Washington are developed to meet the requirements of California's Cap-and-Trade or Washington's Cap-and-Invest programs. These are known as compliance projects because they are designed for state-regulated markets. In these projects, landowners sell credits to emitting entities that use them to help meet legally mandated emissions limits.

Other projects are designed for organizations pursuing climate goals outside of government mandates. These are referred to as voluntary projects, as they support climate commitments not covered by regulatory programs. Here, landowners sell credits to buyers seeking to offset emissions as part of their sustainability strategies.

While the specific requirements of compliance and voluntary projects differ, both project types undergo a rigorous third-party review process to ensure they adhere to their respective methodologies.

PROJECTS IN WASHINGTON

Washington was home to 15 carbon projects as of May 2025. These projects covered approximately 723,000 acres; roughly 6% of all non-federal forestland in Washington is enrolled in a carbon project.

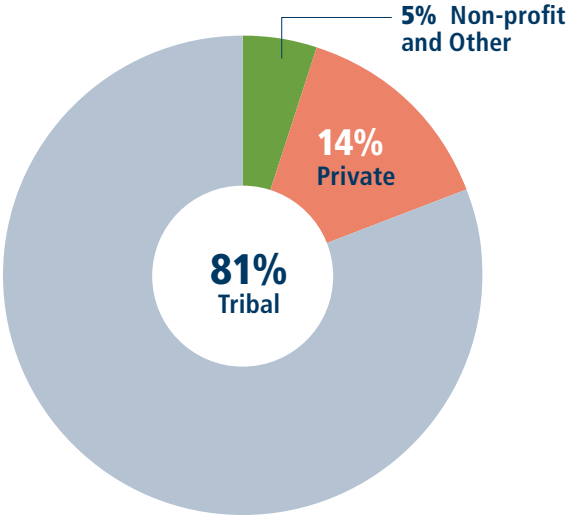
The table, right, summarizes carbon project acreage and project count by landowner or project proponent. Notably, the three compliance projects in the state account for approximately 80% of the total project acreage. One compliance project alone, managed by the Confederated Tribes of the Colville Reservation, represents more than two-thirds of all forest carbon project area in Washington.

EFM Investments & Advisory, Inc. has also enrolled approximately 85,000 acres in five voluntary carbon projects, all of which are located on the Olympic Peninsula. This investment and management firm recently listed Washington's largest voluntary project: a 60,000-acre project in Clallam and Jefferson counties.

A breakdown of forest carbon project acreage by landowner type highlights significant differences in participation. Tribal organizations manage the vast majority of project area, at 81%, with smaller shares managed by private entities (14%), nonprofits (5%), and local governments (<1%). While tribal organizations manage most of the carbon project area in the state, carbon markets provide increasingly viable opportunities for a broad range of landowners and organizations.

CARBON PROJECT AREA BY LANDOWNER TYPE

MAY 2025



FOREST CARBON PROJECT ACREAGE BY LANDOWNER TYPE

PROJECT PROPONENT/ LANDOWNER*	CARBON PROJECT ACRES	NUMBER OF PROJECTS
Compliance	583,300	3
Confederated tribes of the Colville Reservation	487,400	1
Nisqually Land Trust	500	1
Spokane Tribe of Indians	95,400	1
Voluntary	140,100	12
Columbia Land Trust	13,400	1
EFM Investments and Advisory, Inc.	85,000	5
Forest Carbon Works PBC	1,400	1
King County Dept. of Natural Resources	800	1
Nisqually Land Trust	3,300	1
Port Blakely	10,100	1
Puget Sound Energy	4,600	1
The Nature Conservancy	21,500	1
Grand Total	723,400	15

*Typically, the Project Proponent and Landowner are the same. In some cases, such as the Forest Carbon Works project, the Project Proponent manages the carbon project but does not own the forestland. Carbon project size rounded to the nearest 100 acres.

CASE STUDY

NISQUALLY LAND TRUST'S IFM PROJECT

The Nisqually Land Trust's Ashford III project is a 520-acre compliance forest carbon project in Pierce County. The project has been issued approximately 61,000 credits, or 117 credits per acre, since it began in 2012. Like other projects developed under California's compliance market, the Land Trust has committed to maintaining credited carbon stocks for 100 years, ensuring long-term climate benefits.

This project was developed in partnership with Microsoft, which purchased 35,000 credits in 2015. As one of the earliest examples of collaboration between a private company and a conservation organization, this project highlights how carbon projects allow a variety of landowners to increase the value of their forests while managing multiple objectives, including timber, climate benefits, and conservation.

HARRIS EMSBERGER / DNR

INCREASING TECHNICAL AND FINANCIAL SUPPORT ENABLES SMALL FOREST LANDOWNERS TO MAINTAIN FORESTS AS WORKING LANDS RATHER THAN CONVERTING THEM TO NON-FOREST USES.

Reducing Risk of Conversion with Small Forest Landowners

Public investments to keep private forests healthy, resilient, and economically viable reduce the risk of conversion to non-forest uses and maintain the benefits forests provide including clean water, wildlife habitat, carbon sequestration, rural jobs, and wildfire risk reduction.

DNR along with partners at the Natural Resources Conservation Service (NRCS), conservation districts, and Washington State University Extension provide tools, incentives, and technical support to strengthen the stewardship capacity of small forest landowners. This work ensures that forests remain forests for generations to come.

Increased technical and financial support enables small forest landowners to maintain forests as working lands rather than converting them to non-forest uses. Successful implementation of this plan will ensure Washington small forest landowners remain economically viable and culturally significant components of the state's forest landscape. The next section of this plan describes additional goals and priority actions to support family and working forestlands in Washington State.

PRIORITY ACTIONS FOR KEEPING FORESTS AS FORESTS: RISK OF CONVERSION TO NON-FOREST USES

Forest Conversion Goal 3: Support and retain working forestlands held by small forest landowners.

1	Maintain, and increase as necessary in certain geographies, capacity to provide site-specific technical assistance, financial assistance, stewardship planning, and management support to small forest landowners. This includes DNR field foresters, conservation districts, and consulting foresters.
2	Provide technical assistance for estate and succession planning to help landowners pass forests to the next generation and avoid fragmentation.
3	Develop tailored workshops and peer learning opportunities, including opportunities focused on intergenerational transfer and estate planning for small forest landowners.
4	Support development of cooperative approaches for accessing markets for small-diameter timber, woody biomass, and wood products.
5	Implement recommendations from the Carbon Sequestration Advisory Group to enable landowners to benefit from carbon and ecosystem service markets. Explore payment for ecosystem services that reward active stewardship and the maintenance of forest cover.

MATT PROVENCHER / DNR

DNR Service Forester meeting with a private landowner on their property.

STRATEGIES

STEWARDSHIP OF FAMILY AND WORKING FORESTS

Working forests are forests that are actively managed for a diverse suite of values — wildlife habitat, aesthetics, privacy, sustainable timber production, carbon sequestration, and water filtration and flood mitigation. Conserving working forests is critical to maintaining overall ecological function of forested landscapes, and the state's economic, social, and cultural values.

Climate change, and the anticipated shifts in precipitation patterns, forest productivity, and drought, will make the business of growing and managing trees more difficult and expensive. DNR is committed to engaging the timber industry and private forest landowners in identifying and addressing barriers to their ability to successfully meet land management objectives. The economic viability of forest management is critical to maintaining the land base and infrastructure necessary to support healthy forests and communities in Washington.

CLIMATE CHANGE, AND THE ANTICIPATED SHIFTS IN PRECIPITATION PATTERNS, FOREST PRODUCTIVITY, AND DROUGHT, WILL MAKE THE BUSINESS OF GROWING AND MANAGING TREES MORE DIFFICULT AND EXPENSIVE.

PRIORITY ACTIONS FOR WORKING LANDS

Working Lands Goal 1: Plan and implement coordinated landscape-scale forest restoration and management treatments in a manner that integrates landowner objectives and responsibilities.

1	Respect the management responsibilities and trust mandates on federal and state lands. Support sustainable forestry on private industrial and small forestlands.
2	Provide technical assistance, financial resources, and education and outreach to encourage the adoption of voluntary forest health treatments with willing private landowners.
3	Review landowner access to markets for forest products. Ensure timber-processing infrastructure can process large-diameter trees for landowners who choose to manage on longer rotations.

Working Lands Goal 2: Strengthen Stewardship and Viability of Small Private Forests

1	Expand technical assistance and educational opportunities to provide tailored management advice and access to workshops, online resources, and peer learning networks to support sustainable forest stewardship.
2	Enhance financial incentives by expanding cost-share and grant programs that reduce barriers to implementing forest management activities such as thinning, fuels reduction, invasive species control, habitat restoration, and prescribed burning.
3	Enhance access to existing financial assistance programs such as the Family Forest Fish Passage Program (FFFPP) and Forestry Riparian Easement Program (FREP).
4	Advance equity and inclusion by ensuring programs are accessible to historically underserved and marginalized communities include BIPOC landowners, women forest owners, and limited-resource landowners. Partner with Tribes and community-based organizations to co-design culturally relevant approaches to forest stewardship.
5	Build capacity and strengthen opportunities for family forest owners to contribute to landscape-scale restoration through cooperative projects that increase cross-boundary stewardship and coordinated wildfire risk reduction.

Right: DNR's Family Forest Fish Passage Program (FFFPP) provides financial assistance to small forest landowners that include replacing deficient culverts.

Forest Stewardship Program (FSP)

The Forest Stewardship Program is a Cooperative Forestry Program administered in partnership with USDA Forest Service. State Forest Action Plans are required to identify priority areas for the use of federal funds in support of non-industrial private forestland owners through FSP.

The priority landscapes for FSP overlap the 20-Year Forest Health Strategic Plan: Eastern Washington and Western Washington Forest Health Strategic Plan with minor changes for this update. The Natural Resources Conservation Service (NRCS) has identified priority areas, and the DNR has entered into our first statewide agreement with NRCS, which will allow us to hire three conservation planners to help implement NRCS programs through DNR's Service Forestry Program. DNR has worked with our partners to align these priority areas with our shared work and goals.

Alignment leverages the resources of DNR and partner agencies to maximize the benefit to the landowners and achieve larger landscape goals. Washington's Conservation Districts have grants and technical assistance available in many areas of the state as well. The DNR has also entered into an education agreement with Washington State University to provide valuable forestry education to small forest landowners throughout Washington. Additional program goals and priority actions for the Forest Stewardship Program are integrated into the Strategies Section of this report and aligned with work identified through the DNR Small Forest Landowner Office.

THE FOREST STEWARDSHIP PROGRAM IS A COOPERATIVE FORESTRY PROGRAM ADMINISTERED IN PARTNERSHIP WITH USDA FOREST SERVICE.

The Forest Stewardship program helps small forest landowners improve fish and wildlife habitat, aesthetics and recreational potential. It also advises landowners on timber harvests, resource protection, forest health, wildfire risk, and many other topics.

Role of Conservation Districts

There are 45 conservation districts in Washington and the majority of them have identified forest health and/or wildfire resilience as a priority natural resource issue. Conservation Districts provide locally tailored and incentive-based programs that lead to important outcomes in working forests and within communities at risk to wildfire. These programs also complement the work of other agencies and partners that support private landowners. The services provided by a conservation district can vary between communities, however they commonly offer:

- Wildfire risk assessments and mitigation plans
- Forest stewardship planning and forest health treatments
- Fuels reduction projects, chipping, and biochar programs
- Educational workshops and events
- Cost-share incentives for forest health treatment and home hardening
- Neighborhood scale wildfire planning assistance
- County-level wildfire assessment and action planning
- Coordination of wildfire adaptation efforts among local partners

The role of Conservation Districts is critically important as Washington faces increasing wildfire risk and climate impacts. Through this action plan, DNR seeks to bolster working relationships and partnerships with conservation districts.

To learn more about Conservation Districts visit:
What are Conservation Districts?

Right: Fuel reduction work being implemented by Cascadia Conservation District in Chelan County.

THE ROLE OF CONSERVATION DISTRICTS IS CRITICALLY IMPORTANT AS WASHINGTON FACES INCREASING WILDFIRE RISK AND CLIMATE IMPACTS.

CASCADIA CONSERVATION DISTRICT

STRATEGIES

RURAL ECONOMIC DEVELOPMENT

Rural communities are on the front lines of climate change, and their economies are disproportionately affected by changes in natural resource management. Investing in rural communities and the strategies that support the development of natural resource economies provide multiple public benefits.

Rural communities are a central part of solving the forest health and wildfire crisis. Successful implementation of the State Forest Action Plan will require partnership with business leaders and entrepreneurs, public investment, and innovation. The following goals and priority actions represent an important step in strengthening the role of rural communities and supporting economic development.

PRIORITY ACTIONS FOR RURAL ECONOMIC DEVELOPMENT

Rural Economic Development Goal 1: Strengthen and build partnerships with federal, state, and local stakeholders and tribes to facilitate investment in community economic development that contributes to forest health and resilience.

1	Enhance economic development through implementation of forest restoration and management strategies that maintain and attract private sector investments and employment in rural communities.
2	Support efforts to secure a reliable and meaningful timber supply. Grow and maintain the forest products industry infrastructure to levels required to meet forest health and wildfire resilience goals.
3	Assess forest management contracting capacity and infrastructure required to meet forest health objectives. Support investments in worker training for forest health treatment and prescribed fire crews.
4	Support innovation in the forest products industry that increases the use of forest health treatment by-products such as small-diameter wood, and support development of markets for mass timber, biochar, and biofuels.
5	Through communication channels and utilizing examples grounded in Washington forests, promote the benefits of local forest products that advance ecological, economic, social, and cultural goals.

PRIORITY ACTIONS FOR RURAL ECONOMIC DEVELOPMENT

Rural Economic Development Goal 2: Increase wood utilization and adoption of technologies that create jobs and improve the economics of forest health treatments.

1	Evaluate the potential for a public-private partnership that could enhance milling capacity to meet forest health and wildfire risk reduction goals in northcentral Washington.
2	Support development of wood energy systems at meaningful and appropriate scales. Leverage state and federal funding to support conversion from fuel oil to wood energy in public facilities. Study the potential to establish a wood energy system at Central Washington University.
3	Partner with the state Department of Ecology to expand wood stove switch-out programs that convert inefficient wood stoves to cleaner-burning and low-emission pellet stoves.
4	Evaluate the potential to create a tax credit for use of Washington wood in mass timber manufacturing and biofuels.
5	Partner with academic institutions and businesses to support the development of biochar markets including agricultural applications and stormwater filtration. Support demonstration projects that can be scaled commercially and support development of new small businesses in the state.

Forest health treatments often require a host of activities that do not generate revenue — harvesting small-diameter trees, slash and brush removal, pile burning, invasive species treatments, and riparian restoration, among others. Developing markets for these products will help to reduce costs associated with forest health treatments and accelerate implementation of these critical non-commercial activities and support forest management, restoration, and landscape resilience outcomes. Entrepreneurs, agencies, academic institutions, and others are piloting and evaluating wood utilization technologies in Washington — wood energy, pellet manufacturing, small-diameter sawmills, wood stove switch-out programs, biofuels, biochar, and mass timber.

PRIORITY ACTIONS FOR RURAL ECONOMIC DEVELOPMENT

Rural Economic Development Goal 3: Support natural resource economies, ensure a sustainable and reliable timber supply, and invest in workforce, infrastructure, housing, and innovation that advances forest health and resilience.

1	Maintain and expand training programs and apprenticeships for forestry, watershed restoration, and wood innovation. Partner with local organizations, Tribes, community colleges, and local schools to build rural skills training programs with these target communities; emphasize establishing opportunities for rural and underserved forest dependent communities.
2	Increase natural resource workforce housing availability and affordability in rural and Tribal communities to attract and retain forestry, wildfire, and restoration workers.
3	Encourage a diverse, stable, sustainable, and robust supply of locally sourced and processed forest products from public, private, and Tribal forestlands to support existing and new infrastructure and associated socio-economic benefits. On public, lands work collaboratively to increase the consistency, availability, and predictability of forest resources including timber.
4	Emphasize agency community connections including promoting hiring and placement in rural, forest-dependent communities to the extent practicable to strengthen local economies and foster stronger connections between agency staff and the communities they serve.
5	Foster collaborative efforts among agencies, Tribes, local governments, nonprofits, and industry to increase understanding and knowledge exchange of rural economic challenges and opportunities and align investments in forestry-related rural economic development.

CHUCK HERSEY / DNR

Hampton Lumber sawmill in Randle, WA.

DAVID MOSKOWITZ

Trees along paved riverwalk path in Chelan, WA.

STRATEGIES

URBAN AND COMMUNITY FOREST RESILIENCE

Urban and community forests are composed of the trees and associated vegetation that grow along streets in the public rights-of-way, as well as in parks, school campuses, forest preserves, natural areas, and other public properties. Cities, towns, and counties may also regulate the planting, care, and removal of trees on private property as private properties comprise most of the land base and collective tree canopy within a given community. Across all these spaces, trees help improve quality of life, support local economies, and contribute to a healthier environment.

As Washington's cities and towns face growing pressures from urban development, pollution, drought, storms, pests and diseases, invasive species, inadequate care, and wildfire—the role of urban and community forestry becomes increasingly vital. Recognizing this, the Washington State Legislature substantially updated the Revised Code of Washington (RCW 76.15) in 2021. These updates enable DNR's Urban and Community Forestry Program to provide more resources and technical support to enhance tree canopy cover and increase the capacity of Washington communities to be effective stewards of natural resources.

Urban and community forests contribute to community resilience and quality of life in many ways:

- Communities with an abundance of healthy, properly maintained trees have less neighborhood crime, more social cohesion, better student achievement, and improved mental health with reduced levels of stress and anxiety for residents.
- Tree canopies improve air quality, provide shade, and reduce the impacts of urban heat islands.
- Trees improve water quality, control stormwater runoff, reduce the frequency and severity of floods, and protect aquatic habitat for steelhead, salmon, orcas, and other wildlife.
- Trees and other green spaces also provide wildlife habitat for terrestrial animals, birds and insects including pollinators like bees and butterflies.
- Urban forests and trees help sequester carbon from the atmosphere.

To preserve the benefits of urban forests and address emerging threats, the DNR Urban and Community Forestry Program provides technical, financial, and educational assistance to support local capacity and ensure every community—large or small, can care for and expand its urban forest. To learn more visit the Urban and Community Forestry Program website.

Urban and Community Forestry Program Impact Summary

Since 2020, DNR's Urban and Community Forestry Program has undergone a transformative period of growth launching a new era of urban forest management in Washington—one characterized by data-informed planning, cross-sector partnership, and an unwavering commitment to canopy cover and climate resilience.

In 2024, DNR administered a groundbreaking $8 million Community Forestry Assistance Grant cycle, combining federal and state funding. This supported more than 40 urban forestry projects across the state from rural communities to city centers. Projects are making meaningful impacts in four key areas:

1. **Planning and Policy Development** – creation of new urban forest management plans, tree canopy analyses, tree inventories, and updating ordinances to strengthen policies and improve decision-making at the local level.
2. **Boots-on-the-ground work** – including large-scale tree planting, restoration, food forest development, and maintenance projects that extend the lives of existing trees, improve tree canopy, mitigate urban heat, and restore degraded urban greenspaces and wildlife habitats.
3. **Community Engagement and Education** – supporting hands-on learning, outreach, and early exposure to careers in arboriculture, ecological restoration and urban forestry, students and residents are connecting with urban trees in new and empowering ways.
4. **Advancing Equity** – over 50% of grant funds were directed to projects located in or directly benefiting highly impacted and historically underserved communities, ensuring benefits reach those more impacted by environmental disparities.

These investments have catalyzed new partnerships and significantly expanded the program's reach. Notably, DNR launched the Washington Tree Equity Collaborative in partnership with American Forests to expand awareness of urban and community forestry issues and increase engagement with local communities. Separately, DNR initiated a contract with American Forests to bring the Tree Equity Score Analyzer (TESA) tool to Washington for community-driven, data-informed canopy planning. The program has attracted new applicants and first-time grant recipients including nonprofits, tribal governments, and municipalities that had never previously applied for nor accessed UCF funding.

Beyond grant administration, federal investments have allowed continued work on pest preparedness through the Urban Forest Pest Readiness Project, offering annual statewide workshops on invasive pest threats and management solutions, since 2020. These proactive efforts have laid the groundwork for more informed and coordinated urban forestry practices statewide that are helping local jurisdictions prepare for future outbreaks of invasive insect pests.

THE MISSION OF THE URBAN AND COMMUNITY FORESTRY PROGRAM IS TO PROVIDE LEADERSHIP TO CREATE SELF-SUSTAINING URBAN AND COMMUNITY FORESTRY PROGRAMS THAT PRESERVE, PLANT AND MANAGE FORESTS AND TREES FOR PUBLIC BENEFITS AND QUALITY OF LIFE.

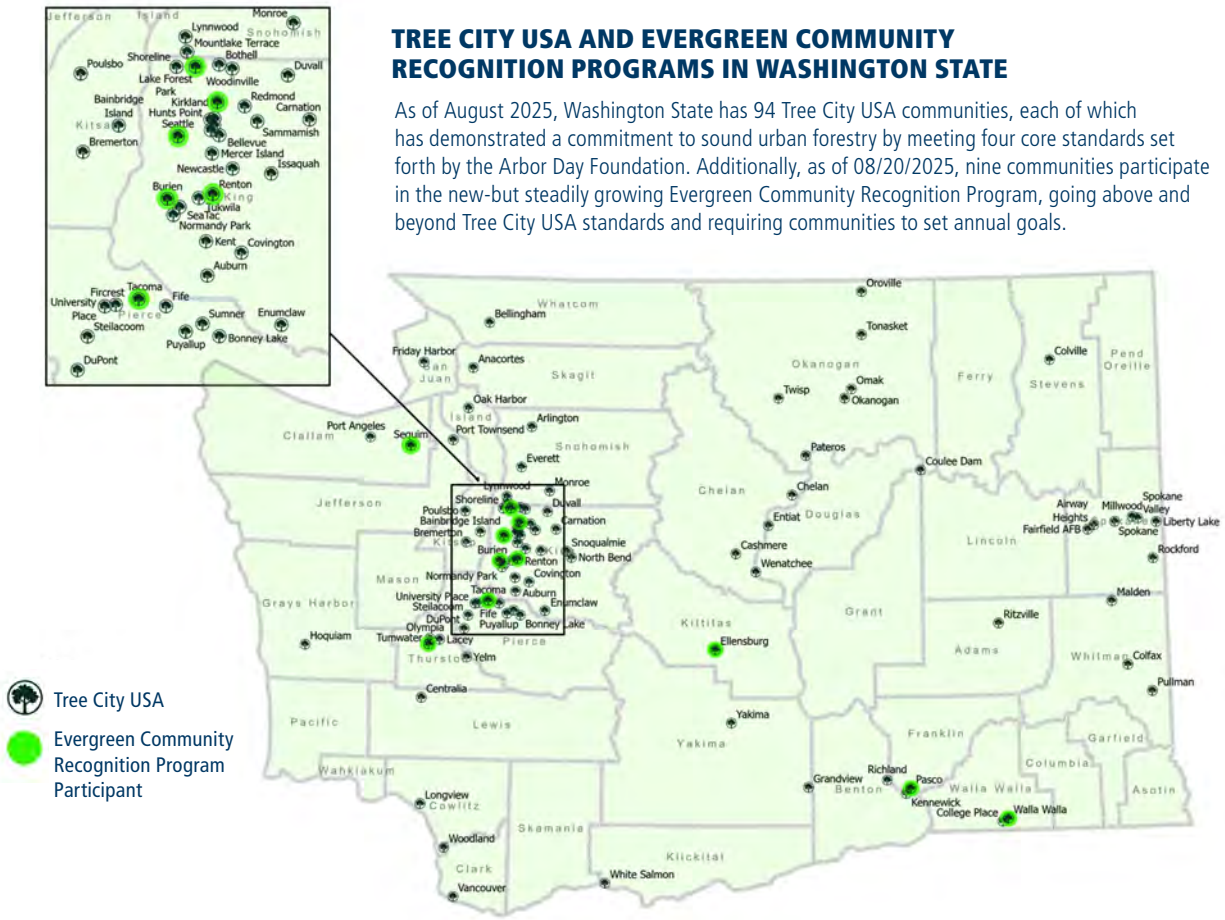
Washington's current urban and community forestry efforts better meet the increasing needs of communities as they cope with the stresses of population growth, urban development, climate change, and acute environmental impacts of heat, flooding, and severe storms. Opportunities continue to emerge as new communities are reaching out, stronger and better ideas are taking root, and momentum for continued action is being built at local, regional and statewide levels.

