The Forest Service and Partners

Working together to restore Pacific Northwest National Forests

Spring 2018

Year two report of *The Forest Service and Communities: The relationships between land and people in the Pacific Northwest Region*

Ecosystem Workforce Program

UNIVERSITY OF OREGON

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

This project is a partnership between the Pacific Northwest Region of the U.S. Forest Service and the Ecosystem Workforce Program at the University of Oregon.

The roles of the Ecosystem Workforce Program (EWP) in this partnership include: developing and applying research methods; data gathering, analysis, interpretation, and display; cartography; and graphic design. Each partner provides project oversight and management, shares lessons learned, and helps disseminate results.

EWP Principal Investigator:

Cassandra Moseley, Director, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Project lead:

Heidi Huber-Stearns, Associate Director, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Layout and design:

Autumn Ellison, Faculty Research Assistant, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Additional data analysis, visualization, and mapping:

Kelly Jacobson, Faculty Research Assistant, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Colin Phifer, Faculty Research Assistant, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Jonathan Salerno, Faculty Research Associate, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon.

Gregory Fitzgerald, student, Department of Geography, University of Oregon.

Blake Andrew, GIS Program Analyst, Campus GIS & Mapping, University of Oregon.

The roles of the Forest Service in this partnership include: setting project framework and sideboards; accessing and interpreting data; coordinating across multiple staff areas; and providing subject matter expertise. Each partner provides project oversight and management, shares lessons learned, and helps disseminate results.

Forest Service project sponsor:

Shoshona "Shoni" M. Pilip-Florea, Director, Pacific Northwest Region Office of Communications and Community Engagement.

Project lead:

Maia J. Enzer, Washington Office, Ecosystem Management Coordination.

Project manager:

Emily J. Biesecker, Pacific Northwest Region, Communications and Community Engagement.

Forest Service creative team:

During this second year of the project we established a Creative Team of Forest Service employees. Each member committed time and energy to advising, reviewing, and challenging the project to advance understanding of the Forest Service's impacts on sustainable, natural resources-based economies.

Aly Warren, Pacific Northwest Region, Natural Resources.

Ryan Gregg, Washington Office, Strategic Planning, Budget, and Accountability.

Lindsay Buchanan, Washington Office, Forest Management.

Jessica Rubado and Max Wahlberg, Pacific Northwest Region, Resource Planning and Monitoring.

Karl Dalla Rosa, Pacific Northwest Region, State and Private Forestry.

Kathryn Strawn, Pacific Northwest Region, Data Resource Management.

Acknowledgments:

The support of the Regional Forester and the Regional Office Director Teams for this project has been instrumental to our ability to fulfill the project objectives, especially our learning process. We appreciate their leadership and willingness to try something new, to allow for learning, and to support many of their staff in continuing to coordinate with us in the second year of this project.

We thank Josh Chapman for his contributions to the project through help with the Terrestrial Habitat Enhancement data. We also appreciate Dana Croll's assistance with data from the Timber Information Manager database.

Cover photo courtesy of Southern Willamette Forest Collaborative. All other photos courtesy of Ecosystem Workforce Program or US Forest Service Pacific Northwest Region (https://www.flickr.com/photos/forestservicenw/albums/with/72157660353639554). This report is EWP Working Paper #84 and may be downloaded at: http://ewp.uoregon.edu/publications/working, or at the project page at: http://ewp.uoregon.edu/USFScommunities.

For more information about this document, contact:

Ecosystem Workforce Program
Institute for a Sustainable Environment
5247 University of Oregon
Eugene, OR 97403-5247
541-346-4545
hhuber@uoregon.edu

For more information about this project, contact:

Office of Communications and Community Engagement
Forest Service, Pacific Northwest Region
1220 SW 3rd Avenue, 13th Floor
Portland, OR, 97204
cce@fs.fed.us

About this project

This is a joint project between the U.S. Forest Service Pacific Northwest Region and the University of Oregon Ecosystem Workforce Program. This project aims to help the Forest Service and its partners better understand and communicate the social and economic contexts in which the Forest Service operates and document Forest Service impacts in advancing sustainable natural resources-based economies. We designed this project as a collaborative learning process in which we would experiment with new ways to use, integrate, and represent data, especially Forest Service data, to understand potential applications of data already being collected and recorded as well as identify data gaps and strategize how to fill them.

In the first year of this project we conducted experimental work across more than a dozen different databases, uncovering and illustrating information about characteristics and interactions between communities and the Forest Service in the Pacific Northwest.

In the second year of this project, presented in this book, we expanded on what we learned in the first year, focusing on new questions that build from year one. The datasets accessed and analyzed during the second year have allowed us to show visually compelling information in new ways, while exploring answers to more detailed questions, especially about who the agency partners with, how and toward what accomplishments.

In this second year we focused on: 1) showing trends over time; 2) presenting more nuanced analyses of regional characteristics, agency data, and linkages to communities; 3) digging deeper into collaborative restoration efforts and understanding where and how partnerships are leveraged by non-agency partners; 4) providing more detail on forest products from the national forests.

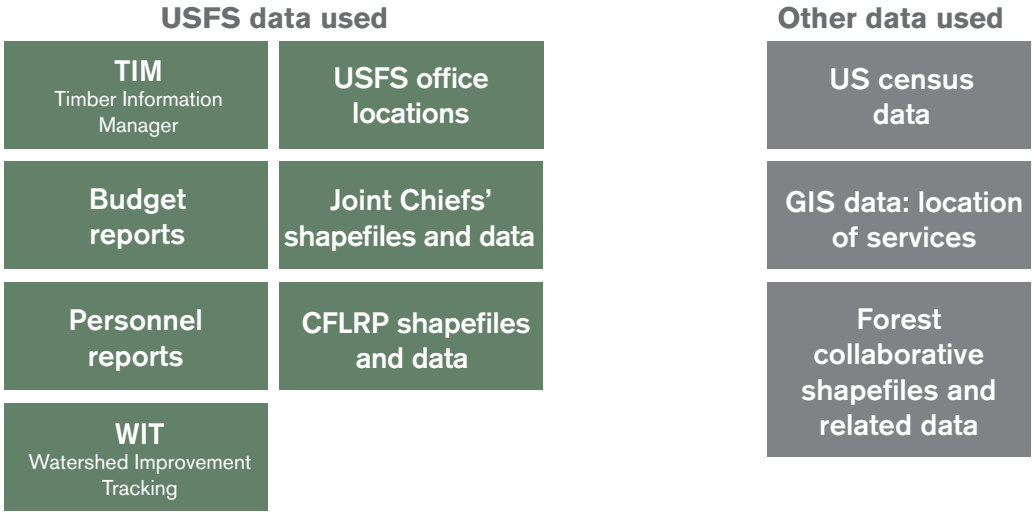
We present the results of our exploration over three chapters that show:

1. Social and economic characteristics and conditions in the towns and communities where the Forest Service works, as well as Forest Service budget and personnel trends (Chapter 1);
2. Impacts of the trend to work collaboratively on the restoration of national forests (Chapter 2);
3. Spotlights on partnerships, including how partnerships are leveraging resources to restore wildlife habitat, and what and how businesses are purchasing forest materials across Oregon and Washington (Chapter 3).

Roadmap:

This document contains three chapters, bookended by an Introduction and Conclusion. An Appendix section at the end of this document includes details on all data and methods used.

Data used in this book



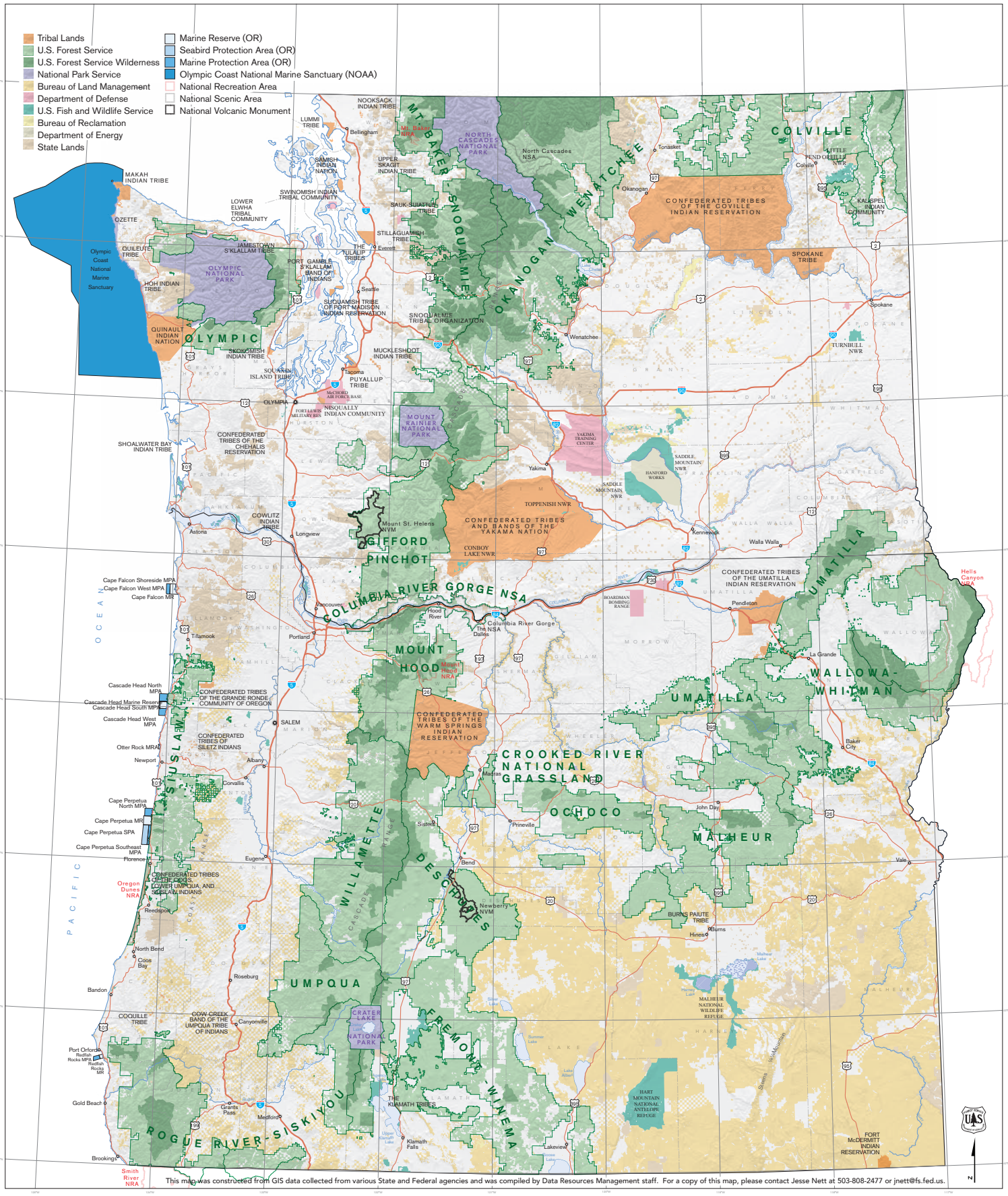
Oregon and Washington management units and acronyms

Unit Code	Unit Name
CRG	Columbia River Gorge National Scenic Area
COL	Colville National Forest
DES	Deschutes National Forest
FWI	Fremont-Winema National Forest
GIP	Gifford Pinchot National Forest
MAL	Malheur National Forest
MBS	Mount Baker-Snoqualmie National Forest
MTH	Mt. Hood National Forest
OCH	Ochoco National Forest and Crooked River National Grassland
OWE	Okanogan-Wenatchee National Forest
OLY	Olympic National Forest
RRS	Rogue River-Siskiyou National Forest
SIU	Siuslaw National Forest
UMA	Umatilla National Forest
UMP	Umpqua National Forest
WAW	Wallowa-Whitman National Forest
WIL	Willamette National Forest

Table of contents

Federal, state, and tribal land designations

Oregon and Washington



This map was constructed from GIS data collected from various State and Federal agencies and was compiled by Data Resources Management staff. For a copy of this map, please contact Jesse Nett at 503-808-2477 or jnett@fs.fed.us.

Introduction:
The Pacific Northwest Region

Landownership patterns across Oregon and Washington are a diverse matrix, which underscores the complexity land managers and communities alike face in land management in the Pacific Northwest. At the same time, the Pacific Northwest is also a region of extreme variation in access to services, with the majority of the population clustered around the Interstate-5 corridor in the western portions of Oregon and Washington, and sparser populations in the eastern portions of the states.

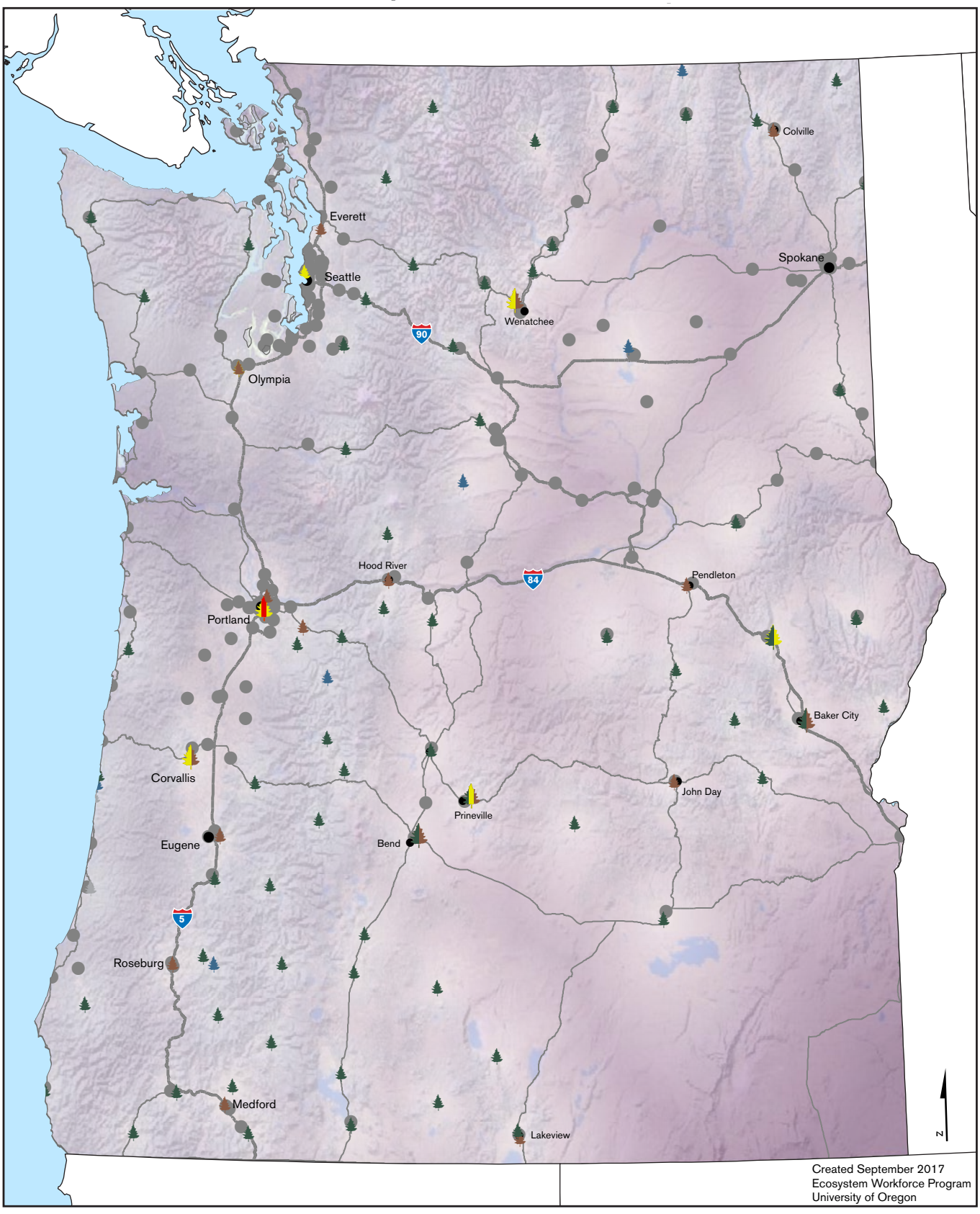
We show a distance and a drivetime map in the beginning of this document to acknowledge this isolation and the challenges in access to services, such as hospitals, banks, freeways and other points of reference that impact community connectivity and access to markets. In the Pacific Northwest, getting access to people and help can be complicated. Rural communities need to have economies that can thrive even though they are isolated from markets, transportation corridors, and major centers of commerce.

Key takeaway:

Oregon and Washington have large landholdings by federal, state, and tribal governments, and many communities are isolated from key amenities and markets, illustrating the importance of the US Forest Service role in these isolated places.

The Forest Service has offices located in some of the most isolated communities in Oregon and Washington. In many rural areas, these agency offices are more accessible than other services. The national forests are managed as part of these isolated landscapes, and are important economic drivers in these rural areas. Operating national forests in places that are far removed from commerce also brings its own management challenges. Understanding isolation can help land managers be more effective, and to design programs of work to mitigate the challenges and amplify the opportunities that come with it.

Distance to the nearest hospital



Hospital

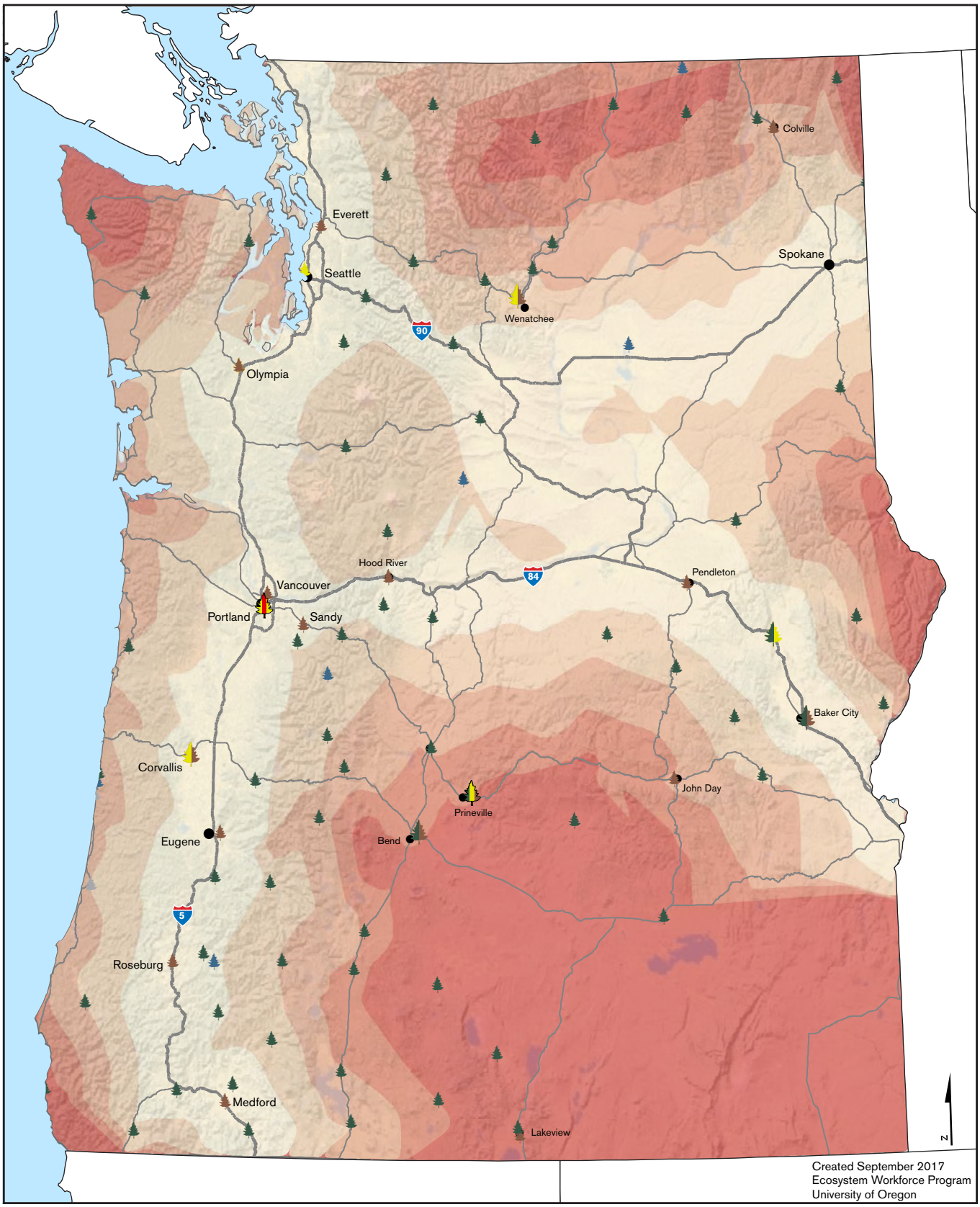
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Drive time to the nearest interstate onramp



Interstates

US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest interstate onramp

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours


PAISLEY MOSQUITO FESTIVAL
- LAST FULL WEEKEND IN JULY -

Chapter I.

Where the Forest Service Works in Oregon and Washington

Across Oregon and Washington, the Forest Service has 101 offices located in 86 different towns, many within an hour's drive of each other. This includes offices on national forest units as well as Research and Development labs, Job Corps Centers, Visitor Centers and the Regional Office. In 2016, in Oregon and Washington, the Forest Service employed 4,104 full-time equivalent (FTE) jobs. Personnel on each unit ranged from 48 and 75 FTE on the Columbia River Gorge National Scenic Area and Olympic National Forest, respectively, to 474 FTE on the Okanogan-Wenatchee National Forest. FTE levels have generally declined over the past decade. The Pacific Northwest Region has also had variable budget levels by forest over the past decade. The variations in budget and staffing impact how Forest Service units are able to operate, both year-to-year and for longer-term planning. At the same time, impacts from national forest's budgets and staffing go beyond their administrative boundaries and have direct connections to the places in which the agency works.

Key takeaway:

The Forest Service has over 4,000 full-time jobs in their offices, located in 86 different towns (and 48 counties) across rural and urban portions of Oregon and Washington, with a diversity of social-demographic characteristics.

The 101 Forest Service offices in the region span rural and urban areas, and both eastern and western sides of Oregon and Washington. Offices are located in a diversity of towns, primarily in rural areas with populations under 5,000 people. In particular, Ranger District offices and Job Corps Centers are mainly located in less populated towns, while Forest Supervisor offices, and research labs are mainly in areas with larger populations. In all of these settings, Forest Service offices can serve a myriad of purposes. Forest Service employees are members of these towns where offices are located, raising their families, spending their income and engaging in community and service related activities. In addition, offices such as Job Corps Centers provide valuable social and economic services in rural areas. Understanding some of the social and demographic characteristics of the towns in Oregon and Washington where the Forest Service is based can help the agency understand variations within their towns, as well as some of the key social and economic considerations.

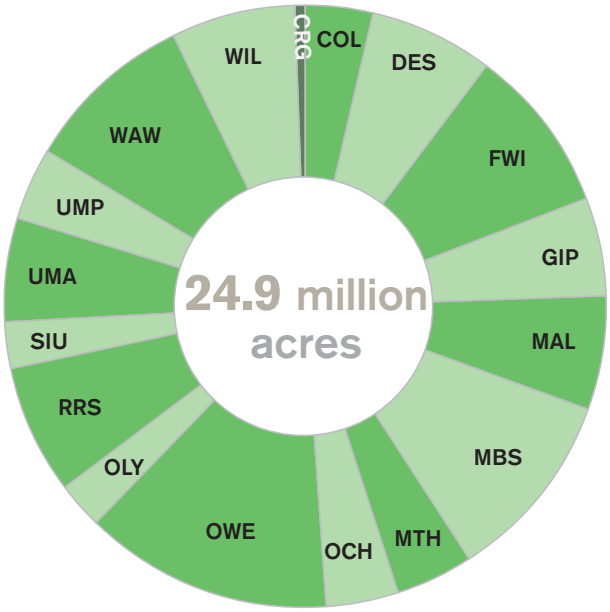
Annual budgets and personnel

To understand the funding and human capacity available to the Region, we examined budget and personnel numbers for each forest. Throughout this section, for simplicity in figure titles we use the term "national forests" to refer to the 17 Forest Service units in Oregon and Washington; this phrase includes the Columbia River Gorge, which is a National Scenic Area, as well as the Crooked River National Grassland, which is included with the Ochoco National Forest. During FY 2006–2016, the Forest Service invested just under $4.5 billion and 41,475 annual FTE in national forests in Oregon and Washington.

For an annual overview, we looked at budgets and personnel data for forests in FY 2016. The graphs below show how each of the individual forests contributed to the overall national forest area, budget, and personnel in the region during FY 2016. The chart on the opposite page show the area, budget, and personnel (based on FTE) for each forest in greater detail.

