

Federal Forest Dashboard

Management and Restoration Indicators for Six National Forests in Eastern Oregon

A PROJECT OF THE FEDERAL FOREST WORKING GROUP



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Acknowledgements

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Oregon Solutions is grateful for the guidance and support of these organizations, and would also like to thank the many stakeholders in the Federal Forest Working Group, including forest collaborative participants, forest management professionals, nonprofits, researchers, and government agencies who provided technical and peer review for this project.



Please note: This document has been prepared in good faith on the basis of data available at the date of publication. Views expressed by individuals who were interviewed for articles in this report are those of the interviewee, and do not reflect the views of Portland State University, Oregon Solutions, or the Federal Forest Working Group.

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Executive Summary

More than 60 percent of Oregon's 30 million acres of forest is publicly owned, and most of it is managed by the U.S. Forest Service (USFS). The remainder is managed by the Bureau of Land Management and state and local government. To track management and restorationⁱ of these forests, and to inform stakeholders, policy makers and the public, the [Federal Forest Working Group](#) (FFWG) has created this "dashboard" of forest indicators. Similar to gauges in a vehicle, the Federal Forest Dashboard displays a range of data at a glance. The dashboard is based on clearly defined methodology that allows changes to be tracked over time.

A closer look at six eastern Oregon forests that need restoration

This initial dashboard draws primarily from existing USFS data sourcesⁱⁱ and focuses on the dry forests of eastern Oregon, namely, the six national forests east of the Cascades: Deschutes, Fremont-Winema, Malheur, Ochoco, Umatilla, and Wallowa-Whitman. Many federal forests in eastern Oregon have a high potential for uncharacteristic wildfire and urgently need restoration. A recent assessment by the USFS and The Nature Conservancy estimated that nearly 33 percent, or 2.47 million acres out of total of 7.45 million acres that are in management designations other than wilderness and Inventoried Roadless Areas on these six national forests, needs restoration thinning and the application of prescribed fire to improve fire resiliency, prevent disease, and protect water resources and wildlife habitat.

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Role of forest collaborative groups

In recent years the [USFS Pacific Northwest Regional Office](#) and the State of Oregon have formed a unique partnership and increased investments to accelerate the pace, scale and quality of restoration.^{iv} Over the past two decades, place-based groups have formed to collaborate around management actions on federal forests.^v These groups build social consensus around individual forest projects that achieve desired ecological, social and economic outcomes. The groups are inclusive and self-directed, and their work is funded through philanthropic and publicly-funded grant programs. In general, the six national forests discussed in this Federal Forest Dashboard use these collaboration approaches to advance restoration projects.

Augmenting existing measurement tools

The Federal Forest Dashboard is not intended to replace indicators developed by local collaborative groups or federal agencies, or to measure success of the state investment in forest management. Rather, the dashboard focuses broadly on management and restoration efforts that result from the combined federal, state, private sector, and nonprofit investments in Oregon's federal forests. The indicators are presented independently of each other. They are not specifically linked or intended to tell any story or support any particular position. Each objectively presents data for discussion purposes.

Next steps

Long-term goals include expanding this version of the Federal Forest Dashboard to include information about federal forestlands in western

Dashboard Takeaways

Initial takeaways from the Federal Forest Dashboard include:

- Stewardship contracts have become more common than traditional timber sales in eastern Oregon.
- Forest acres treated and methods used vary annually. In the last six years, about 35,000 acres have undergone commercial treatment with timber harvest each year.
- The volume of timber sold from eastern Oregon national forests has been consistently increasing from a low in 2013. The cumulative amount of volume under contract is also trending upward.
- Wildfire severity has varied greatly over the past 30 years, with relatively more acres burning at moderate and high severity in recent years.
- A goal for collaboration is more restoration projects implemented on more acres.
- The data available for restoration outcomes is limited but suggests a relatively stable level of annual restoration work across these six National Forests.

Oregon and the amount of acreage in need of restoration statewide. There is also the need to improve the indicators available for tracking the ecological outcomes of restoration projects on all federal forestlands statewide.

Contact

Pete Dalke, Senior Project Manager
Oregon Solutions, Portland State University
503-725-9092, dalke@pdx.edu



ⁱ *Ecological restoration* focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions (USFS, 2012 Planning Rule)

ⁱⁱ U.S. Forest Service data sources utilized for the Federal Forest Dashboard include FACTS, PALS, TSA, and TIMS.