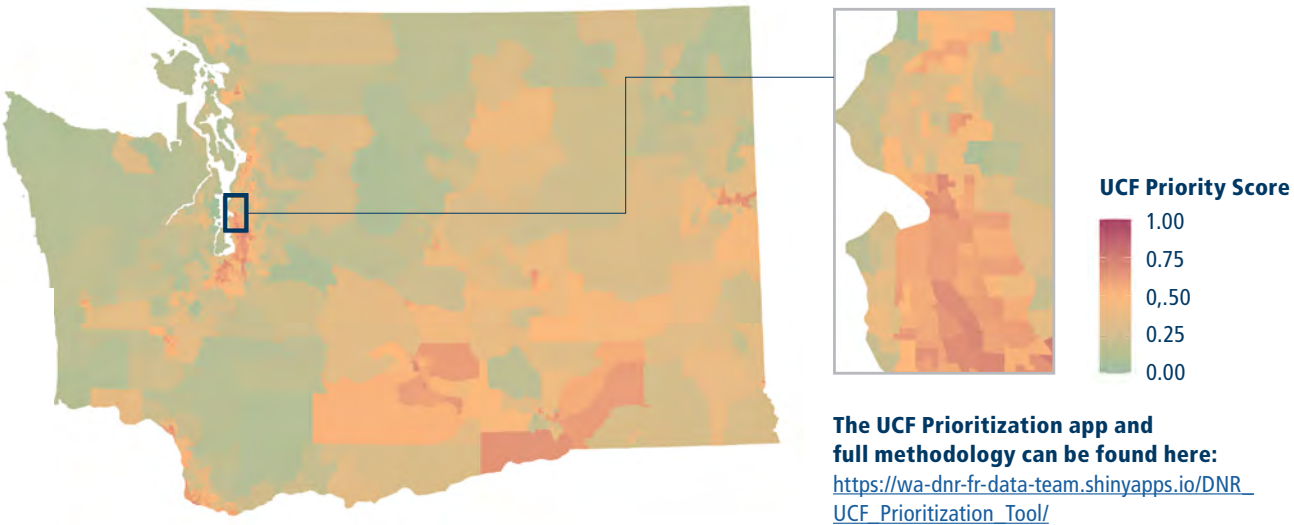
Continued commitment to data-driven canopy planning, thoughtful species selection, and proactive maintenance, paired with access to technical assistance, strong local partnerships, and continued community engagement, will be critical to the resilience of Washington's urban forests for generations to come.

Othello Parks staff plant a tree in Othello with consulting arborist Will Mellott.

TREE CITY USA AND EVERGREEN COMMUNITY RECOGNITION PROGRAMS IN WASHINGTON STATE

As of August 2025, Washington State has 94 Tree City USA communities, each of which has demonstrated a commitment to sound urban forestry by meeting four core standards set forth by the Arbor Day Foundation. Additionally, as of 08/20/2025, nine communities participate in the new-but steadily growing Evergreen Community Recognition Program, going above and beyond Tree City USA standards and requiring communities to set annual goals.





The UCF Prioritization app and full methodology can be found here:
https://wa-dnr-fr-data-team.shinyapps.io/DNR_UCF_Prioritization_Tool/

URBAN AND COMMUNITY FORESTRY (UCF) PRIORITY INDEX

The Urban and Community Forestry (UCF) Priority Index scores were derived from an analysis of environmental health disparity data from the Washington State Department of Health, tree canopy and impervious cover data from 2021 Ecopia high resolution statewide imagery, urban forestry management status from USFS Community Accomplishment Reporting System (CARS), landscape planning area status from Washington DNR, salmon habitat data from Washington Department of Fish and Wildlife, and temperature impaired salmon habitat data from Washington Department of Ecology. Areas with high priority scores indicate communities with high environmental health disparities where increased urban forestry efforts may have a relatively high impact; lower values indicate communities with fewer environmental health disparities where urban forestry efforts, while still beneficial, may have a relatively lower impact.

Unique Challenges and Threats Facing Washington's Urban Forests

Washington's urban forests face a complex set of challenges driven by natural and human-caused pressures. Rapid population growth and ongoing development continue to reduce available planting space, fragment community forest areas, and compact or alter soils, creating difficult conditions for trees to thrive. Urban infrastructure often competes with root zones and canopy space, and many communities face the mounting challenge of aging tree populations often without adequate pipelines of younger, well-maintained trees ready to take their place.

Environmental stressors are compounding these pressures. Hotter, drier summers and reduced rainfall have placed increased strain on urban trees, particularly in areas with limited irrigation or poor soil. Storm events, invasive pests like emerald ash borer, and diseases affecting key native species such as western red cedar, further threaten to erode canopy cover in Washington's cities and towns. Wildfire risk within the wildland-urban interface is also a growing concern.

Issues such as these bring urgency to urban planning as city staff cope with pressing expectations to adapt land development codes to account for construction of more housing units, greater housing densities, and fire risk reduction while also protecting tree canopy and the long-term benefits provided by trees, such as shade, stormwater management, and improved air quality.

These circumstances are complex and evolving, requiring equally dynamic and sustained responses. Many communities find themselves unprepared and ill-equipped to tackle these challenges, although they are beginning to meet this moment thanks to the tools, local partnerships, and new frameworks developed because of state and federal investments in recent years.

PRIORITY ACTIONS FOR URBAN AND COMMUNITY FORESTRY

Urban and Community Forestry Goal 1: Support improvements to urban forests and tree equity for health and climate.

1	Establish a complete baseline of existing urban forestry conditions for incorporated municipalities. **a.** Invest in and utilize high-resolution canopy data to assess urban canopy cover statewide. **b.** Conduct statewide analysis to assess urban forest structure, tree cover and other land cover types in urbanized areas to establish a baseline from which change can be assessed. **c.** Establish a statewide Tree Equity Score for all urban census block groups and plan for routine updates. **d.** Assist local jurisdictions with prioritization of low canopy areas and potential planting sites.
2	At least 15% of grant funds are invested into tree planting and maintenance efforts. **a.** Improve the viability of tree stock supply chain to increase availability of trees for planting in urban areas. **b.** Establish a work group on climate-adapted urban tree species. **c.** Increase grant-funded tree planting and maintenance opportunities. **d.** Promote tree planting in areas of greatest need, such as low canopy areas, highly impacted communities, etc.

PRIORITY ACTIONS FOR URBAN AND COMMUNITY FORESTRY

Urban and Community Forestry Goal 2: Investments are focused on areas of greatest needs and where trees can have the greatest impact

1	At least 50% of resources used in delivering the policies, programs, and activities of the DNR Urban and Community Forestry Program are benefiting vulnerable populations and are delivered in or within one-quarter mile of highly impacted communities. **a.** Enhance grant recipient expectations to ensure recipients conduct outreach that informs, includes and engages local residents in implementation of projects within highly impacted communities. **b.** Expand UCF Program network to include organizations representing highly impacted communities and Tribal governments. **c.** Reduce funding application barriers to partners and organizations.

PRIORITY ACTIONS FOR URBAN AND COMMUNITY FORESTRY

Urban and Community Forestry Goal 3: Urban and community forests are sustainable, resilient, and protected for current and future generations.

1	Cities and towns have tree canopy analyses, tree inventories, urban forest management plans, or ordinances supporting improved urban and community forest management and protection. **a.** Provide training and education for staff from local jurisdictions on best practices for urban forest management and care. **b.** Increase proactive, climate-informed best management practices in urban forest management plans. **c.** Help evaluate the efficacy of tree ordinances to improve protections for trees on public property.
2	Increase UCF Program technical and financial assistance dedicated to urban forest maintenance. **a.** Help improve resilience of young trees to increase growth and longevity. **b.** Develop a process and methodology to provide dedicated technical and financial assistance to perform deferred maintenance.
3	Increase participation in DNR-managed recognition programs for urban forestry work (Evergreen Community Recognition Program, Tree City USA, Tree Line USA, Tree Campus USA, etc.). **a.** Develop and deliver DNR urban forestry recognition programs incentivizing tree canopy and care **b.** Incorporate recognition program participation incentives into grant scoring criteria **c.** Administer and facilitate recognition programs
4	Increase the cultivation and retention of a skilled Washington State urban and community forestry workforce. **a.** Introduce youth to the full range of education and employment opportunities available in the urban and community forestry sector. **b.** Increase workforce development and green jobs in urban and community forestry with attention to underserved communities. **c.** Increase the number of certified arborists on staff within incorporated municipalities. **d.** Improve the workforce pipeline by engaging Washington Conservation Corps and similar outdoor-based crews to restore and maintain urban forest landscapes.

PRIORITY ACTIONS FOR URBAN AND COMMUNITY FORESTRY

Urban and Community Forestry Goal 4:
Green Infrastructure is seen as a solution to help mitigate for multiple hazards statewide.

1	Position the Urban and Community Forestry Program as a key resource for local jurisdictions wanting to reduce impervious cover and increase natural green infrastructure. **a.** Identify areas of high impervious cover in and around urban riparian and nearshore habitats. **b.** Integrate statewide land-cover data, including tree canopy and impervious surface cover, into program prioritization tools. **c.** Identify DNR or other publicly owned land near urban areas appropriate for protection or designation as urban/community forests.

PRIORITY ACTIONS FOR URBAN AND COMMUNITY FORESTRY

Urban and Community Forestry Goal 5:
DNR is a skilled and reliable leader for urban and community forestry statewide.

1	DNR's Urban and Community Forestry Program employees are well-informed, engaged, and prepared for change by supporting continuing arboricultural education, clear communication of goals, opportunities for development, and participating in program decision-making.
2	Strengthen urban forestry data and knowledge to enable data-driven decisions by conducting studies, supporting research, and providing access to results and data.
3	Expand engagement of the Washington Community Forestry Council (WCFC) in DNR Urban and Community Forestry work to reinforce their role as an expert advisory group for statewide urban forest management.

These Urban and Community Forestry Program Priority Actions are adapted from the Washington DNR Urban and Community Forestry Strategic Plan: 2023-2029. More information about these goals and objectives, as well as specific strategies and measures of effectiveness are found within the strategic plan.

THE URBAN AND COMMUNITY FORESTRY PROGRAM PROVIDES TECHNICAL, EDUCATIONAL AND FINANCIAL ASSISTANCE TO WASHINGTON'S CITIES AND TOWNS, COUNTIES, TRIBAL GOVERNMENTS, NON-PROFIT ORGANIZATIONS, AND EDUCATIONAL INSTITUTIONS.

STRATEGIES

WILDLIFE AND SALMON RECOVERY

Conservation and protection of fish and wildlife is a priority identified in the state's Shared Stewardship Investment Strategy, and a common theme in numerous strategic plans and reports that guide agency action related to forest conservation and management. In 2025, the Washington Department of Fish and Wildlife (WDFW) updated the State Wildlife Action Plan, and in partnership with Washington State Department of Transportation (WSDOT), also published the Washington Habitat Connectivity Action Plan. Priority actions identified in this State Forest Action Plan seek to support WDFW and partners engaged in efforts to protect and restore habitat, maintain and improve habitat connectivity, and address emerging threats to fish and wildlife posed by climate change.

Climate change is anticipated to lead to shifts in species distributions and abundances, increased presence of invasive species, and the emergence of novel ecological communities. DNR is a major landowner and statewide leader providing an opportunity to make meaningful contributions to habitat enhancement and salmon recovery. This will be accomplished through targeted use of DNR programs and coordination with WDFW and forest landowners.

"Washington's State Wildlife Action Plan (SWAP) is a comprehensive plan for conserving the state's fish and wildlife and the natural habitats on which they depend."

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

PRIORITY ACTIONS FOR WILDLIFE AND SALMON RECOVERY

Wildlife and Salmon Recovery 1: Restore and protect ecosystem health to support fish and wildlife habitat and biodiversity.

1	Develop incentives to encourage voluntary actions to protect forest ecosystems that provide rare or high-quality habitat and support State Wildlife Action Plan (SWAP) priorities. Secure full funding to implement shovel-ready projects identified through opportunities like the Family Forest Fish Passage Program.
2	Significantly increase state and federal investments in restoration and acquisition of habitat in areas where Chinook stocks most benefit Southern Resident Orcas.
3	Implement the Statewide Strategy to Recover Salmon to keep salmon from becoming extinct in Washington. Focus on the four main areas of recovery emphasis — habitat, harvest, hatcheries, and hydropower — while focusing on those most within DNR's authority, which is largely habitat. Appropriately integrate and support the coordination of salmon recovery goals at the federal, state, regional, and watershed levels.
4	Seek to maintain, restore, and conserve habitat connectivity in Washington state and bordering areas to support priorities identified in the SWAP and other conservation strategies. Addressing fragmentation and habitat linkages based on the landscape-scale patterns identified in the Washington Habitat Connectivity Action Plan analyses and supported through continued ongoing regional planning efforts.
5	Adopt and implement policies, incentives, and regulations for future growth and development to prevent further degradation of critical forest habitat and sensitive ecosystems; enable and channel human population growth in ways that result in net ecological gain; evaluate and report outcomes for all jurisdictions at the state, county, tribal, and municipal level.
6	Use innovative tools such as the Good Neighbor Authority to generate revenue through forestry management and invest in habitat recovery projects on federal lands, in partnership with WDFW and the Forest Service.
7	Improve interagency and partner collaboration around project planning for fish and wildlife and habitat restoration.

Right: Washington DNR is utilizing Autonomous Recording Units (ARUs) to monitor populations of Northern Spotted Owls in areas proposed for forest health treatments.

PRIORITY ACTIONS FOR WILDLIFE AND SALMON RECOVERY

Wildlife and Salmon Recovery Goal 2: Enhance climate resilience for the state's plants, animals, and ecosystems, prioritizing immediate action and assessments on public forestlands.

1	Partner with WDFW, State Parks, and others to assess vulnerability and enhance monitoring of DNR natural areas. Fund and complete management plans for DNR Natural Areas to provide guidance for long-term management actions including consideration of potential climate change effects.
2	For potential new protected lands, such as natural areas, explicitly consider the potential effects of climate change and SWAP priorities in identifying acquisition targets and the sustainability of the site.
3	Provide core funding for Natural Heritage Program staff to plan and implement species and ecosystem inventory efforts. Partner with WDFW and others to complete Climate Change Vulnerability Index evaluations for rare species and ecosystems to determine risks to key species and habitats.
4	Promote climate-suitable strategies for at-risk species, with a focus on public forests. For example, thin low-quality or non-habitat areas for northern spotted owls to accelerate the development of older forests, where consistent with other objectives.
5	Engage in regional climate resilience planning efforts to inform and complement implementation of DNR programs.

IMPACTS TO AT-RISK SPECIES AND HABITATS

Increased disturbance from wildfire, drought, and insect outbreaks can degrade or eliminate critical habitat for forest-dependent species. Changing conditions may outpace existing habitat conservation and species recovery strategies. Climate change will exacerbate risks for species already listed under the Endangered Species Act or those of cultural significance to Tribes. At the same time, active management and forest restoration are important strategies to reduce fire risk to high-suitability Northern Spotted Owl habitat in locations where it is more likely to persist (Halofsky et al. 2024). Additional examples include:

- **Declining canopy** cover or shade and warming water temperatures that will threaten cold-water fish species.
- **Shifts in vegetation communities** and associated disturbance regimes critical for threatened birds and mammals.
- **Mismatches in timing** between species life cycles and habitat conditions.

JOHN JACOBSON / WDFW

Close-up of a fisher (*Pekania pennanti*), an endangered species.

INCREASED DISTURBANCE FROM WILDFIRE, DROUGHT, AND INSECT OUTBREAKS CAN DEGRADE OR ELIMINATE CRITICAL HABITAT FOR FOREST-DEPENDENT SPECIES.

Priority Actions for Invasive Species

The Washington Invasive Species Council (WISC) coordinates with partner agencies and organizations to address threats posed by invasive species in the state. Efforts to prevent, manage, or remove invasive species can contribute to many forest health objectives including supporting habitat for salmon and other species. Specific priority actions related to forest health and resilience include:

In 2024, DNR administered a groundbreaking $8 million Community Forestry Assistance Grant cycle, combining federal and state funding. This supported more than 40 urban forestry projects across the state from rural communities to city centers. Projects are making meaningful impacts in four key areas:

- **Support WISC and partner efforts** to secure financial resources and statutory authority to effectively prevent and manage invasive species, such as English ivy, Himalayan blackberry, and Scotch broom.
- **Work with agencies and organizations** to prevent the establishment of new invasive species, such as the emerald ash borer.
- **Investigate and respond** to the effects of invasive species as a result of large-scale disturbances of forest ecosystems such as severe storms, wildfires, and drought as they relate to the spread, distribution, and effect of invasive species.
- **Support baseline assessments** and enhance citizen science monitoring and data collection through reporting tools such as the Washington Invasives mobile app. Develop a statewide database that includes the distribution of current invasive species in Washington.

To learn more visit: https://invasivespecies.wa.gov/

PRIORITY ACTIONS FOR WILDLIFE AND SALMON RECOVERY

Wildlife and Salmon Recovery Goal 3:
Assess species and landscape conservation needs using species recovery and management plans, habitat conservation plans, biodiversity conservation frameworks, habitat connectivity analyses, and other data.

1	Partner with WDFW and others to secure funding and implement a statewide inventory of rare species and ecosystems identified in the SAWP. Support WDFW's work to update and maintain the Species of Concern on the Washington state list of Endangered, Threatened, or Sensitive species. Contribute information to and support for WDFW's Species of Greatest Conservation Need (SGCN) species status, range, habitat association, and threats and actions database that is a foundation of the SWAP; and develop species distribution models for forest-dependent species.
2	Work with WDFW to ensure adequate support, decision-support tools, funding, and integration of direct conservation actions related to forest management including law enforcement, habitat assessments, and conservation education.
3	Support research on and monitoring of the forest conditions that will support northern spotted owls, marbled murrelets, lynx, and other SGCN, and remain resilient in a changing climate, in collaboration with tribal governments and federal, state, local, and academic partners.

EFFORTS TO PREVENT, MANAGE, OR REMOVE INVASIVE SPECIES CAN CONTRIBUTE TO MANY FOREST HEALTH OBJECTIVES.

Washington Habitat Connectivity Action Plan

The Washington Habitat Connectivity Action Plan (WAHCAP) builds on Washington's leadership in connectivity science, synthesizing decades of research to establish clear priorities for on-the-ground projects that will protect and reconnect Washington's landscapes for wildlife. The WAHCAP identifies both transportation and terrestrial landscape-connectivity priorities, ensuring that Washington's approach to connectivity conservation is comprehensive and focused on implementation.

Habitat connectivity is the degree to which wildlife can move across the landscape as needed to find food and shelter, migrate seasonally, establish new territories, and maintain healthy populations through genetic exchange. Connectivity also supports broader ecological functions such as seed dispersal and pollination and sustains species important to cultural traditions like hunting and gathering.

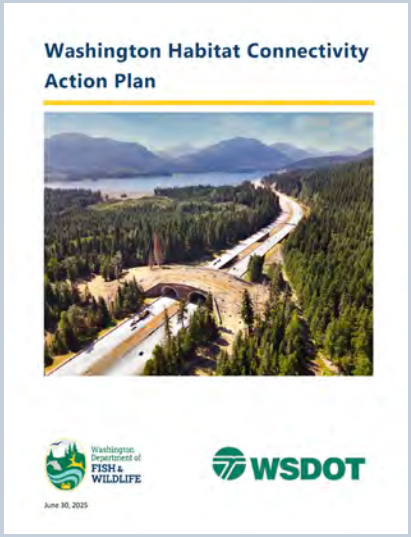
WAHCAP identified or developed indicators for ten key connectivity values in Washington including:

- Ecosystem connectivity
- Network importance
- Landscape permeability
- Hot spots of species of greatest conservation need
- Focal species functional connectivity
- Climate connectivity
- Consistency with pre-existing landscape conservation priorities.

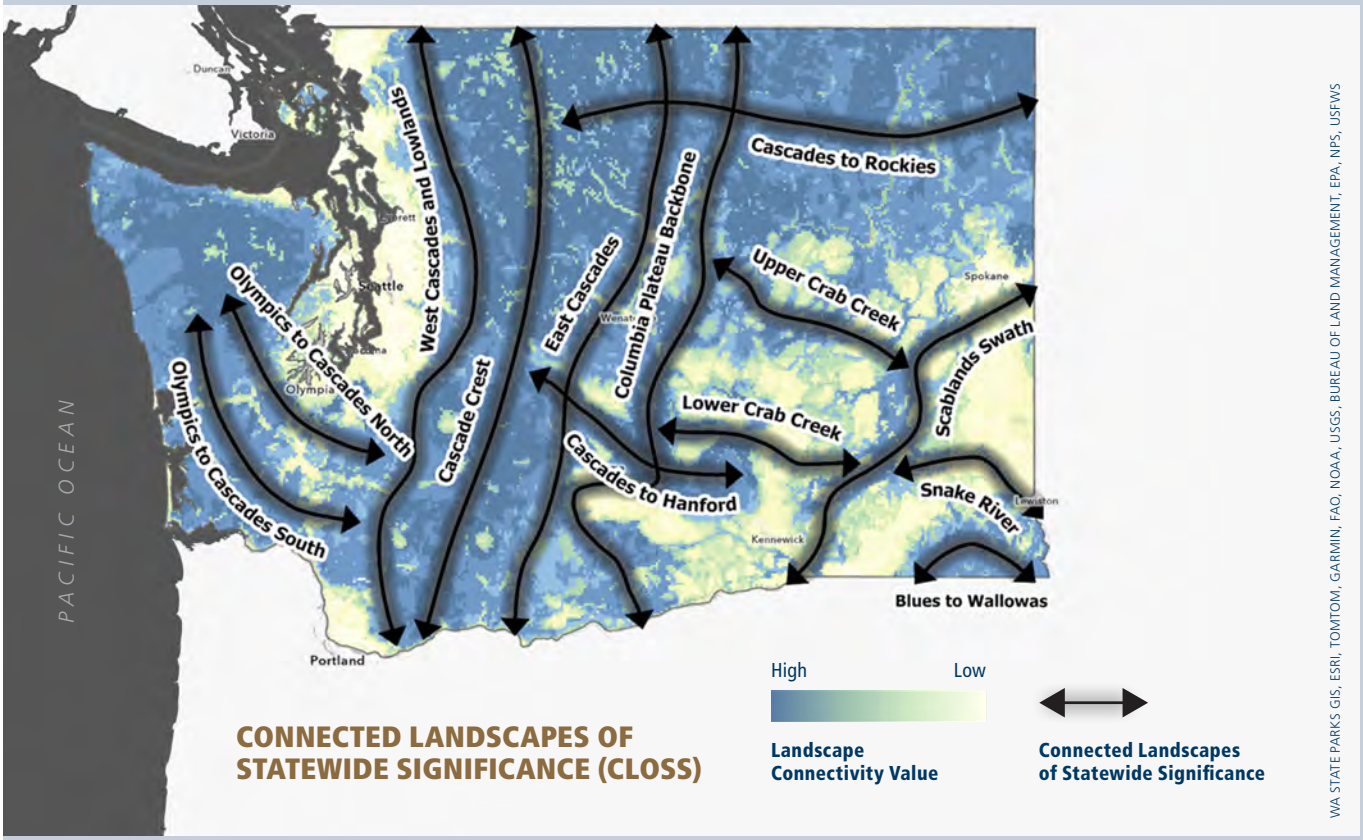
WDFW synthesized these metrics into a layer mapping and quantifying connectivity values across the state. This synthesized layer was used to identify 13 terrestrial Connected Landscapes of Statewide Significance (CLOSS), transportation priority locations where barrier mitigation would most improve statewide ecological connectivity, and locations with a high density of multiple connectivity functions and values.