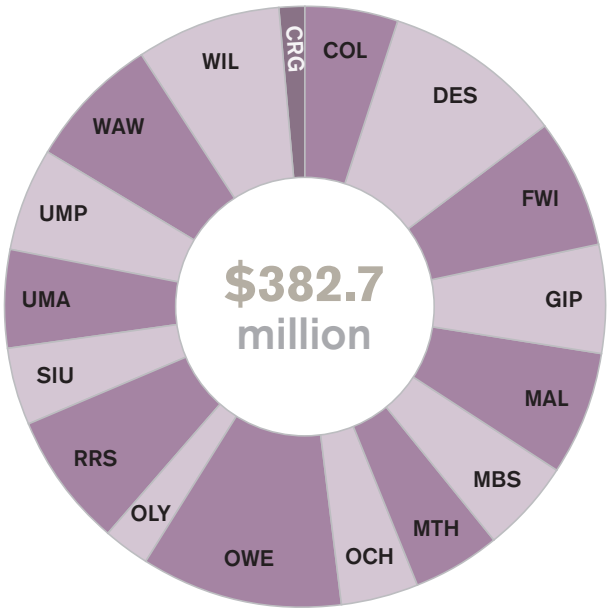
Total area

OR & WA national forests



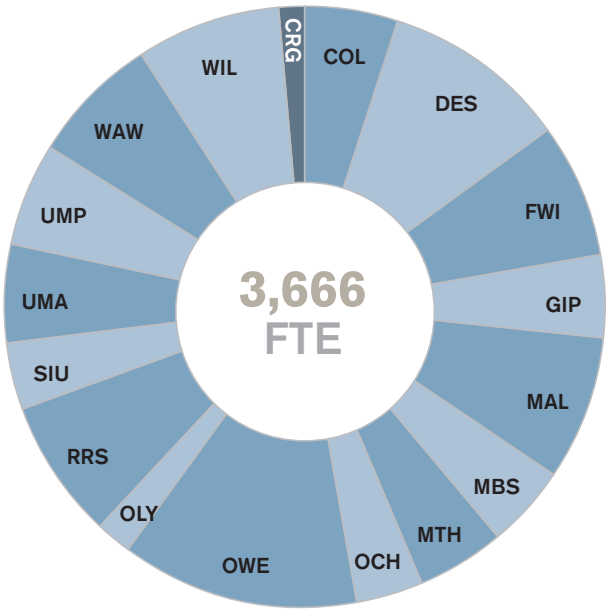
FY 2016 budget

OR & WA national forests



FY 2016 personnel

OR & WA national forests



Budget and personnel overview by national forest, FY 2016

National Forest	Area (Total x1,000 acres)	Budget FY 2016 ($ million)	Personnel FY 2016 Total FTE
Colville	955	19.96	184
Deschutes	1,612	36.7	368
Fremont-Winema	2,254	26.4	266
Gifford Pinchot	1,312	23.2	168
Malheur	1,481	25.2	281
Mt. Baker-Snoqualmie	2,563	18.8	166
Mt. Hood	1,069	18.6	170
Ochoco[1]	967	15.3	129
Okanogan-Wenatchee	3,280	41.6	474
Olympic	632	9.4	75
Rogue River-Siskiyou	1,719	28.1	265
Siuslaw	630	16.5	138
Umatilla	1,406	19.8	196
Umpqua	986	21.1	201
Wallowa-Whitman	2,261	27.5	255
Willamette	1,682	30.2	282
Columbia River Gorge[2]	83	4.6	48

[1] Includes the Crooked River National Grassland

[2] The Columbia River Gorge is a National Scenic Area (NSA)

Annual budget and personnel trends

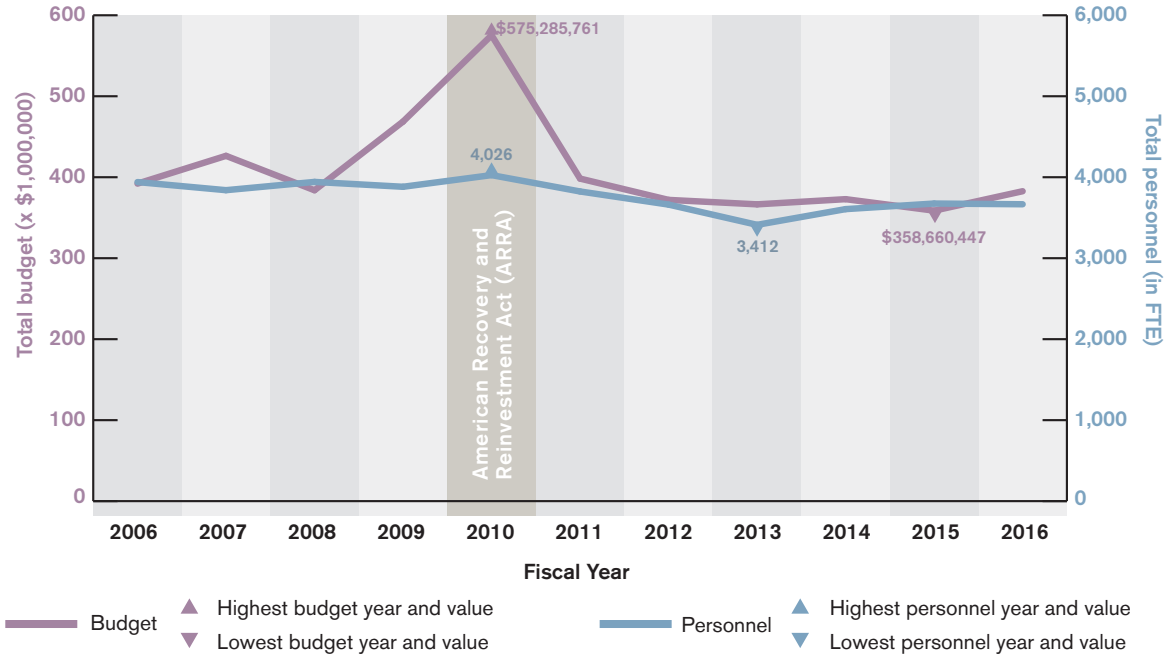
We reviewed budget and personnel trends (as FTE) across an 11-year period (FY 2006–2016). As the chart below illustrates, the general trend for national forests across the Region has been relatively flat budgets and decreases in personnel, with the exception of one atypical budget year in 2010.

The country experienced the Great Recession starting in 2008, to which Congress responded by passing the American Recovery and Reinvestment Act of 2009. The Act infused considerable funding into the Forest Service and other agencies, which is seen here as an increase during FY 2010 with across-the-board peaks in forest budget allocations. There was not an associated increase in personnel levels, as the Act was intended to fund implementation-ready projects in need of a cash infusion, and not to fund agency personnel.

Several factors have stressed national forest budgets across the board over the last decade. For example, the cost of managing wildfires has increased dramatically, which can strain forest budgets to accomplish other forest management work on the ground. At the Pacific Northwest Regional level, in 2012, leadership made the decision to significantly increase investment in restoration of dry-side (east-side) forests, with the intention of "doing more with more." Forests receiving these prioritized dollars were able to focus their restoration work and fill some of the needed positions to advance the pace and scale of restoration. Although this trend can be seen in some of the eastern forest budget lines, some of the funding was at regional-level initiatives.

Thus, these trends of relatively flat budgets and decreasing personnel have occurred as costs have risen, the scope and scale of restoration work has expanded, and the urgency felt by the public at multiple scales has also increased. Considering this information, the trends suggest that a strategic shift in how budgets are allocated (as well as how much is provided), how agency capacity is built, and how to leverage the skills and resources of partners is needed.

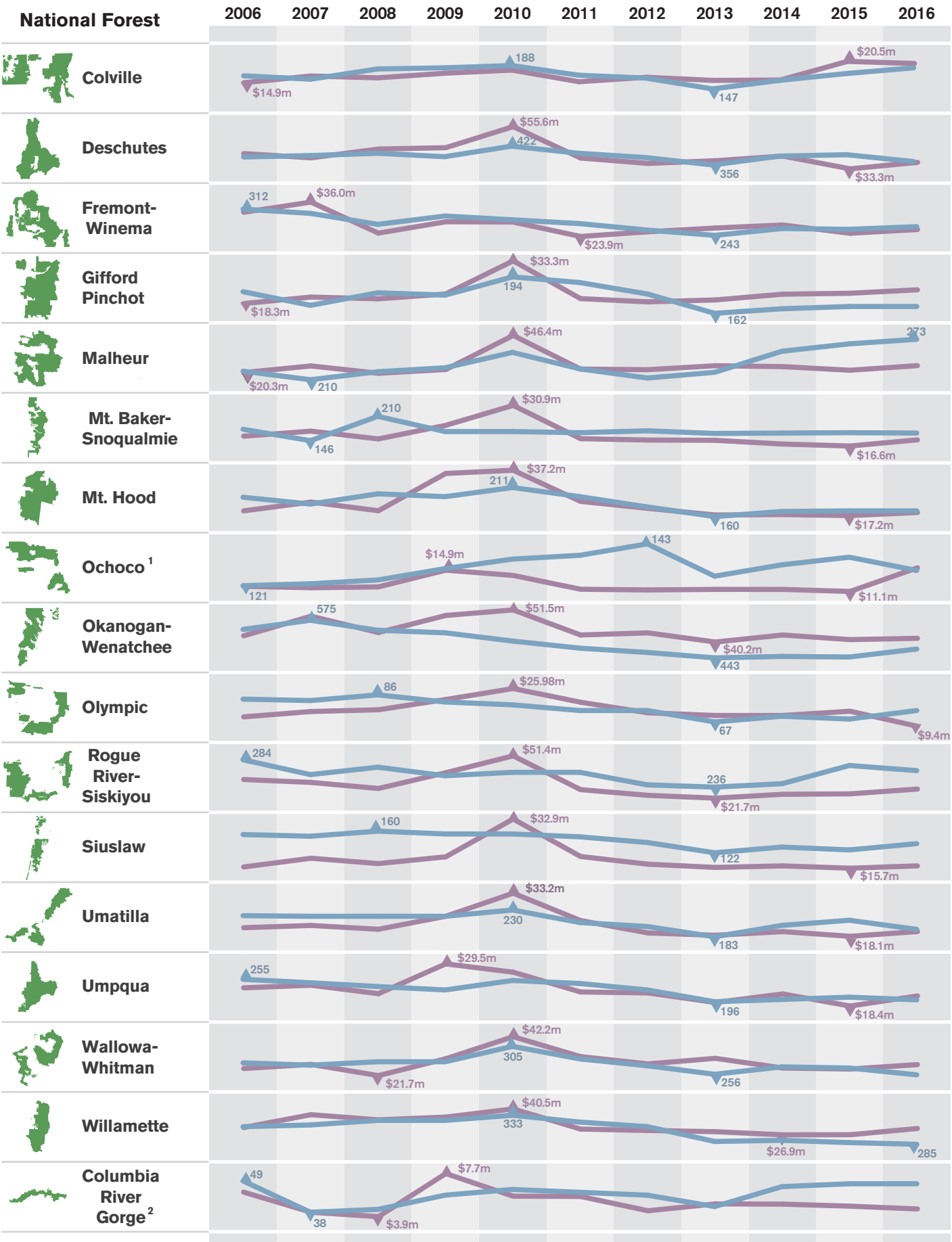
Total budget* and personnel, all OR and WA national forests
2006–2016



By state: FY 2006–2016

* Budget data does not include fire suppression (WFSU) or Working Capital Fund (WCWC) spending as both are managed at the Washington Office and/or ASC level of the Forest Service.

Budget and personnel by national forest, FY 2006–2016*



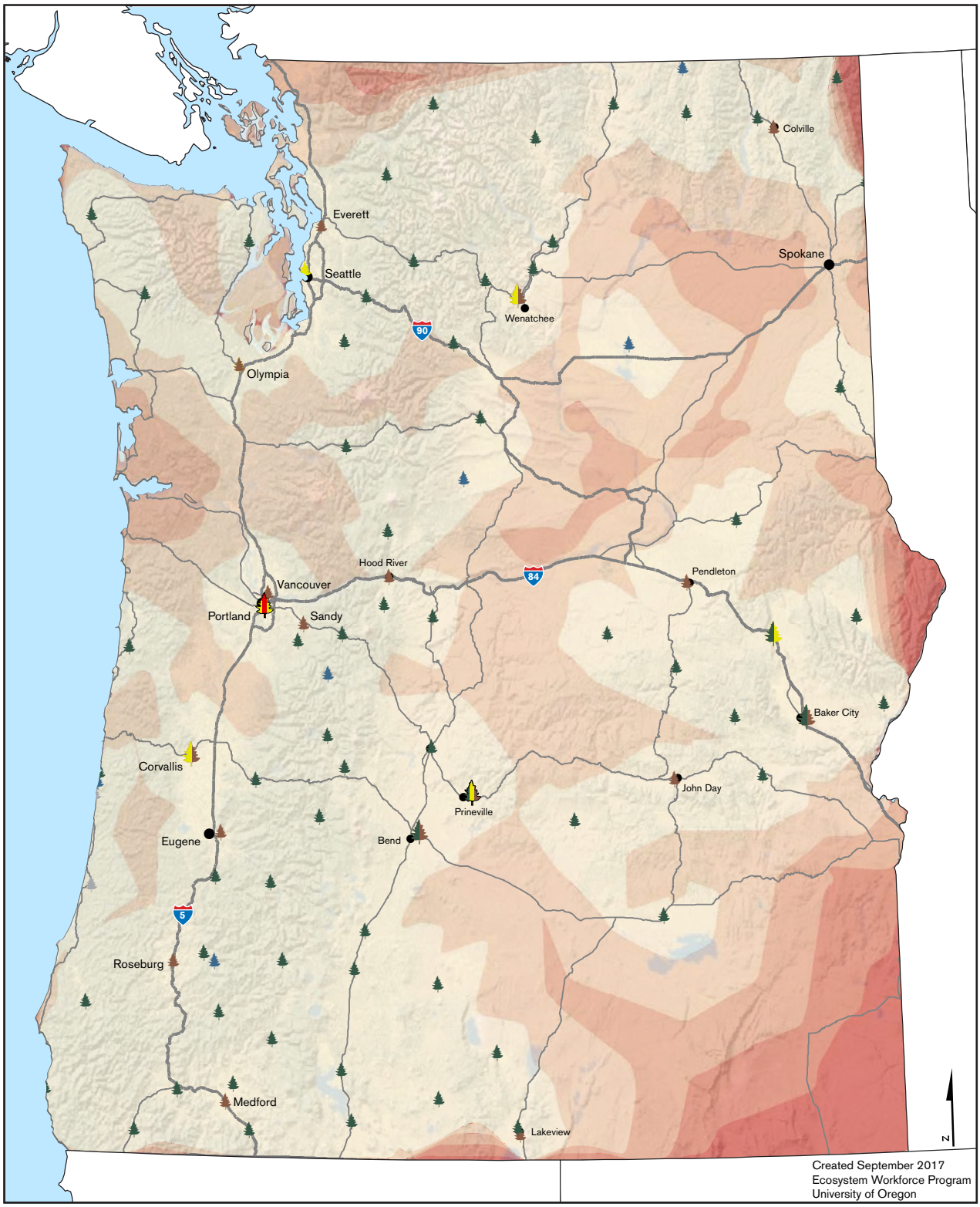
* Budget and FTE trend lines utilize different scales for each forest

[1] Includes the Crooked River National Grassland

[2] The Columbia River Gorge is a National Scenic Area (NSA)

Oregon and Washington office locations

Drive time to the nearest USFS office



Interstates

US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest USFS office

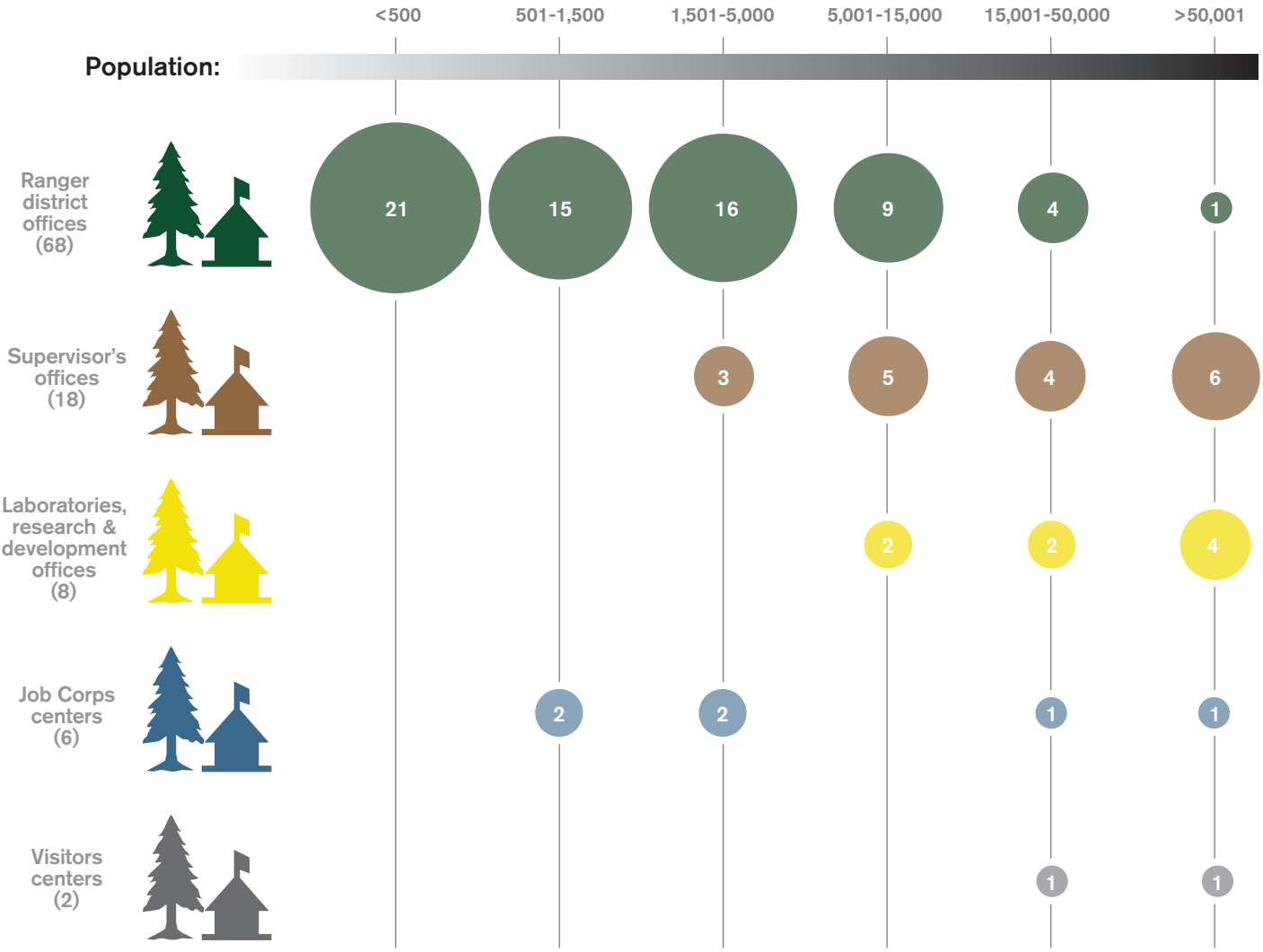
- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours

The Forest Service has offices in some of the most rural and isolated towns in Oregon and Washington.

Office locations and town sizes

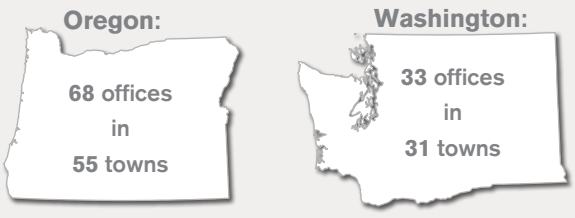
Across Oregon and Washington, the Forest Service has 101 offices, located in 86 different towns.* These offices span rural and urban areas, and both eastern and western areas of Oregon and Washington. In all of these settings, Forest Service offices are part of the community. They are places of employment, particularly in rural areas where a dozen employees can constitute a notable portion of a small population. Forest Service employees are members of these communities, raising their families, spending their income and engaging in community service. Some offices, such as the Forest Service office in John Day, serve as public meeting spaces for community members to congregate.

101 USFS offices -in- **86** towns



\+ 1 Regional Office in Portland, OR; Popl (2015): 612,203

By state:

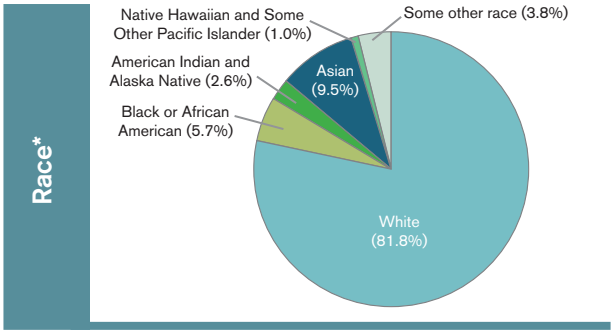


* Throughout this section, we use "town" to refer to any area with a boundary defined by census data.

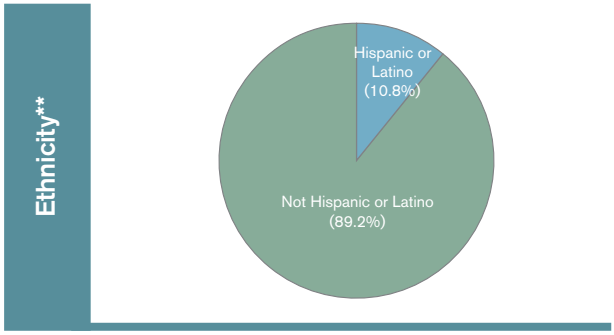
Characteristics of towns where the Forest Service works

This section on town characteristics shows information about the 86 different towns in which Forest Service offices are located in Oregon and Washington. Household income, education levels, population of veterans, and other data help illustrate components of these different towns that provide insight into the social and economic landscape to which the agency is directly linked. The data presented here is from the 2015 American Community Survey by the Census Bureau.

Race and ethnicity: 85 towns with Forest Service offices reported "White" as the primary race, and one town reported "American Indian and Alaskan Native." **"American Indian and Alaskan Native" was the second most reported race in towns under 5,000 people, and "Asian" was the second most reported in towns over 5,000.** For ethnicity, 85 towns reported primarily as "Not Hispanic or Latino" and one town reported "Hispanic or Latino" as the primary ethnicity. The charts below consider race and ethnicity reported in census-offered categories *across the total population of all 86 towns*.



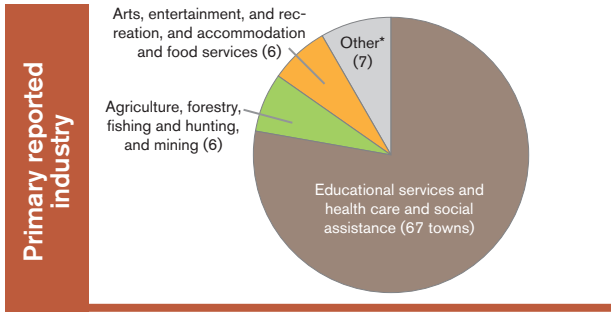
* Multiple races may be reported, so percentages add up to > 100%



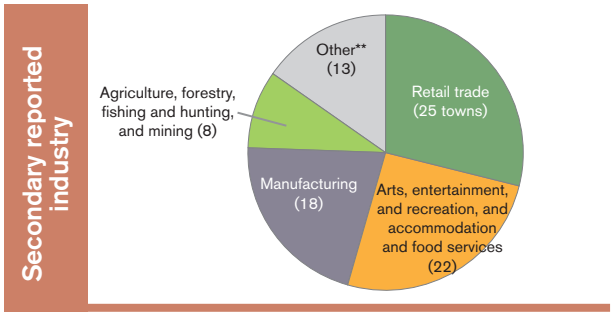
** The Census Bureau has 2 mutually exclusive ethnicity categories (Hispanic, non-Hispanic) as shown above, so percentages add up to 100%.

Population: **Forest Service offices are primarily in communities with populations under 5,000.** 18 of the 86 towns had populations greater than 15,000.

Key industries: The primary reported industry in most of the towns with Forest Service offices was educational services, health care, and social assistance. Natural resource industries (agriculture, forestry, fishing, hunting, mining), arts and entertainment, retail trades, and manufacturing also played key roles in the economies of many towns.

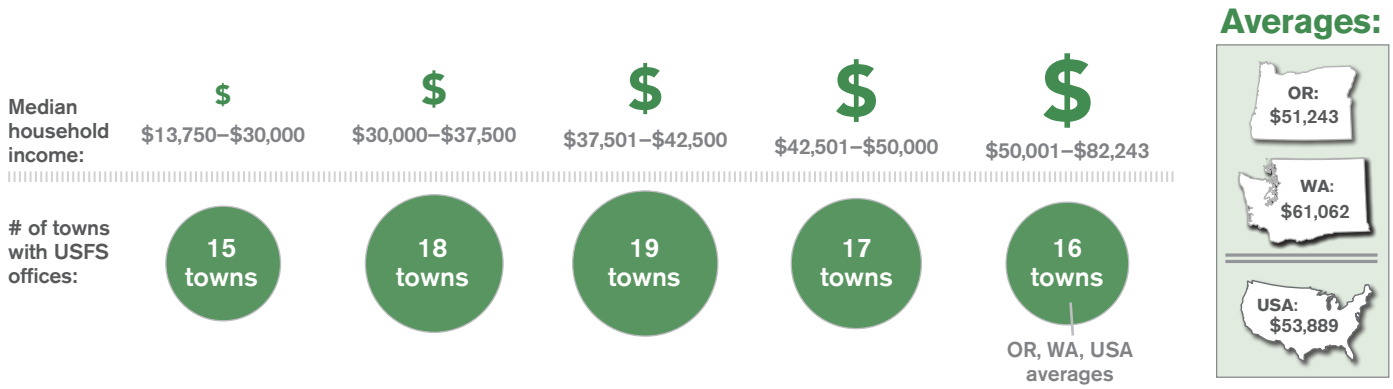


*Other includes: Construction (1); Manufacturing (2); Professional, scientific, and management, and administrative and waste management services (2); Public administration (1); Retail trade (1), and not specified (1).