ⁱⁱⁱ Haugo, R., Zanger, C., DeMeo, T., Ringo, C., Shlisky, A., Blankenship, K., . . . Kertis, J., (2015). A new approach to evaluate forest structure restoration needs across Oregon and Washington, USA. *Forest Ecology and Management*, 335. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0378112714005519>

^{iv} The state's Federal Forest Restoration Program is a partnership between the Oregon Department of Forestry and the Oregon Watershed Enhancement Board. The Oregon Legislature's leadership has catalyzed these efforts with an investment of \$7.8 million during the 2013–17 timeframe. At the same time, the USFS has provided funding to the Community Capacity and Land Stewardship grant program administered by the National Forest Foundation to benefit local forest collaborative efforts. The USFS has also advanced the Eastside Strategy project to accelerate landscape-scale restoration in the Blue Mountains of northeastern Oregon and southeastern Washington, where existing collaborative groups are actively engaged with the Forest Service in project development.

^v View a PDF map of the forest collaboratives, "Oregon Forest Collaborative Groups and Timeline" available online at: <http://ewp.uoregon.edu/publications/infographics>. Map created by Emily Jane Davis, Oregon State University and Ecosystem Workforce Program, University of Oregon (2015).

The Federal Forest Working Group

Since 2008, the Federal Forest Working Group (FFWG), which is convened by the Office of Oregon Governor Brown, and staffed by Oregon Solutions, has worked to implement Board of Forestry recommendations for expanding management of federal forest lands through collaboration with the state. Recommendations include advancing landscape-level forest restoration and management, removing policy and financial barriers, and promoting innovative ways to restore forest and watershed health. To learn more about the Board's recommendations, see "[Achieving Oregon's Vision for Federal Forestlands](#)" (PDF). For more information about the FFWG, see: <http://orsolutions.org/osproject/federal-forestlands>

Oregon Solutions

Oregon Solutions (OS) is a state program that helps communities to implement solutions to local problems. OS brings businesses, government, and nonprofits together to agree on what role each will play to address a community need. OS projects address Oregon's sustainability objectives to foster a productive economy, an equitable community, and a healthy environment. OS is a program of Portland State University's National Policy Consensus Center, www.orsolutions.org, 503-725-9077, nppccdesk@pdx.edu