The WAHCAP also includes regional profiles for five major connectivity regions in Washington State: Cascade Mountains, Southwest Washington and Olympic Peninsula, Columbia Plateau and Blue Mountains, Northeast Washington, and Northwest Washington. Each regional profile describes the connectivity characteristics of the area. The Washington Habitat Connectivity Action Plan webpage provides links to the report and associated data.

WASHINGTON DEPARTMENT OF TRANSPORTATION



Above: Still from a video of a safe wildlife crossing at I-90 Snoqualmie Pass recorded in 2023.



STATEWIDE TRANSPORTATION PRIORITIES

A primary goal of the plan was to identify priority locations statewide for connectivity conservation actions. WDFW used the Landscape Connectivity Values layer as the primary input to evaluate the ecological barrier status of every road mile in the state highway system and multiple data sets including, but not limited to, wildlife-vehicle collisions and carcass removals to evaluate safety status. The analysis ranked the ecological and safety status of every road mile in the state highway system, called the ***Full Highway System Rankings***. From these rankings, WDFW identified a ***Long List*** and a more selective ***Short List*** of transportation Priority Zones for road barrier mitigation to facilitate safe passage for wildlife and reduce wildlife-vehicle collisions.

This multi-scale approach is intended to empower conservation partners, land managers, and planners to align their work towards a common goal: a Washington where wildlife and ecological processes can move freely across connected habitats, and where a safer statewide highway system reduces risks to both wildlife and people.

PROTECTION STATUS AND MANAGEMENT INTENT

Protected areas that are actively managed to sustain ecological functions and values form the backbone of a sustainable habitat connectivity network. Land protection and management status have significant implications on the types and feasibility of conservation actions that can be done at a given location. The connectivity value of public lands depends on their underlying management mandates, land use allowances, operational frameworks, and ongoing political support. Maintaining and improving public lands management to support a connected network of ecologically resilient lands is essential to maintaining habitat connectivity in Washington.

A PRIMARY GOAL OF THE PLAN WAS TO IDENTIFY PRIORITY LOCATIONS STATEWIDE FOR CONNECTIVITY CONSERVATION ACTIONS.

HABITAT CONVERSION THREAT

The final prioritization criterion focuses on quantifying habitat conversion pressure, or how vulnerable connectivity functions are to loss. Habitat loss, fragmentation, and conversion can occur on public or private lands and stem from a variety of sources. WDFW was not able to conduct a full and systematic threats assessment for connectivity statewide for the WAHCAP but highlight here that habitat conversion threat is a key factor to consider when prioritizing conservation locations. During the WAHCAP webinar and workshop discussions, the following prominent threats to habitat connectivity in Washington were repeatedly identified as being of high concern:

- **Transportation barriers**
- **Residential and commercial development**
- **Wind and solar energy development**
- **Recreation**

WDFW performed a detailed analysis of transportation barriers and identified priority locations for road barrier mitigation and identified or developed data layers that showed conversion pressure from residential and commercial development and locations identified as suitable for solar development. The agency also identified a need to develop data on the impacts of recreational trail and campground use. State and tribal leaders recently convened the State and Tribal Recreation Impacts Initiative (STRII) to better characterize the severity and distribution of recreation impacts to inform recreation management decisions.

WASHINGTON DEPARTMENT OF TRANSPORTATION

FROM STATEWIDE VISION TO REGIONAL ACTION

While the statewide CLOSS network provides a big-picture road map, successful connectivity conservation also demands finer-grained, regional analyses. Each region of Washington has unique geography, ecosystems, land use patterns, and species needs that a statewide model can only approximate. Recognizing this, WDFW identified Connected Landscapes of Regional Significance (CLORS) that support and feed into the CLOSS network, and the WAHCAP report includes Regional Connectivity Profiles that refine statewide priorities by providing additional information about specific landscape conditions, threats, and opportunities within each region. The regional profiles highlight areas where local connectivity conservation actions can strengthen the statewide network by enhancing permeability across fragmented areas, mitigating barriers, or restoring and reinforcing linkages.

IMPLEMENTATION PATHWAYS

Successful implementation of the WAHCAP depends on integrating habitat connectivity into existing and new planning, funding, and management frameworks across Washington. WAHCAP provides spatial data, strategies, and guidance to support implementation through four key pathways.

- It is crucial for local jurisdictions to incorporate habitat connectivity into land-use planning under the Growth Management Act—through comprehensive planning, zoning codes, critical areas regulations, and countywide planning policies—to protect and restore corridors within and across local jurisdictions.
- State and local governments should offer voluntary conservation incentives to owners of working lands to sustain and restore connectivity.
- WDFW and the Washington State Department of Transportation (WSDOT) should continue to expand the integration of habitat connectivity into transportation design, planning, and infrastructure to reduce wildlife-vehicle collisions and restore landscape permeability.
- Public agencies throughout the state should manage public lands including recreation planning, forest road decommissioning, and land management plan updates to protect, enhance, and restore connectivity.

CHUCK HERSEY/ DNR

Entiat River aquatic restoration project in Chelan County led by Yakama Nation Fisheries.

STRATEGIES

WATERSHED RESILIENCE

Water is one of the most important resources our forests provide. Forests naturally filter water and regulate flow, supporting municipalities, farms, fish and wildlife. Forest management, including the building of forest roads and changes in vegetation cover, have the potential to affect hydrologic and aquatic systems. Management and conservation efforts focused on increasing the pace of aquatic restoration are critical to addressing threats posed by climate change and drought, and ensuring forests continue to provide clean water.

There is a long history of collaboration and partnerships in Washington focused on maintaining and improving roads to protect fish habitat and water quality. The Road Maintenance and Abandonment Plan (RMAP), a result of the 1999 Forest and Fish Agreement, requires large forest landowners to inventory roads and upgrade those that affect hydrologic and aquatic systems. Small forest landowners followed an alternate process.

Since 2000, more than 40 large forest landowners collectively invested more than $350 million in road improvements, supporting sustainable fisheries, outdoor recreation opportunities, and ongoing forest management activities. Road upgrade and abandonment work was initially set for completion by 2016 but was later extended, with DNR reporting final completion of barrier corrections in 2021–2022.

This section of the action plan focuses on highlighting priority actions that build on previous investments of private landowners and public agencies to protect and enhance the health of aquatic systems and the quality and quantity of water that forests produce. Priority actions are organized by key issues associated with drought, climate change and extreme weather events, and stormwater management.

PRIORITY ACTIONS FOR WATERSHED RESILIENCE

Watershed Resilience Goal 1: Enhance watershed health and forest drought mitigation. Develop and implement drought mitigation strategies to reduce forest health vulnerabilities that impact water quality and quantity.

1	Coordinate drought mitigation actions related to forest health across agencies and landowners, and participate in the Washington Drought Resilience Partnership, in coordination with the Department of Ecology and the Executive Water Emergency Committee.
2	Support drought mitigation efforts and management response actions across all lands through DNR programs. Coordinate with Department of Ecology on basin planning and restoration to increase natural water storage on the landscape.
3	Address priority watershed drought vulnerabilities by developing plans and implementation strategies and coordinating with Department of Ecology's watershed planning efforts.
4	Identify drought mitigation strategies for areas in partnership with tribes and historically underserved communities, especially those with disproportionate environmental health risks.
5	Improve water supply through forest management and restoration practices that improve water-holding capacity in watersheds and help protect water quality from increased temperature, erosion, and associated pollutants.
6	Invest in scientific research to better understand the interactions between forest vegetation conditions, snowpack, and water to improve our understanding of how forests can be managed to increase water quantity in rivers and streams.

WATER IS ONE OF THE MOST IMPORTANT RESOURCES OUR FORESTS PROVIDE.

PRIORITY ACTIONS FOR WATERSHED RESILIENCE

Watershed Resilience Goal 2: Washington's lands and waters remain productive and adapt to changing conditions, including climate change and a growing population. Expand efforts to use natural systems to buffer against floods, stormwater, sea level rise, and droughts stemming from changing conditions.

1	Implement Integrated Water Resources Management approaches in highly vulnerable basins including the Columbia, Yakima, and Walla Walla river basins. Support expansion of the integrated approach to other vulnerable basins.
2	Expand capacity to analyze, plan, and coordinate aquatic restoration activities across all lands.
3	Design and maintain forest roads to be resilient under current and projected climate conditions.
4	Support the development and scaling of emerging funding mechanisms to accelerate forest and aquatic restoration treatments to reduce risk and support sustained provision of ecosystem services from forestlands.
5	Engage with private landowners, businesses, local government, tribes, and communities about landslide preparedness and the risks posed by steep slopes.

Climate change is anticipated to significantly impact water resources in Washington State. Primary concerns include:

- **Declining snowpack and loss of natural water storage.**
- **Changes in seasonal streamflow.**
- **Higher drought risk and more competition for scarce water resources.**
- **More severe winter flooding.**
- **Declining water quality.**

New 2D bridge on the Olympic National Forest in the Calawah Watershed, DNR Federal Lands Program.

Investing in National Forest Roads

Across Washington and Oregon, our national forests welcome more than 14.7 million visitors annually – 6.4 million more visitors than any other public land type (such as national parks and BLM lands) in our region. Reductions in timber harvest levels in recent decades have meant large losses in revenue to support these forest roads and their many uses.

As a quick comparison: the USDA Forest Service has four times as many roads as any other national public land type yet has the lowest per-mile allocation of Federal Lands Transportation Program (FLTP) dollars of any federal public land agency. USDA Forest Service roads in our region currently receive an average of $211 per mile; by comparison, National Park Service (NPS) roads get an average of $650,000 per mile. Current funding levels for the USDA Forest Service are not enough for regular maintenance or for emergency repairs, which has led to decades of accumulated deferred maintenance.

There is a long history of efforts to support and invest in national forest roads statewide by public and private partners. However, the scale of need remains outsized relative to the resources of the agency. For example, as of 2025, the three national forests of Western Washington have a cumulative $236 million in deferred maintenance across their road networks. Currently, these three western Washington national forests are working with DNR, Washington Department of Fish and Wildlife, and Washington Department of Ecology, Tribes, non-profits, and additional partners to develop a strategic roadmap for investing and maintaining a national forest road network for our region. The Western Washington National Forest Roads Strategic Plan will complement and reinforce these efforts with our own specific commitments and actions that can be taken at the state and local level to build capacity, funding, and resources for our National Forest roads now, and into perpetuity.

PRIORITY ACTIONS FOR WATERSHED RESILIENCE

Watershed Resilience Goal 3: USDA Forest Service, state agencies, and partners make meaningful, ongoing investments to create a sustainable National Forest road program that provides an operationally resilient road network while minimizing impacts on natural and cultural resources.

1	Utilize existing travel management analyses and available reports to assess current status and conditions of forest roads. Forecast changes in the forest road network over the next five-year period if current road maintenance budgets remain at their current funding levels.
2	Work with partners to leverage current and potential federal, state, Tribal, and private funding and investment pathways to increase annual and regular road maintenance budgets. Identify costs associated with bringing high-priority road segments and associated infrastructure to functional status. Explore new models (federal, state, tribal, local, and private partners) to address capacity constraints and the funding backlog.
3	Identify collective road maintenance resources that could be used to improve and maintain a sustainable National Forest roads network. Identify priority on-forest resources (such as closed rock pits) to re-open and invest in for more localized, cost-effective road maintenance materials and supply chains.
4	Prioritize road investments that ensure safe public access, enable timely emergency response, evacuations, and disaster recovery, and reduce the risk of human-caused ignitions. Develop risk assessments and hazard urgency analyses for roads vulnerable to landslides, flooding, or other natural hazards in a changing climate.
5	Align road management with watershed restoration goals, salmon recovery, and hydrological improvements. Decommission or realign roads that pose chronic risks to water quality or fish passage, while maintaining access to essential areas. Coordinate stream impact improvement work – such as replacing undersized culverts, adding wood and stabilizing slopes—to better support holistic aquatic ecosystems restoration and make work more cost-effective.
6	Ensure reliable access to treaty-reserved resources and traditional cultural sites through multiple pathways (permits, free public land passes, state and federal level documentation, barriers and staff at on-forest gatherings) to tribes and tribal citizens. Collaborate with Tribes to identify priority roads and maintain connectivity to places of cultural significance.
7	Maintain and improve priority routes that provide public access to recreational trails and campgrounds. Coordinate with counties, recreation groups, and local communities to identify high-value recreation road networks.

ONF PHOTO?

FOREST ROADS CAN CAUSE FINE SEDIMENT TO ENTER STREAMS THROUGH MUDDY RUNOFF WATER IN THE WET SEASON. THE MIXTURE OF FINE SEDIMENT AND WATER IS ALSO KNOWN AS "TURBIDITY." HIGH TURBIDITY LEVELS CAN CAUSE STRESS TO FISH, AFFECT FISH FEEDING RATES, IMPAIR THEIR HOMING INSTINCTS, AND REDUCE GROWTH RATES. SEDIMENT ALSO CAN SMOTHER FISH EGGS AND AFFECT AQUATIC INSECT LIFE.

Western Washington Forest Health Strategic Plan work group members tour the Yellowjacket Creek aquatic restoration project led by the Cowlitz Indian Tribe and Gifford Pinchot National Forest.

PLAN IMPLEMENTATION

Successful implementation of the Washington State Forest Action Plan will require strong partnerships, coordinated action, and sustained investment. The plan outlines a shared vision for healthy, resilient forests across all ownerships, and its success depends on the ability of DNR and its partners to work together—across jurisdictions, programs, and communities - to turn that vision into measurable results.

The threats facing Washington's forests—climate change, drought, wildfire, invasive species, and land conversion—span ownership and political boundaries. Addressing them effectively demands an all-lands, all-hands approach. DNR will coordinate implementation internally across divisions, regions, and programs, and externally with Tribes, federal and state agencies, local governments, conservation districts, land trusts, industry, community-based organizations, environmental groups and non-profits. Collaborative planning and shared accountability will ensure that actions are locally relevant, strategically aligned, and adapt to changing conditions.

This Forest Action Plan builds on more than a decade of progress since the 2010 and 2020 plans, with many priority actions already underway. Others represent new or expanded efforts requiring additional funding, staffing, and policy innovation. Implementation will also align with complementary strategic plans that informed this State Forest Action Plan including the 20-Year Forest Health Strategic Plan: Eastern Washington, Western Washington Forest Health Strategic Plan, and Washington State Wildland Fire Protection 10-Year Strategic Plan.

Leveraging Resources to Support Plan Implementation

Addressing the complex and growing threats facing Washington's forests will require sustained public investment and innovative partnerships. Forests are a cornerstone of the state's environmental, economic, and cultural well-being providing clean air and water, wildlife habitat, sustainable timber and building materials, outdoor recreation, and carbon sequestration. These public benefits, often taken for granted, depend on deliberate and ongoing investment in the stewardship of forest ecosystems. In an era of intensifying climate impacts, the need to care for and maintain "green infrastructure" has never been greater.

Dedicated public funding and agency capacity are essential to implementing the Forest Action Plan. Without consistent and predictable investment, Washington will lack the resources necessary to manage wildfire risk, protect water supplies, and prepare forests for a changing climate. Even under aggressive restoration scenarios, the cumulative costs of wildfire, drought, insects, and disease are projected to reach billions of dollars in damages and response costs over the coming decades. Strategic investment in restoration and resilience today is far more cost-effective than responding to future crises.

At the same time, public dollars can catalyze broader collaboration across the private sector, Tribes, conservation groups, and local governments. Washington's natural resource economy depends on the health of its forests and the infrastructure that supports them – sawmills and wood products manufacturers, contractors, and equipment operators. Public investment in restoration, workforce development, and forest infrastructure supports local jobs, sustains rural economies, and creates the foundation for long-term stewardship. Programs such as DNR's Building Forest Partnerships Grant Program and Forest Legacy Program demonstrate how state funding can leverage federal, local, and philanthropic contributions to achieve shared goals at a meaningful scale.

Emerging market mechanisms—including carbon, water, and ecosystem service markets—also hold promise as complementary tools for financing forest resilience. When designed responsibly and aligned with the goals of this action plan, these markets can reward sustainable management, fund reforestation, and incentivize conservation on public and private lands. However, markets alone cannot address the magnitude of the forest health and conversion challenges facing Washington. A balanced approach that combines public funding, private innovation, and community-based stewardship will be critical to ensuring that forests continue to provide multiple benefits to all Washingtonians.

Ultimately, public investment in forests is an investment in the state's future—its communities, economy, and natural heritage. Every dollar directed toward forest restoration, wildfire prevention, conservation, and workforce development reduces the risk of catastrophic losses and strengthens Washington's ability to thrive in the face of a changing climate.

Dr. Jerry Franklin led a tour of a restored forest stand on the Okanogan-Wenatchee National Forest in June 2023 near the town of Liberty. This stand was commercially thinned, pile burned and broadcast burned approximately 10 years earlier.

Monitoring and Progress Reporting

racking progress is essential to the success of the Washington State Forest Action Plan. The plan establishes a clear commitment to monitor implementation, evaluate outcomes, and communicate results transparently to partners, policymakers, and the public. This accountability ensures that investments are producing measurable benefits for forests, communities, and ecosystems across the state.

Monitoring will assess progress toward plan goals and priority actions, track trends in forest and watershed health, and evaluate the effectiveness of strategies across ownerships and geographies. DNR will continue to invest in Forest Health Tracker and other tools to help partners plan and track our collective progress toward shared goals.

BIENNIAL REPORTING SCHEDULE

To ensure consistent and transparent progress reporting, DNR will implement a biennial monitoring and reporting cycle:

- **In odd-numbered years,** DNR will publish a Forest Action Plan Progress Report. This report will summarize implementation progress against plan goals and priority actions, highlight success stories, and identify emerging challenges and opportunities. The report will serve as a public-facing tool to demonstrate collective achievements and inform ongoing adaptive management.

- **In even-numbered years,** DNR will publish the biennial Legislative Report for the Forest Health Assessment and Treatment Framework, as required by RCW 76.06.200. This report will document the state's progress toward the treatment goals established in the 20-Year Forest Health Strategic Plan: Eastern Washington and provide updates on cross-boundary projects, restoration outcomes, and capacity needs.

Together, these reports will ensure that Washington maintains a continuous cycle of implementation, reflection, and adaptive management to inform forest health progress statewide.

The Forest Action Plan represents a statewide commitment to steward Washington's forests for the benefit of people, communities, and ecosystems. Implementation will be advanced through collaboration, public and private investment, and monitoring and reporting. By working together, Washington can sustain its forests and restore resilience, rural prosperity, and connection.

High severity burn scar from the 2024 Retreat Fire in Yakima County. Slope is at high risk of debris flows that could negatively impact the Tieton River and the Yakima-Tieton Canal at the base of the slope. The Yakima-Tieton canal provides critical irrigation water for orchards supporting $700 million in annual crop revenue.

APPENDIX A

Forest Action Plan Survey Results

INPUT ON THE MOST PRESSING ISSUES AFFECTING WASHINGTON'S FORESTS AND TO IDENTIFY PRIORITIES FOR COLLECTIVE ACTION.

Forest Action Plan Survey Results

To inform the development of the Washington State Forest Action Plan, the Washington State Department of Natural Resources (DNR) conducted a survey of informed partners and stakeholders between April 9 and May 15, 2025. The purpose of the survey was to gather input on the most pressing issues affecting Washington's forests and to identify priorities for collective action.

The survey was distributed to approximately 750 natural resource professionals, representing state and federal land management agencies, Tribes, county and municipal governments, conservation districts, timber industry representatives, and environmental and community-based organizations. In total, 208 responses were received, providing a broad and representative cross-section of perspectives from across the state.

The survey included thirteen questions—ten focused on topical issues relevant to the Forest Action Plan and three addressing demographic information and preferred methods of engagement. The following sections summarize key findings.

98%

Percentage of respondents indicated that they were "very concerned" or "somewhat concerned" about wildfire.

RESPONDENT AFFILIATION

The following demographic question was used to help identify respondent affiliation: "Do you belong to any of the following organizations or groups? Select all that apply."

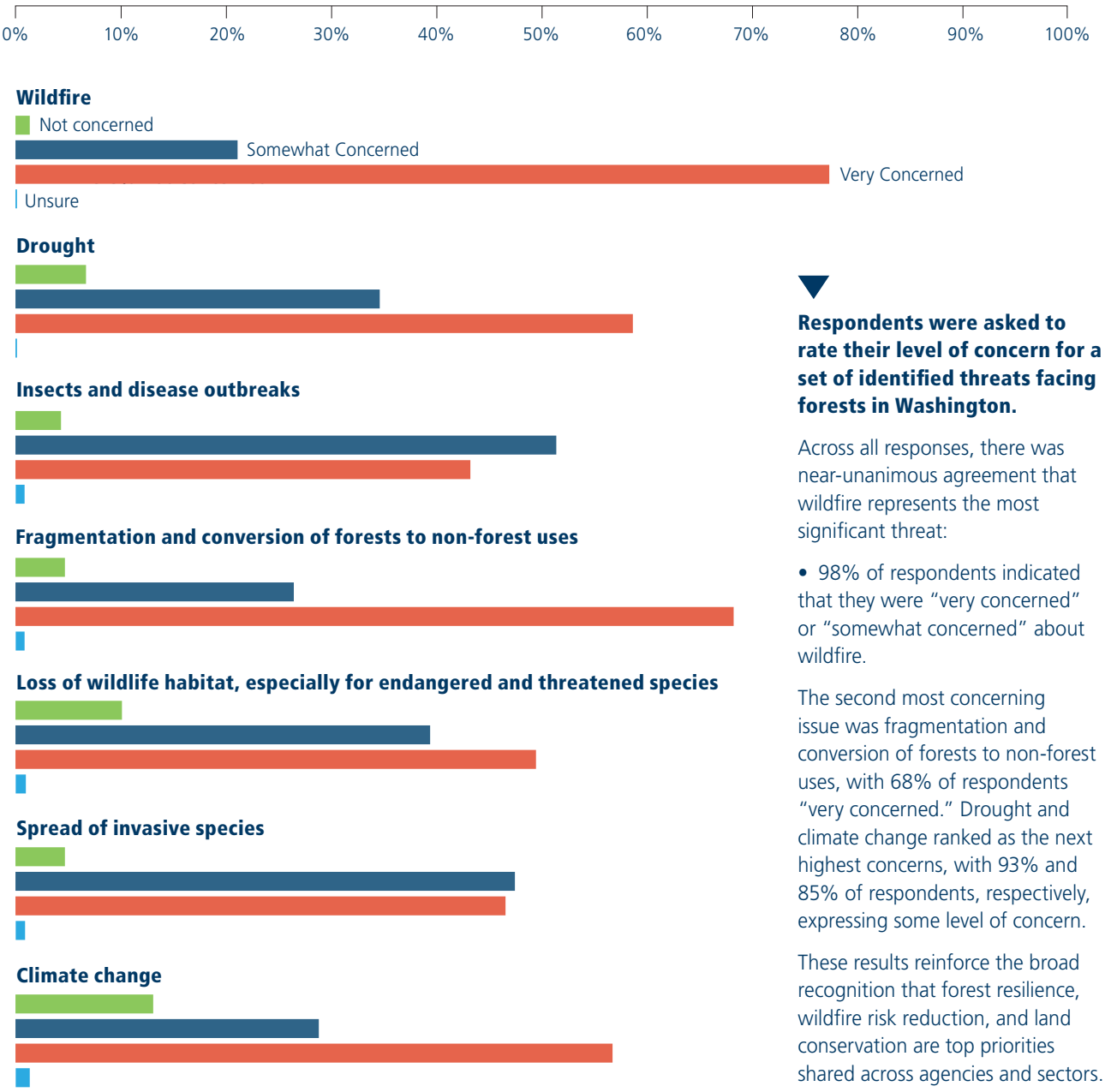
ANSWER CHOICES	RESPONSES	
Public land management agency	25.97%	47
Native American tribe	11.05%	20
Private forest owner or manager	20.99%	38
Conservation or environmental organization	11.60%	21
School, educational organization, or academic institution	5.52%	10
City or county government	4.42%	8
State government	32.60%	59
Federal government	8.84%	16
Elected official	2.21%	4
Outdoor recreation organization	6.08%	11
Other (please specify)	17.68%	32
TOTAL		266

Of those respondents indicating "Other" common responses included retired natural resource professional or those not formally affiliated with an organization or agency. At least 12 respondents that selected "Other" indicated that they were part of one of the following groups: private forest landowner (5), tribal natural resources staff (4), and timber industry (3). These respondents likely did not associate with the provided answer choices or mistakenly selected "Other".