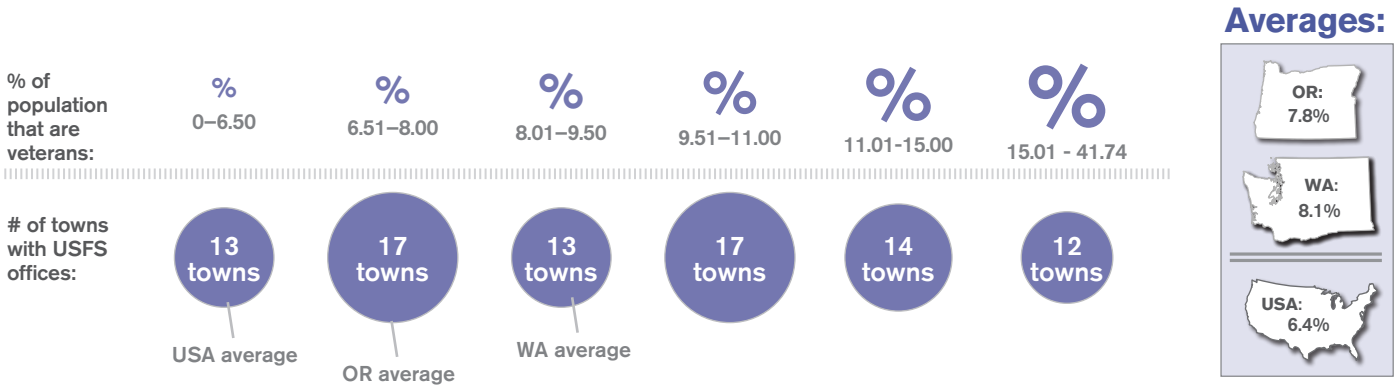


*Other includes: Construction (1); Educational services and health care and social assistance (2); Other services (1); Professional, scientific, and management, and administrative and waste management services (2); Public administration (4); Transportation and warehousing, and utilities (2); and not specified (2).

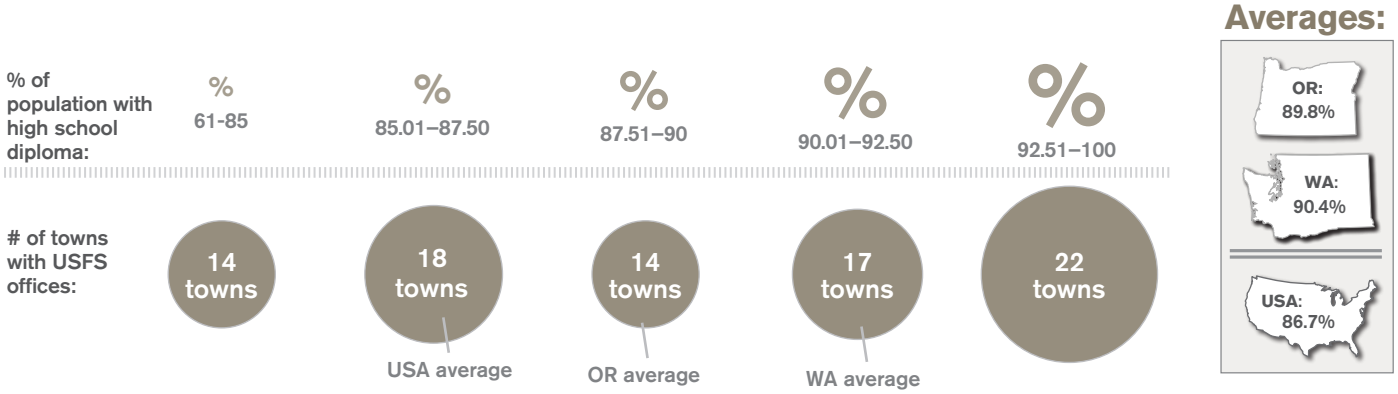
Median income: Sixty-nine of the 86 towns where Forest Service offices are located reported median household incomes below both the state (Oregon and Washington) and national averages. Forest Service offices are mainly in towns with median incomes between $30,000-42,500. **Overall, household median incomes were notably lower than state or national rates.**



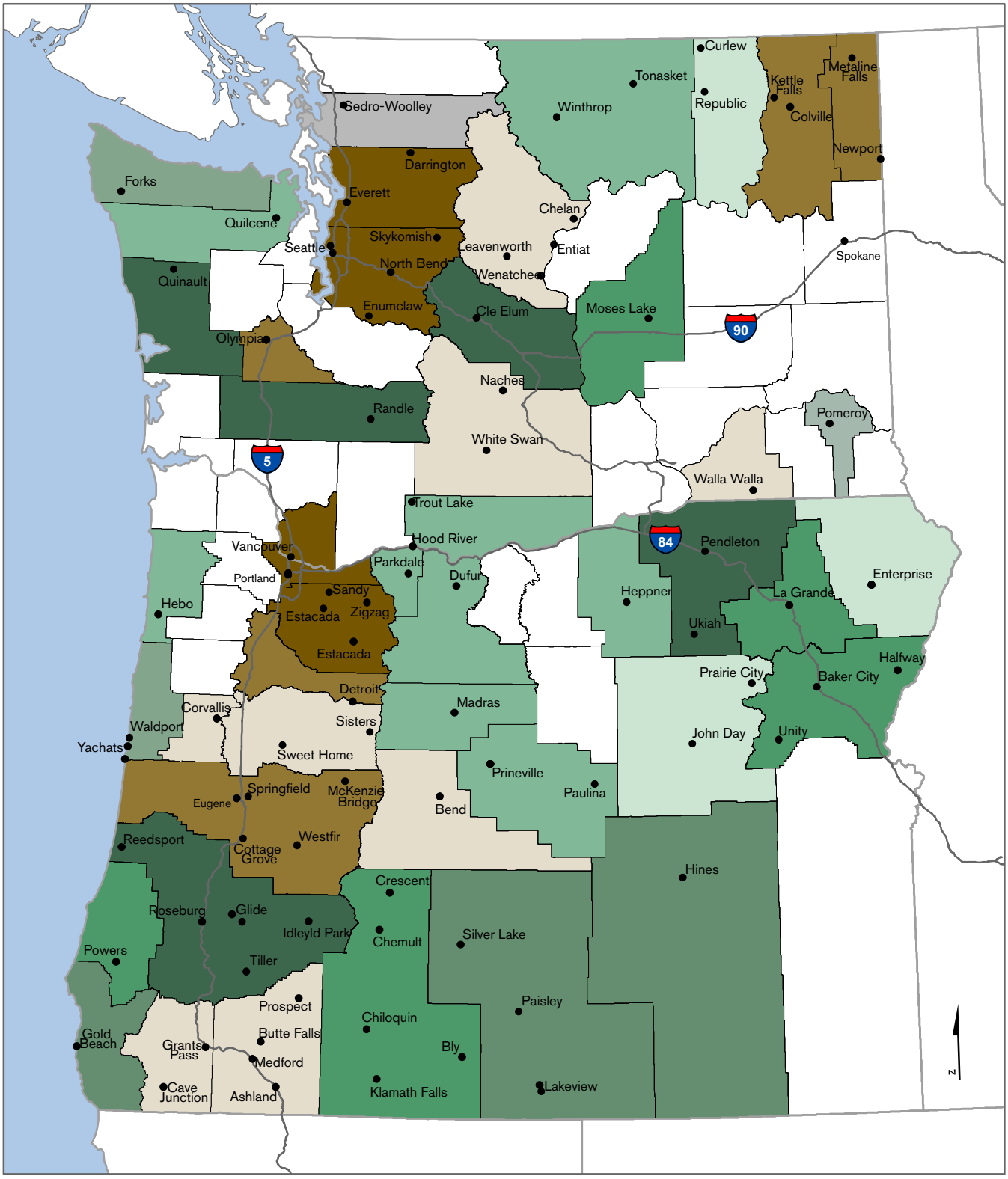
Veteran population: Approximately half of the towns where Forest Service offices are located reported higher proportions of Veterans than the state averages, and three quarters reported higher proportions than the national average. **The proportion of Veterans was notably higher in the majority of towns where Forest Service offices are located.**



Education: Sixty percent of towns where Forest Service offices are located reported higher graduation rates than the national average, and 45% were higher than the state averages.



USFS office locations and county populations



# of towns in each county population category | **County population category of counties with Forest Service offices**

# of towns	County population category
	Counties with no Forest Service offices
11	Metro - Counties in metro areas of 1 million population or more
9	Metro - Counties in metro areas of 250,000 to 1 million population
18	Metro - Counties in metro areas of fewer than 250,000 population
10	Nonmetro - Urban population of 20,000 or more, adjacent to a metro area
11	Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
12	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
9	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
1	Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
5	Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area

0 50 100 Miles

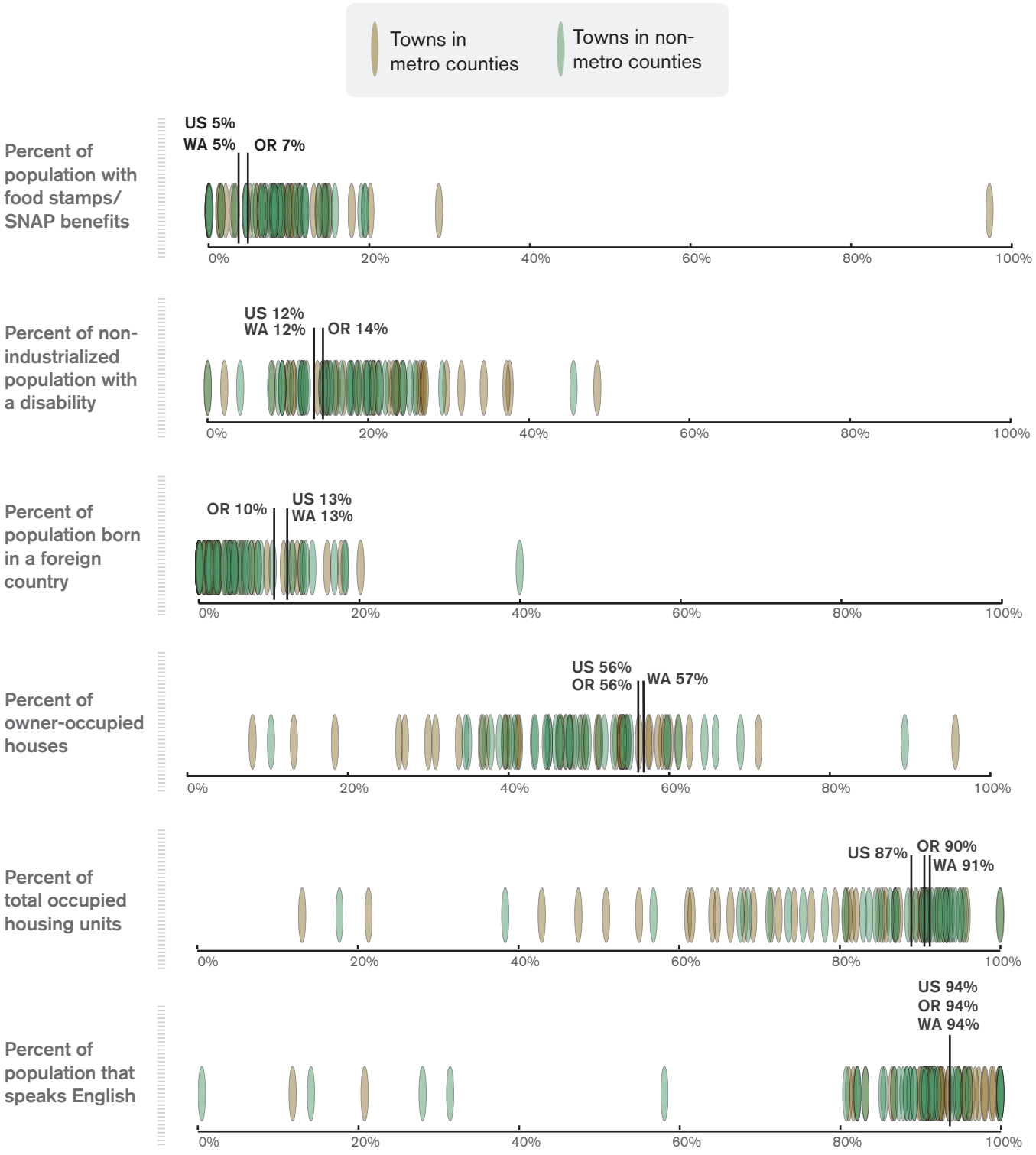
Forest Service offices

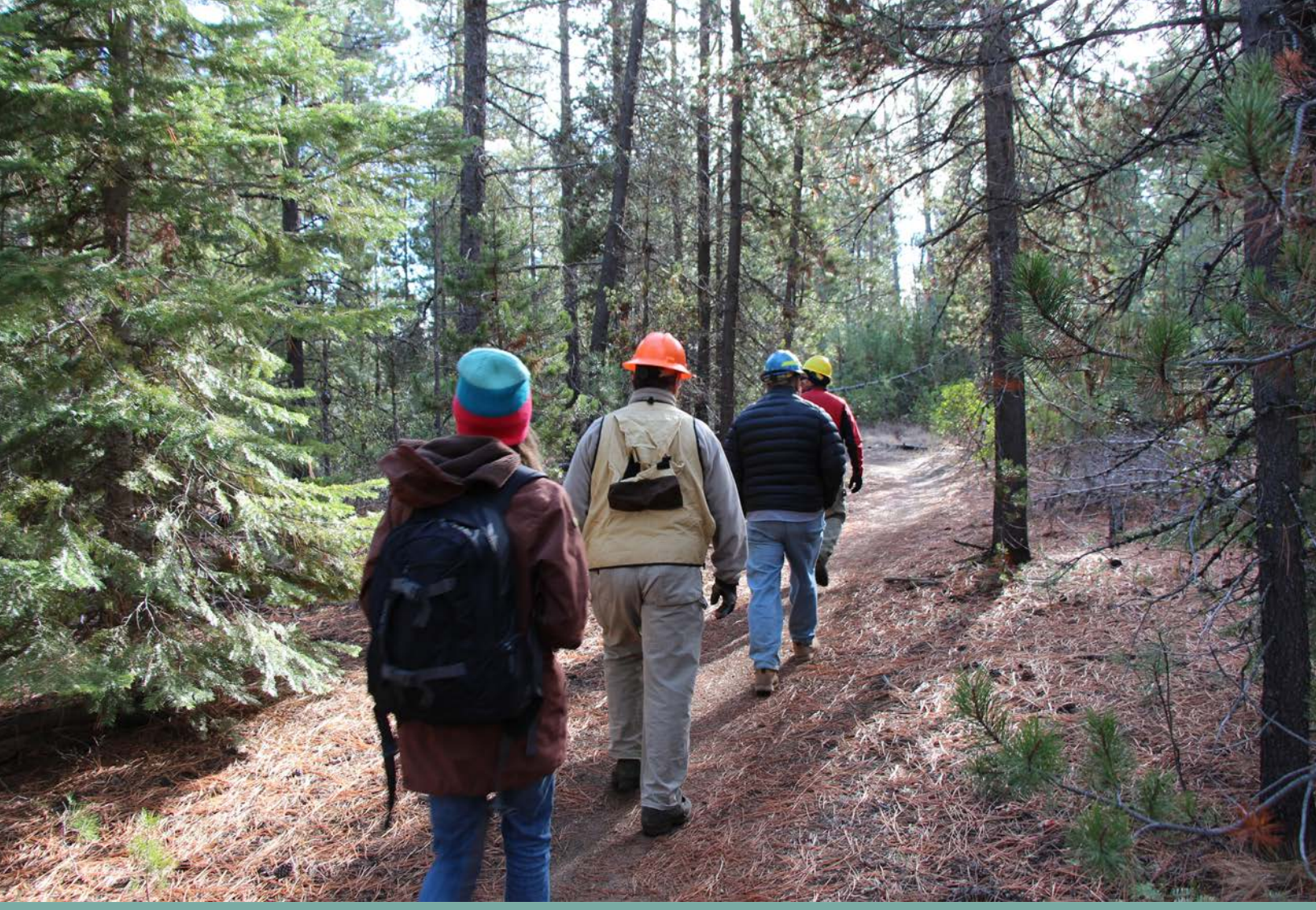
Interstates

FS offices are located in 48 of the 75 counties in Oregon and Washington, in both rural and metro areas.

Additional characteristics about the 86 different towns in which Forest Service offices are located are shown below, as individual points plotted on scatter plots. The color variations highlight the differences between towns considered metro and those considered nonmetro, as the map on the opposing page shows. These charts show several key points about the towns where Forest Service offices are located, including:

- The percent of the population with food stamp benefits and/or a disability are notably higher than state or national averages.
- Population percent born in a foreign country tend to be lower than state or national averages.
- Both owner-occupied and total occupied house rates tend to be lower than state or national averages.
- Percent of English-speaking populations tend to be lower than state or national averages.





Chapter II.
Landscape Restoration Through Collaboration

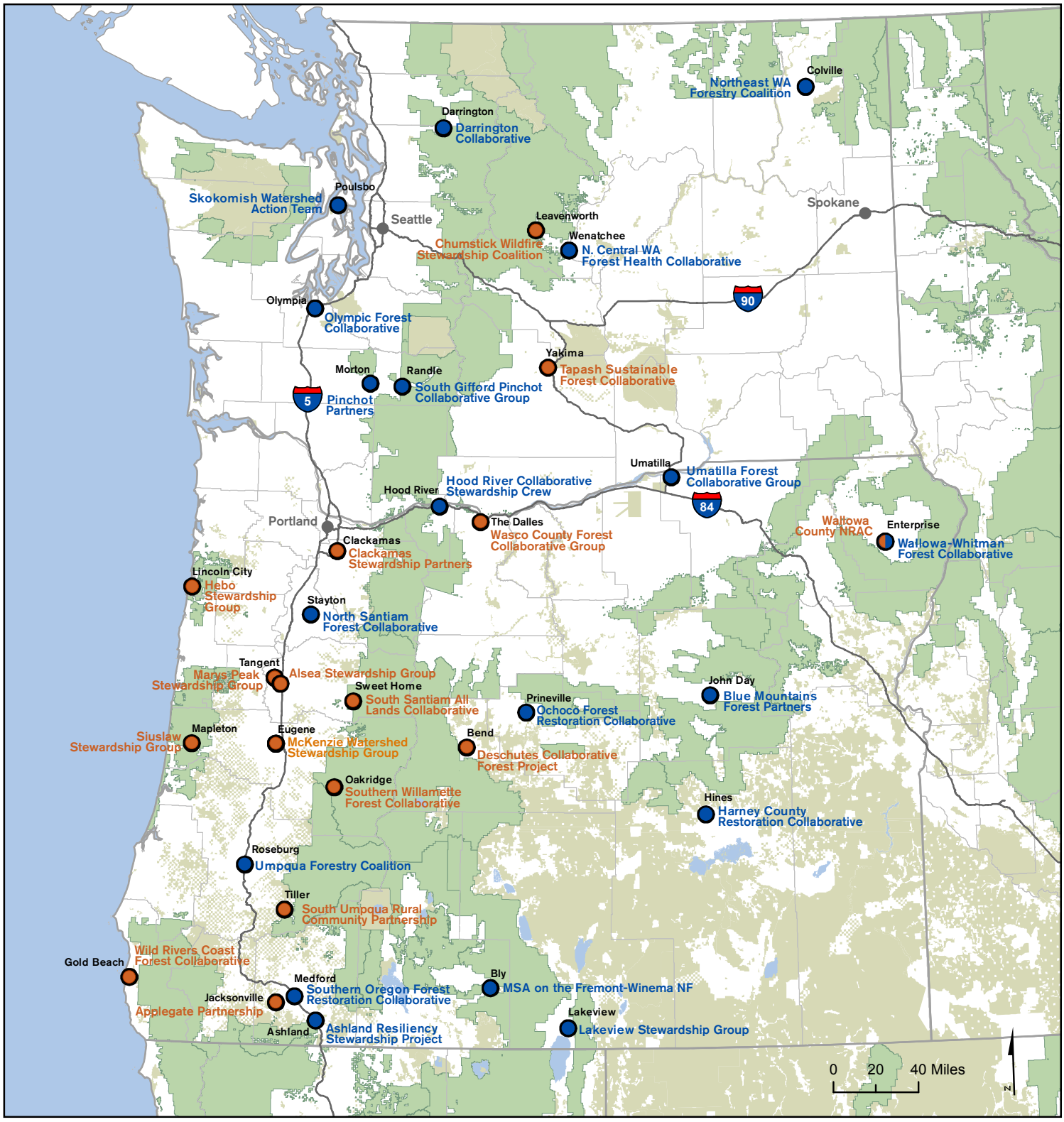
Collaboration has deep roots and impacts on national forests and communities in Oregon and Washington. Oregon and Washington's forest collaboratives emerged in the 1990s and have grown in number, scope and scale ever since, now totaling 37 collaboratives with at least one working on every forest in the region. Collaboration can provide Forest Service staff opportunities to address local community priorities, build community capacity, leverage resources and increase accomplishments and benefits across the board. Land management policies in the last two decades have also had an important impact on national forests and communities in Oregon and Washington. This policy trend is currently evident in the region, with seven forests containing Joint Chiefs' Landscape Restoration projects, and five forests with Collaborative Forest Landscape Restoration projects. These two project types alone have engaged 182 partnering organizations.

Key takeaway:

Collaboration has deep roots in national forests and communities in Oregon and Washington, which is evident in the diversity and number of forest collaboratives, as well as the prevalence of collaborative programs such as Joint Chiefs' Landscape Restoration and Collaborative Forest Landscape Restoration programs which have engaged 182 partners.

Forest collaborative groups

Oregon and Washington collaborative group names and office locations



US Forest Service lands

BLM and other federal lands

Public lands collaboratives

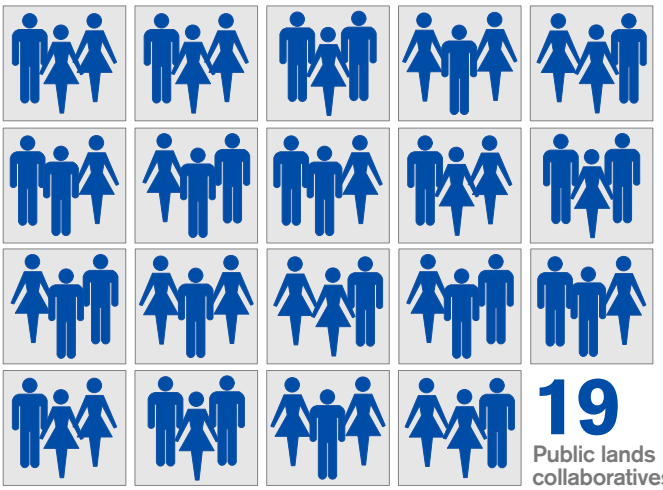
All lands collaboratives

Towns with a collaborative office

Created: 4/24/2017 Emily Jane Davis, Oregon State University and Ecosystem Workforce Program, University of Oregon.
R6 forest collaborative groups map available online at:
http://ewp.uoregon.edu/publications/infographics

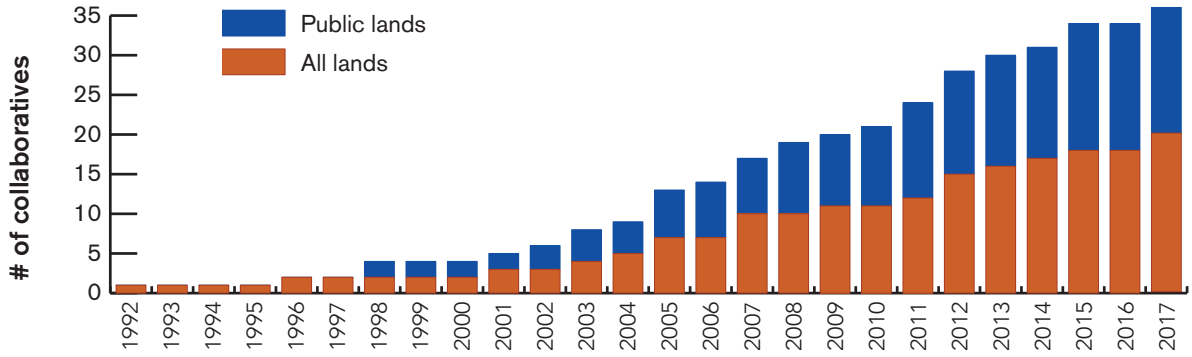
Oregon and Washington contain many forest collaboratives, which emerged in the 1990s and work either exclusively on national forests (public lands), or on a combination of public and private lands (all-lands). Collaboration can provide opportunities to address local community priorities, build community capacity, leverage resources and increase accomplishments and benefits across the board. This Oregon and Washington forest collaboratives map has been created and maintained by the University of Oregon (Ecosystem Workforce Program) and Oregon State University. Locations (in this case office locations) have been provided by the forest collaboratives. All national forests in the Pacific Northwest Region are linked to at least one forest collaborative group, with 37 collaboratives operating across the region.