Dashboard: Federal Forest Restoration on 6 National Forests in Eastern Oregon

Figure 1: Area and Severity of Wildfire

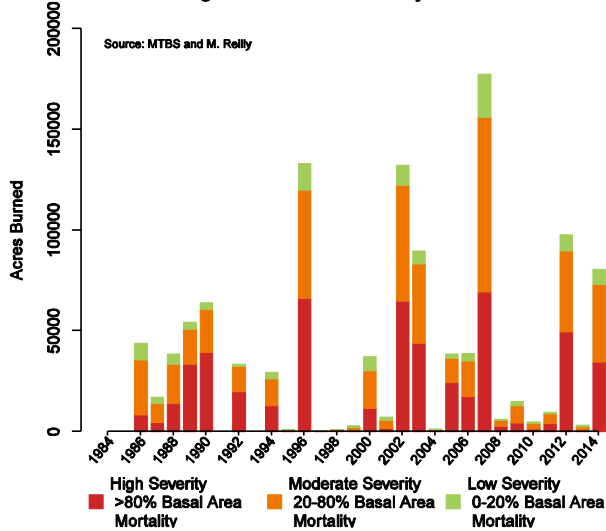


Figure 2: NEPA Decision Acres

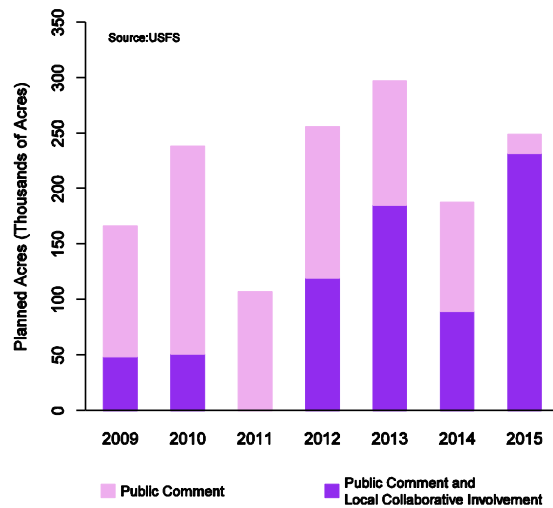


Figure 3: Stewardship Contracts

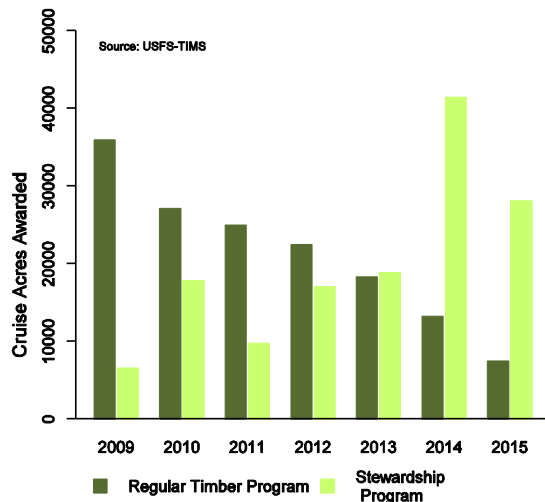


Figure 4: Forest Product Volume

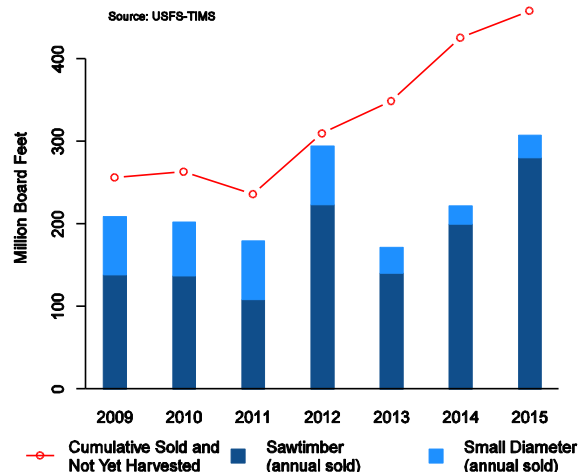


Figure 5: Watershed Projects

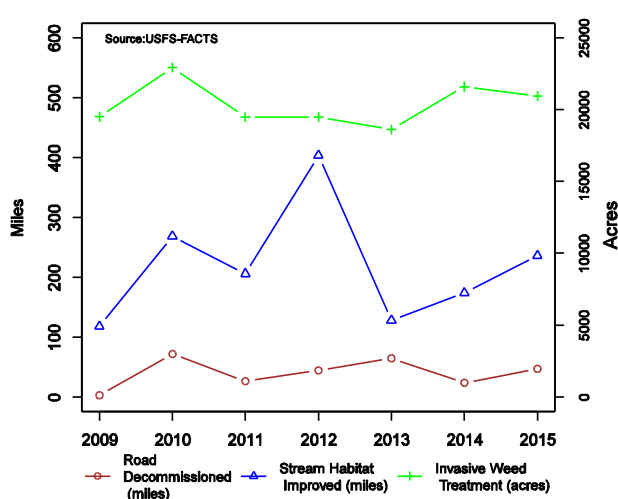
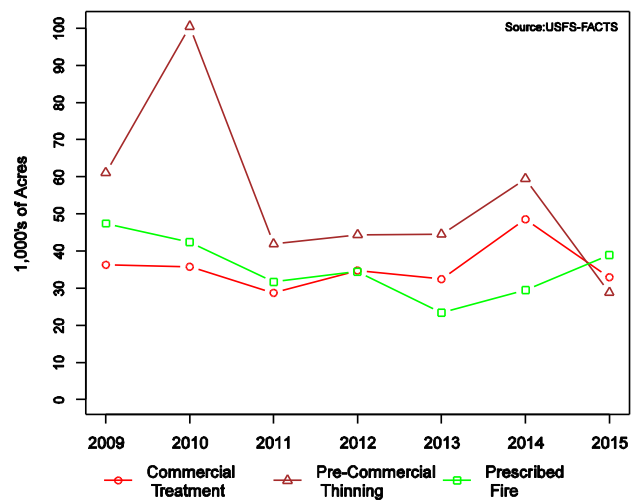
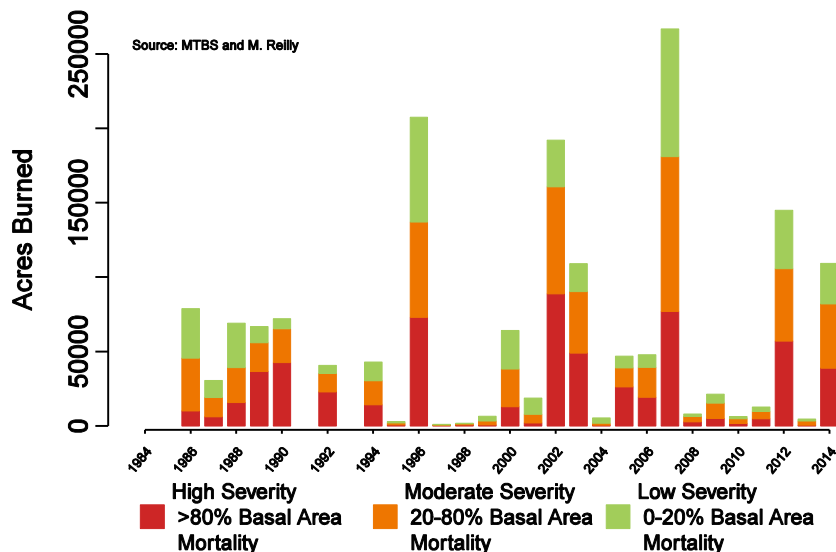