The remainder of this section summarizes results from the topical survey questions.

QUESTION

Scientists and policy makers have identified the following threats facing forests in Washington. Please indicate your level of concern for each of the following threats:



Respondents were asked to rate their level of concern for a set of identified threats facing forests in Washington.

Across all responses, there was near-unanimous agreement that wildfire represents the most significant threat:

- 98% of respondents indicated that they were "very concerned" or "somewhat concerned" about wildfire.

The second most concerning issue was fragmentation and conversion of forests to non-forest uses, with 68% of respondents "very concerned." Drought and climate change ranked as the next highest concerns, with 93% and 85% of respondents, respectively, expressing some level of concern.

These results reinforce the broad recognition that forest resilience, wildfire risk reduction, and land conservation are top priorities shared across agencies and sectors.

QUESTION

Which of the following actions should we prioritize to overcome the threats facing our forests. Select your top three choices.

ANSWER CHOICES	Responses	
Conduct scientific research	18.75%	39
Convene and host informational/educational events with the public	13.46%	28
Conduct restoration and management activities such as thinning unnaturally dense forests	69.23%	144
Implement prescribed burns to reduce wildfire risk and promote forest health	53.37%	111
Integrating local and Indigenous knowledge into management approaches	19.71%	41
Implement cultural burns to promote culturally-important plants and animals	4.33%	9
Provide technical support to private and family forestland owners	19.71%	41
Fund land conservation efforts such as conservation easements and community forests	23.56%	49
Help prepare communities for future wildfire events	21.15%	44
Partner with Tribes and state and local fire districts to ensure effective fire suppression	8.65%	18
Plant and manage trees in urban areas and communities	5.29%	11
Help support partners by identifying funding and collaborative implementation opportunities	13.94%	29
Manage forests with a primary goal of supporting culturally-important plants and animals	4.81%	10
Plant genetically-appropriate tree species	6.73%	14
Other (please specify)	17.31%	36
Answered		208

When asked to select their top three priority actions to address forest threats, respondents overwhelmingly supported active forest management and the use of prescribed fire:

- 69% prioritized conducting thinning and restoration treatments in overstocked forests.
- 53% prioritized implementing prescribed burns to reduce wildfire risk and promote forest health.

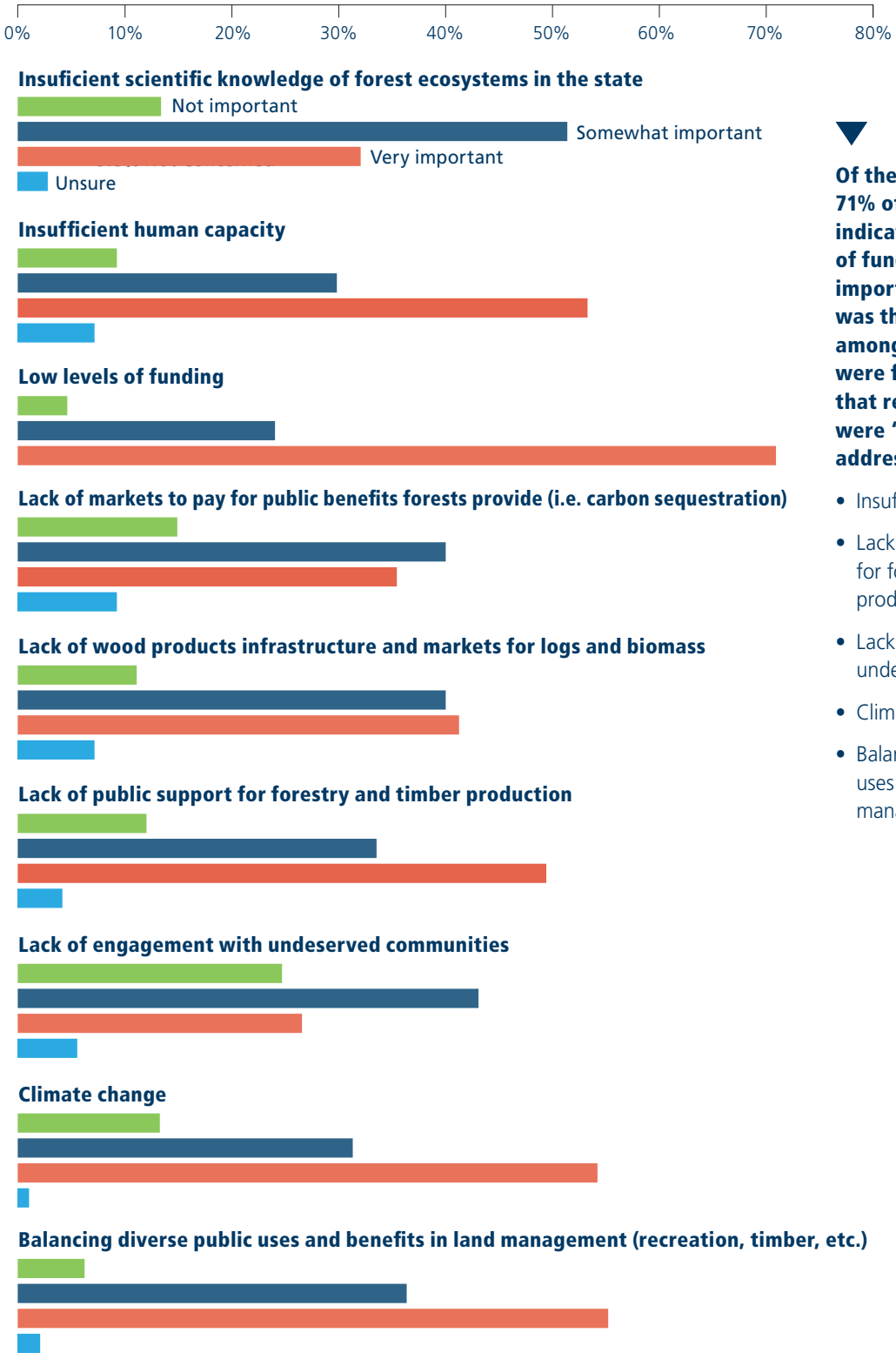
A second tier of responses (18–24%) emphasized complementary strategies including:

- Conducting scientific research;
- Integrating local and Indigenous knowledge into management approaches;
- Providing technical support to private and family forest landowners;
- Funding land conservation efforts such as conservation easements and community forests; and
- Helping communities prepare for future wildfire events.

Write-in responses under "Other" reflected a diversity of perspectives. Themes included the importance of old-growth conservation, support for Conservation Districts, active management and commercial timber production, investments in forest products infrastructure, maintaining federal lands in public ownership, and improving forest road conditions. These responses illustrate the need for a balanced approach that integrates ecological, economic, and community priorities.

QUESTION

Natural resource managers across all lands (i.e., federal, state, local, tribal, industrial, family forestland) face challenges. Please indicate the level of importance you place on addressing the following management challenges.

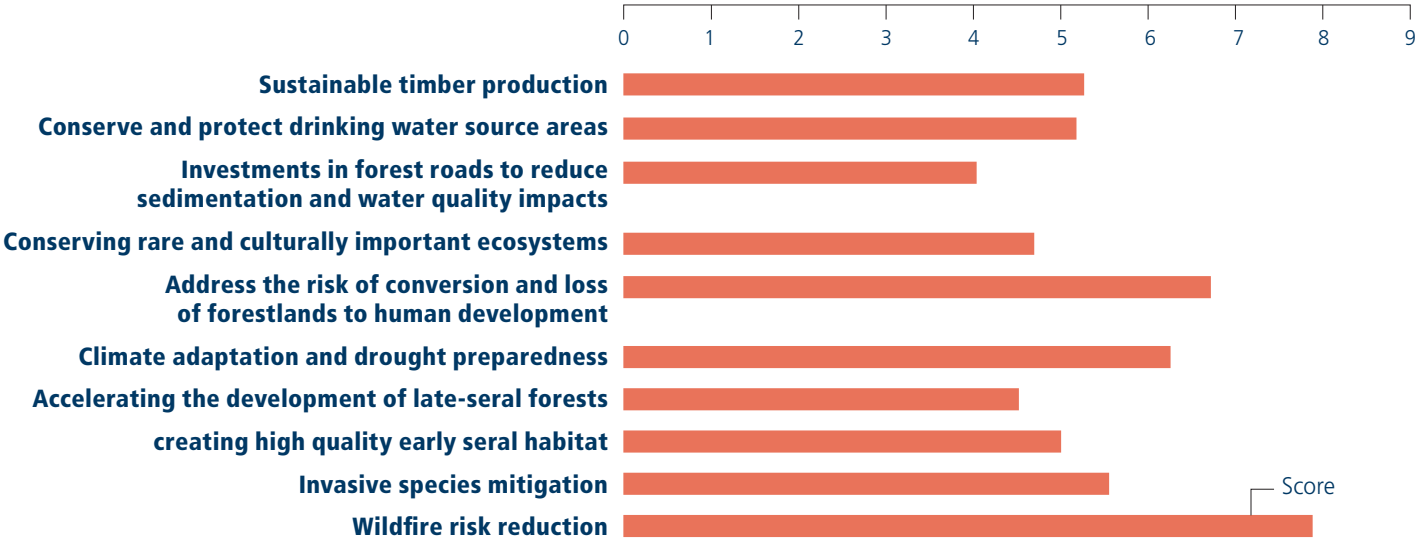


Of the answer choices, 71% of respondents indicated that "low levels of funding" was very important to address. This was the top answer choice among respondents. There were five answer choices that respondents indicated were "very important" to address including:

- Insufficient human capacity
- Lack of public support for forestry and timber production
- Lack of engagement with underserved communities
- Climate change
- Balancing diverse public uses and benefits in land management

QUESTION

The Forest Action Plan will identify priority planning areas in western Washington based on locations where active management, coordinated planning and implementation, and focused investments could lead to improved forest health and resilience. Please rank the following factors related to forest health and resilience in western Washington from most important to least important.



The survey also asked respondents to rank factors that should guide identification of priority planning areas for forest health and resilience in western Washington. The highest-ranked considerations were:

- Wildfire risk reduction;
- Conserving forests at risk of development; and
- Climate adaptation and drought mitigation.

These priorities demonstrate a growing recognition that forest health and land conservation are interconnected, and that western Washington — while traditionally considered lower risk — is facing increasing vulnerability due to expanding development, changing fire regimes, and shifting climate conditions.

WILDFIRE RISK REDUCTION, CONSERVING FORESTS AT RISK OF DEVELOPMENT, AND CLIMATE ADAPTATION AND DROUGHT MITIGATION RANKED AMONG THE HIGHEST PRIORITIES AMONG RESPONDENTS.

QUESTION

What additional activities, if any, should be prioritized to advance forest health and resilience in western Washington?

This open-ended question allowed respondents to write in comments and suggestions. Respondents identified a wide range of priorities to advance forest health and resilience in western Washington, emphasizing active management, collaboration, and public engagement.

- **Active and Adaptive Management:** Many participants called for increased thinning and cultural burning to restore natural processes and reduce wildfire risk and promote drought resilience. Others highlighted the importance of ongoing monitoring, forest health flights (i.e. aerial detection survey), and science-based treatments to maintain diverse, resilient forests.
- **Land Conservation and Conversion Prevention:** Respondents stressed the need to retain working forests and prevent conversion to non-forest uses through tools such as conservation easements, community forests, and coordinated land-use planning with counties.
- **Partnerships and Collaboration:** Collaboration across state, federal, Tribal, and local partners was a recurring theme. Participants encouraged continued investment in forest collaboratives, Shared Stewardship, and the Good Neighbor Authority to achieve landscape-scale outcomes.
- **Tribal Inclusion and Cultural Resources:** Respondents urged DNR to strengthen partnerships with Tribes, protect cultural resources, and expand support for Tribal-led forest health, cultural burning, and workforce development initiatives.
- **Education and Public Communication:** A significant number of responses emphasized the need to improve public understanding of forest management, particularly in urban areas. Participants recommended expanding K–12 and community education, outreach campaigns, and training programs to build trust and support for active management.
- **Infrastructure, Markets, and Workforce:** Respondents identified the need to rebuild forest-sector capacity by investing in workforce training, mills, biomass facilities, and markets for restoration byproducts. Linking sustainable management with local economic development was a common theme.
- **Climate Adaptation and Research:** Participants encouraged applied research on climate adaptation, tree genetics, and historical fire regimes to inform adaptive management. Habitat restoration, invasive species control, and beaver and wetland restoration were also identified as priorities.

COLLABORATION ACROSS STATE, FEDERAL, TRIBAL, AND LOCAL PARTNERS WAS A RECURRING THEME.

QUESTION

What tools and planning efforts should we consider and incorporate into the Forest Action Plan to protect, enhance, and conserve forest resources across all lands in Washington?

Responses to this open-ended question are summarized in ten key themes. Within each theme respondents shared numerous recommendations.

- **Strengthen Cross-Boundary and Collaborative Planning:** Respondents emphasized the need for coordinated, landscape-scale planning that integrates federal, state, Tribal, local, and private efforts. Many urged DNR to expand Good Neighbor Authority (GNA). Several recommended an integrated planning platform for cross-ownership data sharing and prioritization.

- **Expand Active Management and Prescribed Fire:** A strong theme was the call to increase proactive forest management to reduce wildfire risk and restore ecosystem resilience. Participants encouraged more prescribed and cultural burning, mechanical thinning, and adaptive management guided by monitoring and best available science. Some recommended shifting funding from wildfire suppression to proactive treatments and aligning smoke management rules with the need to increase use of prescribed fire.

- **Advance Tribal Partnership and Co-Stewardship:** Respondents highlighted the importance of Tribal inclusion, co-management, and sovereignty in all planning efforts. Recommendations included formal co-stewardship agreements, dedicated knowledge-sharing programs, and integrating Indigenous knowledge and cultural fire practices into project design and implementation.

- **Leverage Science, Monitoring, and Technology:** Many participants called for stronger science-based decision tools, including remote sensing, LiDAR, and AI modeling to monitor forest health and prioritize treatments. Others emphasized climate modeling, carbon accounting, and adaptive management frameworks that use monitoring data to inform continuous improvement. Respondents also suggested incorporating existing tools like the Washington Natural Heritage Program, State Wildlife Action Plan, and WDFW's PHS database.

- **Increase Support for Small Forest Landowners:** Respondents consistently noted the need for technical assistance, cost-share programs, and tax incentives for small and non-industrial private forest owners. Many pointed to regulatory and financial barriers that limit private land stewardship and called for programs that empower landowners to implement thinning, fuels reduction, and reforestation treatments.

- **Enhance Education and Public Engagement:** Respondents urged DNR to expand public education, workshops, and field tours to increase understanding of forest health, wildfire preparedness, and sustainable forestry. Urban and suburban outreach was identified as particularly important to build public trust and social license for management actions. Several also recommended incorporating forestry curricula into K–12 and higher education programs.

- **Invest in Infrastructure, Workforce, and Markets:** There was strong support for investing in forest-sector capacity, including local mills, biomass utilization, and biochar production. Respondents emphasized that viable markets for restoration byproducts and a trained workforce are critical to achieving forest health goals. Many suggested linking forest restoration with rural economic development and carbon-smart wood products, such as mass timber.

- **Integrate Climate Adaptation and Carbon Strategies:** Respondents recommended using climate adaptation tools to guide species selection, reforestation, and genetic research. Respondents also supported carbon projects and market mechanisms to align economic incentives with forest conservation. Several called for new Natural Resource Conservation Areas and expanded Forest Legacy Program investments.

- **Protect and Restore Habitat and Water Resources:** Many respondents emphasized forest-watershed connections, urging integration of salmon recovery, riparian restoration, and wildlife corridors into planning. Respondents supported aquatic and riparian habitat protection, wetland restoration, and beaver reintroduction as natural tools to retain water, moderate fire behavior, and support biodiversity.

- **Foster Long-Term Vision and Policy Alignment:** Respondents encouraged DNR to create a long-term vision for Washington's forests that transitions from reactive fire suppression to proactive stewardship. Many noted the need to address policy barriers to cross-boundary collaboration, align programs across agencies, and ensure consistent, science-based implementation statewide.

Across responses, there was clear consensus that protecting and enhancing Washington's forests will require long-term, coordinated, and adaptive planning grounded in science and collaboration. Participants called for DNR to serve as a convener and catalyst, aligning tools, data, and resources across ownerships to build resilient, climate-adapted, and community-supported forest restoration strategies.

QUESTION

Are there any subjects or actions you consider important for DNR to consider as it revises the state's Forest Action Plans to set a course for strategic actions that protect, enhance, and conserve forest resources across all lands that we did not address above?

Key themes from open-ended responses include:

- **Beneficial Fire and Integrated Treatments:** Many respondents called for expanding the concept of "beneficial fire" which includes prescribed fire, cultural burning, and managed low-intensity wildfire. Respondents emphasized integrating thinning, prescribed fire, and other treatment types to create resilient forests. Several urged continued reporting and transparency through DNR's Work of Wildfire and forest health monitoring reports.
- **Cross-Boundary Coordination and Policy Alignment:** Respondents highlighted the need for closer coordination with the USDA Forest Service, Tribes, local governments, and other partners to ensure consistent, landscape-scale restoration. Suggestions included reassessing forest practices rules, improving management of riparian areas, and aligning the Forest Action Plan with the State Wildlife Action Plan and other ecosystem-scale strategies.
- **Forest Industry, Markets, and Rural Economies:** Many participants underscored that a viable forest products industry is essential to keeping forests as forests. Respondents called for supporting local milling capacity, encouraging sustainable harvest levels, and developing markets for small-diameter wood and biomass to improve the economics of restoration. Some expressed concern that reductions in timber harvest could accelerate land conversion and weaken rural economies.
- **Climate Change, Water, and Ecosystem Function:** Respondents identified climate change, hydrology, and overstocked forests as top-tier challenges. Many urged DNR to integrate climate and watershed science into planning and to protect ecosystem functions, including terrestrial and aquatic habitats, soil health, and groundwater systems.
- **Tribal and Cultural Resource Stewardship:** Respondents reinforced the importance of consulting Tribes and protecting cultural uses and gathering areas, including cedar bark harvest and huckleberry grounds. Some suggested formal co-stewardship and improved consultation.
- **Public Education, Communication, and Inclusion:** A number of respondents urged DNR to expand community outreach to improve public understanding of forest management, climate adaptation, and wildfire risk. They emphasized the need for balanced messaging that highlights both conservation and active management, and for direct engagement with polarized or skeptical audiences to build shared understanding and trust.
- **Agency Leadership and Capacity:** Several respondents encouraged DNR to act boldly and with urgency, increase staffing and technical capacity, and reduce internal contradictions between management goals. Participants also stressed the need for stable funding and depoliticized, science-driven decision-making.
- **Westside-Specific Research and Approaches:** Respondents noted that westside forests differ greatly from eastern Washington and require tailored management approaches. Priorities included new research on wildfire mitigation in moist forests and consistent policies across DNR programs statewide.
- **Sustainable Harvest and Trust Obligations:** Opinions diverged regarding timber harvest, with some respondents advocating for longer rotations, while others emphasized DNR's trust mandate and the need to maintain steady harvest levels to fund schools and counties. Many called for a balanced approach that meets economic, ecological, and social goals.
- **Infrastructure, Recreation, and Public Access:** A smaller number of responses focused on maintaining forest road systems, addressing recreation impacts and illegal dumping, and ensuring continued public access to working lands. These were linked to broader calls for multi-use forest management that supports community well-being and stewardship.

Overall, respondents urged DNR to take a bold, science-based, and collaborative approach that integrates active management, climate adaptation, and cultural stewardship across all lands. There was strong consensus on the need for beneficial fire, industry capacity, cross-boundary partnerships, and sustained funding to ensure Washington's forests remain healthy, resilient, and productive for future generations.

Conclusion

The 2025 Forest Action Plan survey revealed several clear, cross-cutting themes about the future of Washington's forests.

- **Wildfire, drought, and land conversion** remain the most urgent concerns for stakeholders, who view these threats as interconnected symptoms of broader ecological and social challenges.
- **There is strong support for active and adaptive management,** including thinning, prescribed and cultural burning, and other beneficial fire practices.
- **There is significant concern about** the loss of foreslands to development and strong support for long-term conservation investments such as working forest conservation easements.
- **Respondents emphasized the importance** of viable forest-sector infrastructure, workforce development, and markets for restoration byproducts as essential components of resilient forests and rural economies.
- **Many respondents highlighted** climate change, water security, and biodiversity as foundational priorities requiring integration across all-lands planning efforts.
- **Stakeholders strongly endorsed** collaboration and co-stewardship across agencies, Tribes, landowners, and communities as critical to achieving durable outcomes.
- **Participants also underscored the need** for expanded public education and outreach to build trust, understanding, and support for forest management and conservation, particularly in urban and suburban areas.

The survey results affirm alignment among key informants around an all-lands, science-based, and partnership-driven strategy that links ecological resilience, cultural stewardship, and community well-being. Respondents underscored the importance of continued investment in people, partnerships, and innovation to meet the challenges of a changing climate and growing population. Together, these insights reinforce the vision of the 2025 Washington State Forest Action Plan, a collaborative roadmap to protect, enhance, and conserve Washington's forests for generations to come.

THE SURVEY RESULTS AFFIRM ALIGNMENT AMONG KEY INFORMANTS AROUND AN ALL-LANDS, SCIENCE-BASED, AND PARTNERSHIP-DRIVEN STRATEGY THAT LINKS ECOLOGICAL RESILIENCE, CULTURAL STEWARDSHIP, AND COMMUNITY WELL-BEING.