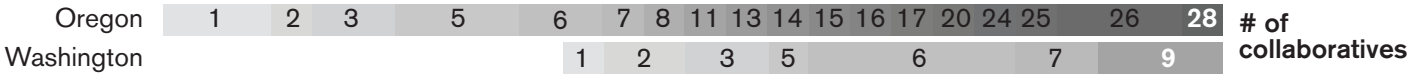
37 Active forest collaborative groups on national forests in the region, as of October 2017



Timeline of collaborative establishment

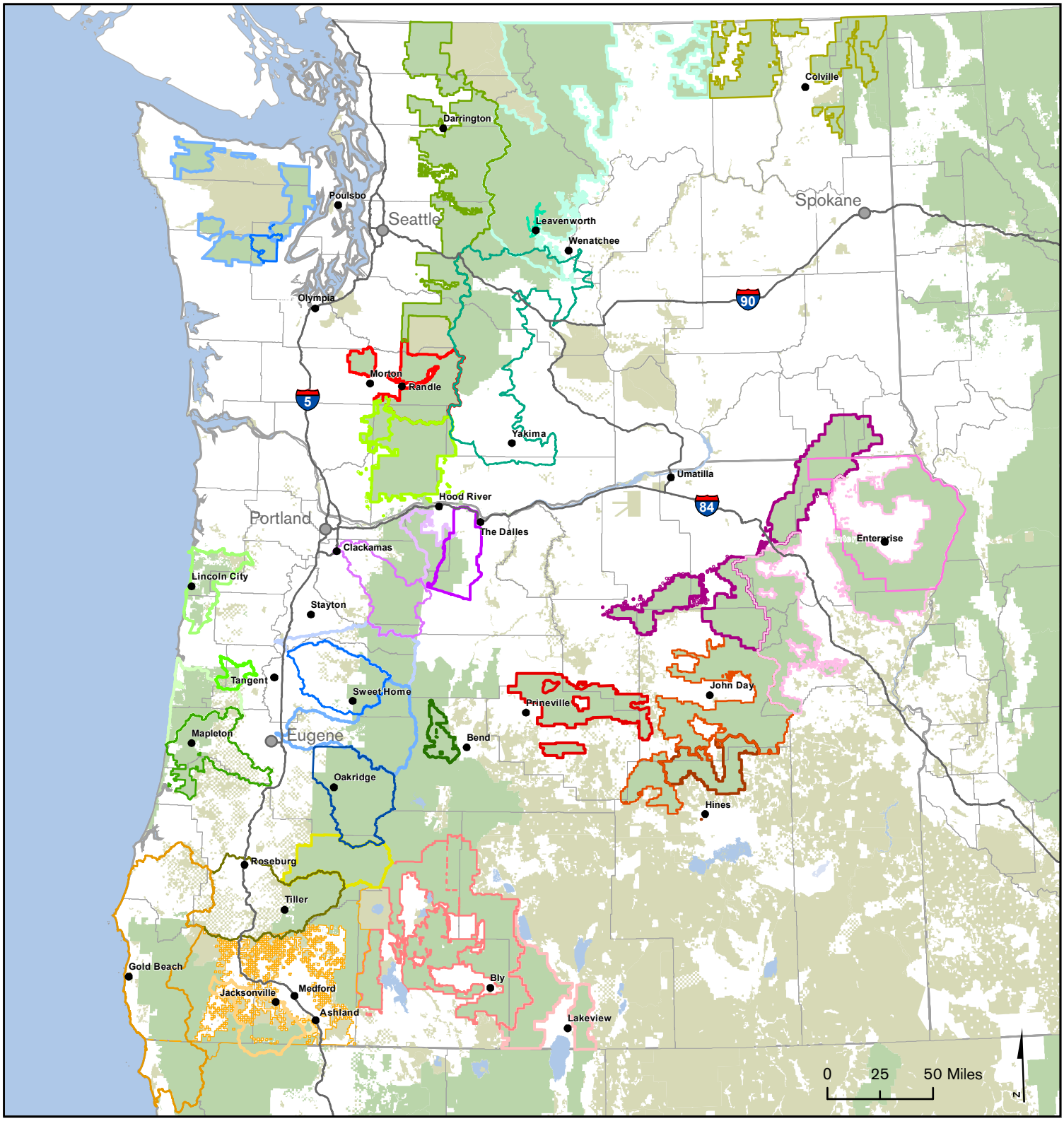
1992-2017





Forest Collaborative Groups

Oregon and Washington collaborative area boundaries and office locations



US Forest Service lands

BLM and other federal lands

● Towns with a collaborative office

Created: 9/13/2017 Emily Jane Davis, Oregon State University and Ecosystem Workforce Program, University of Oregon.
R6 forest collaborative groups map available online at:
http://ewp.uoregon.edu/publications/infographics

Forest collaboratives work on a diversity of issues, across varying scales and landscapes. This map shows the boundaries of the 37 collaborative groups' geographic areas of interest which intersect, and in many cases overlap completely, with national forest lands. This map has been created and maintained by the University of Oregon (Ecosystem Workforce Program) and Oregon State University. Collaborative boundaries were provided by the collaborative groups.

37 forest collaboratives in Oregon and Washington work on a diversity of issues, across varying scales and landscapes, which include all national forests in the Pacific Northwest Region.

Washington

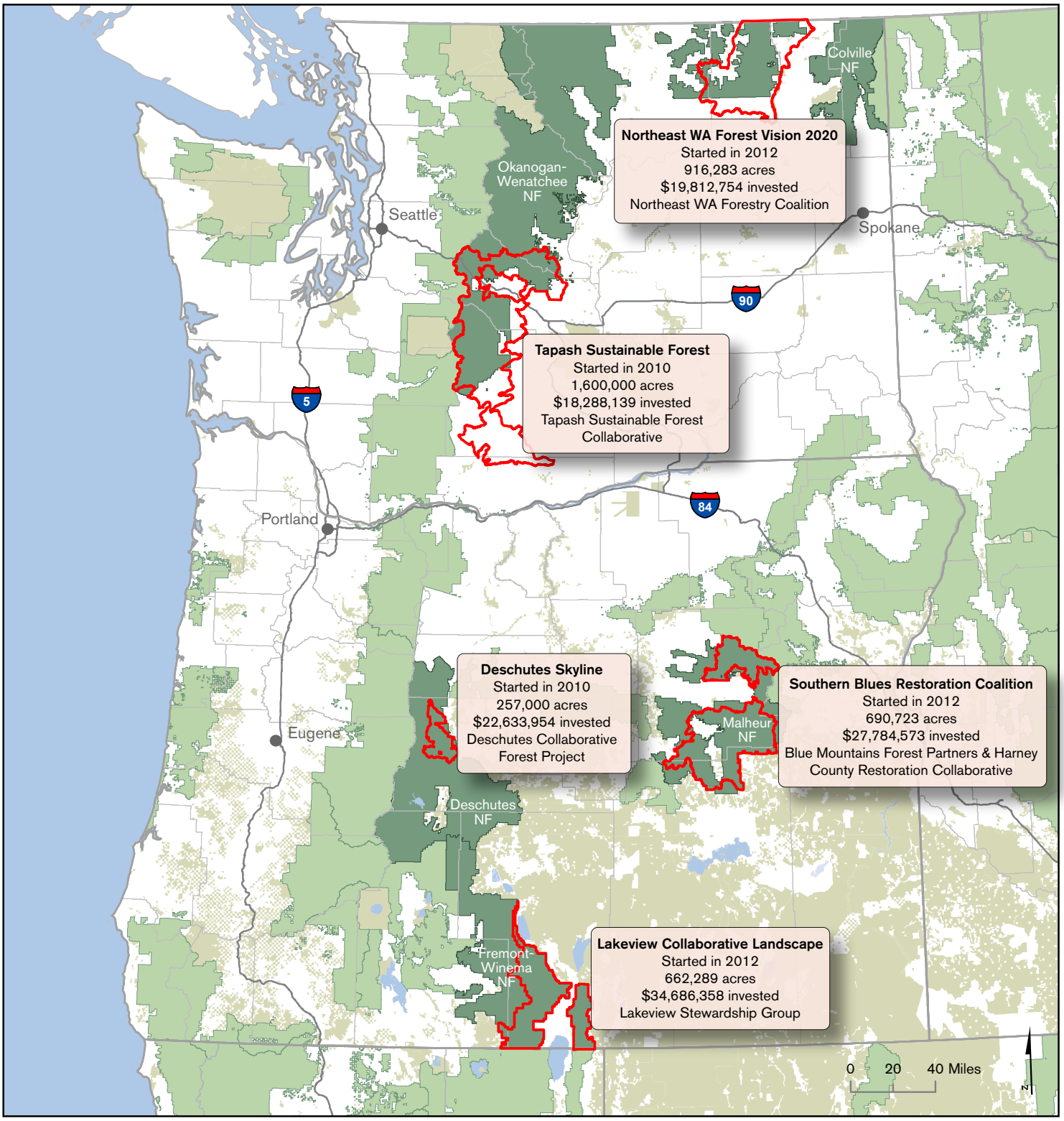
Colville	Northeast Washington Forestry Coalition	
Gifford Pinchot	Pinchot Partners	South Gifford Pinchot Collaborative Group
Mt. Baker-Snoqualmie	Darrington Collaborative	
Olympic	Olympic Forest Collaborative	Skokomish Watershed Action Team
Okanogan-Wenatchee	N. Central WA Forest Health Collaborative	Chumstick Wildfire Stewardship Coalition
	Tapash Sustainable Forest Collaborative	

Oregon

Deschutes	Deschutes Collaborative Forest Project	
Fremont-Winema	Lakeview Stewardship Group	MSA on the Fremont-Winema NF
Malheur	Blue Mountains Forest Partners	Harney County Restoration Collaborative
Mt. Hood	Hood River Collaborative Stewardship Crew	Clackamas Stewardship Partners
	Wasco County Forest Collaborative Group	
Ochoco	Ochoco Forest Restoration Collaborative	
Rogue River-Siskiyou	Ashland Forest Resiliency Stewardship Project	Applegate Partnership
	Southern OR Forest Restoration Collaborative	Wild Rivers Coast Forest Collaborative
Siuslaw	Alsea Stewardship Group	Hebo Stewardship Group
	Marys Peak Stewardship Group	Siuslaw Stewardship Group
Umatilla	Umatilla Forest Collaborative Group	
Umpqua	Umpqua Forestry Coalition	South Umpqua Rural Community Partnership
Wallowa-Whitman	Wallowa-Whitman Forest Collaborative	Wallowa County NRAC
Willamette	North Santiam Forest Collaborative	McKenzie Watershed Stewardship Group
	South Santiam All Lands Collaborative	Southern Willamette Forest Collaborative

Collaborative Forest Landscape Restoration Projects

Projects awarded in Oregon and Washington



US Forest Service lands

BLM and other federal lands

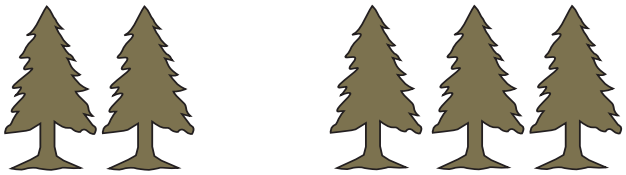
CFLR project boundaries

National forests with CFLR projects

Created: 5/17/2017 Ecosystem Workforce Program, University of Oregon.
CFLRP shape files available at : https://data.fs.usda.gov/geodata/edw/datasets.php

The purpose of the Collaborative Forest Landscape Restoration Program (CFRLP) is to improve the health of priority areas on national forests through collaborative, science-based ecosystem restoration. Congress established the CFLRP with Title IV of the Omnibus Public Land Management Act of 2009, creating 10-year programs. Since then, five CFLRPs have emerged in the Pacific Northwest Region, conducted in collaboration with a diversity of partner types and scales. Annual project reports document the ecological, social and economic impacts of the CFLRPs in the region, some of which are highlighted below.

5
forests



4,126,295
total acres

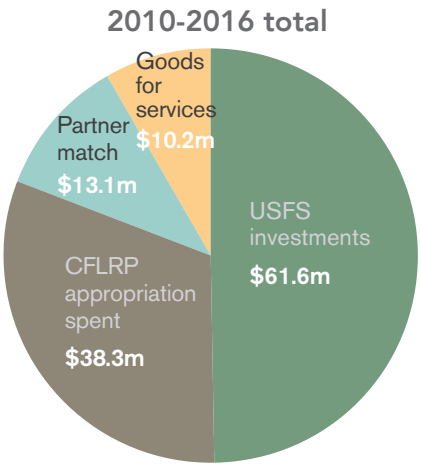
134
partnering organizations

134 unique organizations are involved in CFLR projects; 19 of these work on multiple projects, totaling 156 partnerships.

- Private businesses (39)
- Nonprofits (36)
- Federal agencies (22)
- Local governments (13)
- State agencies (11)
- Associations & homeowner groups (10)
- School districts & universities (8)
- Tribes (4)
- Conservation districts (4)
- Fire-related networks or organizations* (3)
- Private citizens & volunteers (2)

*Fire related networks or organizations include: Fire Learning Networks, Firewise Communities, Cohesive Strategy Initatives, Fire Chief's Associations

$123 million invested



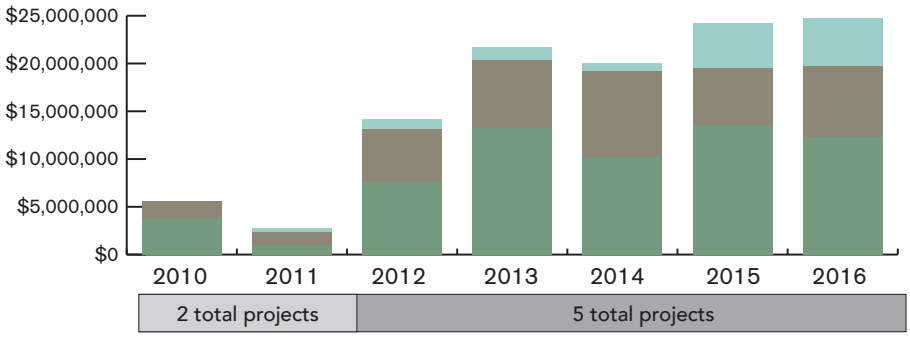
Total CFLRP investments: $123,205,779

USFS investments: Total Forest Service investments to support implementation and monitoring activities in line with CFLRP project objectives.

CFLRP appropriation spent: Funding authorized by the 2009 Omnibus Public Land Management Act and appropriated yearly by Congress. Per the authorizing legislation, these funds can be spent on implementation and monitoring on NFS lands.

Partner match: Includes in-kind goods and services as well as funding for project implementation or monitoring on NFS lands, consistent with the CFLR proposals.

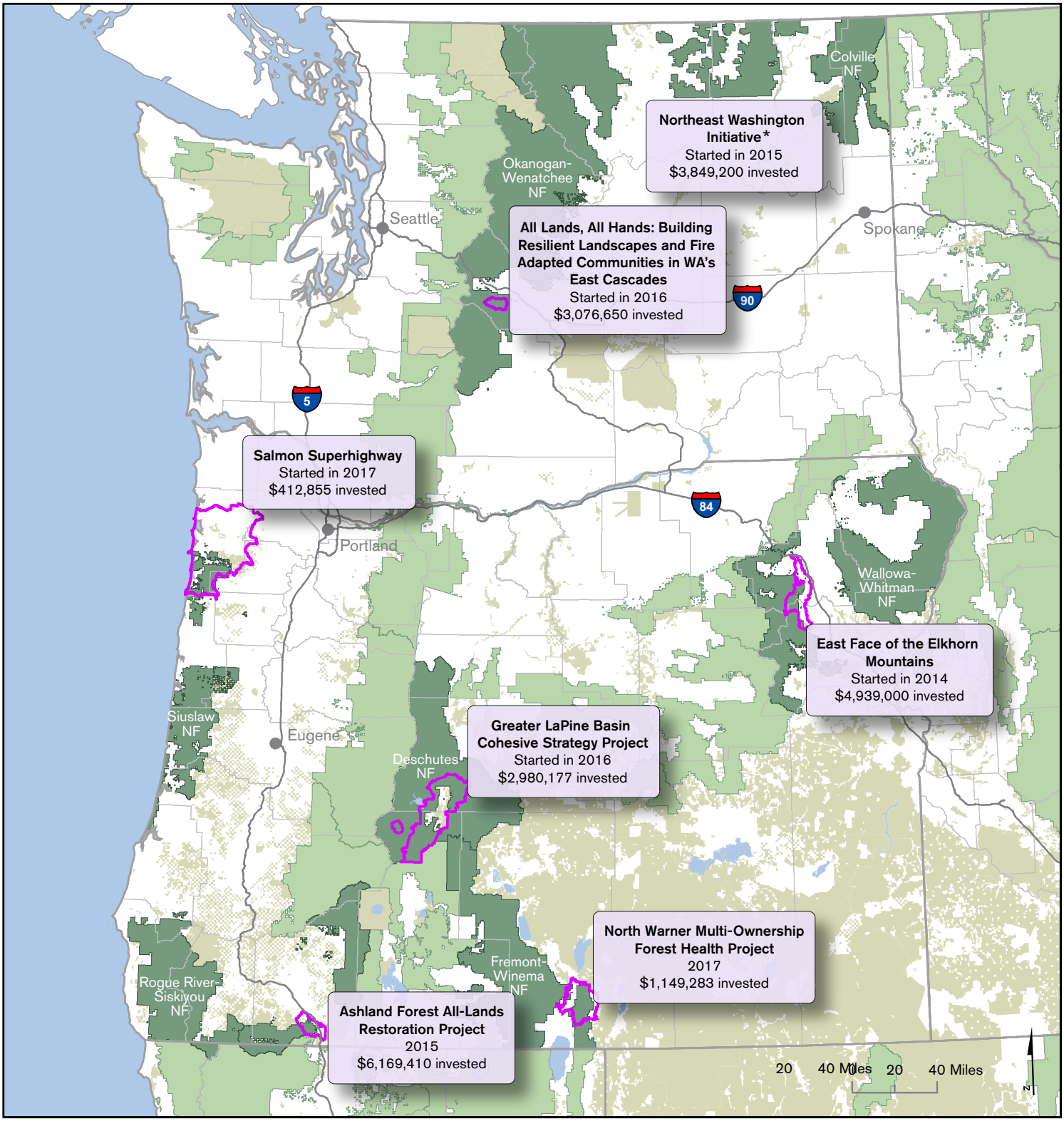
Goods for services: Service work accomplishment through goods for services funding within a stewardship contract. Goods for services were not reported by year and are not included in the bar chart below.



For more information please go to: https://www.fs.fed.us/restoration/CFLRP/index.shtml

Joint Chiefs' Landscape Restoration Projects

Projects awarded in Oregon and Washington



US Forest Service lands

BLM and other federal lands

Joint Chiefs' Project boundaries

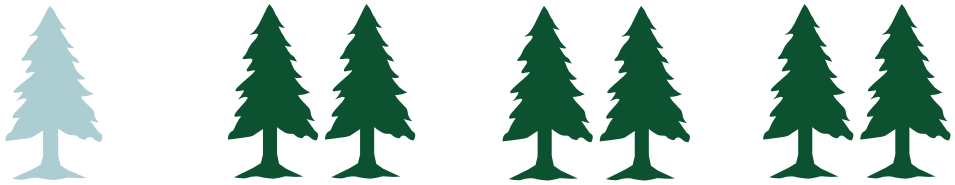
National forests with Joint Chiefs' Projects

Created: 5/17/2017 Ecosystem Workforce Program, University of Oregon.
Joint Chiefs project areas provided by
Pacific Northwest Region, US Forest Service.

* Northeast Washington Initiative shapefile not available

The Joint Chiefs' Landscape Restoration Partnership is a partnership between the USDA's Forest Service and USDA's Natural Resources Conservation Service (NRCS). This partnership began in 2014 with the intention to improve forest health at the intersection of public and private lands. These three-year projects are built on existing partnerships and efforts that leverage resources and coordinate activities across public and private landownerships, focusing on landscape restoration, wildfire risk reduction, water quality and habitat protection. The partnership has resulted in seven Joint Chiefs' projects in the Pacific Northwest Region conducted in collaboration with a diversity of partner types and scales. The locations, leveraged resources and partner types to date for these projects are highlighted below.

7 forests



2014 (investment completed) | 2015 | 2016 | 2017

48 partnering organizations

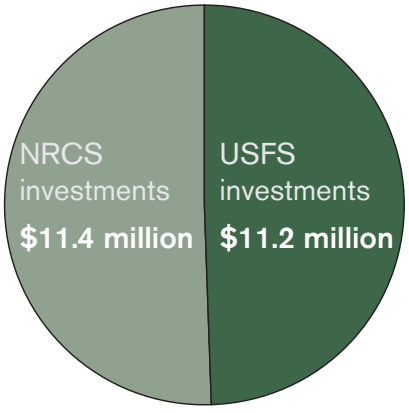
48 unique organizations are involved in Joint Chiefs' projects; 10 of these work on multiple projects, totaling 73 partnerships.

- State agencies (20)
- Nonprofits (10)
- Forest collaboratives & watershed councils (9)
- Federal agencies (8)
- Private businesses** (7)
- Local governments (6)
- Fire-related networks or organizations* (6)
- Conservation districts (4)
- Universities (2)
- Tribes (1)

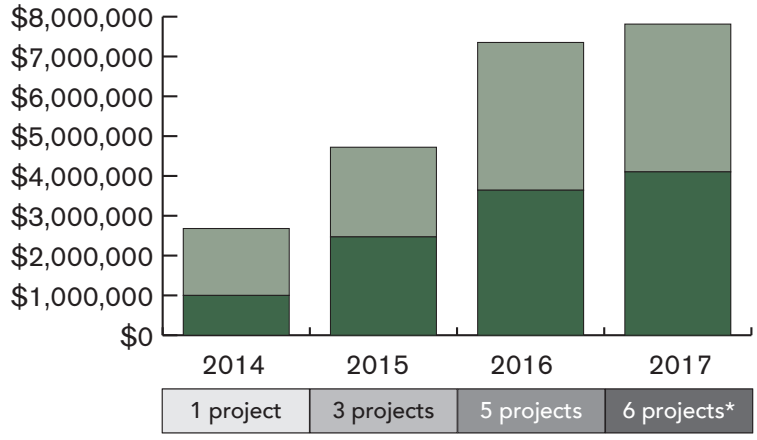
*Fire related networks or organizations include: Fire Learning Networks, Firewise Communities, Cohesive Strategy Initatives, Fire Chief's Associations

$22.6 million invested

2014–2017 total



Total Joint Chiefs' investments: $22,567,575



* In 2016, 2 new projects were awarded, and the investments into the project awarded in 2014 were completed.

Chapter III. Partnership Spotlights

As the previous chapter highlighted, working with partners is how the Forest Service accomplishes its work in the Pacific Northwest Region. Between FY 14 and FY 16, Pacific Northwest national forest units and partners invested nearly $232 million in partnership agreement instruments in the region, with partners contributing slightly more than 50% of those investments (or $117 million).[1] In this chapter, we take an in-depth look at two of the many different partnerships the Forest Service has: one for achieving terrestrial wildlife habitat restoration, and one for purchasing forest products from national forest lands. This allowed us to ask focused and detailed questions, specifically about who the agency partners with, how and toward what accomplishments or end goals.

The wildlife habitat restoration partnership section shows how agency partnerships are leveraged by non-agency partners, towards investments of over $158 million and 957,000 acres of improved habitat, with 99 different partner organizations between FY14 and FY16.

We then look at another partner: those individuals and private businesses that process materials from these national forests, purchasing timber sales as well as nontimber forest products (e.g. mushrooms and boughs) from the agency. In the past 14 years, 826 different individuals and businesses have purchased 3,096 sales from the region, totaling $581 million in bid value. These purchasers represent everything from individual one-time sales of mushrooms on the west coast of Oregon to millions of dollars in annual timber sales to large saw and nonsaw timber purchasers spread all over Oregon and Washington.

Key takeaway:

In the two Forest Service partnerships highlighted, over 99 different partners are leveraging agency resources to help the agency achieve habitat restoration goals, and 826 individuals and businesses are providing the infrastructure to process products from national forest lands and contribute towards restoration goals.

Just as habitat restoration partners are critical to the agency achieving habitat restoration goals, forest product purchasers are critical to providing the infrastructure to process products from national forest lands and contribute towards achieving restoration goals.

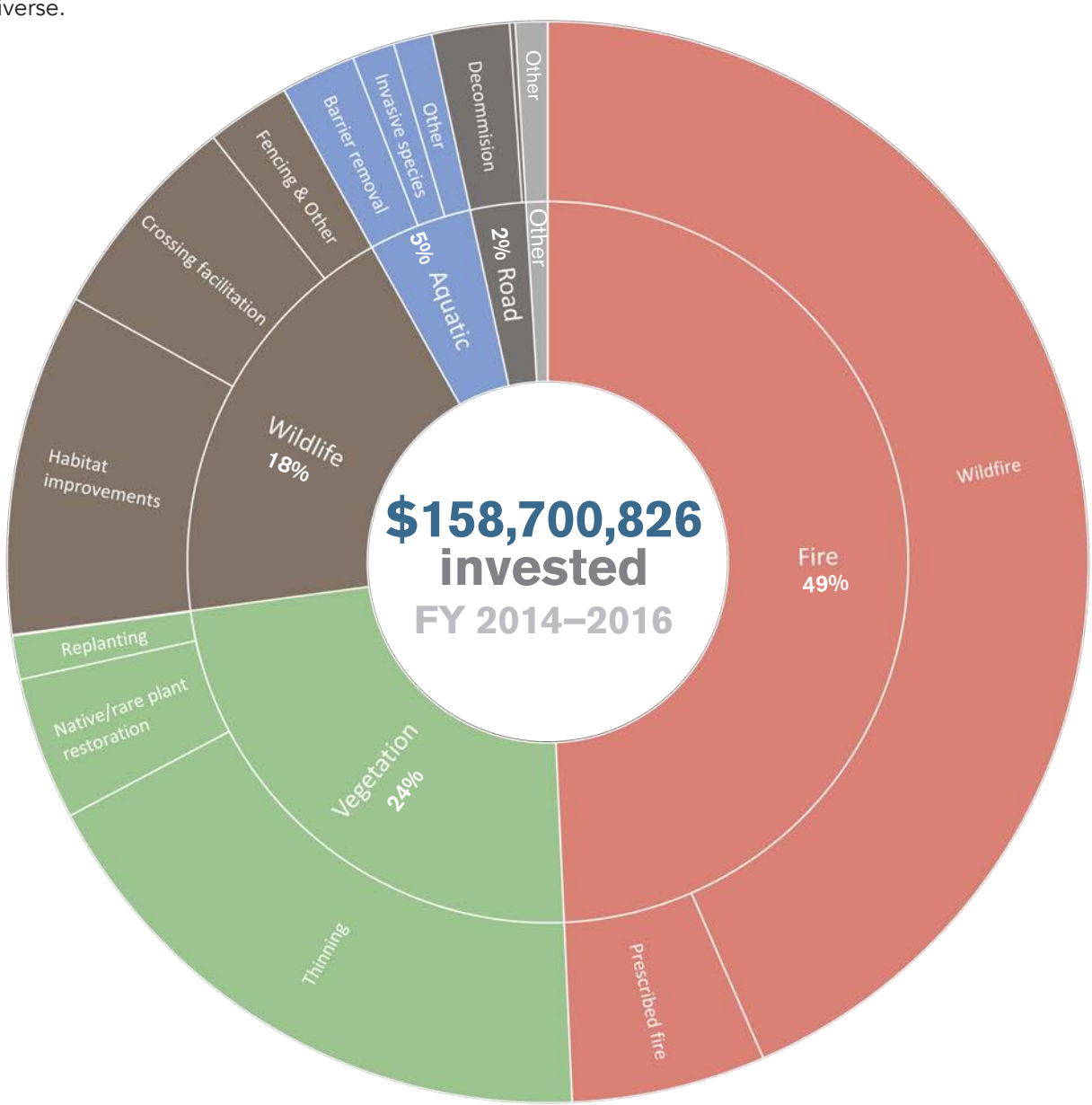
[1] Region 6 Grants & Agreement Annual Reports, Year FY14, FY15, and FY16. Figure includes agreements entered into by national forests and the Regional Office. Figure does not include State & Private Forestry or Research & Development

Terrestrial Habitat Enhancement

The Forest Service and its regional partners work to restore forest lands across the Pacific Northwest Region. The Forest Service collaborates with government, non-profits, tribes, private businesses, and colleges and school districts to accomplish its goals. Here we spotlight the Terrestrial Habitat Enhancement program for FY 2014 – 2016 as one example of these partnerships. Terrestrial Habitat Enhancement is a category of accomplishments (HBT-ENH-TERR) reported in agency databases as "acres restored or enhanced to achieve desired terrestrial habitat conditions for the benefit of wildlife." Accomplishments are recorded only if the action taken results in clear benefits to wildlife. The program restores habitat for many species, through activities such as re-seeding to improve forage for elk, cavity creation for owls, and beaver re-introduction.