Figure 6: Forest Acres Treated



Wildfire Severity

Figure 1: Area and Severity of Wildfire



Takeaways

- An average of 17,000 acres burn at high severity each year.
- Four of the five most severe fire seasons since 1984 have occurred in the past 14 years
- Wildfire severity has varied greatly over the past 30 years, with relatively more acres burning at moderate and high severity in recent years.
- Fires of all severities are natural and important parts of Oregon's forest ecosystems.



KEVIN MARTIN
Region Director—Fire and Aviation
U.S. Forest Service

Fire season in eastern Oregon is not what it used to be.

“We’re seeing more severe wildfires, and fire seasons are getting longer,” says Kevin Martin, director of fire, fuels and aviation for the U.S. Forest Service Alaska and Pacific Northwest regions. “Fuels are really high, which is part of the problem.”

Historically, frequent low-intensity wildfires naturally thinned out eastern Oregon’s federal forests by taking out smaller trees and brush. But since people started putting out wildfires, including the beneficial ones, the forests have become

View from the Field

Reducing Fuel, Reducing Fire

dangerously overgrown, Martin explains. The increased number of trees and shrubs are fueling larger, more intense wildfires that have destroyed wildlife habitat and put nearby communities in danger, he says.

To help reverse this trend, Martin is working together with eastern Oregon collaborative groups, which include members of the environmental community, the forest products industry, partner agencies and other interested individuals, to reduce the amount of fine fuel in the region’s federal forests.

Thinning out unnaturally dense forests supports local logging and mill jobs and can make a dramatic difference in wildfire severity, especially when thinning is combined with reducing fire fuel through prescribed burning, he says.

“Fuel reduction projects are really important for our ability to manage forest fire, but they’re also important for our local economies.”

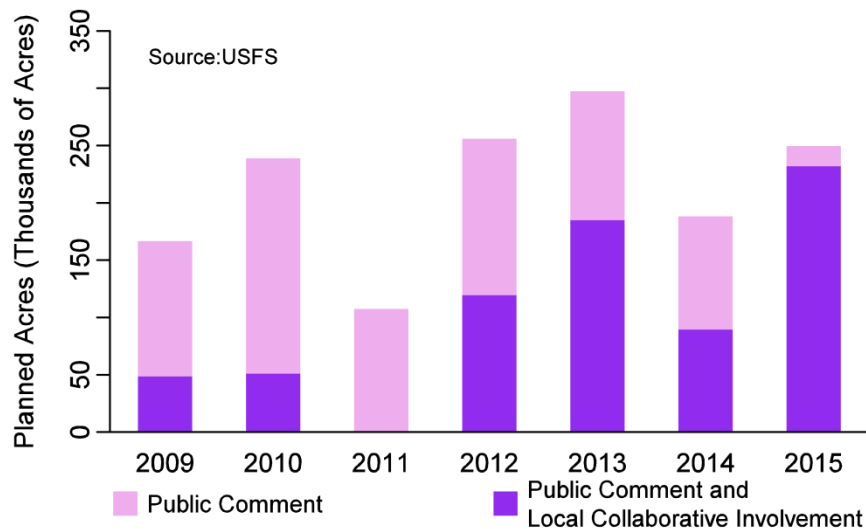
Treating overcrowded forests by clearing away brush through mowing, prescribed burning, and thinning decreases the chances that a wildfire will spread rapidly through the canopy and destroy the entire stand of trees, Martin says. Instead, the fire is more likely to stay a low-intensity understory burn that helps keep the forest healthy.