APPENDIX B

Western Washington Forest Health Watershed Prioritization Data and Methods

FOREST HEALTH & RESILIENCE INDICATORS + VALUES AT RISK = FOREST HEALTH WATERSHED PRIORITIZATION

Data Sources and Methodology for Prioritizing Hydrologic Unit Code (HUC) 6 Watersheds

The spatial data used to prioritize HUC 6 watersheds in western Washington are organized into two categories:

- **Landscape resilience and forest health indicators.**
- **Values at risk.**

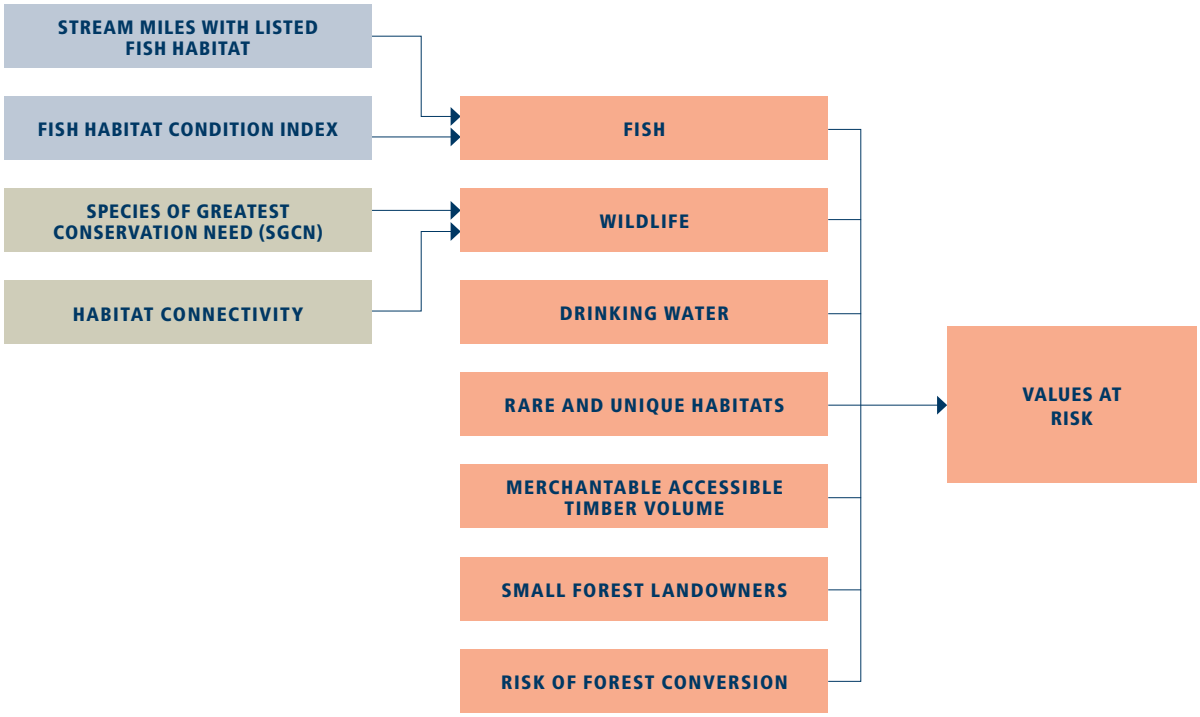
Landscape resilience and forest health indicators include data that represent anticipated exposure to climate change, drought risk, wildfire hazard, forest productivity, and amount of mid-aged, closed canopy forest. Values at risk include fish and wildlife habitat, ecosystems of concern, and ecosystem services (e.g. drinking water, timber, carbon storage). Risk of forest conversion and the number of acres in ownership by small forest landowners were also included as values at risk.

All metrics were summarized at the HUC 6[1] watershed level (an average HUC 6 watershed is approximately 20,000 acres).

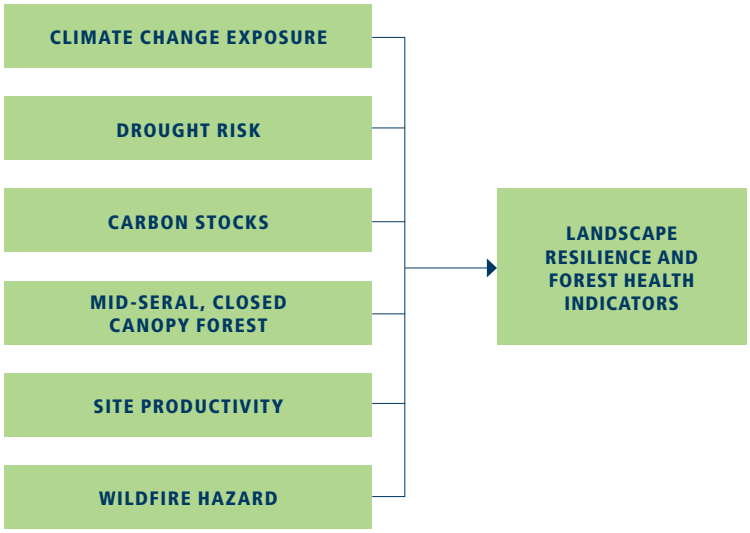
[1] HUC: Hydrologic unit code. The U.S. Geological Survey developed the hydrologic unit system to classify watersheds (e.g. HUC 1, HUC 2, HUC 3, HUC 4, HUC 5, HUC 6). The smaller the number, the bigger the geography. The average HUC 6 watershed is approximately 20,000 acres. For comparison, the average HUC 5 watershed is approximately 150,000 acres.

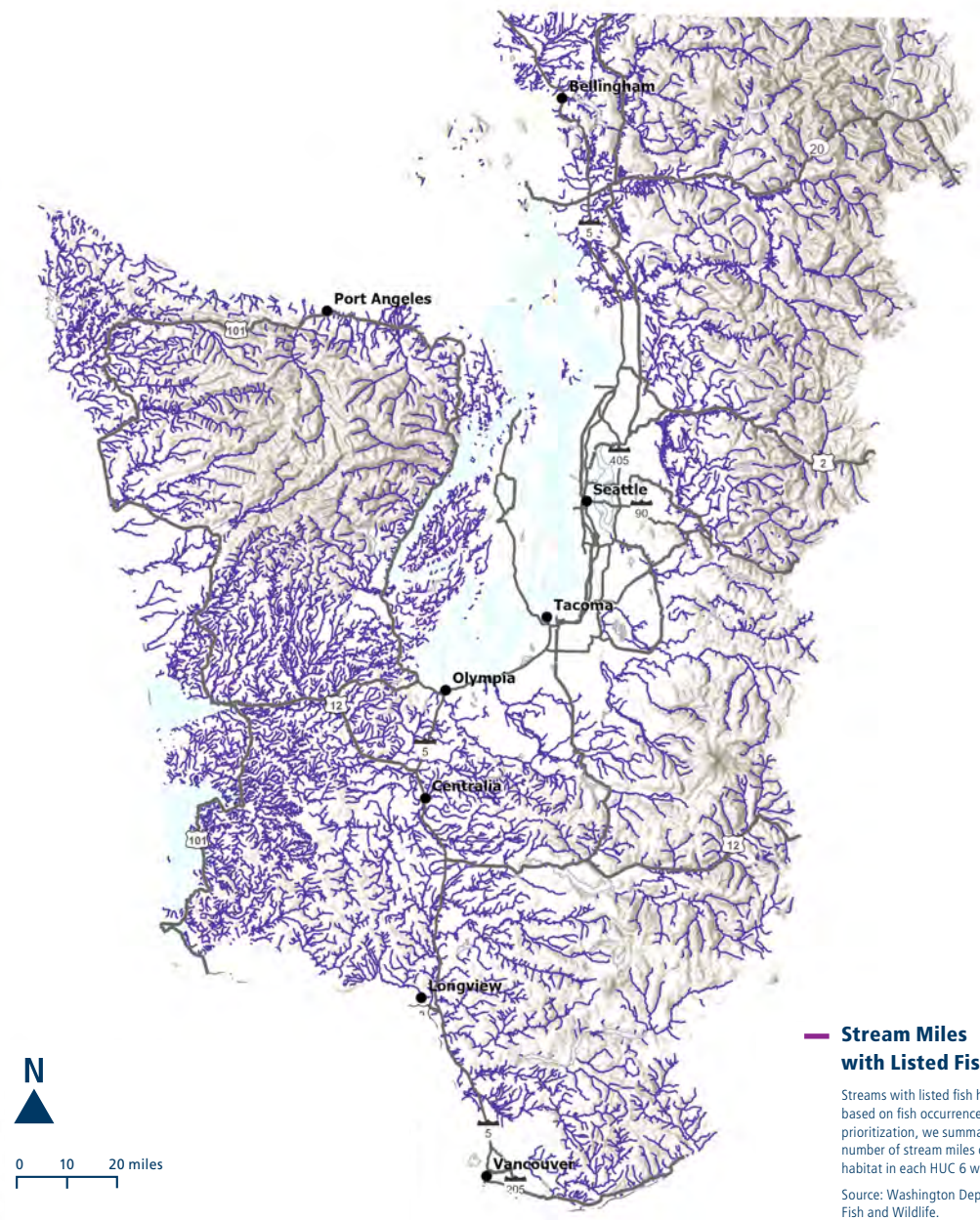
THE WATERSHED PRIORITIZATION PROCESS, COMBINED WITH INPUT FROM COMMUNITIES, LANDOWNERS AND AGENCY PARTNERS, INFORMED THE SELECTION OF PRIORITY LANDSCAPES IN WESTERN WASHINGTON.

VALUES AT RISK



LANDSCAPE RESILIENCE AND FOREST HEALTH INDICATORS





Stream Miles with Listed Fish Habitat

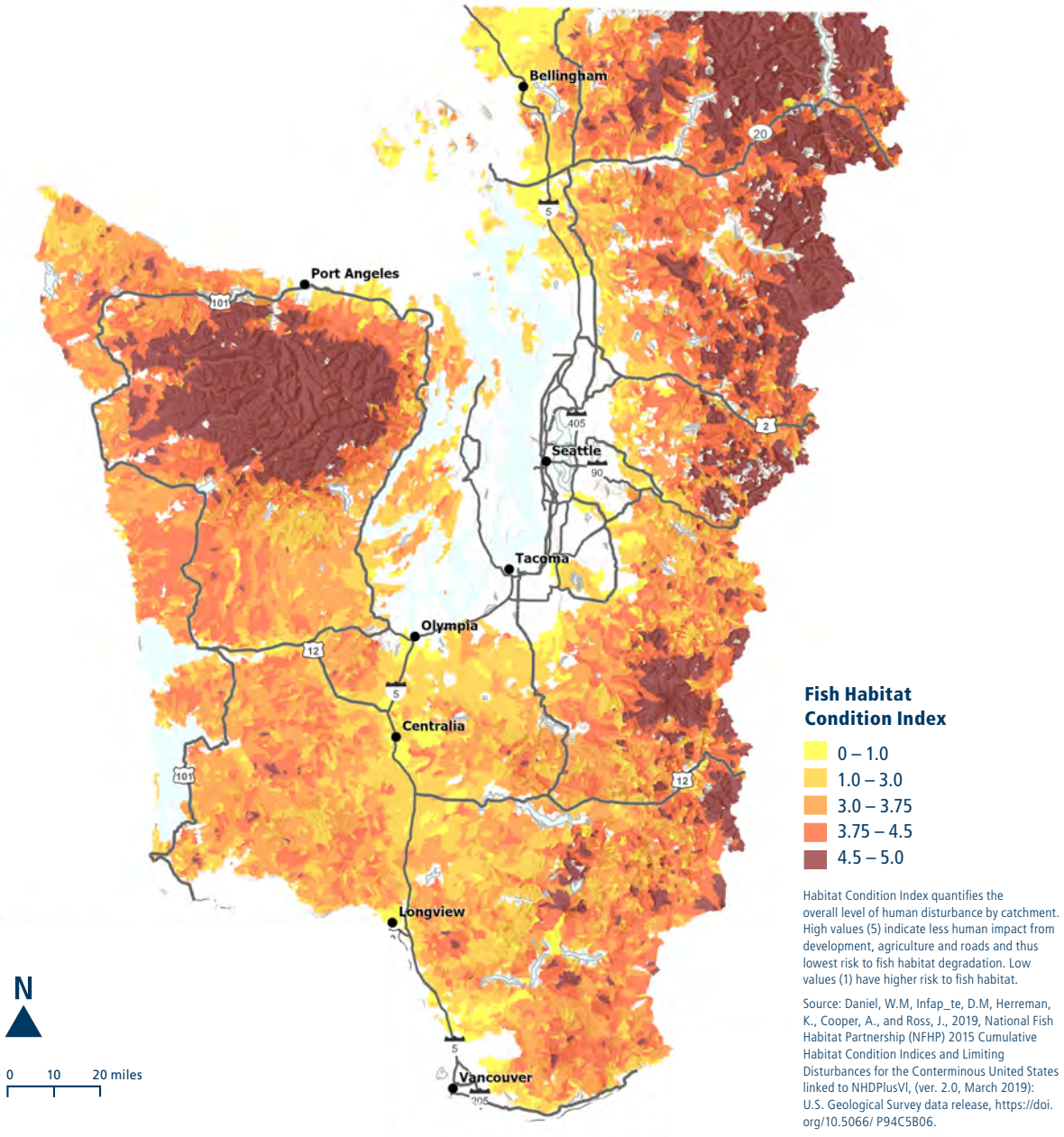
Streams with listed fish habitat based on fish occurrence data. For prioritization, we summarized the number of stream miles of listed fish habitat in each HUC 6 watershed.

Source: Washington Department of Fish and Wildlife.

STREAM MILES WITH LISTED FISH HABITAT

SOURCE: WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)

WDFW provided fish occurrence data, which is summarized by the number of stream miles of listed fish habitat in each Hydrologic Unit Code (HUC) 6 watershed. The number of stream miles was divided by the size of the watershed in acres to obtain a score. Higher values represent watersheds with more miles of stream with endangered or threatened fish species, thus a greater amount of habitat.

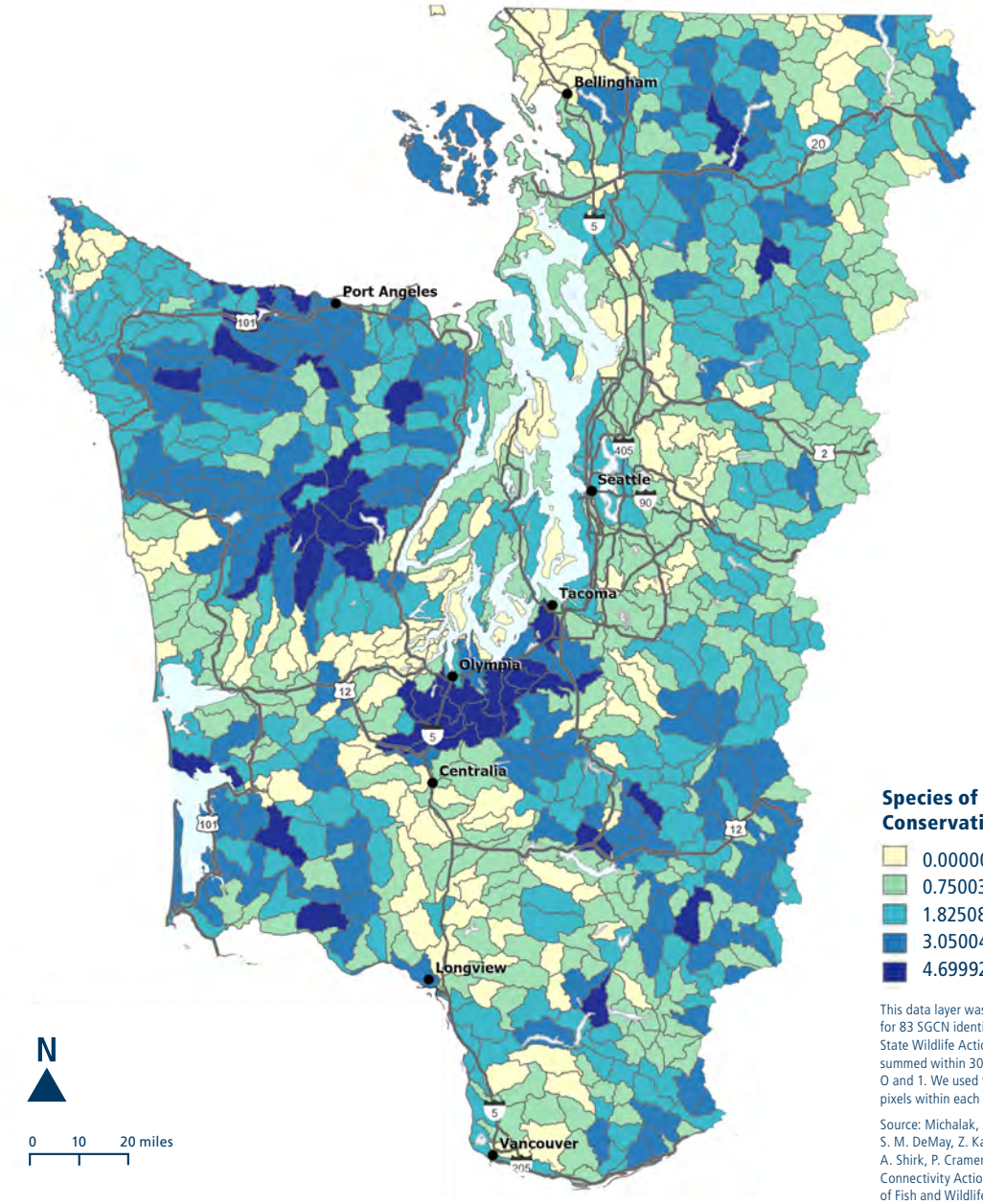


FISH HABITAT CONDITION INDEX

SOURCE: U.S. GEOLOGICAL SURVEY - NATIONAL FISH HABITAT ASSESSMENT HABITAT CONDITION INDEX (2015)

Habitat Condition Index quantifies the overall level of human disturbance (e.g. road density, stream crossings, percent in agriculture, percent in developed areas, etc.) by catchment (Daniel et al. 2019, Esselman et al. 2010). The scores of the catchments in each HUC 6 were averaged to create a score. Watersheds with high values (5) have had less human impact from development, agriculture and roads and thus lowest risk to fish habitat degradation (higher aquatic integrity and function). Low values (1) have higher risk to fish habitat.

The fish habitat condition index was combined with the fish stream miles layer to create a single fish layer for prioritization scoring.



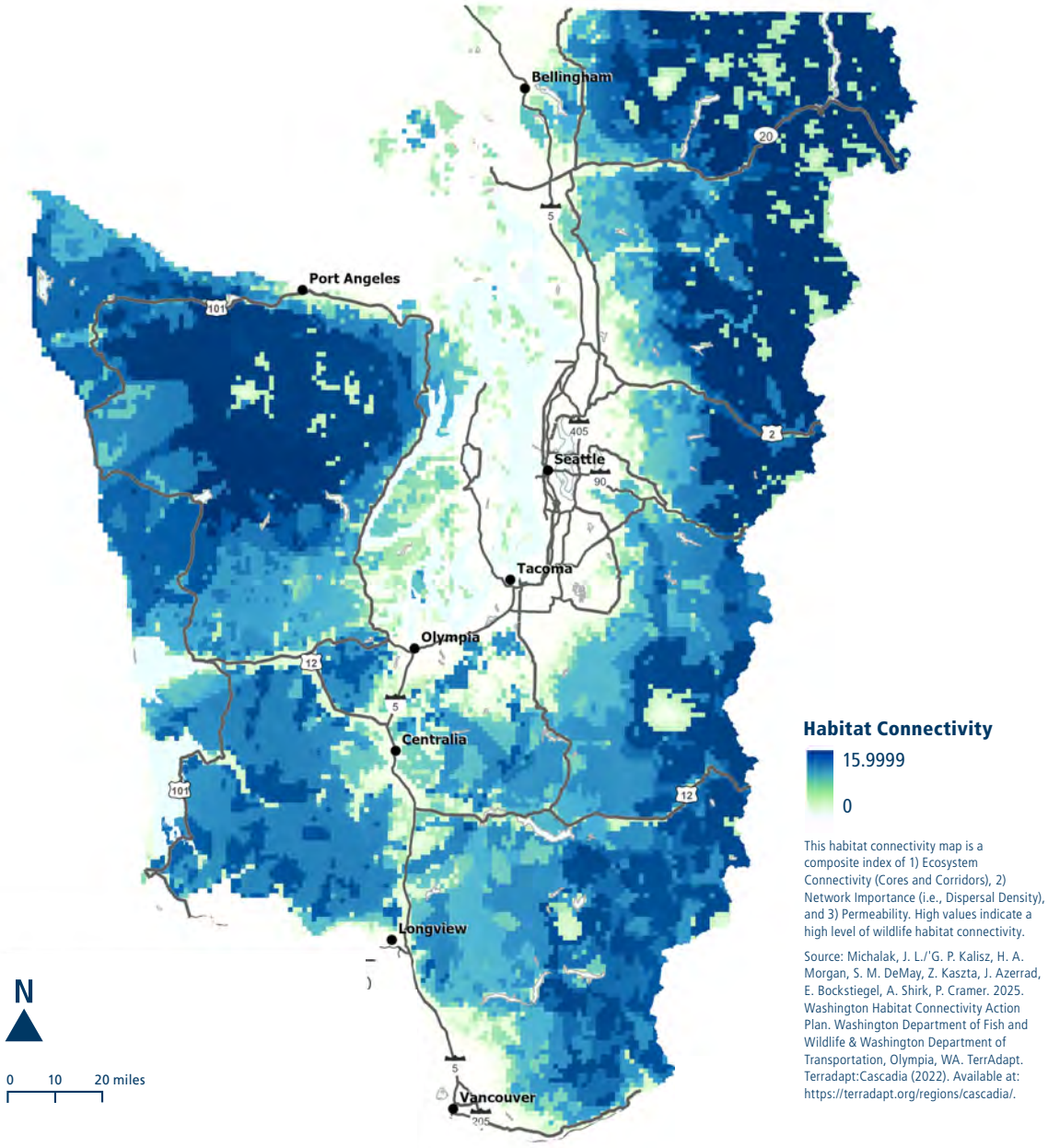
This data layer was developed from range data for 83 SGCN identified in the 2015 Washington State Wildlife Action Plan. The species ranges were summed within 30m pixels, then rescaled between 0 and 1. We used the average SGCN value of the pixels within each HUC 6 watershed.

Source: Michalak, J. L., G. P. Kalisz, H. A. Morgan, S. M. DeMay, Z. Kaszta, J. Azerrad, E. Bockstiegel, A. Shirk, P. Cramer. 2025. Washington Habitat Connectivity Action Plan. Washington Department of Fish and Wildlife & Washington Department of Transportation, Olympia, WA.

SPECIES OF GREATEST CONSERVATION NEED (SGCN)

SOURCE: WASHINGTON DEPARTMENT OF FISH AND WILDLIFE - WASHINGTON STATE WILDLIFE ACTION PLAN (2015)

This Species of Greatest Conservation Need (SGCN) data layer was developed by the WA Department of Fish and Wildlife from range data for 83 SGCN identified in their 2015 Washington State Wildlife Action Plan (WDFW 2015). To focus on terrestrial habitat, data for flying birds without protection status was down weighted to 0.75 of their initial score. Species included in the habitat connectivity layer (details below) were also down weighted to 0.75 of their initial score. The species ranges were summed within 30m pixels, then rescaled between 0 and 1. We used the average SGCN value of the pixels within each HUC 6 watershed. Watersheds with high values (unitless) have the highest species richness and ranking.