This program tracks restoration activities, funding sources, and restoration partnerships on each forest. The information shown here are examples of the many ways forests and their partners work to benefit wildlife by improving the ecological health of forests, lakes and waterways, and rangelands and meeting other Forest Service objectives and needs.

The figure below shows the FY 2014-16 budgets from the Terrestrial Habitat Enhancement program, where we link broader budget categories (inner circle) with on-the-ground restoration accomplishments (outer circle). Fire consumed the largest portion of this program's funds with wildlands firefighting as the largest budget item. Vegetation management was primarily accomplished through forest thinning activities, while wildlife and aquatic accomplishments were more diverse.



This figure is hierarchical with the inner circle representing broader budget categories, and the outer circle representing the diverse in-field restoration accomplishments (based upon accomplishment codes and budget line items). The size of the outer arc is proportional to the total investments by category.

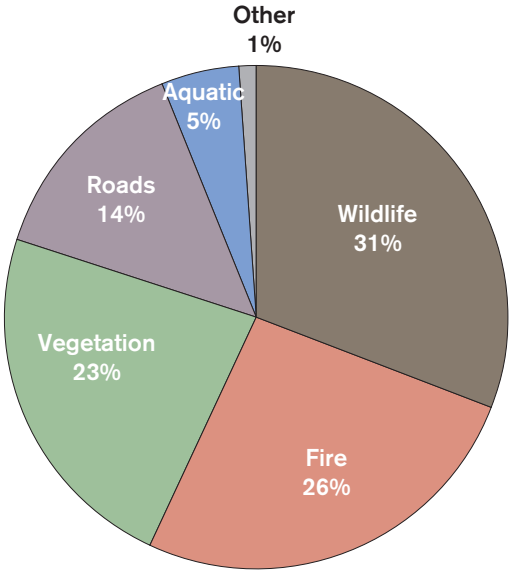
The charts below show the acres restored through the five most common restoration activities, accounting for 99% of the work under the Terrestrial Habitat Enhancement program from FY 2014–2016. Aquatic restoration that is tracked in this program, accounting for 5% of restored acres, includes activities like riparian vegetation thinning, stream channel restoration, and lake and pond habitat enhancement. Road decommissioning totaled 14% of restored acres and includes acres in buffer areas alongside decommissioned roads, accounting for improved habitats for a variety of species alongside the removed roadways.

FY 14–16

957,240 total acres

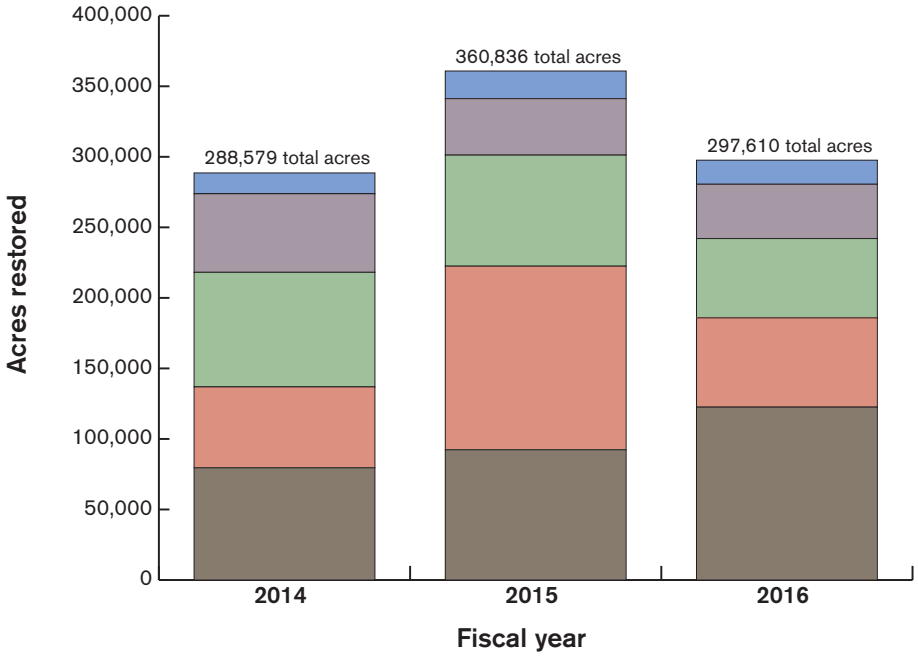
of habitat improvements by the Forest Service and partners

Total acres restored, including partner contributions, by category of enhancement, FY 2014–2016



Total acres: 957,240

Total acres restored, including partner contributions, by category of enhancement and year, FY 2014–2016



Terrestrial habitat partners and restoration activities

Partnerships are an important part of the Terrestrial Habitat Restoration program, providing both financial and in-kind contributions. Key partners can engage at critical moments, or provide the needed catalyst through funding and in-kind donations to get a project off the ground. Partners can also help sustain activities, finalize projects years in the making, or provide service-learning opportunities for youth and university students. In FY 2014–16, the Terrestrial Habitat Enhancement program reports 99 partners who contributed to specific forest and regional habitat improvement goals.

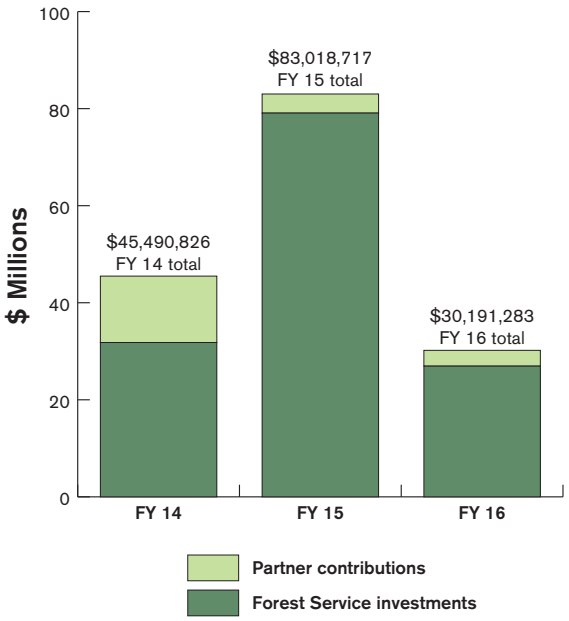
99 organizations partnered with the Forest Service to accomplish work with the Terrestrial Habitat Enhancement Program

$20,871,160 leveraged in partner contributions & in-kind donations

-and-

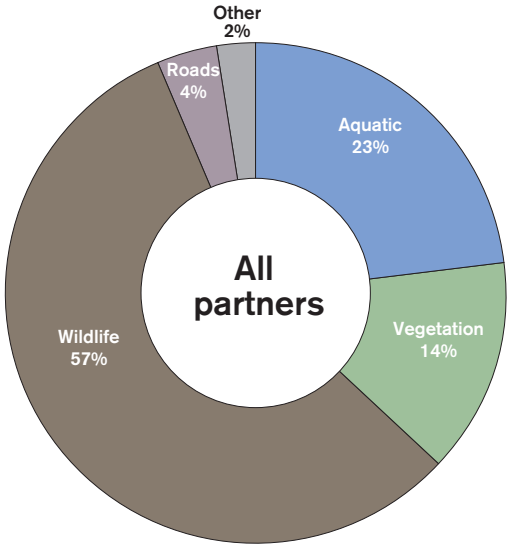
99,742 acres restored with partner contributions & in-kind donations from FY 2014–16

Total Forest Service and partner investments in habitat enhancements by year, FY 2014–16



Total annual budgets, including Forest Service and its partners donations and in-kind donations, ranged from $30.2 M to $83.0 M. The large increase in the FY 2015 spending was due to firefighting, with fires consuming nearly 89,500 acres and nearly $57 M dollars (approximately 70% of FY 2015 program budget) across the region.

Restoration activities invested in by habitat enhancement partners, FY 2014–16

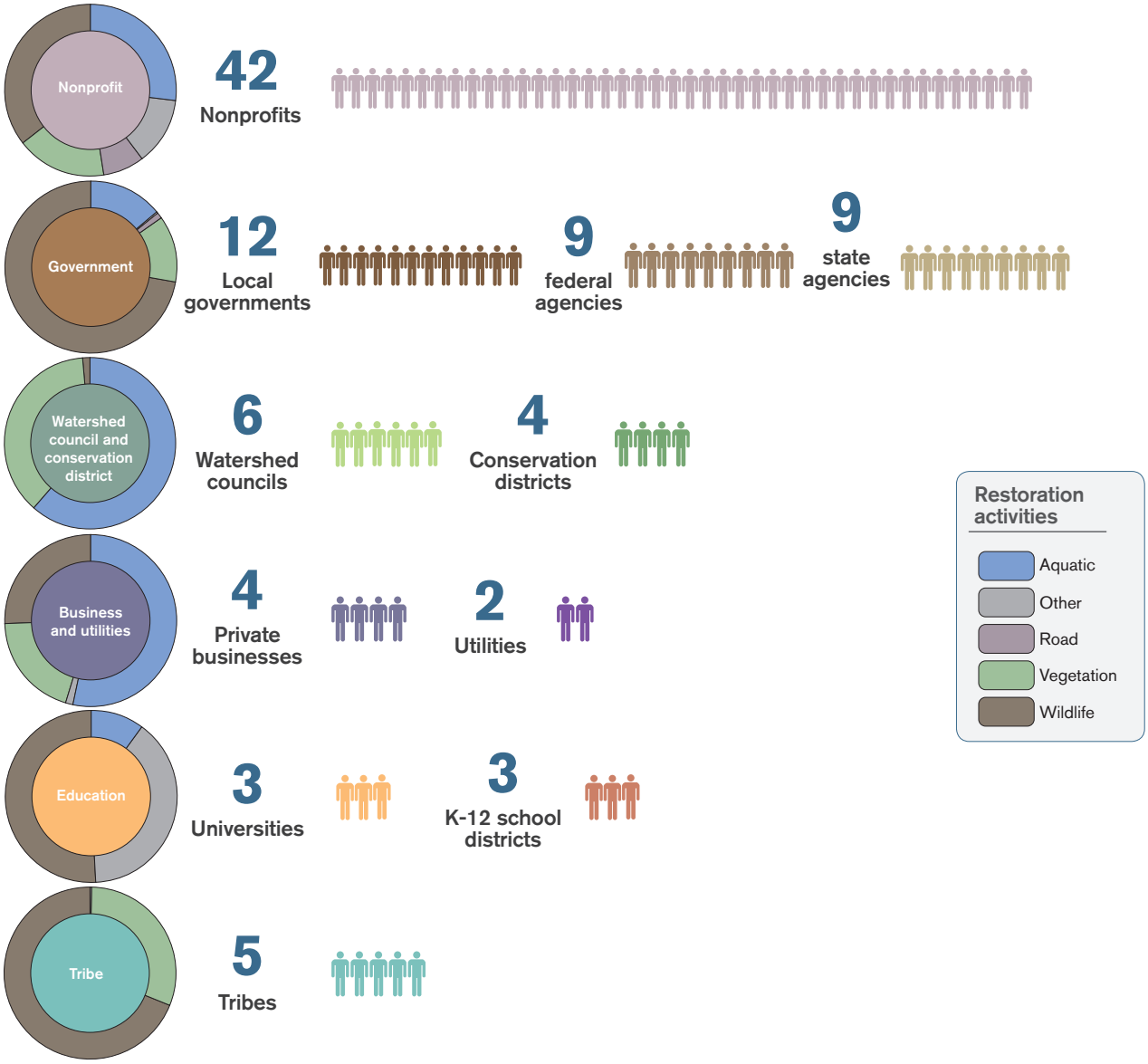


Total partner investment: $20,871,160

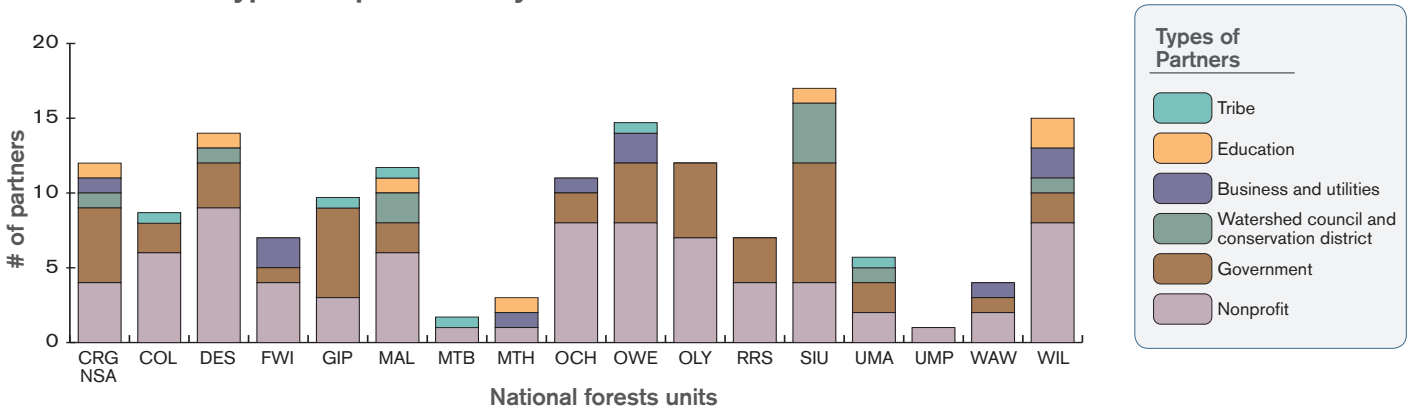
Partners were more likely to collaborate on wildlife or aquatic restoration projects, and much less likely to collaborate on restoration activities related to fire. Although fire-related activities accounted for 49% of the Terrestrial Habitat Enhancement program budget, less than 1% of partner investments were dedicated to fire-related activities.

Forests partnered with a variety groups to accomplish habitat restoration. The majority of partnerships were single forest-level connections, like a local school assisting on a restoration project. Twenty-three of the 99 partners, however, worked with more than one forest in the region. The figures below show the types and percentage of habitat restoration activities that different groups engaged in. Businesses and utilities, for example, focused the majority of their work on aquatic restoration while tribes partnered with forests on wildlife-related improvements. We categorized different partners into groups for clarity. The government category includes all non-Forest Service federal agencies and state, county and municipal governments. Education includes both universities and local K-12 school districts.

Partners and restoration activities

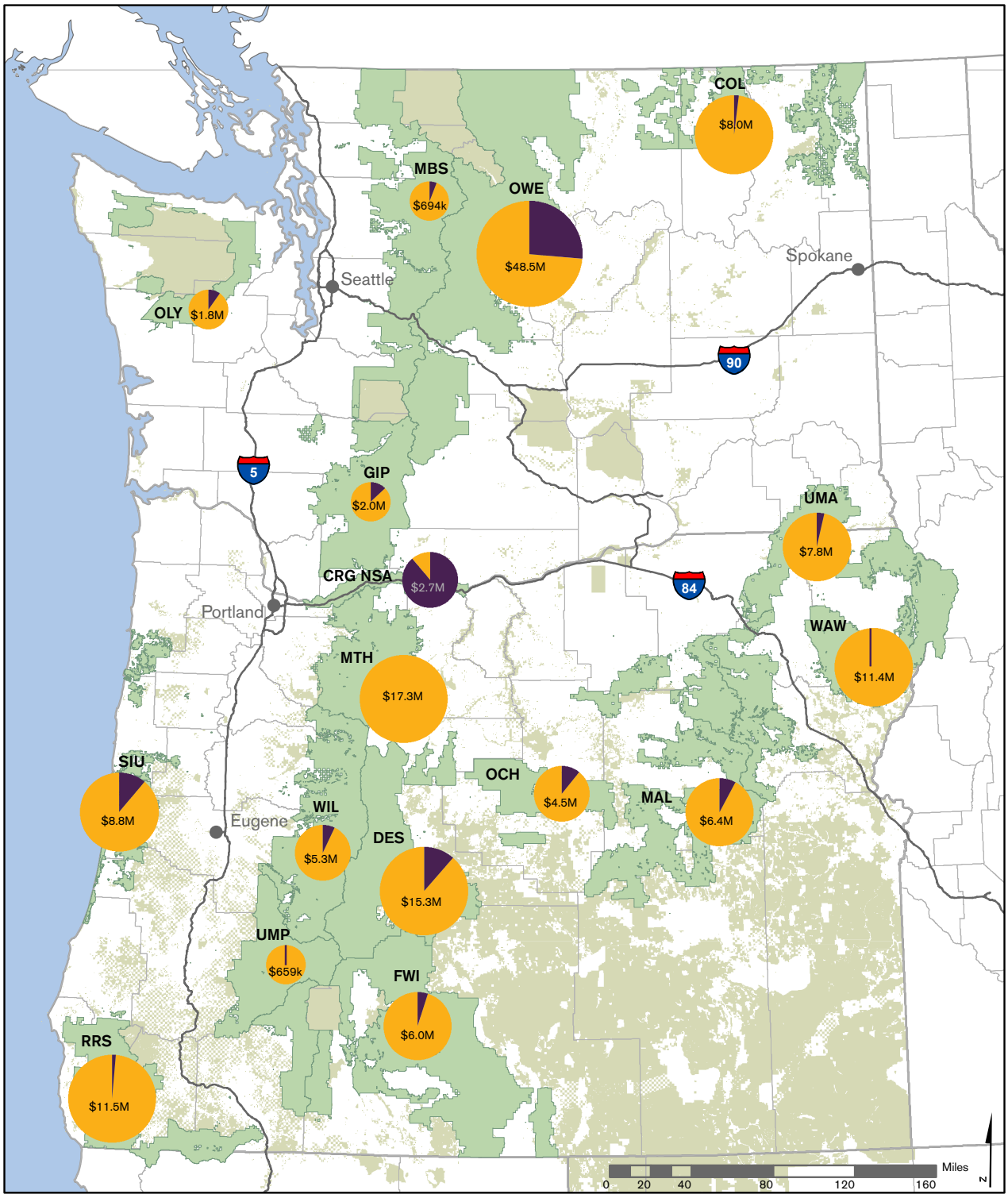


Numbers and types of partners by national forest



Terrestrial Habitat Enhancement partnerships

Leveraged resources by forest



# of forests in each funding range:

1 ----------

4 ----------

3 ----------

4 ----------

3 ----------

2 ----------

Circles scaled by total funding per forest:

---- $48,550,000

----$11,000,001 - $17,300,000

----$7,750,001 - $9,000,000

----$4,500,001 - $6,375,000

----$1,700,000 - $2,750,000

----< $700,000

Forest Service contributions ($)

Partner contributions ($)*

National Forests

Other federal lands

County lines

*Partner contributions include both monetary and in-kind contributions.

This map shows the $158.7 million invested in Terrestrial Habitat Enhancement from FY 2014-2016, along with partner contributions of $20.9 million.

National forest product purchasers

Timber and non-timber product purchases in Oregon and Washington

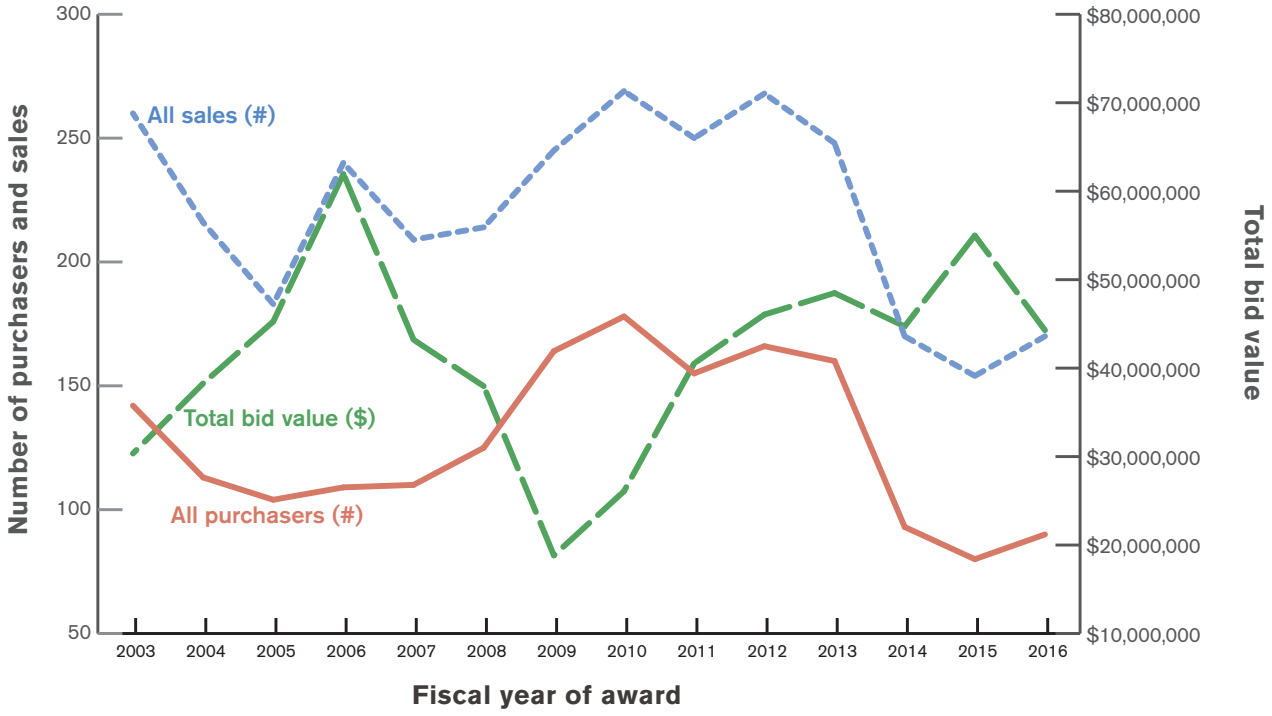
We took one type of Forest Service partner—the purchasers, who are individuals and businesses who purchase forest products—and explored in depth the types of products purchased, trends over time, and characteristics about how these businesses engage in markets. This work unpacks much of the data typically rolled up to talk about forest or regional level bid values, volume, and other big picture trends. By unpacking this information, we show how different kinds of businesses buy different products, are located in different places within Oregon and Washington, and purchase sales at different temporal scales.

Forest product sales, FY 2003–2016:

3,096 sales - totaling - **$581 million** in bid value - purchased by - **826** purchasers

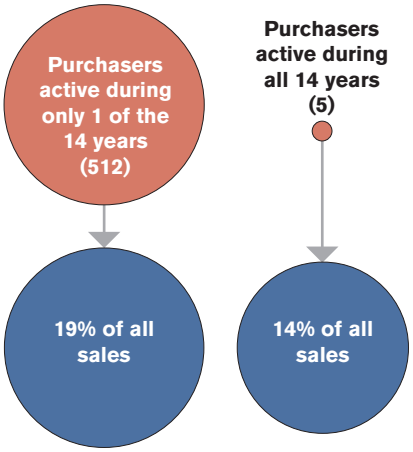
This chart shows all sales reported in the Forest Service's Timber Information Manager database, from FY 2003-2016 (all years of available data). The total number of sales peaked between 2010 and 2012, and has generally declined since 2013. The number of businesses has varied over time, but generally matches the trend of number of sales, declining in recent years. The total bid value for sales declined notably from 2007 to 2009 but has increased since then. This chart shows how the number of businesses and number of sales follow similar trends, but total bid value in those sales has changed over time, meaning some years' sales would be smaller dollars on average than others.

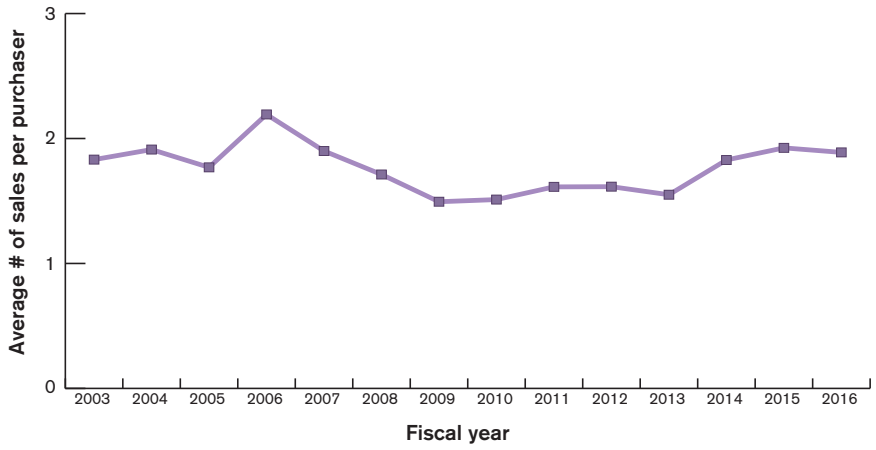
All sales in Timber Information Manager database, FY 2003-2016



The average number of sales per purchaser and the number of years each purchaser was active varied. Understanding these characteristics about forest product purchasers can help the agency discern who is benefiting from national forest products and how. For example, businesses and individuals that purchase sales more consistently (e.g. every year or few years), versus those who only purchased sales in one or two of the entire 14-year time period might represent different levels and types of dependence on national forest products, and different relationships with the Forest Service. This information also underscores the point that every purchaser is not the same; their motivations, actions, and sale preferences differ, from individuals picking mushrooms or getting firewood to sawmills purchasing large timber sales.