“Fuel reduction projects are really important for our ability to manage forest fire, but they’re also important for our local economies.”

“In more cases than not, a good treated stand is the most resilient stand and has the best chance of surviving a large fire,” he says. “It also allows the fire to play its natural role in maintaining the landscape.” ■

NEPA Decision Acres

Figure 2: NEPA Decision Acres



Takeaways

- The total annual average of acres with signed NEPA decisions was 45 percent greater between 2012 and 2015 than between 2009 and 2011.
- Since 2009, 48 percent of acres with signed NEPA decisions have incorporated input from local collaborative groups.
- USFS tends to work with collaborative groups on larger planning projects. Average decision area: 24,000 acres with collaborative; 10,000 acres with public comment-only projects.



SUSAN JANE BROWN
Staff Attorney
Western Environmental Law Center

View from the Field

Expediting Environmental Review

statement outlining the potential environmental effects of a proposed timber sale. This can be a lengthy process taking three or four years and can be challenged in court, Brown says. In contrast, NEPA documents have been completed in just 18 months for restoration thinning projects she has been involved in with the Blue Mountains Forest Partners.

The collaborative group includes representatives from the timber industry and the conservation community. Group members develop “zones of agreement” on ways to restore forest health and fire resiliency on the Malheur National Forest while also achieving economic and environmental benefits. The goal is to give the Forest Service candid feedback on restoration thinning efforts and avoid delay in project implementation.

“The whole point of collaborating on large scales is to get more projects on the ground. We hope that by collaborating there will be less

delay on the back end in the NEPA process,” Brown says. “Generally, it tends to speed things up.”

“The whole point of collaborating on large scales is to hopefully get more projects on the ground.”

The true measure of an effective collaborative process is seeing the restoration projects become a reality, she says.

“We haven’t had any litigation. All of our projects are hitting the ground. I look at that as success. It’s working because we are able to come together and have a conversation. It cuts down on the controversy.” ■

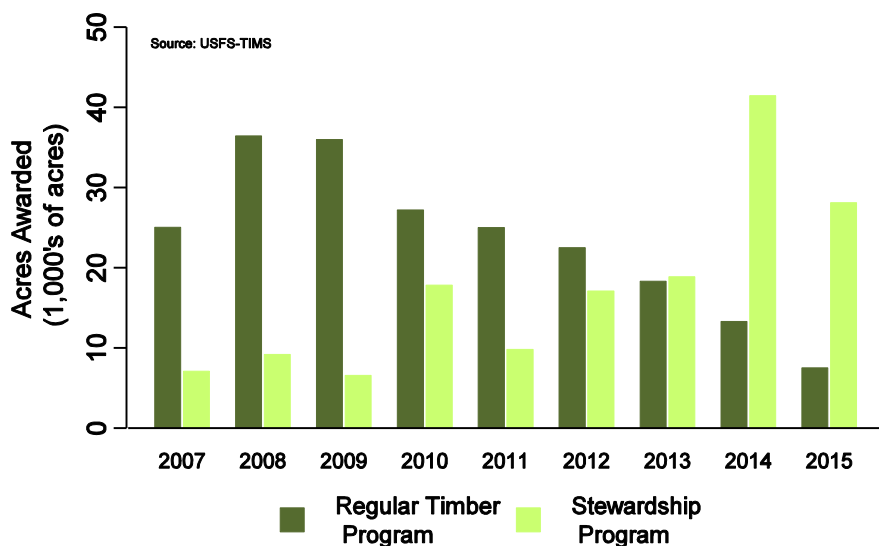
Western Oregon Environmental Law staff attorney Susan Jane Brown has seen firsthand the power of a diverse group of stakeholders collaborating toward a common goal.

She’s found collaboration can play a large role in expediting the U.S. Forest Service’s environmental review process for restoration thinning projects aimed to improve the health and fire-resiliency of eastern Oregon’s federal forests.