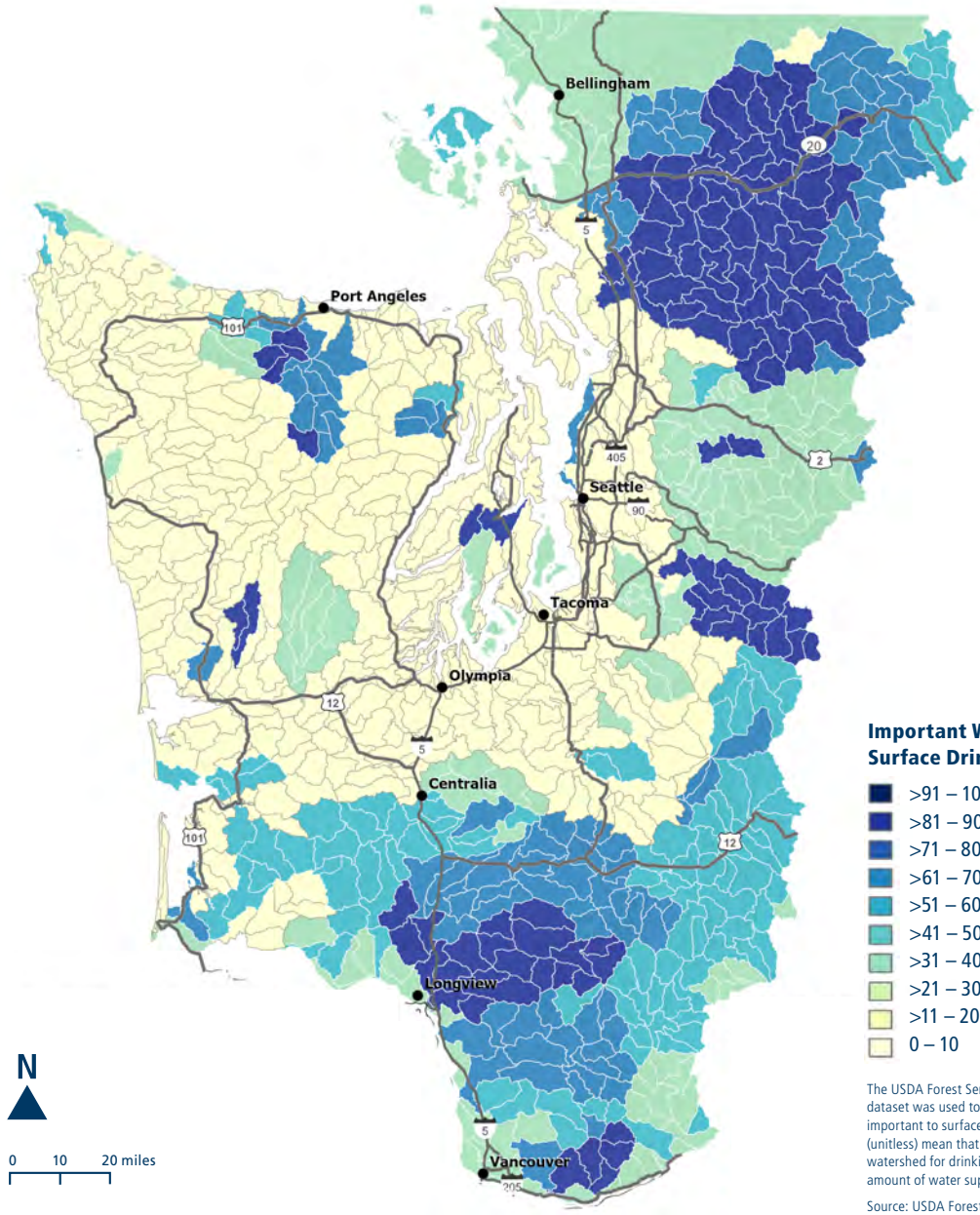
HABITAT CONNECTIVITY

SOURCE: WASHINGTON DEPARTMENT OF FISH AND WILDLIFE AND TERRADAPT - WASHINGTON HABITAT CONNECTIVITY ACTION PLAN (2025)

This is a composite index of habitat connectivity developed by the WA Department of Fish and Wildlife as a part of their 2025 Washington Habitat Connectivity Action Plan, with support from the nonprofit TerrAdapt (Michalak et al. 2025, TerrAdapt 2022). The habitat connectivity map we used is a composite of 1) Ecosystem Connectivity (Cores and Corridors), 2) Network Importance (i.e., Dispersal Density), and 3) Permeability. Ecosystem connectivity represents broad-scale, structural habitat connectivity. It maps wildlife habitats and the general movement routes connecting them for a variety of species, from highly sensitive specialists to generalists.

Network importance represents "the importance of landscape routes and cores based on connectivity to larger, high-quality habitat areas at the statewide network level." Permeability represents the degree to which any unit of the landscapes is connected to adjacent areas. The three layers were combined with Ecosystem Connectivity weighted by 10x, Network Importance by 5x, and Permeability 1x of their initial scores. We used the average value of the composite connectivity layer of the pixels within each HUC 6 watershed. Watersheds with high values (unitless) have a high level of wildlife habitat connectivity.

The habitat connectivity layer was combined with the species of greatest conservation need layer to create a single wildlife layer for prioritization scoring.



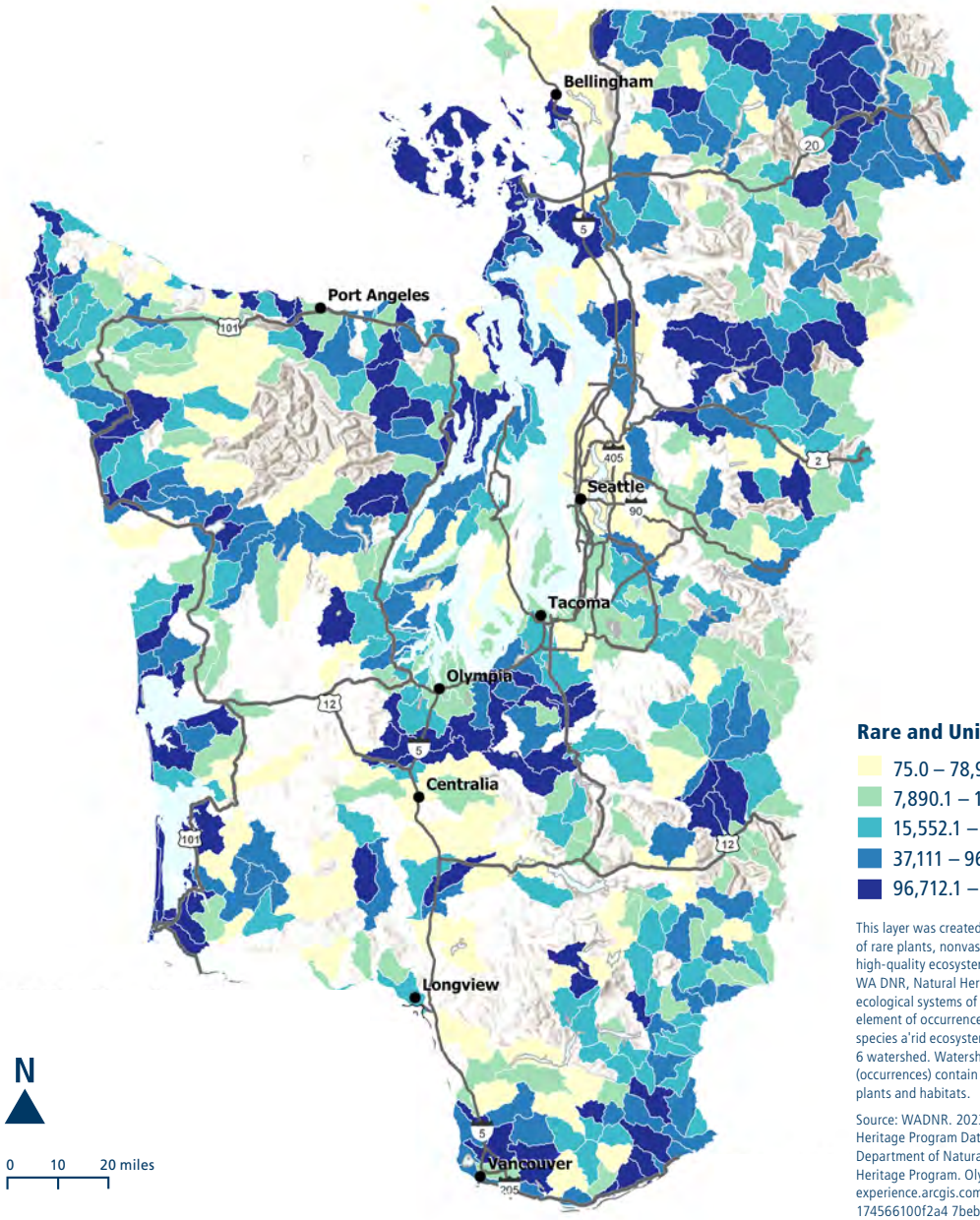
The USDA Forest Service Forests to Faucets dataset was used to identify forested areas most important to surface drinking water. High scores (unitless) mean that more people rely on the watershed for drinking water, and the overall amount of water supplied is higher.

Source: USDA Forest Service - Forest to Faucets 2.0 Citation: Mack, Erika; Lilja, Rebecca; Claggett, Sally; Sun, Ge; Caldwell, Peter. 2022. Forests to Faucets 2.0: connecting forests, water, and communities. Gen. Tech. Rep. WO-99. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 32 p. https://doi.org/10.2737/ WO-GTR-99.

DRINKING WATER

SOURCE: USDA FOREST SERVICE – FOREST TO FAUCETS 2.0

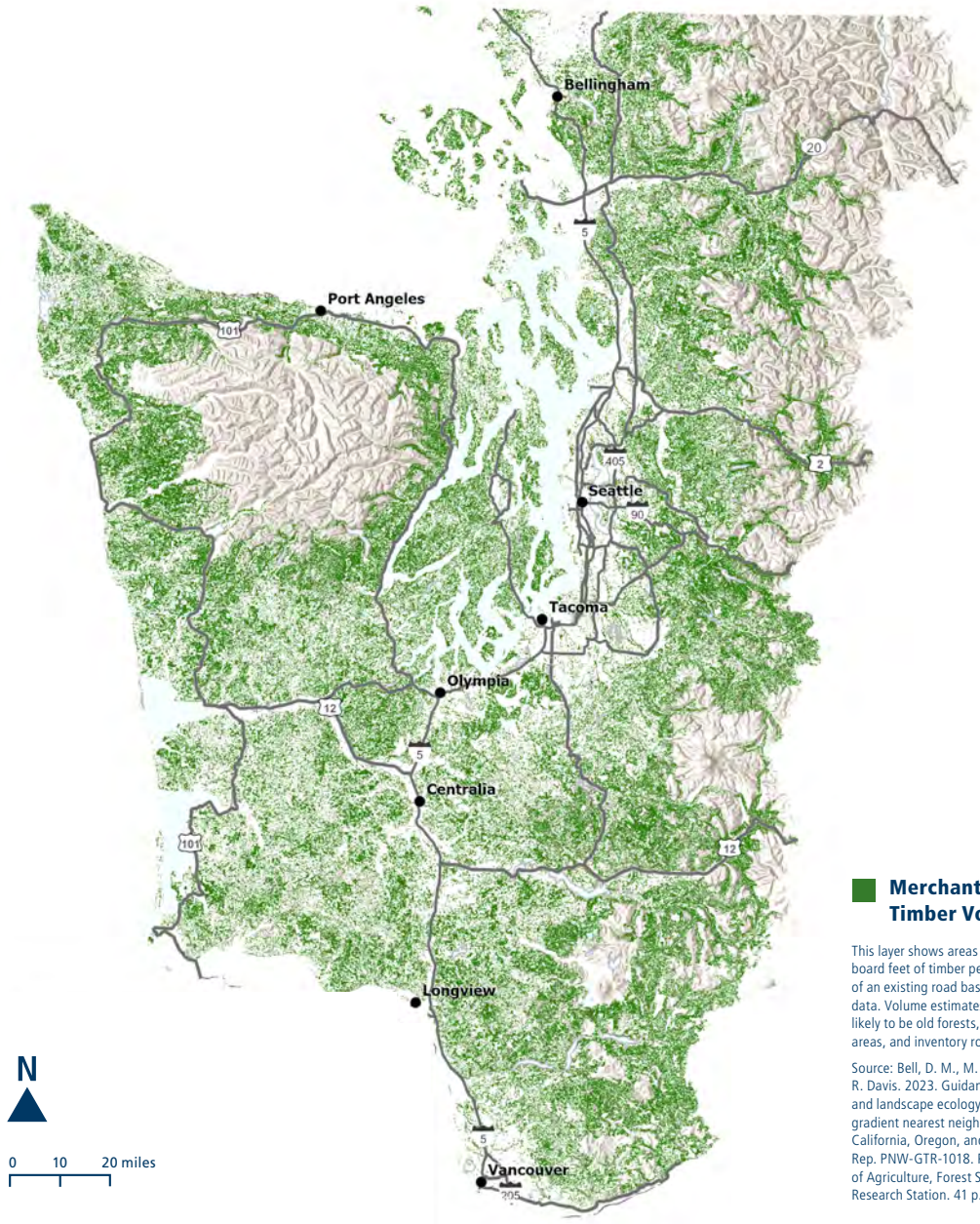
The USDA Forest Service Forests to Faucets dataset was used to identify forested areas most important to surface drinking water (Mack et al. 2022). Scores are based on the number of people that derive water from a watershed and the amount of water supply. Scores are for each HUC 6 watershed. High scores (unitless) mean that more people rely on the watershed for drinking water, and the overall amount of water supplied is higher.



RARE AND UNIQUE HABITATS

SOURCE: WASHINGTON DEPARTMENT OF NATURAL RESOURCES, NATURAL HERITAGE PROGRAM

This layer was created from the locations of rare plants, nonvascular species, and rare or high-quality ecosystem occurrences from the WA DNR, Natural Heritage Program to identify ecological systems of concern (WDNR 2023). We summed element of occurrence data of rare terrestrial species and ecosystems within each HUC 6 watershed. Watersheds with high scores (occurrences) contain especially rare or unique plants and habitats.



Merchantable Accessible Timber Volume

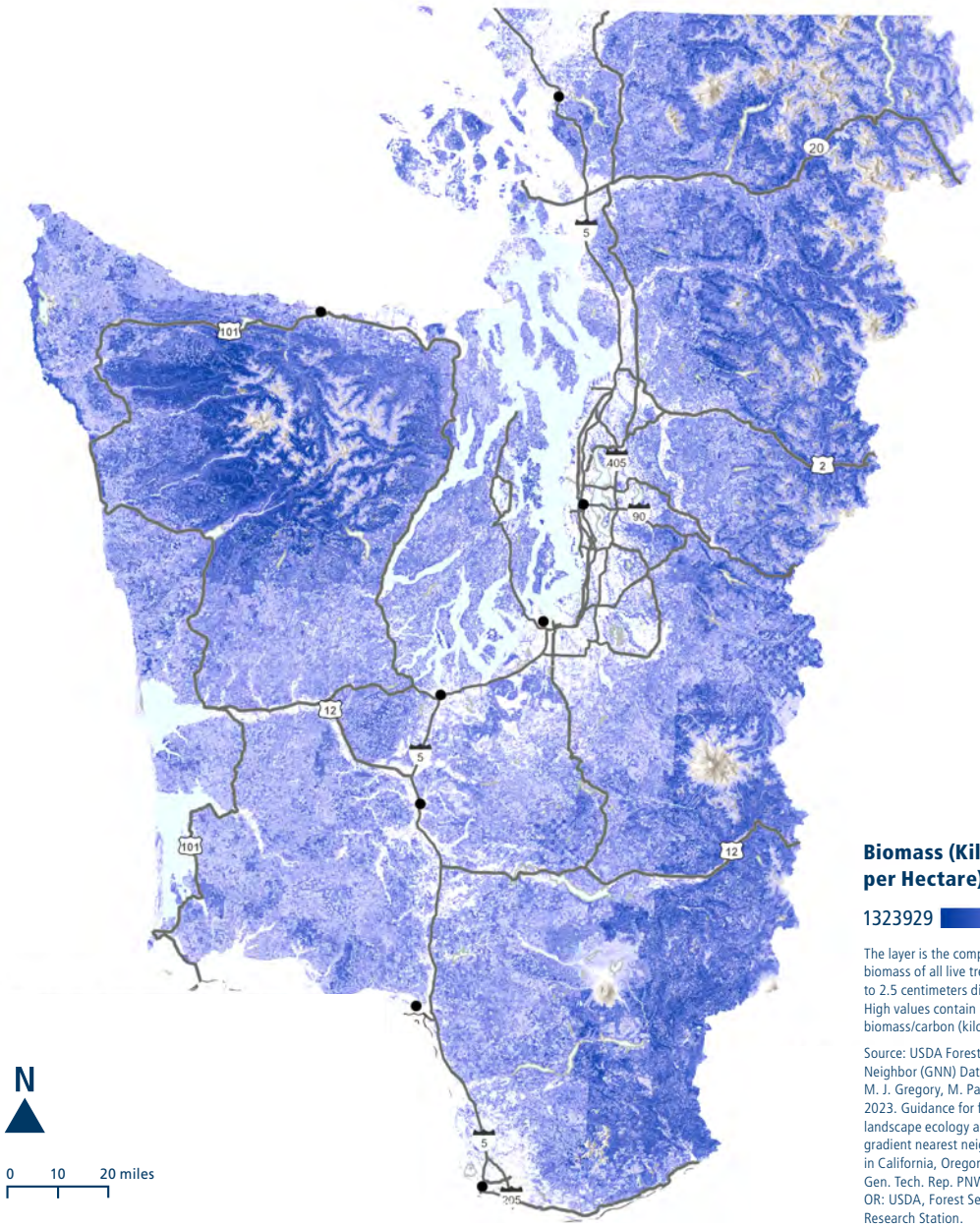
This layer shows areas with more than 25,000 board feet of timber per acre within 1,500 feet of an existing road based on GNN timber volume data. Volume estimates exclude pixels that are likely to be old forests, national parks, wilderness areas, and inventory roadless areas.

Source: Bell, D. M., M. J. Gregory, M. Palmer, and R. Davis. 2023. Guidance 'for forest management and landscape ecology applications of recent gradient nearest neighbor imputation maps in California, Oregon, and Washington. Gen. Tech. Rep. PNW-GTR-1018. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 41 p.(Online only). 1018.

MERCHANTABLE ACCESSIBLE TIMBER VOLUME

SOURCE: USDA FOREST SERVICE, GRADIENT NEAREST NEIGHBOR (GNN) DATA AND WASHINGTON DEPARTMENT OF NATURAL RESOURCES, ROAD LAYER

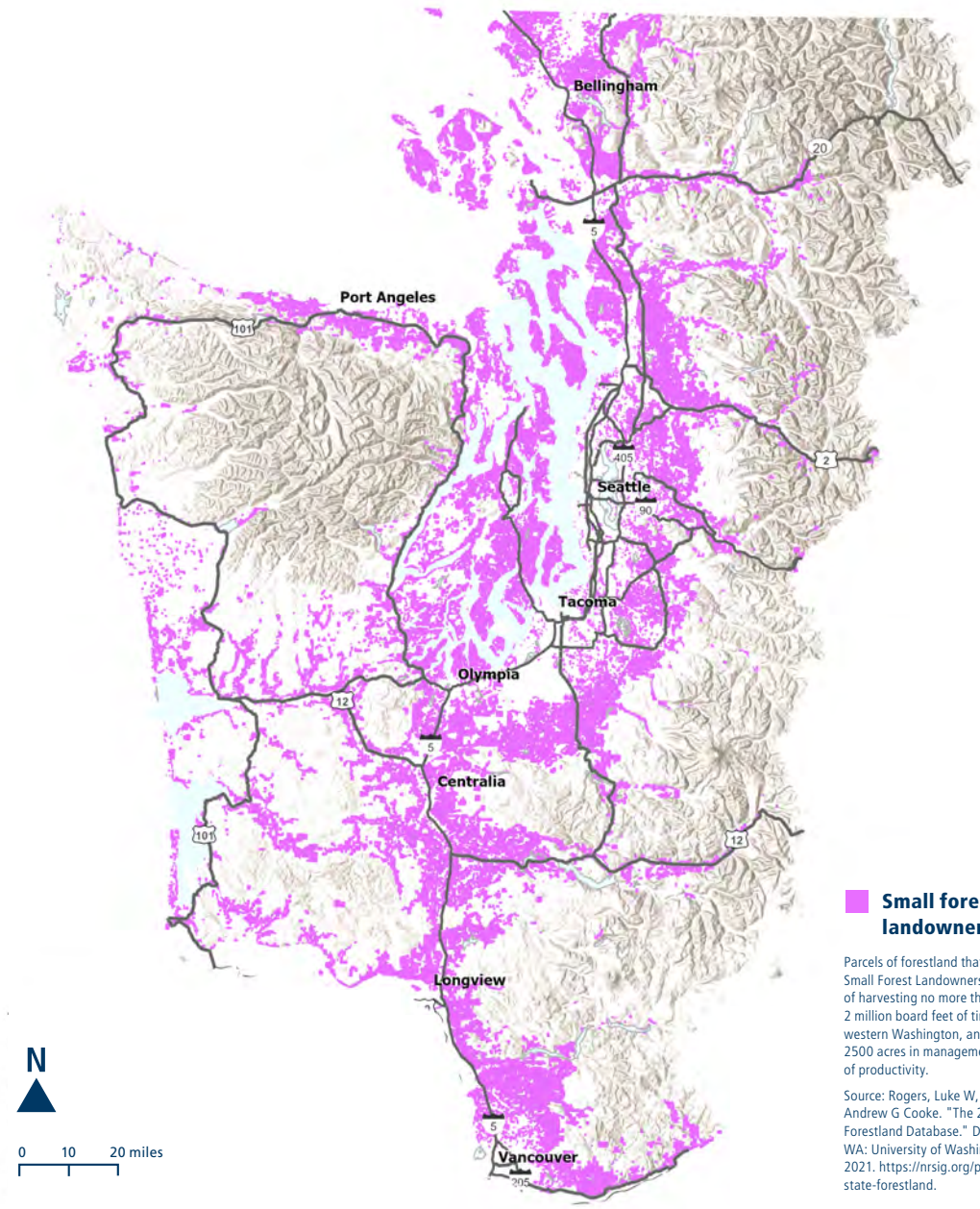
WA DNR created this layer to show areas with more than 25,000 board feet of timber per acre within 1,500 feet of an existing road. The source data uses GNN data from the USDA Forest Service to calculate the number of acres that meet the 25,000 board feet threshold (Bell et al. 2023). Volume estimates exclude pixels that are likely to be old forests, based on the Old Growth Structure Index from GNN (OGSI-200). National parks, wilderness areas, and inventory roadless areas were also excluded. The roads layer is from DNR. The number of acres with merchantable, accessible timber volume in each HUC 6, divided by the total area of the HUC 6, was used as the score.



CARBON STOCKS

SOURCE: USDA FOREST SERVICE, GRADIENT NEAREST NEIGHBOR (GNN) DATA

The average standing biomass per HUC 6 watershed was summarized by kilograms per hectare. The source data for this layer were the component ratio method biomass of all live trees greater than or equal to 2.5 centimeters diameter at breast height from GNN data (Bell et al. 2023). Watersheds with high values contain higher live, standing biomass/carbon (kilograms per hectare).



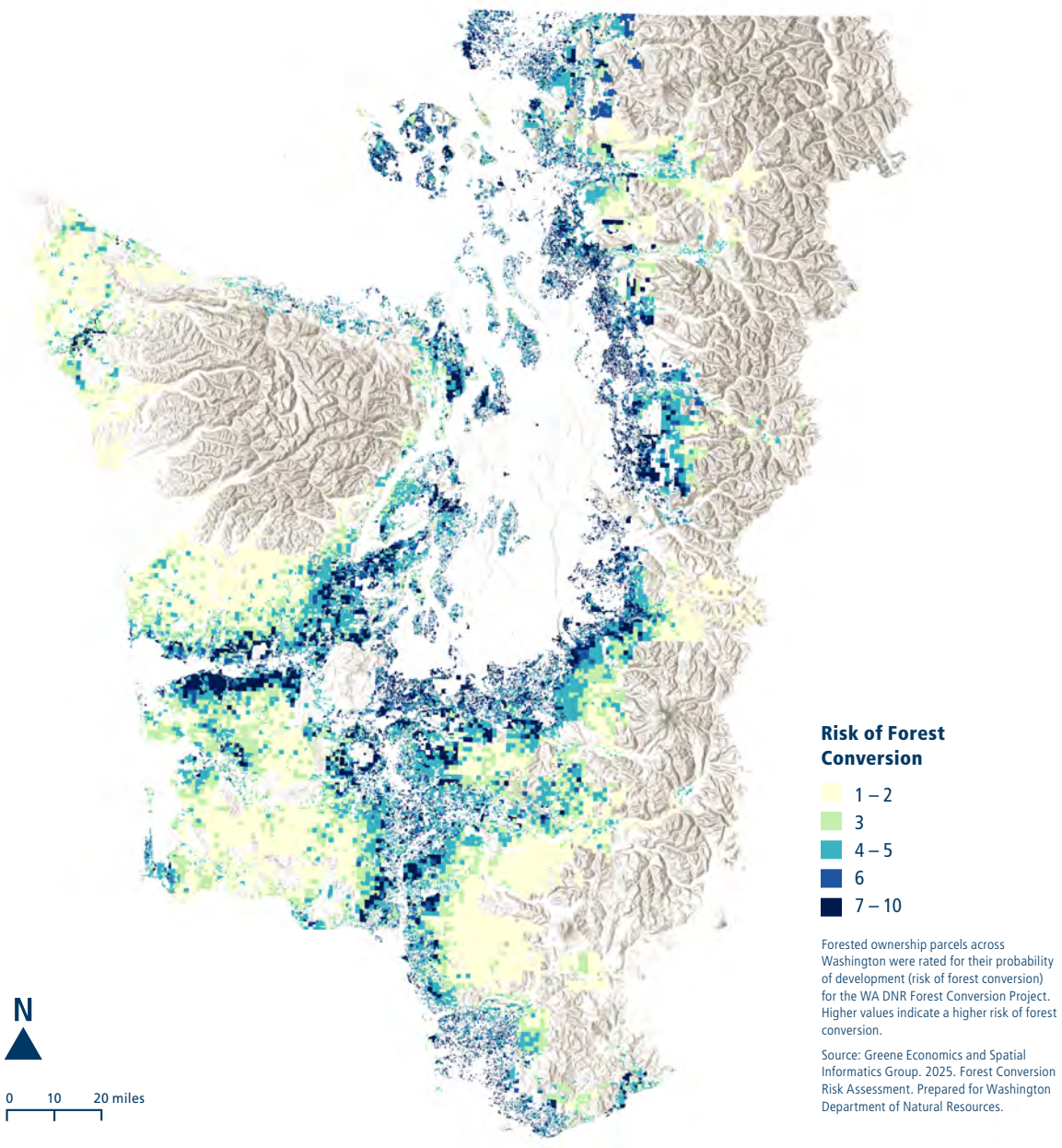
Parcels of forestland that meet the Washington Small Forest Landowners (SFLO) definition of harvesting no more than an average of 2 million board feet of timber per year. In western Washington, an owner would need 2500 acres in management to meet this level of productivity.