As the circles below show, the majority (512 and 62%) of the total 826 purchasers bought sales in just one of the 14 years we reviewed, and these businesses and individuals purchased 19% of the total number of sales. At the other end of the scale, five purchasers (less than 1%) bought sales during each of the 14 years, and accounted for 14% of the total number of sales. Overall, businesses and individuals purchased 1.5 to 2.2 sales per year on average (see the line chart below), and those that purchased sales during more of the years also purchased a larger number of sales per year.





Achieving forest stewardship work in the Region

Stewardship work is an important component of how the agency achieves forest restoration goals through contracts and sales. Integrated Resource Timber Contracts (IRTCs) are timber sales that include some stewardship work, and Integrated Resource Service Contracts (IRSCs) are service contracts that focus on stewardship work.

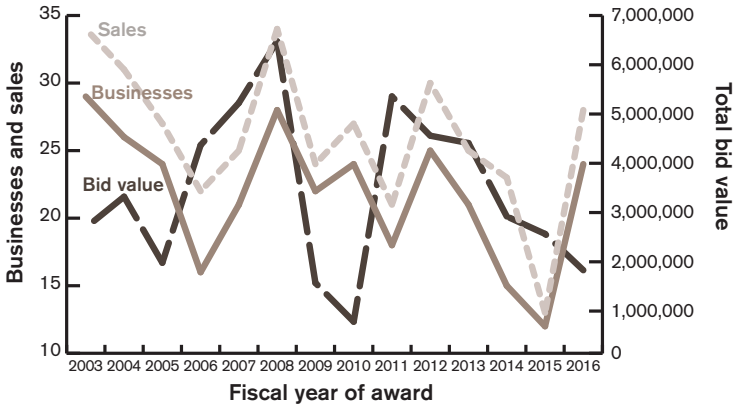
Stewardship contracts, FY 2003–2016:

72 businesses - engaged in - **340** stewardship contracts

- 198 IRTCs were purchased by 43 different businesses
- 142 IRSCs were purchased by 42 different businesses. 36 of these contracts included construction or reconstruction of roads.
- Purchasers were primarily located in Oregon & Washington (44 and 23 purchasers, respectively, with five purchasers from other states).

Exclusively sawtimber purchasers:
Businesses and individuals who exclusively purchased timber products intended for sawing into lumber.

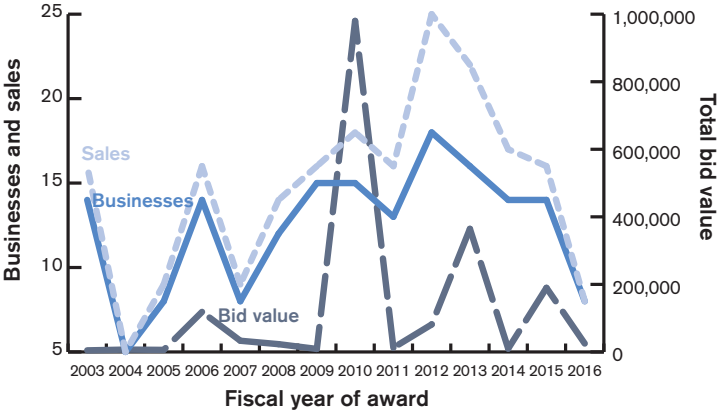
Exclusively sawtimber



FY 2003–2016: **364 sales** with a **$47,436,603 total bid value** sold to **223 businesses**

Exclusively non-saw timber purchasers:
Businesses and individuals who exclusively purchased timber products not suitable for sawing into lumber, such as green biomass, miscellaneous converted products, and fuelwood (e.g. firewood).

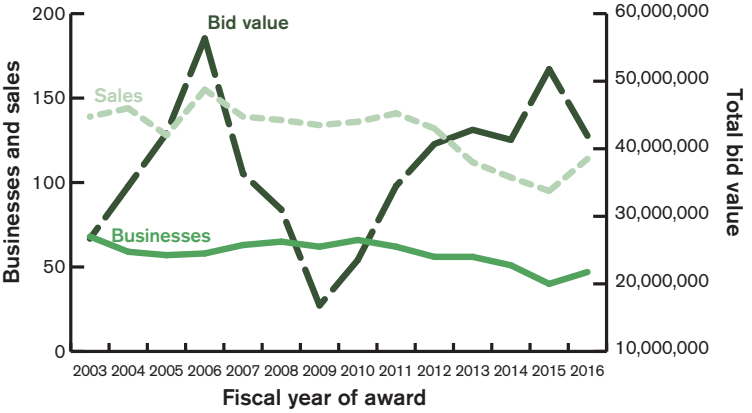
Exclusively non-saw timber



FY 2003–2016: **207 sales** with a **$1,864,204 total bid value** sold to **147 businesses**

Both saw and non-saw timber purchasers:
Businesses and individuals who purchased a combination of timber products-both for sawing into lumber, and for non saw purposes, including primarily saw timber, with some green, dry and miscellaneous biomass, and fuelwood.

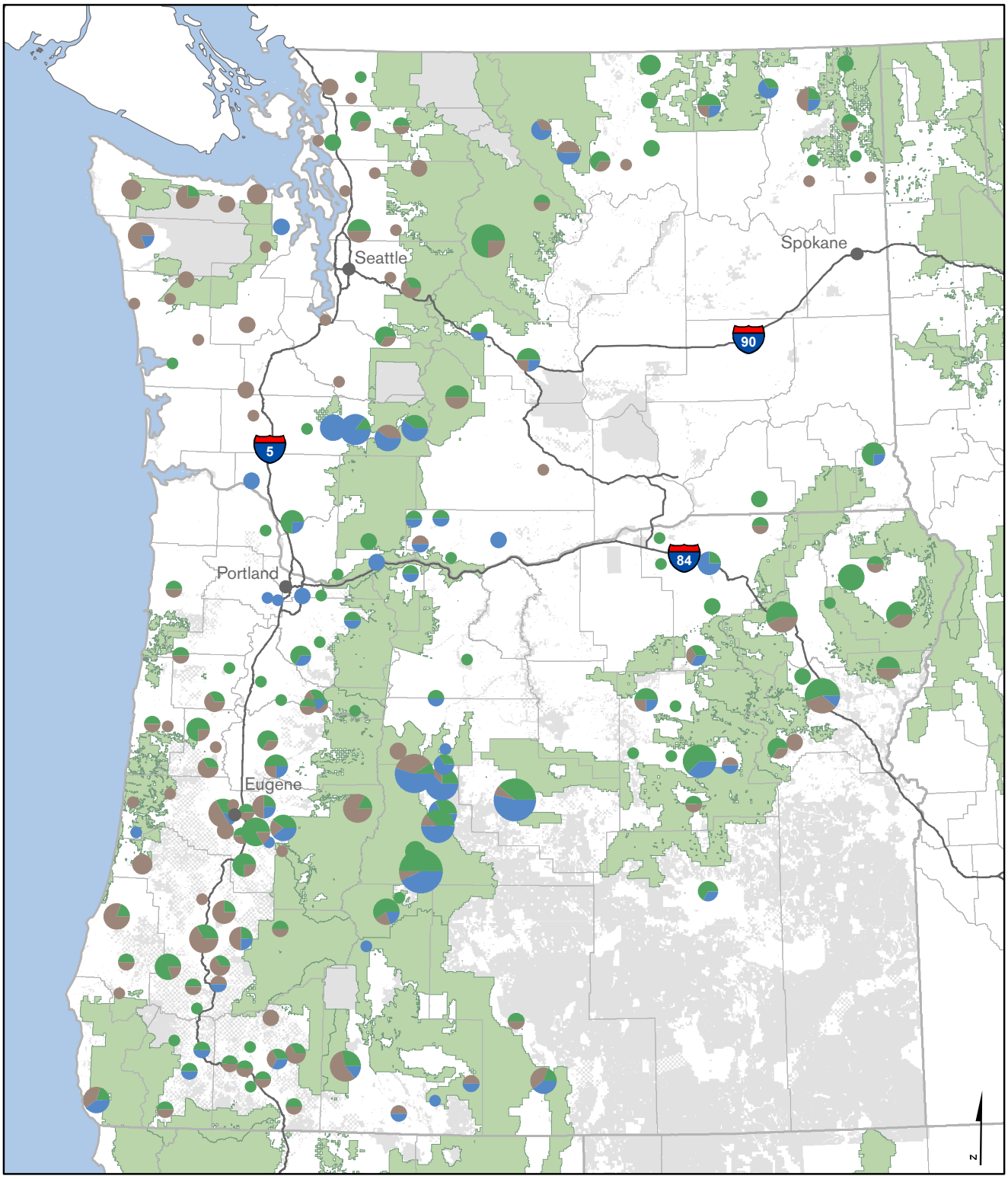
Both saw and non-saw timber:



FY 2003–2016: **1,809 sales** with a **$520,411,640 total bid value** sold to **239 businesses**

Saw and non-saw timber forest product purchasers

Oregon and Washington, FY 2003–2016



Circles represent the number of businesses that purchased sales from the US Forest Service that were entered in the Timber Information Manager Database from FY2003 to FY2016. The size of circles are scaled to represent the number of purchasers per zip code during the study period. The number of purchasers ranged from 1 to 14.*

Miles
0 40 80

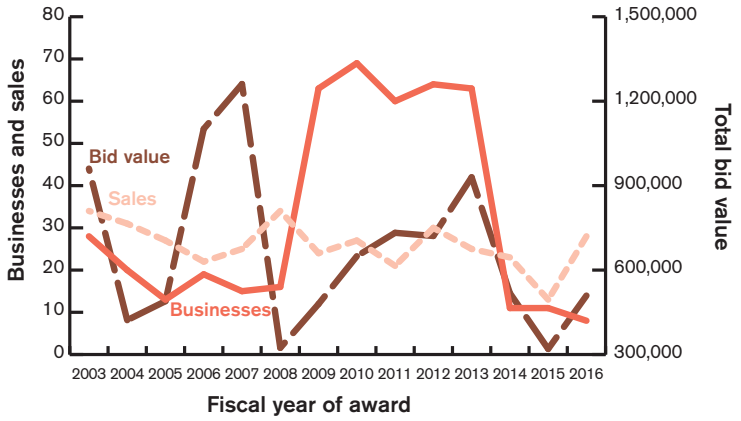
- Both saw and nonsaw timber purchasers
- Exclusively sawtimber purchasers
- Exclusively nonsaw timber purchasers
- National forests
- Other federal lands
- County lines

This map shows 578 businesses in Oregon and Washington with $542.9 million in bid value and 2,280 total sales from FY 2003 - 2016.

* map excludes 31 purchasers located in CA (4), CO (2), ID (12), LA (1), MT (5), PA (1), SC (1), UT (2), WI (1), and WY (2). These businesses purchased 100 sales between FY2003 - FY2016, totaling $26.8 million. This represents 3.2% of total sales and 4.6% of total bid value during this time period.

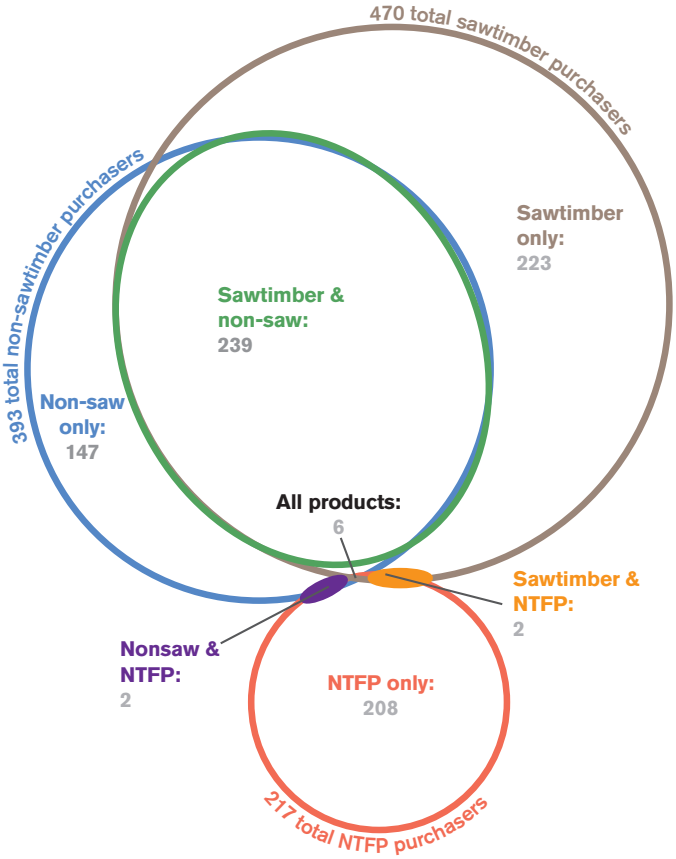
Non-timber forest products (NTFP): businesses and individuals who purchased forest products that are not timber, primarily tree limbs/ boughs, mushrooms, grass, and cones.

Non-timber forest products (NTFP):



FY 2003–2016: **662** sales with a **$9,417,104** total bid value sold to **208** purchasers

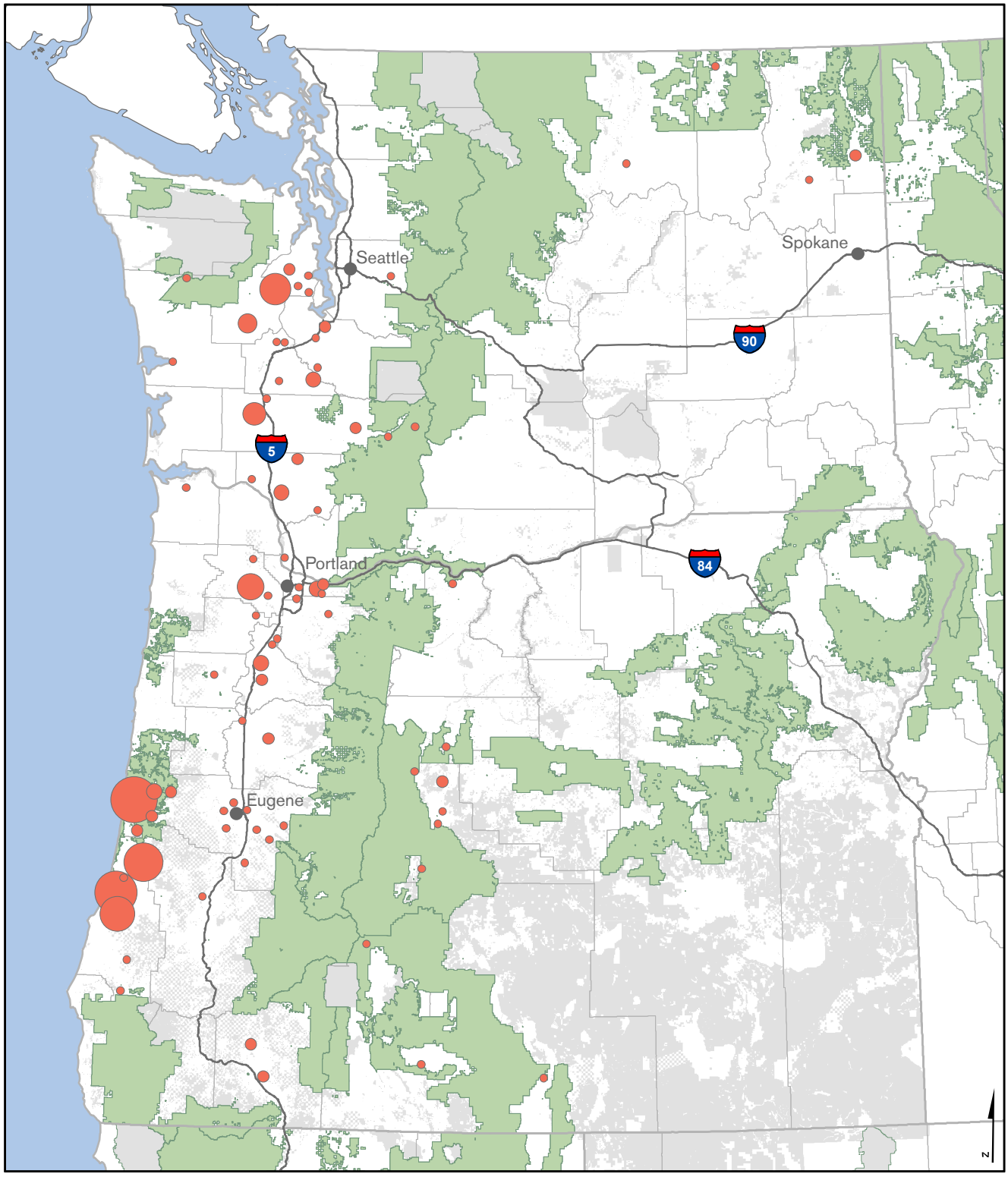
When we look across the different types of purchasers displayed in this section, we can see that many of the 826 individuals and businesses engaged in forest product purchases overlap in the different types of products they bought. This is particularly true for those individuals and businesses who purchased saw and/or non saw timber. This Venn digram shows how these different types of purchasers overlap, with those purchasing a combination of saw and non saw timber as the largest category of purchasers. With the exception of nine purchasers, there was no overlap in the purchasers of nontimber forest products and those purchasing saw and non saw timber, highlighting the different ways in which individuals and businesses engage with national forest products.



Note:*The four circles above exclude 9 businesses that overlapped between nonsaw & NTFP (1), saw & NTFP (2), and all forest products (6). These 9 busniesses purchased 55 sales totalling $1,856,799 representing 0.32% of total bid value between FY 2003–FY 2016.*

Non-timber forest product purchasers

Oregon and Washington, FY 2003–2016



Number of businesses and individuals per zip code

1
2
3
4
5
6 - 7
8 - 10
11
12 - 13
44

Circles represent the number of businesses that purchased sales from the US Forest Service that were entered in the Timber Information Manager Database for FY 2003 to FY 2016 as non-timber forest products. The size of circles represents number of purchasers per zip code, which ranged from 1 to 44 purchasers.*

- National forests
- Other federal lands
- County lines

*map excludes 8 purchasers located in CA (6), ID (1), and MT (1). These businesses purchased 13 sales between FY 2003-2016, totaling $17,246. This represents 0.4% of total sales and 0.003% of total bid value during this time period.

Miles
0 40 80

This map shows 200 businesses in Oregon and Washington with $9.4 million in bid value and 648 total sales from FY 2003 - FY2016.

Conclusion

National forest land and communities in the Pacific Northwest are inextricably linked, now and into the future. With nearly half of the land base in Oregon and Washington under federal management, the infrastructure and opportunities provided by national forests, grasslands, national scenic areas or other Forest Service managed areas are never very far away. The Forest Service presence in the region, especially in rural communities, can provide important economic and social stability that extends beyond just the footprint of its offices and work centers.

The unique context of the region is a key factor in understanding where and how communities and the agency impact one another. The majority of the region's population resides in urban areas along the Interstate-5 corridor but Forest Service offices tend to be located in more rural areas. In these rural locations, some of whick lack much economic diversity, the Forest Service has a direct and measureable impact and the potential to contribute to economic stability and community capacity in the region. As shown in this book, the economic stimulus provided by the Forest Service can be through direct agency employment or additive effects, such as $581 million in sales of forest products to individuals and businesses throughout Washington and Oregon.

Even with a declining office presence over the years, the Forest Service maintains offices in some of the most rural places in the region, sometimes as the only tangible government office. This long-term presence helps to embed the Forest Service in these communities, which are often home to more vulnerable populations than other parts of the states. The higher than average proportions of individuals with disabilities and families with food stamps, combined with lower median incomes and lower owner-occupied housing rates all suggest towns and communities where social-economic wellbeing is fragile. These towns likely have a more difficult time preparing for, responding to or recovering from economic transitions such as forestry industry changes, or natural disasters such as wildfires or floods. All of this underscores the particularly influential stabilizing role the Forest Service can play in these areas, even as agency office presence declines.

Capacity of the Forest Service is directly tied to partners and cooperative efforts across the region, including the use of collaborative, cross-boundary initiatives and instruments. As Forest Service staff numbers continue to trend downward and budgets remain flat, restoration and management needs remain high. Partnerships and collaboration are critical for accomplishing work on the ground. Collaboration has deep roots in national forests and communities in Oregon and Washington, which is evident in the variety and number of forest collaboratives. The prevalence of collaborative projects under the Joint Chiefs' Landscape Restoration and Collaborative Forest Landscape Restoration programs are two examples of new ways of thinking and acting to manage forest lands across boundaries. Other instruments that encourage collaboration and cross-boundary work, such as stewardship contracting and Good Neighbor Authority, can also be seen in some of the spotlighted partnerships included in this book. Taken together, this diversity of collaborations and partnerships show how the region is using a suite of mechanisms to engage in collaborative and cross-boundary efforts to achieve restoration goals on forest lands and strengthen the human communities that depend upon the forests. The long-term presence the Forest Service has in these communities also allows for personal and institutional trust to be built, which is a precursor for these partnerships.

Communities interact with the Forest Service in a variety of ways. As we continue to demonstrate in the second year of this project, people and groups interact with the agency in a variety of ways, and from a diversity of venues. The agency works with a wide range of partners, from communities, to local and state governments, to nonprofits, collaboratives, schools, tribes, councils, small to large businesses, and individuals. At the same time, these partners engage in diverse activities with the Forest Service, bringing different resources and interests to the table. For example, some partners bring dollars, others bring crews to do work on the ground. Some partners focus on wildlife habitat restoration, others on educational forest activities, and others on their economic and/or cultural well-being through wood and other forest product purchases. These examples demonstrate just a few of the myriad ways in which the Forest Service partners with people across the region, to achieve shared social and ecological goals.

The Forest Service in the Pacific Northwest Region still has a large role to play in the region's natural and built communities. In the second year of this project, we chose depth over breadth, to dig deeper into questions and also show trends over time. This in-depth look allowed us to understand exactly where and how the agency is leveraging dollars to accomplish habitat restoration work on the ground. At the same time, this more comprehensive examination helped to emphasize key point: the Forest Service in the Pacific Northwest Region still has a large role to play in the region's natural and built communities. For every dollar or resource brought in by a partner, the agency matches the contribution several times over. The pace and scale needed for restoration across the region will continue to require the long-term and large scale commitment of resources that the Forest Service can provide. Although the agency experiences its own capacity constraints, the expertise of its staff, available resources, and institutional memory is critical for work on national forests and beyond.

As we look forward to the third and final year of this project, we hope to continue to identify, illustrate, and communicate the intricately intertwined connections between the Forest Service and communities in the Pacific Northwest Region.

Appendix: Methods and data sources

Introduction

Map p.4: Federal, state and tribal land designations

Data Sources:
USDA Forest Service Enterprise GIS, NOAA, Oregon Spatial Data Library, Washington State Geospatial Clearinghouse and ESRI.

Methods:
Map provided by US Forest Service September 18, 2017
Map edited by EWP for format and layout into book October 2017
Date originally created: 27 May 2017
Cartographer: Jesse Nett: jnett@fs.fed.us, Pacific Northwest Region, Data Resources Management

Maps p. 6: Distance to nearest hospital

Map p. 7: Drive time to the nearest interstate onramp

Also maps in distance and drive time map compendium to this book, available at http://ewp.uoregon.edu/USFScommunities

Data Sources:

- R6Hospitals.shp
  - Downloaded from: http://datawarehouse.hrsa.gov/tools/DataPortalResults.aspx
  - Name: Health Care Facilities (CMS)
  - Source: Health Resources and Services Administration Data Warehouse, US Dept of Health & Human Services
  - Downloaded by Greg FitzGerald on 5/15/2017
- USA Topographic Map
  - Added from ArcMap
  - Add Data -> Add Basemap -> Add USA Topo Map
- R6MajorCities.shp
  - Created from file provided by EWP and edited to contain four cities
- R6_interstate.shp
  - Provided by EWP
- Region6_outline.shp
  - Provided by EWP
- R6Highways.shp
  - Created from USA Major Highways file from ESRI
  - Downloaded from: http://www.arcgis.com/home/item.html?id=fc870766a3994111bce4a083413988e4
  - Selected: "HWY_TYPE" = 'U'
  - Cropped using Region6_outline.shp
- R6office.shp
  - Created from compiling data from documents provided by EWP and accessing Region 6 USFS website.
  - Created by Greg FitzGerald (EWP)

Methods:
Drivetime and distance surfaces were created in ArcMap 10.4 using the Network Analyst extension. The Network Dataset was created from the Esri's USA Major Highways layer. Before creating the Network Dataset a minutes column was added to the attribute table of the USA Highway Layer, and set equal to the Shape Length in Miles (this assumes 60 MPH travel time on each highway). Next, "Generate Service Areas" was used, using the facilities (Interstate, Banks and Hospitals, USFS Offices, Airports) and the network dataset. Other parameters included a snapping tolerance of 50 miles, and "MERGE" for polygon generation. The outputs of these analyses were clipped with the Region 6 Outline shapefile, before being merged with the region 6 outline. After merging, the values of "to_break" in OREGON and WASHINGTON were set to "121" to create a "more than 2 hours" travel time. For cartographic purposes, "Smooth Polygons" tool was used with a 10-mile value to round sharp edges in the drive times.