The Forest Service is required under the National Environmental Policy Act, often referred to as NEPA, to prepare an environmental impact

Stewardship Contracts

Figure 3: Stewardship Contracts



Takeaways

- Stewardship authority, permanently authorized in the 2014 Farm Bill, provides additional tools to federal managers to do more forest restoration.
- Recently, more timber harvest acres have been offered through stewardship contracts than traditional timber sales.
- In many stewardship contracts, the agency uses the value of the timber to accomplish additional restoration projects.



MARKO BEY
Executive Director
Lomakatsi Restoration Project

Lomakatsi Restoration Project Executive Director Marko Bey views collaborative efforts to restore the health and fire resiliency of eastern Oregon's federal forests as much more than a way to reduce wildfire severity.

"A big emphasis of our program is workforce development for rural communities ... for the community to have a direct hand in collaborative forest restoration," he says.

The Ashland-based nonprofit organization leads forest and watershed restoration projects in Oregon and northern California. The

View from the Field

Restoring Forests, Creating Jobs

projects provide vocational and job training to crews of workers from nearby communities.

Among the projects Lomakatsi has been involved in is restoration of Fremont-Winema National Forest in south-central Oregon. The nonprofit is partnering with the Klamath Tribes and The Nature Conservancy on the project through a stewardship agreement with the U.S. Forest Service.

"A big emphasis of our program is workforce development for rural communities ... for the community to have a direct hand in collaborative forest restoration."

Stewardship agreements promote a closer working relationship between the Forest Service and communities on efforts to improve forest health. The agreements also help the federal agency contribute to developing

sustainable rural communities, improving forest ecosystems and providing local employment.

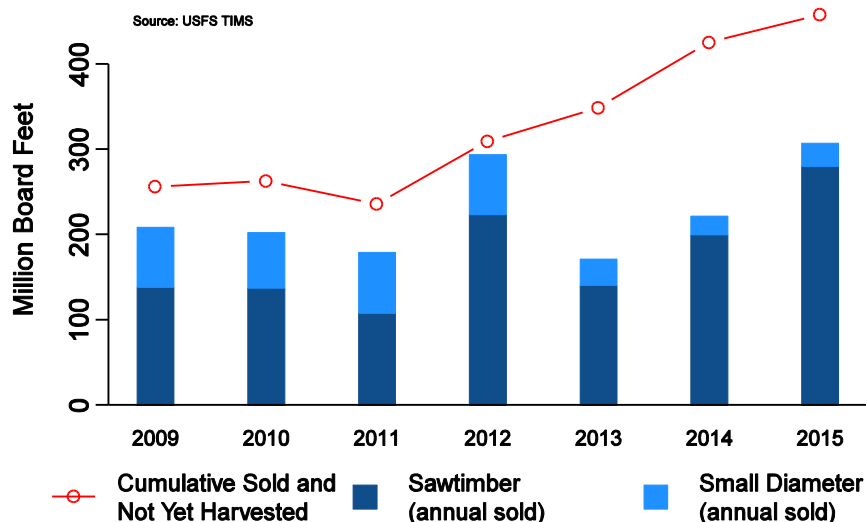
"Part of the stewardship agreement is restoring jobs in rural communities," Bey says. "There's a lot of unemployment in Klamath and Lake counties and you have hundreds of thousands of acres of forest in need of restoration work."

Another advantage of stewardship projects is that earned revenue from timber harvested during restoration thinning is reinvested in other efforts that promote a healthy forest such as prescribed fire, road decommissioning and fish habitat improvements, he says.

"Stewardship authority is really geared toward restoration," Bey says. "We have objectives here beyond board feet." ■

Forest Product Volume

Figure 4: Forest Product Volume



Takeaways

- The volume of timber sold from eastern Oregon national forests has consistently increased from a low in 2013.
- The amount of sold—but yet unharvested—timber has been increasing since 2011. Harvest is allowed up to 5 years after a sale.
- Most timber sold from national forests is sawtimber. It is typically more valuable than small-diameter timber, which is used for posts, poles, chips, and commercial firewood.



LINDSAY WARNESS
Forest Policy Liaison
Boise Cascade

Lindsay Warness, a forest policy liaison for Idaho-based wood products company Boise Cascade, wants to see increased timber harvests on eastern Oregon federal forests, and she's forming unlikely alliances to make that happen.