Source: Rogers, Luke W, Jeffrey M Comnick, and Andrew G Cooke. "The 2019 Washington State Forestland Database." Digital Data. Seattle, WA: University of Washington, September 2021. https://nrsig.org/projects/washington-state-forestland.

SMALL FOREST LANDOWNERS

SOURCE: UNIVERSITY OF WASHINGTON – 2019 WASHINGTON STATE FORESTLAND DATABASE

The 2019 Washington State Forestland Database was developed by the Natural Resource Spatial Informatics Group at the University of Washington School of Environmental and Forest Sciences (Rogers et al. 2021). We filtered the parcels of forestland that meet the Washington Small Forest Landowners (SFLO) definition of harvesting no more than an average of 2 million board feet of timber per year. In western Washington, an owner would need 2500 acres in management to meet this level of productivity. We took the sum of SLFO acres within each HUC 6 watershed and divided by the total area of that watershed. For the resulting SLFO layer, watersheds with high values contain more SFLO area, relative to the size of the watershed.



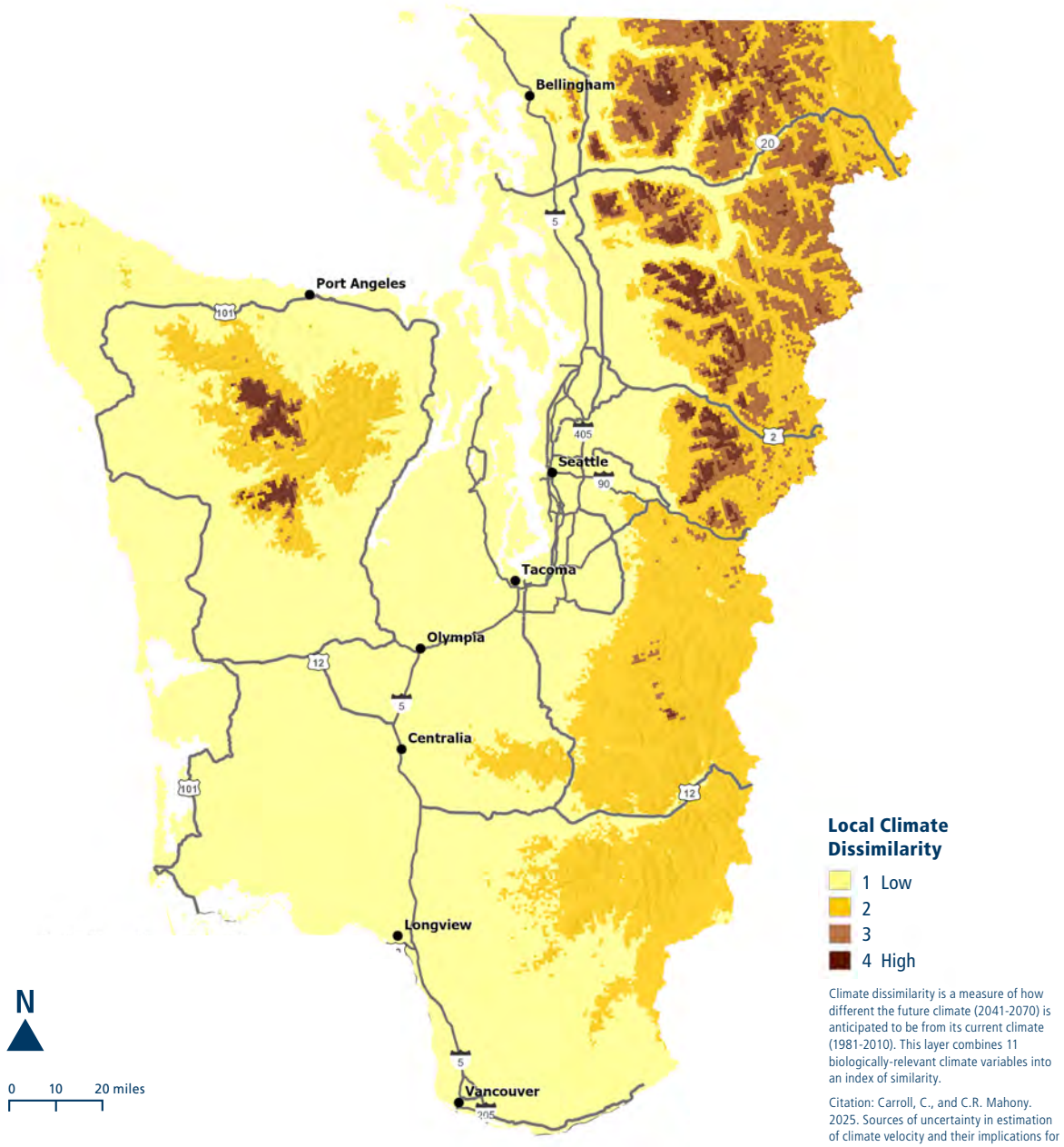
Forested ownership parcels across Washington were rated for their probability of development (risk of forest conversion) for the WA DNR Forest Conversion Project. Higher values indicate a higher risk of forest conversion.

Source: Greene Economics and Spatial Informatics Group. 2025. Forest Conversion Risk Assessment. Prepared for Washington Department of Natural Resources.

RISK OF FOREST CONVERSION

SOURCE: WASHINGTON DEPARTMENT OF NATURAL RESOURCES – FOREST CONVERSION PROJECT

Forested ownership parcels across Washington were rated for their probability of development (risk of forest conversion) for the WA DNR Forest Conversion Project (Greene Economics 2025). The probability of conversion was summed for each parcel within a HUC 6 watershed. Watersheds with higher values have a higher risk of forest conversion.



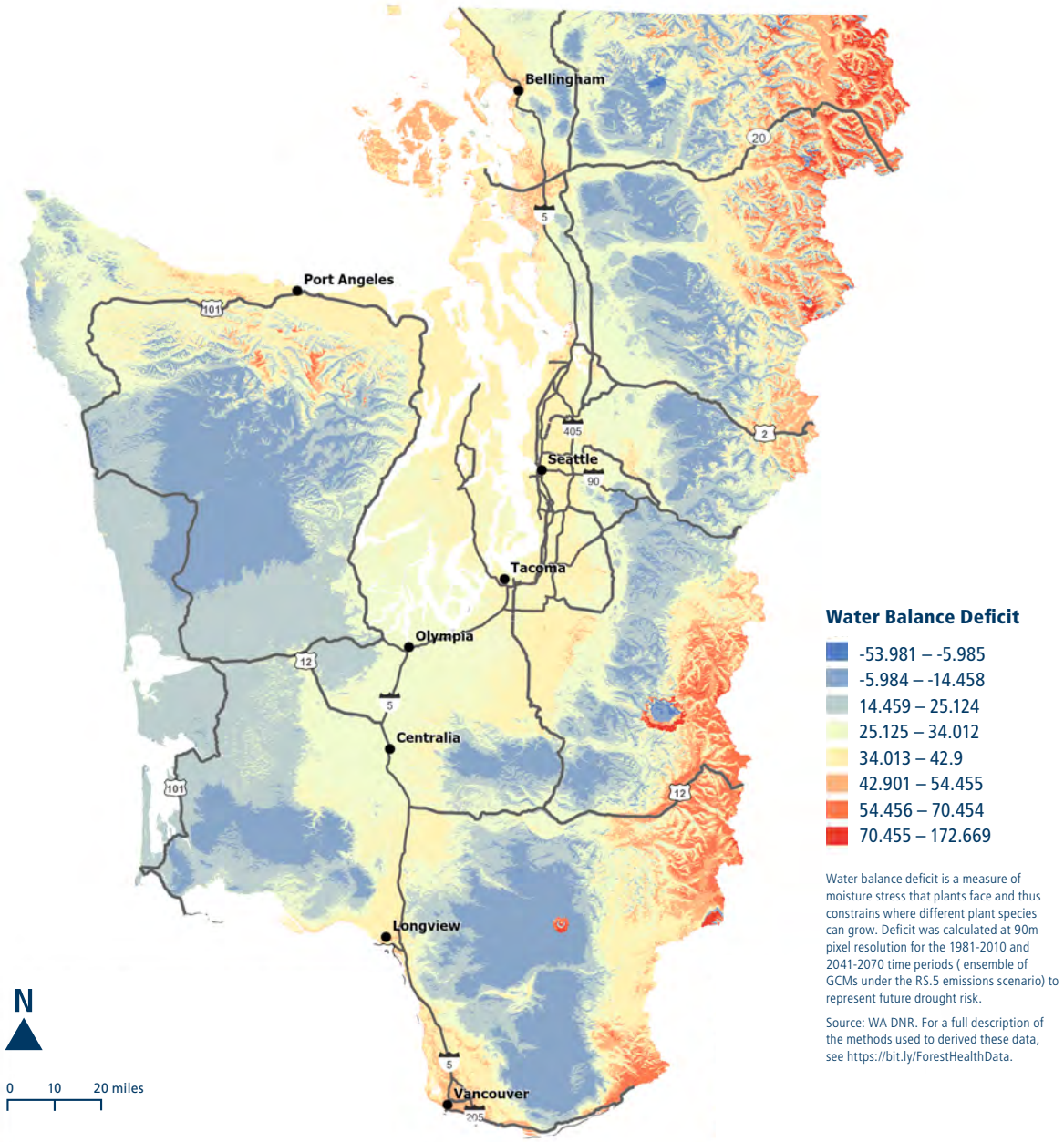
Climate dissimilarity is a measure of how different the future climate (2041-2070) is anticipated to be from its current climate (1981-2010). This layer combines 11 biologically-relevant climate variables into an index of similarity.

Citation: Carroll, C., and C.R. Mahony. 2025. Sources of uncertainty in estimation of climate velocity and their implications for ecological and conservation applications. Conservation Science and Practice.

CLIMATE CHANGE EXPOSURE

SOURCE: KLAMATH CENTER FOR CONSERVATION RESEARCH

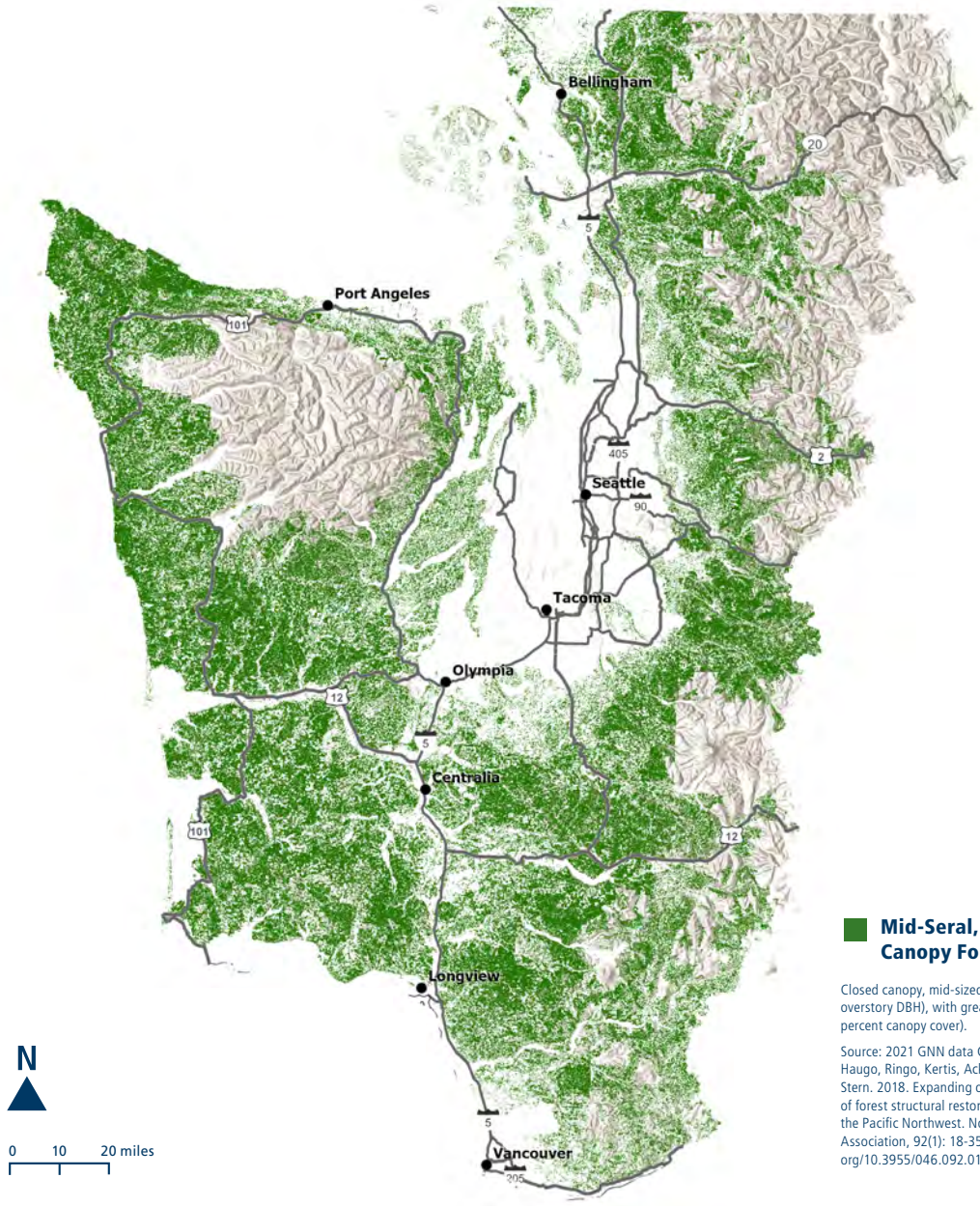
Climate dissimilarity is a measure of how different the future climate is anticipated to be from its current climate. This layer combines 11 biologically-relevant temperature and precipitation variables into an index of similarity (Carroll and Mahony 2025). The current climate period used climate data from 1981-2010, while the projected future climate was for 2041-2070 using the average of eight different climate models (ensemble of global circulation models) for the Shared Socioeconomic Pathway (SSP5-8.5) high emissions scenario. The average dissimilarity of the pixels in each HUC 6 were used as the score. Watersheds with high values are likely to experience the largest change between current climate and future climate.



DROUGHT RISK

SOURCE: WASHINGTON DEPARTMENT OF NATURAL RESOURCES – CLIMATIC MOISTURE DEFICIT, CLIMATE NORTH AMERICA – CLIMATE DATA

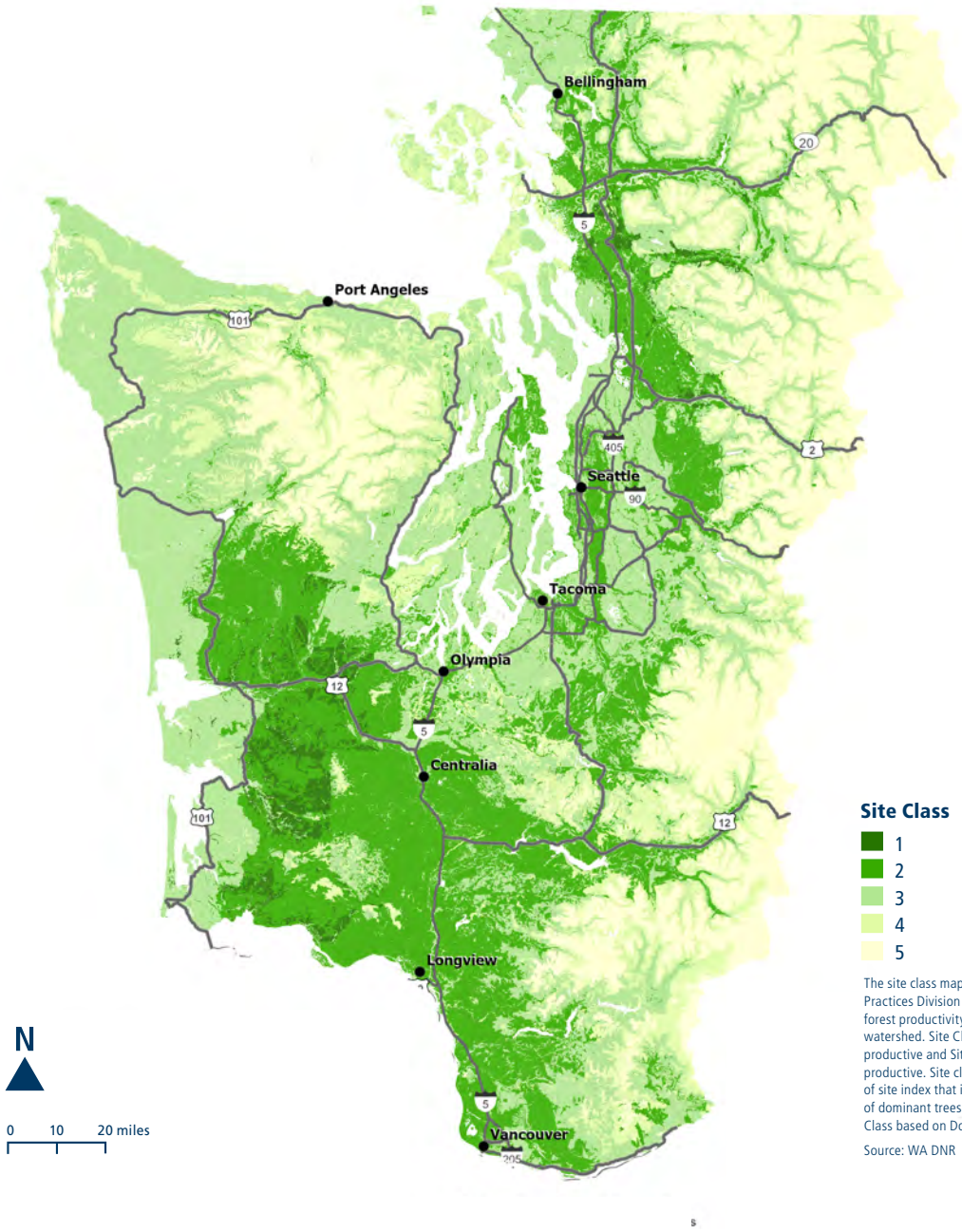
The projected increase in water balance deficit was included to capture the projected changes in climate that will exacerbate forest health problems. Water balance deficit is a measure of moisture stress that plants face and thus constrains where different plant species can grow. Increases in deficit elevate fire behavior and make forests more susceptible to insect and disease outbreaks. Deficit was calculated at 90m pixel resolution for the 1981-2010 and 2041-2070 time periods (ensemble of global circulation models under the R8.5 "business as usual" emissions scenario). The average value of the absolute difference between the current and future was used as the score for each HUC 6. Climate data and climate projections from Climate North America were used (Mahony et al. 2022, Wang et al. 2016, 2025). For a full description of the methods used to derive these data, see https://bit.ly/ForestHealthData. Watersheds with high values (mm of deficit) represent areas where higher increases in deficit are projected and thus higher drought stress is likely.



MID-SERAL, CLOSED CANOPY FOREST

SOURCE: USDA FOREST SERVICE REGION 6 – RESTORATION NEEDS ASSESSMENT

Dense mid-aged forests are generally over-abundant in watersheds in western Washington relative to historical conditions. High density forests are also more susceptible to many forest health problems such as drought stress, insect outbreaks, and pathogens. This mid-seral, closed canopy forest layer is from the most recent version of the restoration needs assessment conducted by Madison Laughlin from the University of Washington for Region 6 of the USDA Forest Service. The needs assessment is based on methods developed by The Nature Conservancy and the USDA Forest Service (DeMeo et al. 2018, Laughlin et al. 2023). For this metric, the map of structure classes from the assessment was used to quantify the amount of closed canopy, mid-sized forest (10-20" overstory DBH), with greater than 40 percent canopy cover) within a HUC 6 watershed. The source data is 2021 GNN data, with updates for fires and treatments that occurred in 2022-2023. The total number of mid-seral, closed canopy acres across each HUC 6, divided by the total areas of the HUC 6, was used as the score. Watersheds with high values have a higher proportion of mid-seral-closed canopy forest.



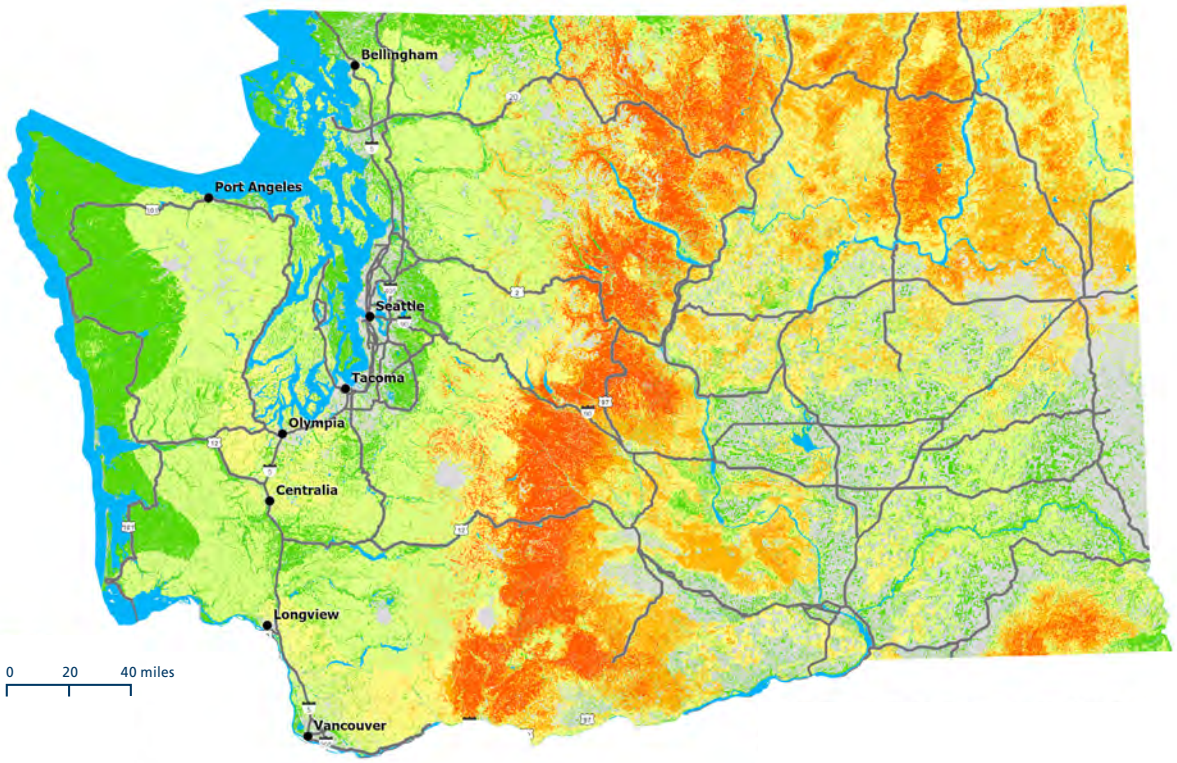
The site class map from the DNR Forest Practices Division was used to quantify forest productivity in each HUC 10 watershed. Site Class 1 is the most productive and Site Class 5 is the least productive. Site class is a classified version of site index that is based on the height of dominant trees at 50 or 100 years. Site Class based on Douglas-fir was used.