Chapter I: Where the Forest Service Works in Oregon and Washington	
Figures p. 10-11: Budget and personnel overview	**Data Source(s):** Budget: US Forest Service Region 6 (main contact: Biesecker, Emily J -FS ebiesecker@fs.fed.us) Report: Budget Status, Total Spent, Budget year 2016 USFS Removed Fire Suppression (WFSU) and Working Capital Fund (WCWC) spending from this analysis as both are managed at WO and/or ASC level of Forest Service. Personnel: US Forest Service Region 6 (main contact: Biesecker, Emily J, ebiesecker@fs.fed.us); Report: WorkPlan Personnel Planned Cost Details Sum of Planned days, divided by 260 day work-year, FY 2016 Forest Service acreage: Forest Service Land Area, 2016 **Methods:** Summary tables were created in Excel. Pie charts showing each forest unit in the unit (p. 10) were created in Adobe Illustrator using Pie Chart Tool. Circles on p.11 scaled according to relative size based on area using Adobe Illustrator Pie Chart Tool
Figures p. 12-13: Budget and personnel trends across the region and by national forest	**Data Source(s):** Budget: US Forest Service Region 6 (main contact: Biesecker, Emily J -FS ebiesecker@fs.fed.us) Report: Budget Status, Total Spent, begin budget year (-10) USFS Removed Fire Suppression (WFSU) and Working Capital Fund (WCWC) spending from this analysis as both are managed at WO and/or ASC level of Forest Service. Personnel: US Forest Service Region 6 (main contact: Biesecker, Emily J, ebiesecker@fs.fed.us); Report: WorkPlan Personnel Planned Cost Details Sum of Planned days, divided by 260 day work-year **Methods:** Summary tables were created in Excel; Trend graphs were created in Adobe Illustrator using Line Graph Tool
Map p. 14: Oregon and Washington office locations	**Data Source:** USFS offices were provided by US Forest Service Region 6 (main contact: Biesecker, Emily J, ebiesecker@fs.fed.us) **Methods:** Offices were checked through Region 6 website. Dataset contains every US Forest Office location with address, assigned coordinates to each location. R6office.shp was created for office locations in the region.
Figure p. 15: Office locations and town sizes	**Data Sources:** Office location: USFS offices were provided by US Forest Service Region 6 (main contact: Biesecker, Emily J -FS ebiesecker@fs.fed.us) 2015 Population data: Accessed on: July 8th 2017 Data from 2015 American Community Survey 5-year Population Estimate https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml **Methods:** Dataset contains every US Forest Office location with address, assigned coordinates to each location. Statistics pertain to city where office is located. Linked Census data on city population to each listed city. If data for city name was unavailable, zip code of city was used instead. Cities where data at town level was unavailable (zip code used instead): Chemult OR, Randle WA, Quinault WA, Leavenworth WA, Crescent OR, Silver Lake OR, Curlew WA, Zigzag OR, Tiller OR, Idleyld Park OR Blank occurrences in data where data was unavailable are reported with footnotes.

Figures p. 16-17: Characteristics of towns where the Forest Service Works	**Data Sources:**
	Office locations: see Map p.14 info
	Demographic data: US Census and American Community Survey.
	▪ Percent Graduated High School and Veterans
	  ▪ Accessed on July 10th 2017
	  ▪ Data from 2011-2015 American Community Survey 5-Year Estimates
	  ▪ https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
	▪ Top Industries, Median Household Income and Reported Ethnicities (Excluded Caucasian)
	  ▪ Accessed on July 14th 2017 - July 18th 2017
	  ▪ Data from 2011-2015 American Community Survey 5-Year Estimates
	  ▪ https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
	
	Methods:
	Data was downloaded from American Fact Finder based on the city where Forest Service offices are located. When data was unavailable at the city level, zip code for the Forest Service office was used instead (Chemult OR, Randle WA, Quinault OR, Leavenworth WA, Crescent OR, Silver Lake OR, Curlew WA, Zigzag OR, Tiller OR, Idleyld Park OR). Census data was linked to each city with a USFS office
	All variables were categorized into unique bins in order to effectively display variation in the variable; individual bar charts, pic charts and a scatterplot of all variables was constructed. Where scaled circles were used, circles were scaled to the number of towns within each corresponding category.

Map p. 18: Forest Service office locations and county populations	**Data Sources:** US Department of Agriculture, Economic Research Service's (ERS) Rural-Urban Continuum Codes (2013). Accessed September 2017 https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/ **Methods:** Mapped all counties with USFS offices located in them, shaded counties according to classification in the metro-non metro county population data. From ERS: "ERS' 2013 Rural-Urban Continuum Codes form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas."
Figure p. 19, scatterplots: Forest Service office locations and county populations	**Data Sources:** Office location: see Map p. 14 info Metro-non-metro town designations: assigned each town to its respective county population category as shown on Map on p. 19 (previous page). Collapsed the nine population categories into metro and non metro. Demographic data: US Census and American Community Survey. ▪ Accessed September 2017 ▪ Data from 2011-2015 American Community Survey 5-Year Estimates ▪ https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml **Methods:** Data was downloaded from American Fact Finder based on the city where Forest Service offices are located. When data was unavailable at the city level, zip code for the Forest Service office was used instead (Chemult OR, Randle WA, Quinault OR, Leavenworth WA, Crescent OR, Silver Lake OR, Curlew WA, Zigzag OR, Tiller OR, Idleyld Park OR). Census data was linked to each city with a USFS office All variables were categorized into unique bins in order to effectively display variation in the variable; scatterplots of all variables were constructed.

Chapter II: Landscape Restoration Through Collaboration	
Maps and figures p. 22-25: Forest collaborative groups	**Data Sources:** Shapefiles of forest collaborative boundaries provided by forest collaboratives, either as actual shapefiles, or as descriptions (e.g. "XX watershed). Office locations provided by forest collaboratives. Other collaborative details, such as year collaborative began, and public or all-lands focused is stored and updated annually in a database maintained by Ecosystem Workforce Program, University of Oregon, and informed by data from Dr. Emily Jane Davis at Oregon State University, as well as direct communication and verification with forest collaboratives.
Map and figures p. 26-27: Collaborative Forest Landscape Restoration projects	**Data sources:** https://www.fs.fed.us/restoration/CFLRP/index.shtml Shapefiles: https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=CFLRP (main contact: Buchanan, Lindsay S -FS lindsaysbuchanan@fs.fed.us) **Methods:** Totaled acres in projects, and dollars invested by category. Reduced list of 156 project partners to 134 unique organizations (some organizations work on more than one project). Then coded project partners by organization type (e.g. non profit, city/local government, school district, ect). Reported organization by coded partner type.
Map and figures p. 28-29: Joint Chief's Landscape Restoration Projects	**Data sources:** Funding and project reports from https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/features/?cid=stelprdb1244394 Shapefiles: Forest Service Region 6 and National Forest staff related to Joint Chiefs' projects provided forets by forest project shapefiles (main contact: Maia Enzer, mjenzer@fs.fed.us) **Methods:** Totaled dollars invested by category. Reduced list of 73 project partners to 48 unique organizations (some organizations work on more than one project). Then coded project partners by organization type (e.g. non profit, city/local government, school district, ect). Reported organization by coded partner type.

Chapter III: Partnership Spotlights	
Terrestrial Habitat Enhancement Section; p. 32-36	**Data Source:** The Terrestrial Habitat Enhancement database was obtained directly from the Forest Service, covering FY2014 – FY2016 on May 31, 2017. Contact information: Data provided by: Josh Chapman, Region 6 Wildlife Program Lead (joshuachapman@fs.fed.us).
Figure p. 32: Combined budget	**Data Source:** see Terrestrial habitat enhancement data source section above **Methods:** ▪ Terrestrial Habitat Enhancement data files were in the form of shapefiles. Associated attribute data stored with spatial information were extracted and converted to Excel files for summation. ▪ Each fiscal year files were then joined together to great a master summary page. We added a column to denote the fiscal year for easier sorting. Summaries were generally calculated using the pivot table tool. ▪ To create the figure, we summarized "Activity_T" column for the inner circle that is more general and the linked those activities with fine-scale, in-field restoration activities described in "Activity_1" column to make the outer arcs of the figure. We used funds reported in "BLI_Funded" column for both summations. ▪ To simplify the figure for greater clarity, we generalized the many in-field restoration activities into more generalized categories (e.g. we described road decommissioning as one category when it is recorded in five different treatment levels).
Figures p. 33: Acres restored total and by FY and type of restoration activities	**Data Source**: see Terrestrial habitat enhancement data source section above **Methods:** ▪ Same general process as described in Fig. 3.1 ▪ We summarized FY 2014-2016 restoration activities, using "Activity_T" and "Acres_BLI" columns for the pie chart, and then removed those activities that accounted for less than 1% for clarity. ▪ We repeated the above steps for the stacked column figure for each fiscal year using "FY" column. ▪ We calculated acres burned from natural wildfire and prescribed fire for each fiscal year using "Fuel" from the "Activity_T" and then "prescribed fire or wildlife natural or other fuel treatment" in the "Activity_1" column. We then linked these categories with "Acres_BLI."
Figures p. 34: Total Forest Service and Partner contributions per FY; Restoration Activities invested in by parters	**Data Source:** see Terrestrial habitat enhancement data source section above **Methods:** ▪ Same general process as described in Fig. 3.1 ▪ For the stacked column budget figure, we summarized Forest Service and partner contributions for FY 2014-2016 using "FY" column to organize totals by year, and "BLI_Partner" column, which denotes a "Y" if a partner was involved in the project or a "N" if it was a Forest Service project. We summed totals using "BLI_Funded" column. ▪ We calculated the acres partners help restore by sorting the "Acres_BLI" column with "BLI_Partner" column to determine if a partner was involved. Then we linked "Activity_T" categories with the partner-only funded projects.
Figure p. 35: Partner types and number and type of partner by forest	**Data Source:** see Terrestrial habitat enhancement data source section above **Methods:** ▪ We categorized 99 partner organization from this dataset into six categories. At the higher level of organization, we labeled partners: business or utility, education, government, nonprofit, tribe, or watershed council or conservation districts. We lumped city, county, state and federal partners into a generic "government" category for simplicity and to be able to visualize the partner contributions more clearly. Universities/colleges and K-12 school districts were similarly pooled together into an "education" partners grouping. Tribal owned entities were also grouped with "tribes." We excluded "individuals" from the partner list to focus on organizational level partnerships with the Forest Service. ▪ To make the partner-restoration activity "donut" figures, we used the above partner categories and calculated the financial investments for each of these six groups using the partner type and values from the "BLI_Funded" column and "Activity_T" categories. ▪ We added the number and type of partners (using above categories) by forest or scenic area to create the stacked column figure.

Map p.36: Terrestrial Habitat Enhancement partnerships leveraged by forest	**Data Source:** see Terrestrial habitat enhancement data source section above **Methods:** ▪ For each forest, we calculated the total FY 2014-2016 budgets for the Terrestrial Habitat Enhancement program. We linked "BLI_Partner" column, which denotes a "Y" or "N"if a partner was involved. We used the partner participation column to divide total budgets into Forest Service and partner contributions, using "BLI_Funded" column for each forest.

National Forest Product Partners Section; p. 38-43	**Data Source:**
	TIM data was obtained directly from the Forest Service, covering FY2002 – FY2016. Data provided by: Dana Croll, Regional TIM Coordinator (dcroll@fs.fed.us). Reports used were all excel (.xlsx) and included:
	▪ Region6BiddersFY02-16 (Obtained January 20, 2017)
	▪ Region6DataFY02-16 (Obtained January 20, 2017)
	▪ Regio6ProdUOMDescriptionQuantityFY02-16 (Obtained January 20, 2017)
	▪ ContractType2003through2016 (Obtained October 13, 2017)
	
	Methods:
	▪ Analysis: Timber sales were aggregated by year from FY2003 – FY2016. FY2002 was excluded, as this was the first year the Forest Service reported timber sales in the TIM database, and data for this year appeared incomplete.
	▪ Products were categorized as follows:
	  ▪ Sawtimber: saw timber
	  ▪ Nonsaw: Cull Logs, Dry Biomass Converted, Fuelwood, Green Biomass Converted, Miscellaneous-Converted, Non-Saw, Poles, Pulpwood
	  ▪ Non-timber Forest Products: Cones-Dry, Cones-Green, Foliage, Grass, Limb/Bough, Mushrooms, Non-Converted, Transplant, Xmas Trees
	▪ We totaled the number of sales in each category above by year. We looked at sales by purchaser, and categorized the 826 separate purchasers into one of 7 categories:
	  ▪ Sawtimber only (223)
	  ▪ Nonsaw only (147)
	  ▪ Non-timber forest products only (208)
	  ▪ Sawtimber and Nonsaw purchasers (239)
	  ▪ Sawtimber and NTFP purchasers (2)
	  ▪ Nonsaw and NTFP purchasers (1)
	  ▪ Purchasers of all 3 types of products (6)
	▪ For analysis purposes, we focused on the four categories with the largest number of purchasers. Purchasers were mapped using ArcMap10.4 based on their zip code.

The Forest Service and Partners

Working together to restore Pacific Northwest National Forests

Spring 2018

Addendum:

Distance and Drivetime maps

with Oregon and Washington US Forest Service offices

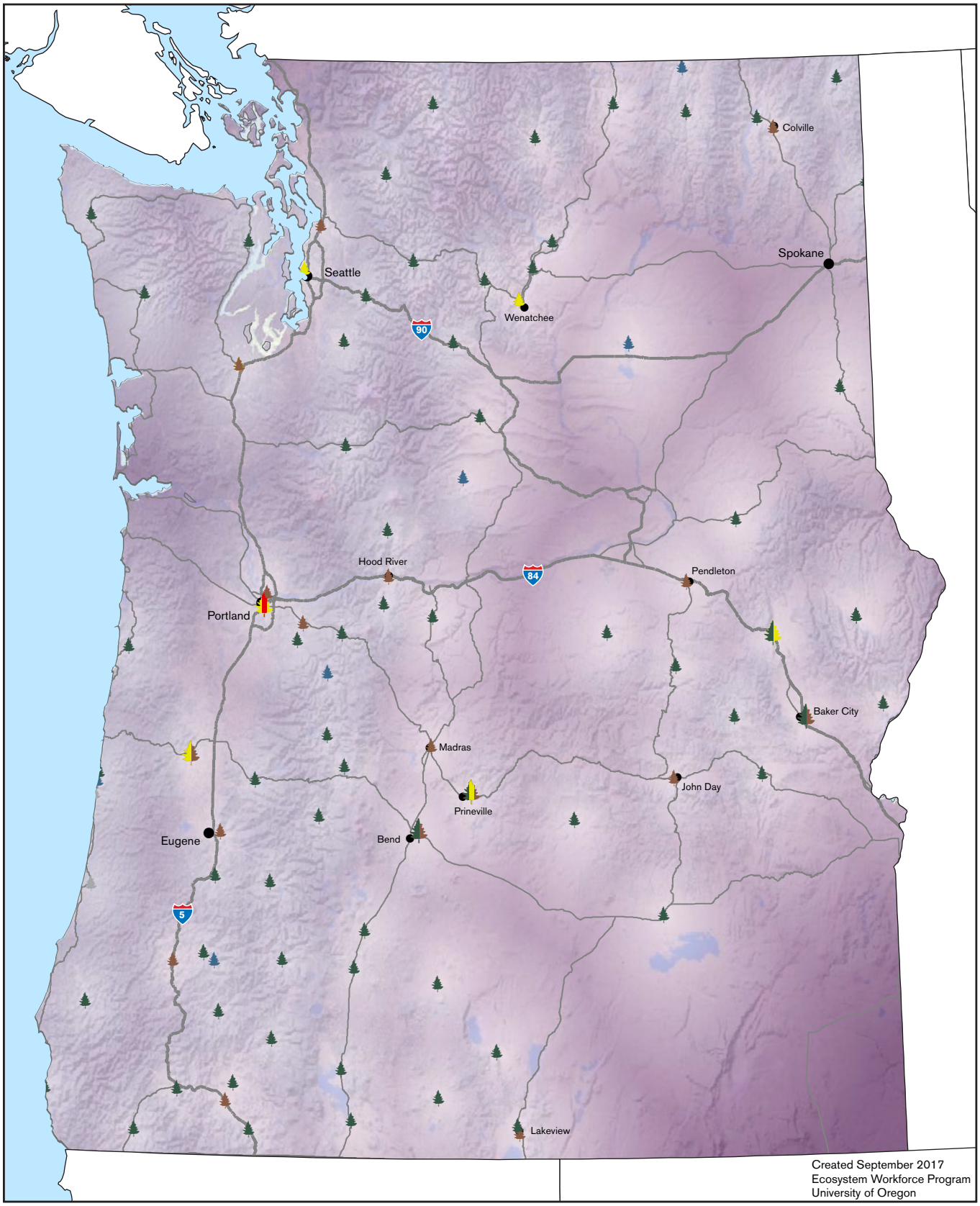
Year two report of *The Forest Service and Communities: The relationships between land and people in the Pacific Northwest Region*

Ecosystem Workforce Program

UNIVERSITY OF OREGON

FOREST SERVICE US DEPARTMENT OF AGRICULTURE

Distance to the nearest Forest Service office



● Towns with Supervisor's Offices

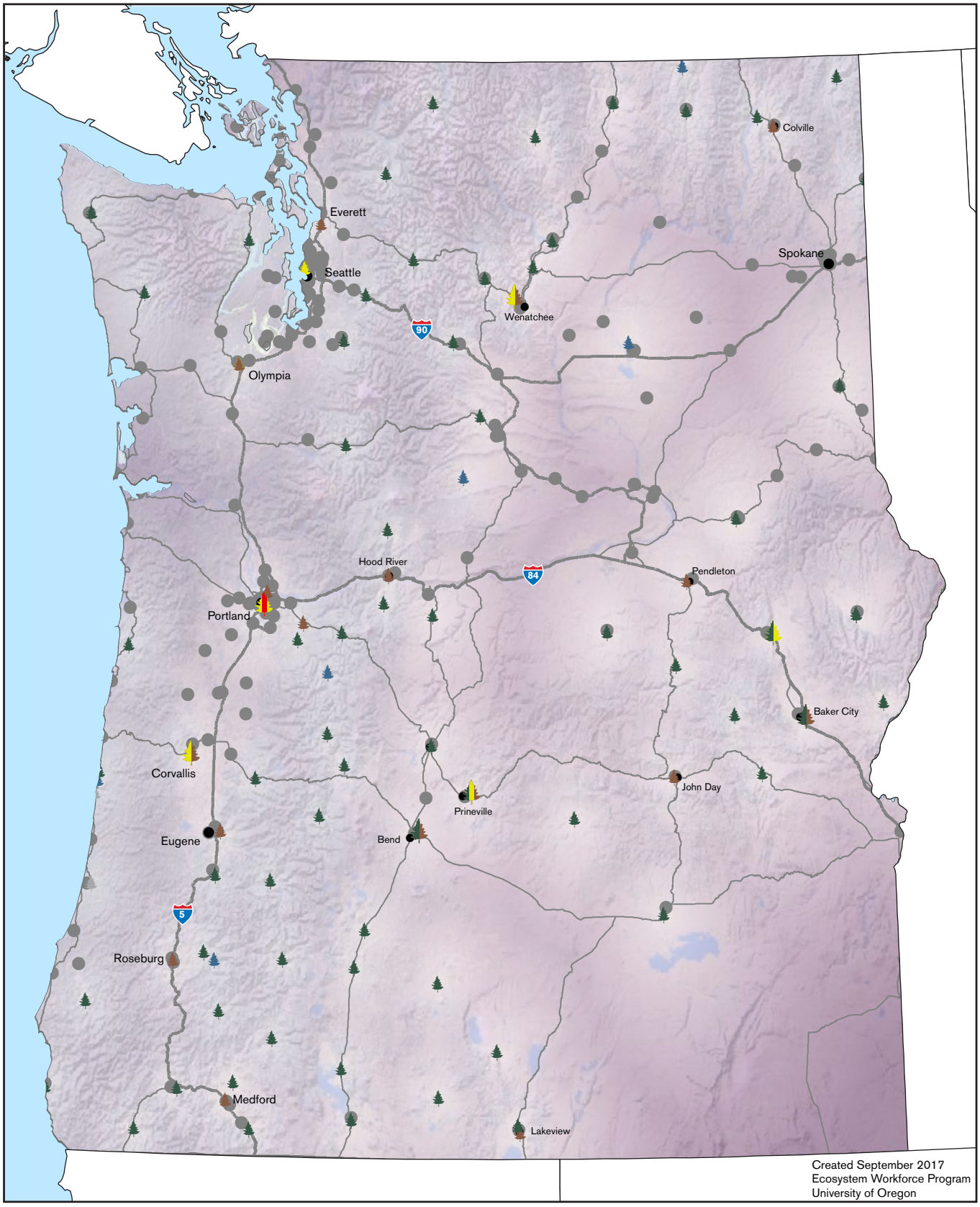
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Distance to the nearest hospital



Hospital

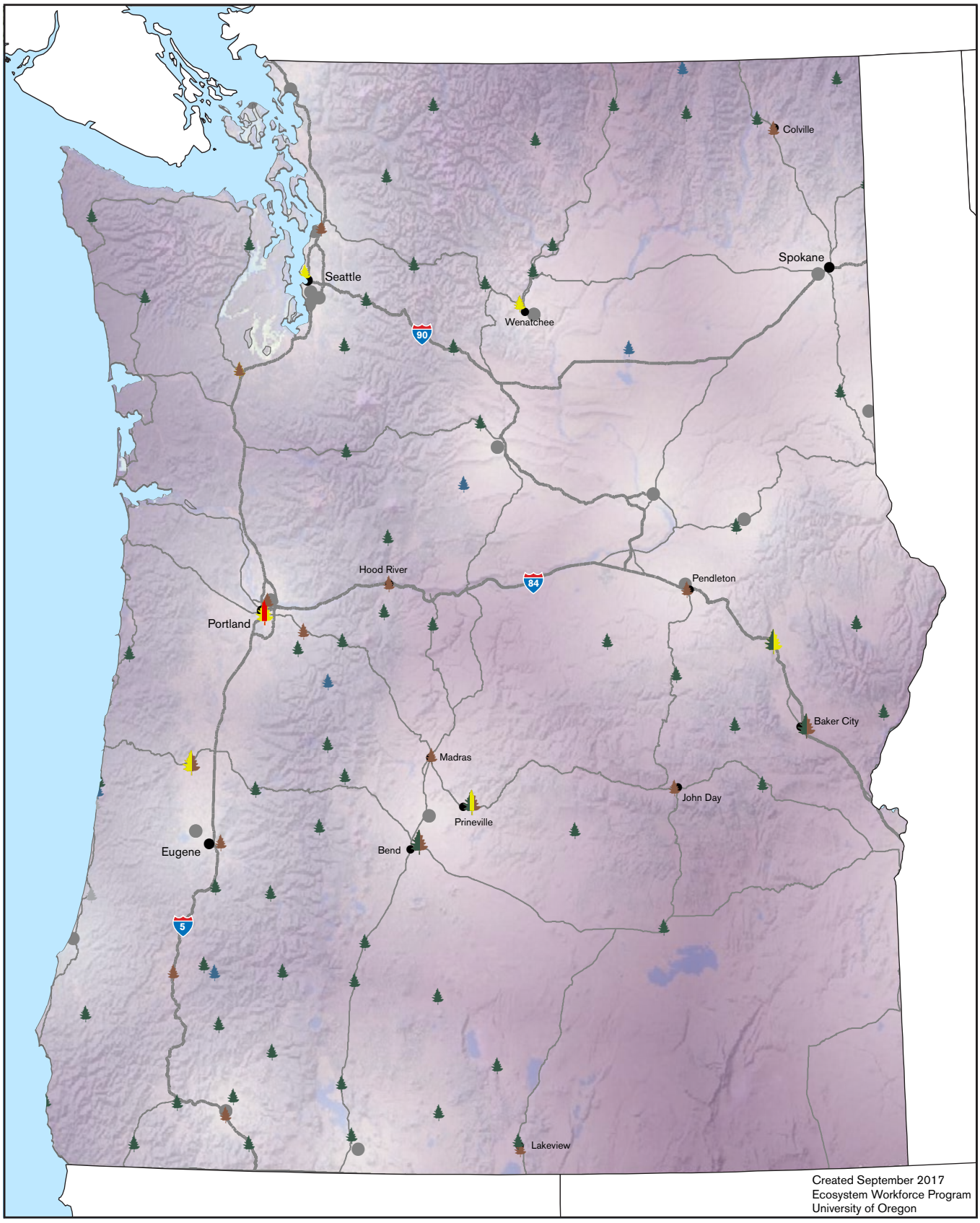
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Distance to the nearest commercial airport



● Commercial airport

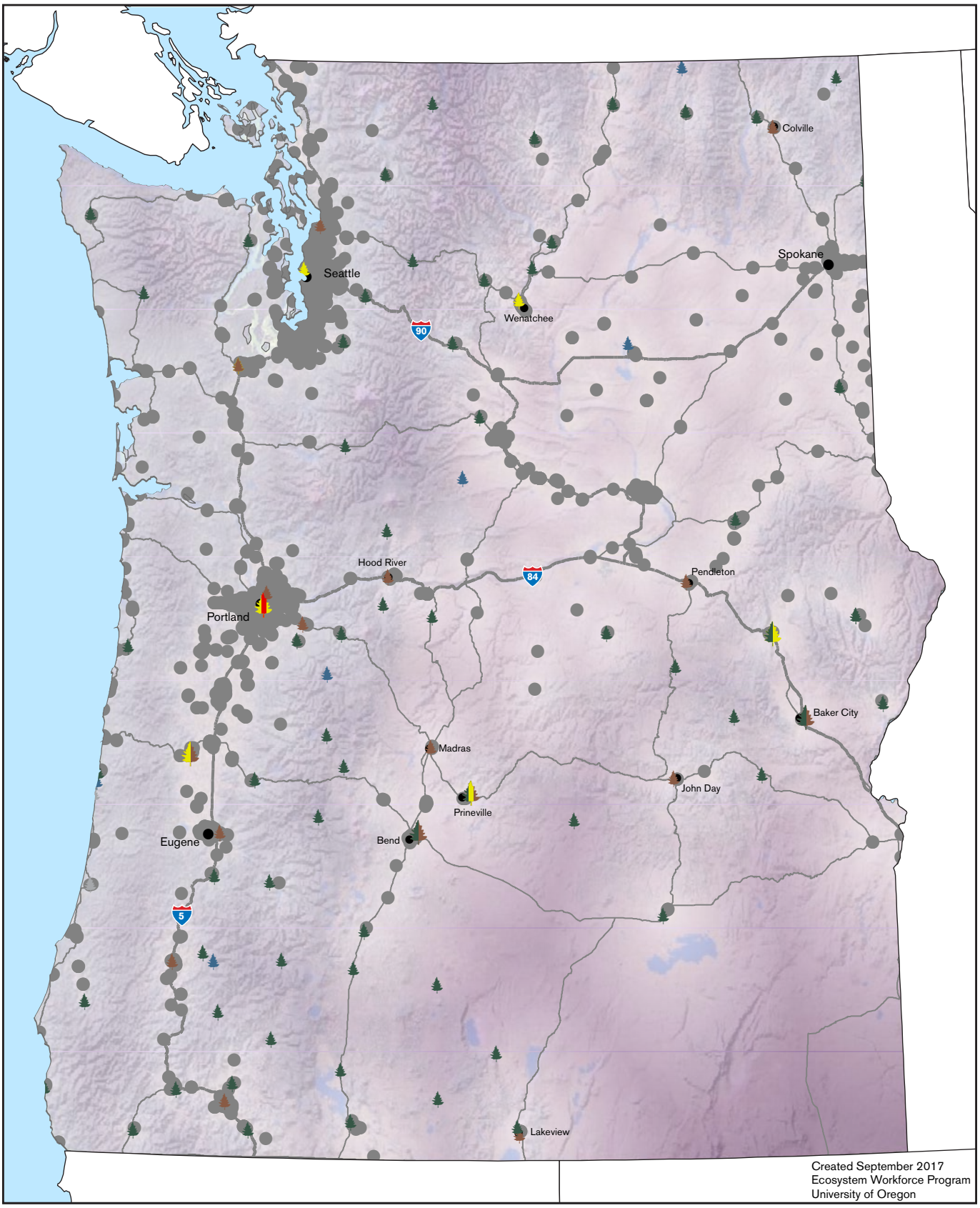
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Distance to the nearest bank



Bank

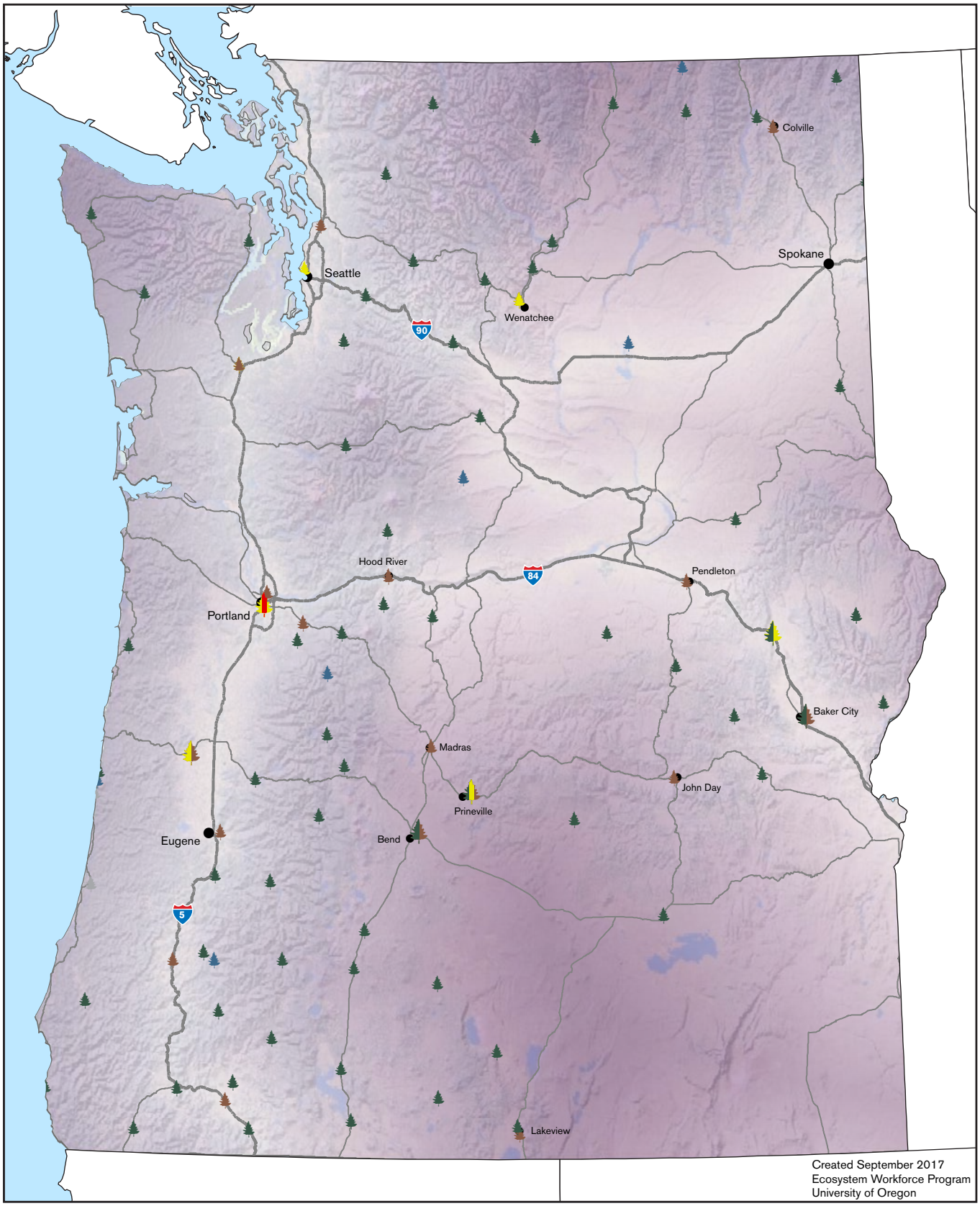
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Distance to the nearest interstate onramp



● Towns with Supervisor's Offices

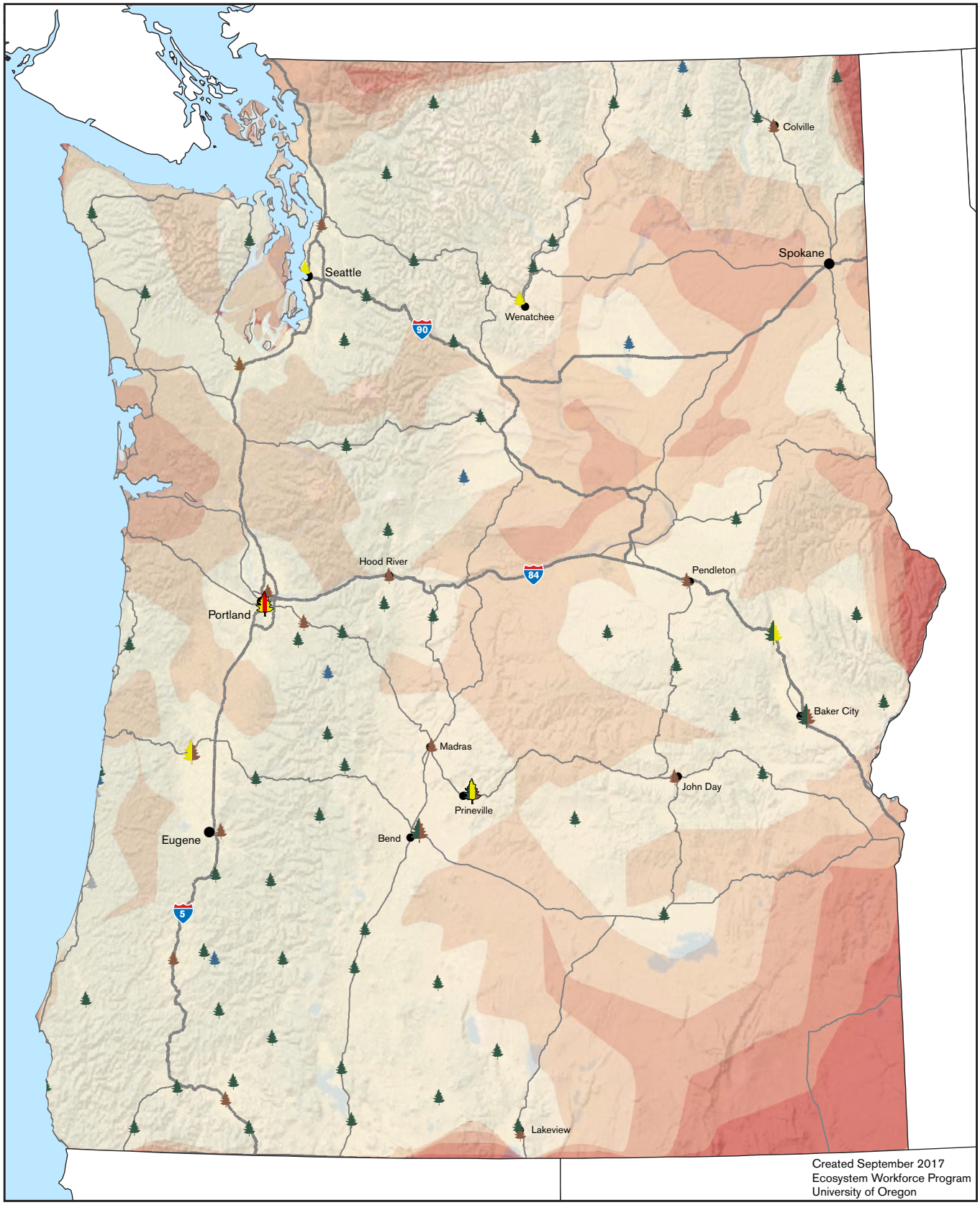
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Maximum distance: 130 miles

0 — 175 miles

Drive time to the nearest USFS office



Interstates

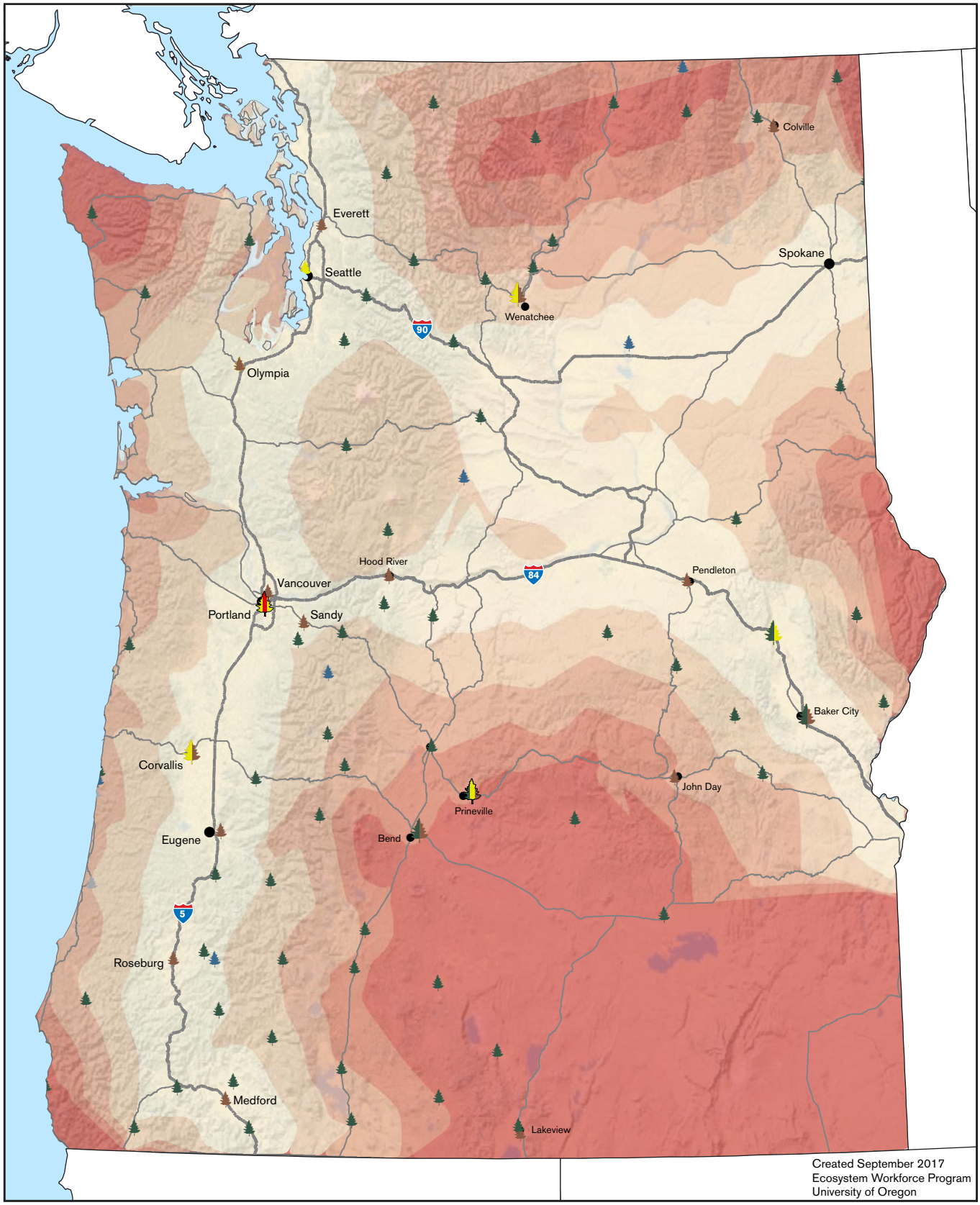
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest USFS office

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours

Drive time to the nearest interstate onramp



Interstates

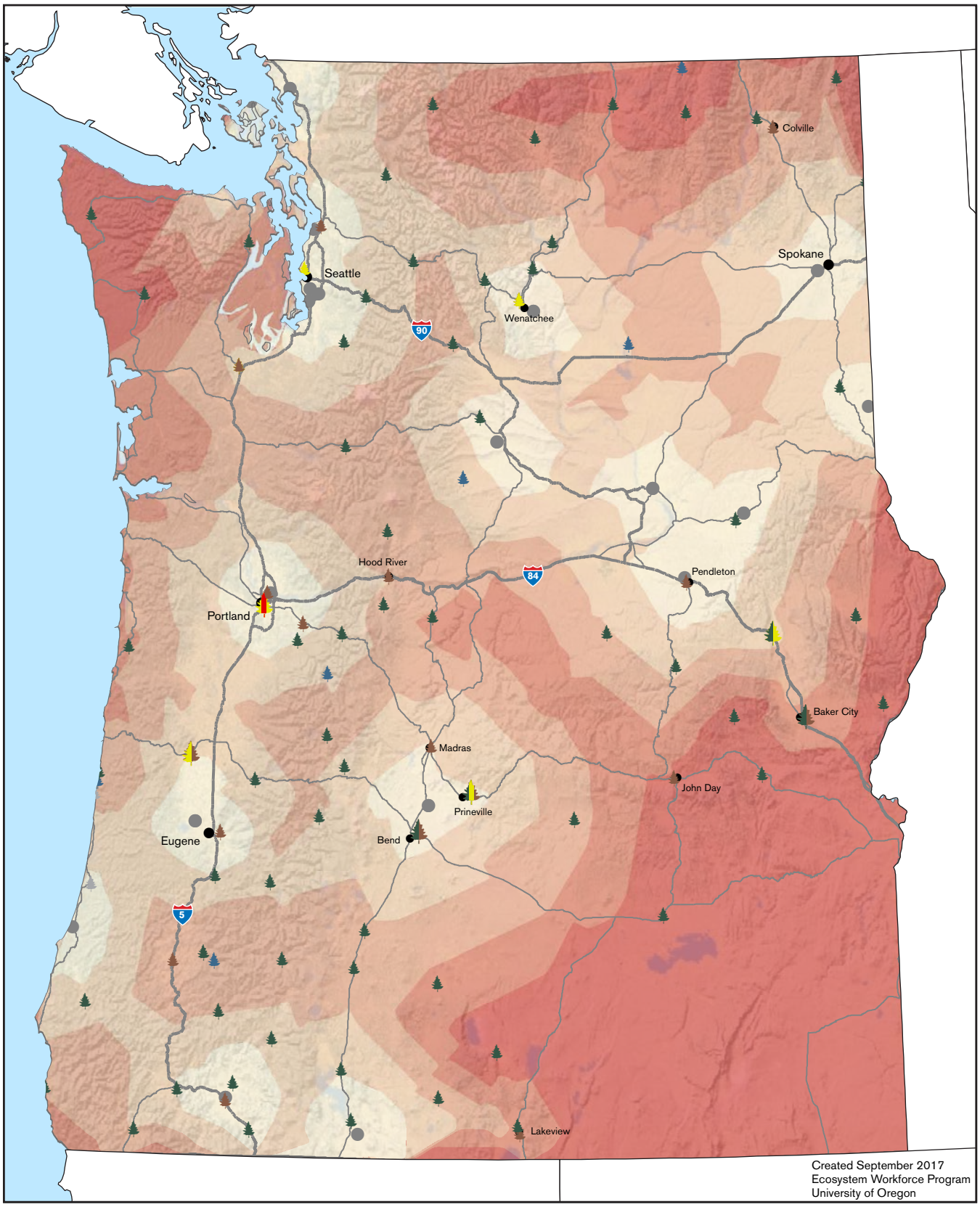
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest interstate onramp

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours

Drive time to the nearest commercial airport



Interstates

Commercial airport

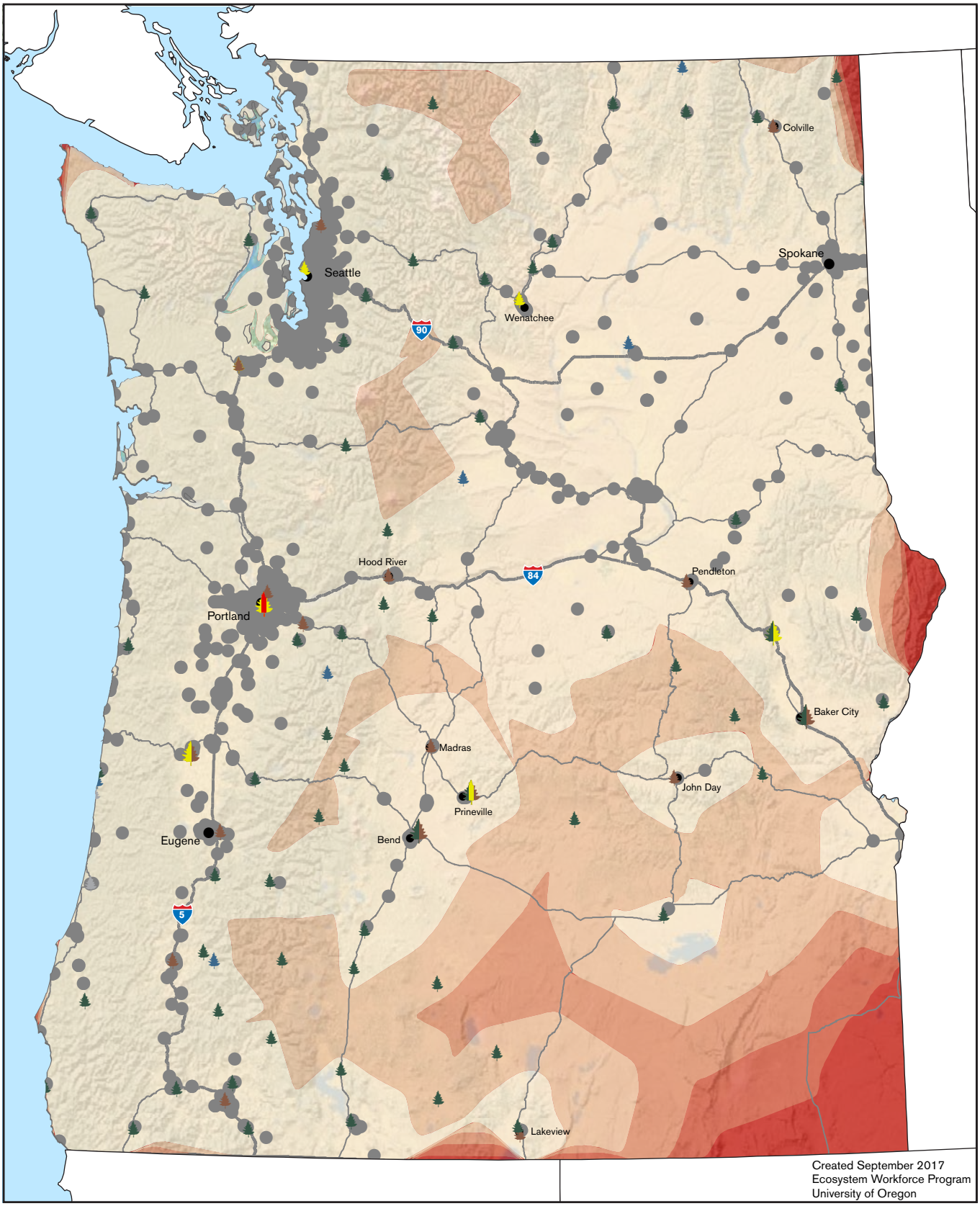
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest commercial airport

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours

Drive time to the nearest bank



Interstates

Bank

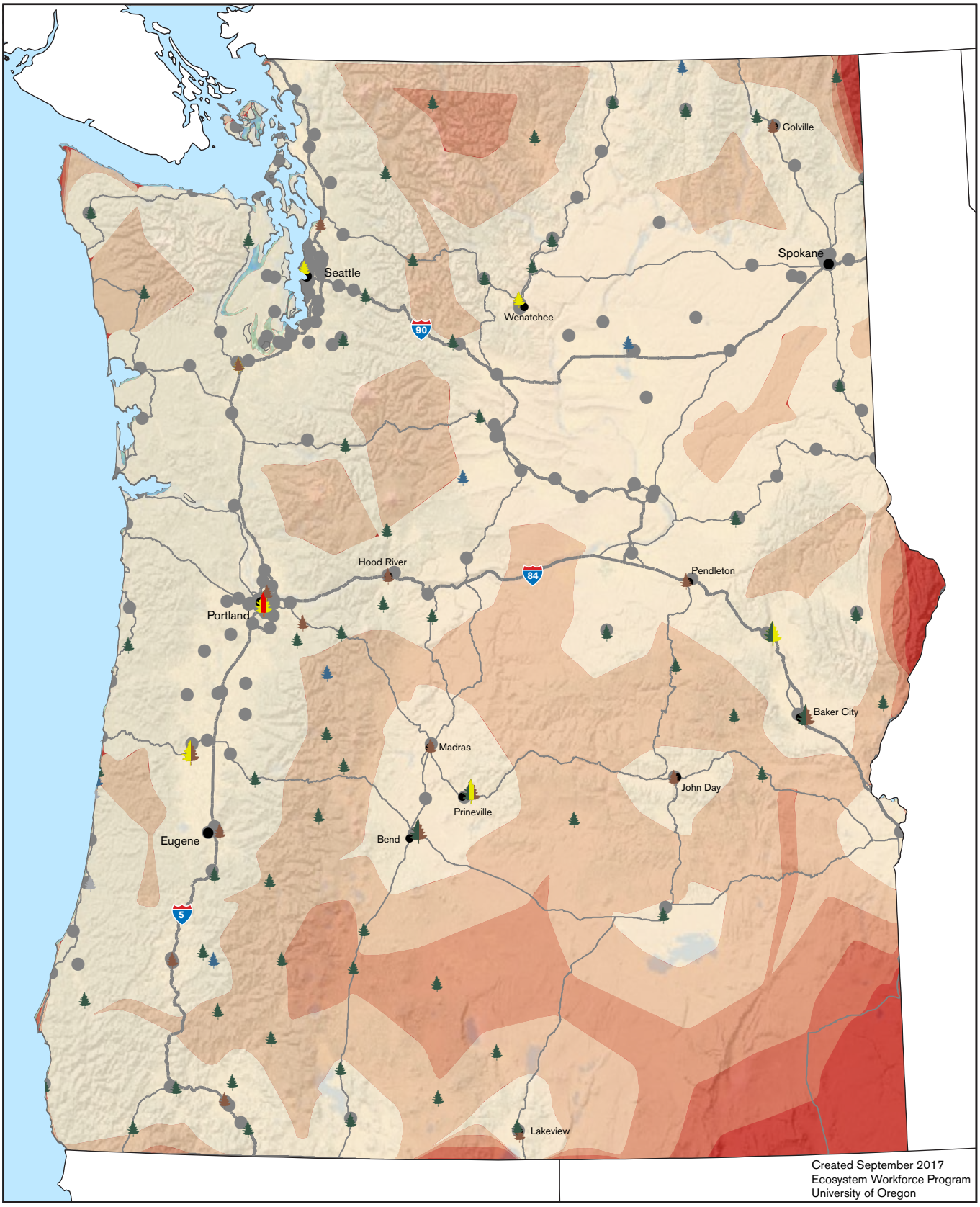
US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest bank

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours

Drive time to the nearest hospital



Interstates

Hosptial

US Forest Service Offices

- Job Corps Center
- Ranger District
- Regional Office
- Research Station
- Supervisor's Office
- Visitor Center
- Co-located offices

Drive time to the nearest hospital

- 0-30 minutes
- 31-60 minutes
- 61-90 minutes
- 91-120 minutes
- More than 2 hours