Source: WA DNR

SITE PRODUCTIVITY

SOURCE: FOREST PRACTICES DIVISION,
WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The site class map from the DNR Forest Practices Division was used to quantify forest productivity in each HUC 6 watershed. Site Class 1 is the most productive and Site Class 5 is the least productive. Site class is a classified version of site index that is based on the height of dominant trees at 50 or 100 years. Site Class based on Douglas-fir was used. A random forest model using climate variables and soil water holding capacity was used to extend this layer to federal lands that are not covered in the available layer. The average site class of the pixels in each HUC 6 were used as the score. Watersheds with lower values are the more productive.



WILDFIRE HAZARD

SOURCE: USDA FOREST SERVICE,
ROCKY MOUNTAIN RESEARCH STATION

Wildfire hazard potential represents a combined index of burn probability and fire intensity. This layer was created by the USDA Forest Service, Rocky Mountain Research Station from updated national datasets of annual burn probability and fire intensity generated with the large fire simulation system (FSim). LANDFIRE 2020 (version 2.2.0) vegetation and wildland fuels data and point locations of fire occurrence from 1992-2020 were used as part of their mapping process. Wildfire hazard potential is not an explicit map of wildfire risk as it does not include the impact of fire on highly valued natural resources and assets (e.g. structures, infrastructure). Wildfire hazard potential represents an average scenario not extreme events, nor is it a forecast of any particular wildfire season. Watersheds with higher values indicate an increase in wildfire hazard potential.

Wildfire Hazard

- Very Low
- Low
- Moderate
- High
- Very High
- *Non-burnable
- Water

Wildfire hazard potential represents a combined index of burn probability and fire intensity. This layer was created by the USDA Forest Service, Rocky Mountain Research Station.

*Non-burnable is developed, agricultural fields, perennial snow/ice, and bare ground.

Citation: Dillon, Gregory K. 2023. Wildfire Hazard Potential for the United States (270-m), version 2023. 4th Edition. Updated 17 July 2024. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2015-0047-4.

WILDFIRE HAZARD POTENTIAL REPRESENTS A COMBINED INDEX OF BURN PROBABILITY AND FIRE INTENSITY.

Bear Gulch Fire burning on the north side of Lake Cushman in Olympic National Forest and National Park, near Hoodsport, WA in 2025.

Combining Metrics Into Prioritization Scores

To rank and prioritize HUC 6 watersheds, the datasets making up the values at risk and the landscape resilience and forest health indicators were combined using the process described below. Note that all scores are relative. A low score does not mean that a watershed has no forest health concerns or need for action. Instead, it means that metrics and overall needs are lower relative to other watersheds. In combining metrics into composite scores, DNR scientists used the simplest, most transparent approaches possible unless a clear need and advantage for a more complicated approach existed. We did not apply any weights to the metrics.

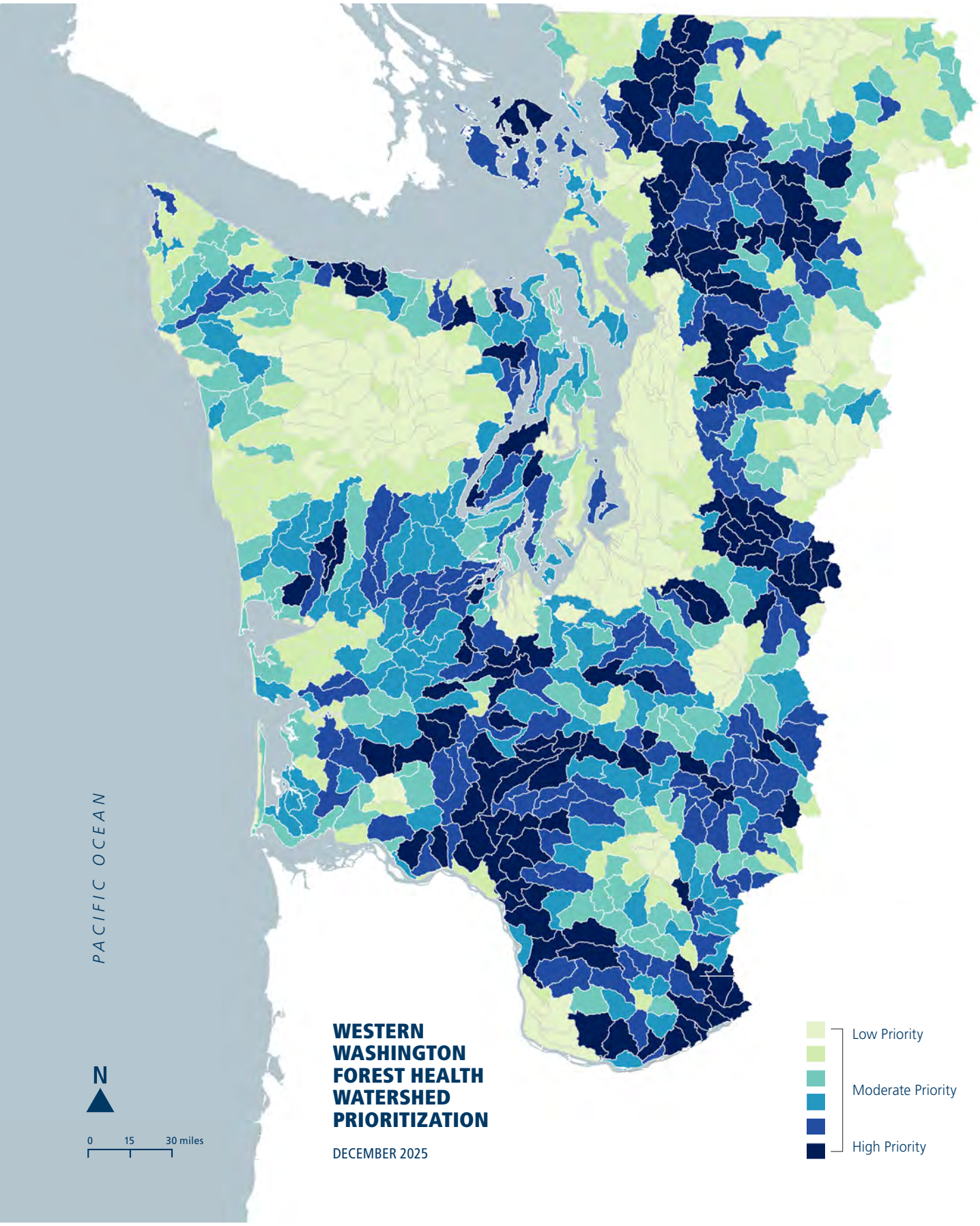
1. Derive HUC 6 scores: For each dataset the value of pixels or smaller geospatial features (lines, polygons, etc.) across each HUC 6 were aggregated to derive a single score for each HUC 6. This was done in different ways for different datasets; see the descriptions of each dataset in this appendix. For some datasets, the average of the pixels across each HUC 6 was derived. In others, the sum of the acres or stream miles divided by the total area of the HUC 6 was calculated. Other datasets were provided to DNR with a score for each HUC.

2. Rank watersheds for each metric: A simple ranking approach was used to convert the HUC 6 scores derived for each dataset onto a standardized 0-1 scale. For each dataset or metric, values for the HUC 6 watersheds were first ranked with ties allowed. The ranks were then standardized by dividing by the highest rank for each dataset. The watershed with the highest value for a dataset has a score of 1 and the lowest value a score of 0. This relative approach resulted in similar contributions of each metric to the composite scores.

Before calculating the ranking, raw scores for all metrics were first rounded to a specified numeral for each metric, based on the distribution of that metric. For example, increase in deficit was rounded to the nearest 5. (e.g. 5, 20, 40). Acre metrics were rounded to the nearest 100 (e.g. 800, 2,100, 5,500). Rounding created tied rankings for watersheds that had close scores. This removed artificial differentiation from small differences in scores.

3. Calculate composite scores and rankings: Rankings for all metrics were added together to derive a composite score. Note that two wildlife metrics were first combined into a single averaged wildlife metric; the same was done with the two fish metrics. DNR scientists explored more complex approaches to combining metrics, but determined that this simpler approach worked as well as any of the others.

THE DATASETS MAKING UP THE VALUES AT RISK AND THE LANDSCAPE RESILIENCE AND FOREST HEALTH INDICATORS WERE COMBINED INTO COMPOSITE SCORES. A LOW SCORE DOES NOT MEAN THAT A WATERSHED HAS NO FOREST HEALTH CONCERNS OR NEED FOR ACTION.


PACIFIC OCEAN
N
0 15 30 miles
WESTERN WASHINGTON FOREST HEALTH WATERSHED PRIORITIZATION
DECEMBER 2025
Low Priority
Moderate Priority
High Priority

DNR PHOTO?

Olympic National Forest.

APPENDIX C

Forest Legacy Program Scoring Guide

SCORING CRITERIA USED BY THE USDA FOREST SERVICE, WASHINGTON DNR, AND REVIEW COMMITTEE MEMBERS TO RANK APPLICATIONS IN THE STATE OF WASHINGTON

Forest Legacy Program Scoring Guide

The Washington Forest Legacy Program Assessment of Need (AON) was updated in 2025. To see the updated AON visit: https://dnr.wa.gov/about-washington-dnr/forest-legacy-program-landowners.

To be eligible for Washington's Forest Legacy Program, submitted applications must meet all the following requirements:

- Project must meet one or more of Washington's FLP goals.
- Project must be within Washington's Forest Legacy Area as identified in the Washington State Assessment of Need (AON)
- Project must be sponsored by a state agency or a land trust organization.
- Project must be privately owned.
- Project must be at least five (5) acres in size.
- Project must include a minimum 25% cash or in-kind, non-federal match. The Forest Legacy Program will fund up to 75% of total project costs (acquisition costs plus other allowable expenses).
- Project must be 75% forestland (defined as land with trees that has at least 10% canopy cover or formally had such tree cover and is not currently developed for non-forest use).
- Landowners agree to follow federal Forest Legacy Program requirements and implementation rules including:

RANKING

The Forest Health Advisory Committee serves as the State Forest Stewardship Coordination Committee. The committee includes individuals representing the following: local governments, consulting foresters, environmental organizations, forest products industry, small forest landowners, contract loggers, land-trust organizations, conservation organizations, State fish and wildlife agency, USDA Forest Service, and Tribal Nations.

State Forest Stewardship Coordinating Committee role in implementation of the FLP include:

- Advising DNR to help achieve FLP objectives.
- Provide input and advice for development and updates to the Forest Action Plan, including establishing State FLP goals, FLP priority areas (Forest Legacy Areas), eligibility requirements and selection criteria.
- Reviewing and recommending project proposals at the State level, and
- Reviewing significant changes to projects that occur before the project closes and providing recommendations on whether the project should still proceed.

Eligible project proposals will be ranked independently by the Washington State Forest Stewardship Coordinating Committee based on its alignment with the Importance, Threatened, and Strategic criteria outlined below. These criteria reflect those used by the National Review Panel.

THE WASHINGTON FOREST LEGACY PROGRAM ASSESSMENT OF NEED (AON) WAS UPDATED IN 2025.

PROJECT DESCRIPTION

Project briefs must represent the property proposed for acquisition, not the attributes of a larger proposed project area, previously acquired phases or the general geographic area where a project is located. Attributes of a larger project may be discussed in the General Description and in the Strategic section.

Projects with multiple landowners must show these as multiple tracts within the project table and in the project map. A multi-tract project will be scored based on how all the tracts fit within the criteria. For example, if only one tract meets the highest point criteria, the project will not likely obtain the highest points.

If a project has multiple phases, the Review Panel will focus on evaluating the phase and associated tracts that are being proposed for the applicable fiscal year. Accordingly, the project proposal should be clear through all sections on the relative importance, threat, and strategic contribution of the tracts being currently proposed. If many different tracts are proposed, then the project proposal should speak to the collective attributes of the group of tracts being proposed for the applicable funding year.

Project briefs provided to the National Review Panel are expected to be an accurate representation of the property.

All photos should include descriptions as well as credit information. States and project partners are granting the USDA Forest Service permission to use all photos uploaded into FLIS for program purposes with appropriate credits.

IMPORTANCE

This criterion focuses on the attributes of the property and the environmental, social, and economic public benefits gained from the protection and management of the property and its resources, now and into the future. This criterion reflects ecological assets as well as the economic and social values conserved by the project and its level of significance.

Significance of attributes is demonstrated by the quality, scope, and impact of the attributes, which may be illustrated through (but is not limited to) the following examples:

• Support of Federal Laws (such as Endangered Species Act, Safe Drinking Water Act, or Clean Water Act).

• Contributions to Federal Initiatives or Federal Designations (such as Wild and Scenic Rivers, National Scenic Byways, National Recreation Trails, and National Historic Sites).

Scoring consists of evaluating a project for the attributes below and identifying a point score. More points will be given to projects that demonstrate multiple public benefits of significance.

• **High Importance (21-30 points)** – The project contains a majority of the attributes, and those attributes are high-impact and high-quality, or one or more attributes are exceptionally important.

• **Medium (11-20 points)** – The project contains multiple attributes which are high-impact or high-quality.

• **Low (0-10 points)** – The project contains only a few attributes, or it contains all of them, but they are of limited or marginal impact and quality.

A project does not need to have all the attributes listed to receive maximum points for this category nor is it an exhaustive list of possible attributes. More points will be given to projects that exemplify a particular attribute or combination of attributes. The measure is the significance of the attributes discussed, not simply that there is an entry for each attribute.

IMPORTANCE ATTRIBUTES TO CONSIDER

The descriptions listed below represent the ideal project for each attribute. These attributes are not listed in priority order – applicants may provide this information in the relative order of importance for the proposed project.

- **Economic Benefits from Timber and Potential Forest Productivity** – This category includes three independent components: (1) Landowner demonstrates sustainable forest management in accordance with a management plan. Additional points should be given to land that is third party certified (such as Sustainable Forestry Initiative, Forest Stewardship Council, and American Tree Farm System). (2) Forestry activities contribute to the resource-based economy for a community or region. (3) The property contains characteristics (such as highly productive soils) to sustain a productive forest over time.
- **Economic Benefits from Non-timber Products and Recreation** – Provides non-timber revenue to the local or regional economy through non-timber forest products (maple syrup, pine straw, ginseng collection, etc.); recreation and tourism (local or regional benefits related to lodging, rentals, bikes, boats, outdoor gear, guided tours for fishing, hunting, or birdwatching, etc.); hunting leases; and/or ranching.
- **Threatened or Endangered Species Habitat** – The property has documented threatened or endangered plants and animals or designated habitat. Documented occurrence and use of the project area should be given more consideration in point allocation than if it is habitat without documented occurrence or use. Federally listed species should be given more consideration than state-only listed species when evaluating the significance of this attribute. See Attachment A for a glossary of terms for Threatened and Endangered species information.
- **Fish, Wildlife, Plants, and Unique Forest Communities** – The property contains unique forest communities and/or important fish, or wildlife habitat as documented by a formal assessment or wildlife conservation plan or strategy developed by a government or a non- governmental organization. Contributions to international initiatives to support and sustain migratory species can be considered here if the property will make a significant contribution, e.g. the target species has been documented to regularly use the property during seasonal migration.
- **Water Supply, Aquatic Habitat, and Watershed Protection** – (1) The property has a direct relationship with protecting the water supply or watershed, such as providing a buffer to public drinking water supply, containing an aquifer recharge area, or protecting an ecologically important aquatic or marine area, and/or (2) the property contains important riparian area, wetlands, shorelines, river systems, or sensitive watershed lands. When allocating points consider the importance of the resource, the scope and scale of the property, magnitude and intensity of the benefits that will result from protection of the property. Merely being located within an aquifer recharge area or in a water supply area should not be given the same consideration as a property that makes a significant conservation contribution to water, riparian, and aquatic resources and habitats.

THIS CRITERION REFLECTS ECOLOGICAL ASSETS AS WELL AS THE ECONOMIC AND SOCIAL VALUES CONSERVED BY THE PROJECT AND ITS LEVEL OF SIGNIFICANCE.

- **Cultural/Historic** – The property contains features of cultural and/or historical significance that are documented by a governmental or a non-governmental organization. A Federal designation should receive greater consideration.
- **Tribal** – The property provides meaningful benefits to Tribal and other indigenous communities, contains features or resources of cultural significance, and/or utilizes management techniques significant to Tribes (Indigenous knowledge). Greater consideration should be given to projects that have been developed with active involvement and partnership with a Tribe, or where a Tribal organization has documented the importance of the property for cultural practices, resources, and benefits.
- **Public Access** – Protection of the property will secure existing access, expand access, or establish new access by the public for recreation (including waterfront access); however, restrictions on specific use and location of recreational activities may be allowed. More consideration should be given to projects that expand or provide certainty of public access because of the proposed project.
- **Scenic** – The property is located within a viewshed of a government designated scenic feature or area (such as a trail, river, or highway). Federal designation should be given more consideration than state-only designations when evaluating the significance of this attribute.
- **Carbon Sequestration** – Protection of the property will result in benefits related to carbon sequestration.

THREATENED

This criterion estimates the likelihood for conversion. More points will be given to projects that demonstrate multiple conditions; however, a project need not have all the conditions listed to receive maximum points for this category.

During the evaluation of a threat, a landowner interested in conserving their land should not be penalized in allocating points because they are not marketing their lands, have not subdivided their land, or sought approval for a subdivision plan. Also, a property with an approved subdivision plan should not, without question, receive a high score in the Threatened section. The attributes outlined below must be considered to determine if the conditions exist to make conversion of a property likely and points should be allocated accordingly.

If the property has been acquired by a third party at the request of and/or with the support of the State, threatened will be evaluated based on the situation prior to the third-party acquisition.

In many cases the threat of conversion is fueled by residential or industrial development. However, this is not the only driver. Other types of conversion may include agricultural expansion, installation of wind or solar technology, or other uses that substantially remove or fragment forest cover. These other types of conversion may also be considered based on the degree of threat or how much of a given parcel is threatened.

Scoring consists of evaluating a project for the attributes below and identifying a point score.

- **Likely (11-20 points)** – Multiple conditions exist that make conversion to non-forest uses likely.
- **Possible (1-10 points)** – A few conditions exist that make conversion to non-forest uses possible.
- **Unlikely (0 points)** – Current conditions exist that make conversion to non-forest uses unlikely.

THREATENED ATTRIBUTES TO CONSIDER

The descriptions listed below represent the ideal project for each attribute. These attributes are not listed in priority order – applicants may provide this information in the relative order of importance for the proposed project.

- **Lack of Protection** – The lack of temporary or permanent protections (e.g., current zoning, temporary or permanent easements, moratoriums, and encumbrances that limit subdivision or conversion) that currently exists on the property and the likelihood of the threat of conversion.
- **Land and Landowners Circumstances** – Land and landowner circumstances such as property held in an estate, age of landowner, interest of ownership and stewardship of property by heirs of current landowners is uncertain, property is for sale or has a sale pending, landowner anticipates owning the property for a short duration, landowner has received purchase offers, land has an approved subdivision plan, landowner has sold subdivisions of the property, etc.
- **Adjacent Land Use** – Adjacent land use characteristics such as existing land status, rate of development, growth, and conversion, rate of population growth (percent change), rate of change in ownership, etc.
- **Ability to Develop**– Physical attributes of the property that will facilitate conversion, such as access, buildable ground, zoning, slope, water/sewer, electricity, etc.

THE "THREATENED" CRITERION ESTIMATES THE LIKELIHOOD OF CONVERSION.

STRATEGIC

This criterion reflects the project's relevance or relationship to conservation efforts on a broader perspective considering scale, location, and relative contribution to landscape scale conservation goals.

Scoring consists of evaluating a project for the attributes below and identifying a point score.

- **High (21-30 points)** – The property makes an exceptional strategic contribution to multiple attributes.
- **Medium (11-20 points)** – The property makes a substantial strategic contribution to one or more of the attributes.
- **Low (0-10 points)** – The property makes a modest strategic contribution to one or more of the attributes.

STRATEGIC ATTRIBUTES TO CONSIDER

The descriptions listed below represent the ideal project for each attribute. These attributes are not listed in priority order– applicants may provide this information in the relative order of importance for the proposed project.

- **Conservation Initiative, Strategy, or Plan** – How the project contributes to either an existing or new conservation initiative, strategy, or plan. Describe the relative contribution of the property to achieving the conservation goals of the plan, strategy, or initiative considering scale, location, and project attributes. Conservation plans that have been formally designated by a governmental, tribal, or non-governmental entity should be given more consideration. Contributions to a new strategy or a strategy underdevelopment may also be discussed. This can be useful if a project would contribute to, or catalyze, a new conservation initiative, strategy, or plan. For new initiatives, specific goals should be defined, and potential contributions of how the project advances those goals should be highlighted.
- **Complement Protected Lands** – How the project is strategically linked to or enhances already protected lands, including past FLP projects, public lands (Federal, State, or local), or private lands conserved through permanent easements. Provide specifics on how the proposed tracts connect to and maintain landscape-scale benefits, e.g. ecological resilience, wildlife migration, watershed function, and scenic viewshed integrity.
- **Other Landscape Scale Goals and Public Benefits** – How the project strategically contributes to the advancement of larger scale conservation goals and public benefits. Examples could include but are not limited to:
  - Forest health and resilience.
  - Reduced community impacts from wildfire, floods, and invasive species.
  - Expanded public access; and
  - Protection of critical water supplies.
  - Provide specifics on the project's contributions to the larger scale goals and benefits.

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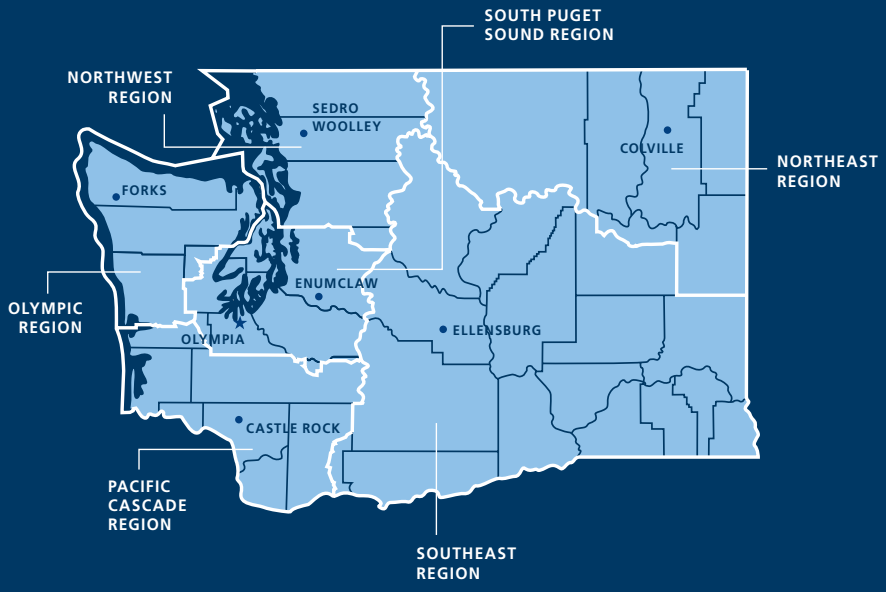

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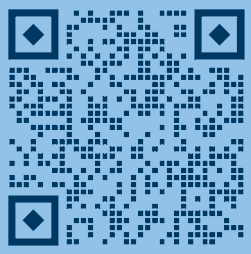

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