Warness is involved with collaborative groups that bring together representatives of the forest sector and the conservation community to find consensus on ways to restore the Umatilla, Malheur and Wallowa-Whitman national forests to healthier, more fire-resilient conditions.

View from the Field Restoration Boosts Timber Volume

This includes thinning out the overcrowded forests so they're less prone to large, destructive wildfires.

Restoration thinning will also contribute to more forest product volume coming out of the region's federal forests, Warness says. This would be an especially positive outcome of the collaborative groups' efforts that supports logging and mill jobs in nearby communities, she says.

"This is the first step to having a sustainable supply of timber products come out of the forest."

"We're optimistic that this type of planning process will be very successful."

But collaboration takes patience and a significant time commitment. Warness frequently attends collaborative group meetings, goes on field trips to visit sites of

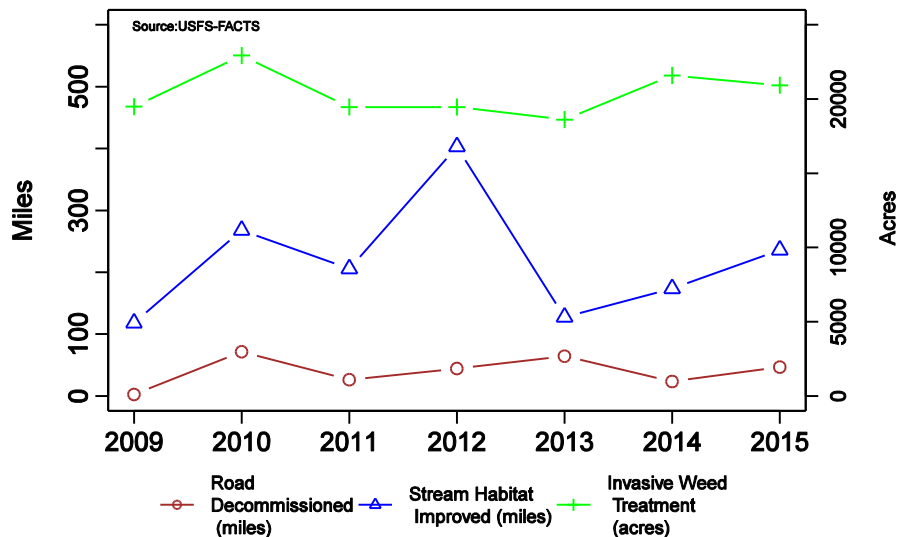
proposed forest restoration work and helps develop recommendations to the Forest Service for use in its timber harvest planning process.

"We're optimistic that this type of planning process will be very successful."

Although finding consensus among collaborative group members with disparate opinions on how to accomplish forest restoration is time-consuming, the effort is worth it, she says. Collaborative groups "provide that social license to help the Forest Service to push the bounds of what they're comfortable doing," Warness says. "Ultimately, this is the first step to having a sustainable supply of timber products come out of the forest." ■

Watershed Projects

Figure 5: Watershed Projects



Takeaways

- Changes in forest health and resilience are difficult to see in annual measurements. Research is needed to address this challenge and to inform adaptive management.
- The data available for restoration outputs suggests a relatively stable level of annual restoration work across these six National Forests.
- At present there is no good way to describe project outcomes in terms of improved forest health and resiliency.



RYAN HOUSTON
Executive Director
Upper Deschutes Watershed Council

View from the Field

Restoration Complements Stream Projects

Houston remembers one such wildfire causing so much sediment to flow into a stream that it looked like viscous chocolate milk.

“Stream restoration really depends on the upper watershed being healthy,” he says. “We’ve seen the consequences of what can happen if the forests aren’t the way they need to be.”

“Stream restoration really depends on the upper watershed being healthy.”

It’s a big reason why Houston is an advocate of collaborative efforts led by the Deschutes Collaborative Forest Project to improve forest health and resilience to wildfire in the Deschutes National Forest. Thinning overgrown stands of trees to improve the forest’s fire-resiliency complements the Upper Deschutes Watershed Council’s stream

enhancement projects, he says. The council has a representative serving on the Deschutes Collaborative

“We try to look at the big picture....catastrophic fires can really alter the watershed. It’s very clear to us that what happens upslope really matters.”

Forest Project’s steering committee because federal forest restoration “provides really important context for the type of restoration work we’re doing,” Houston says.

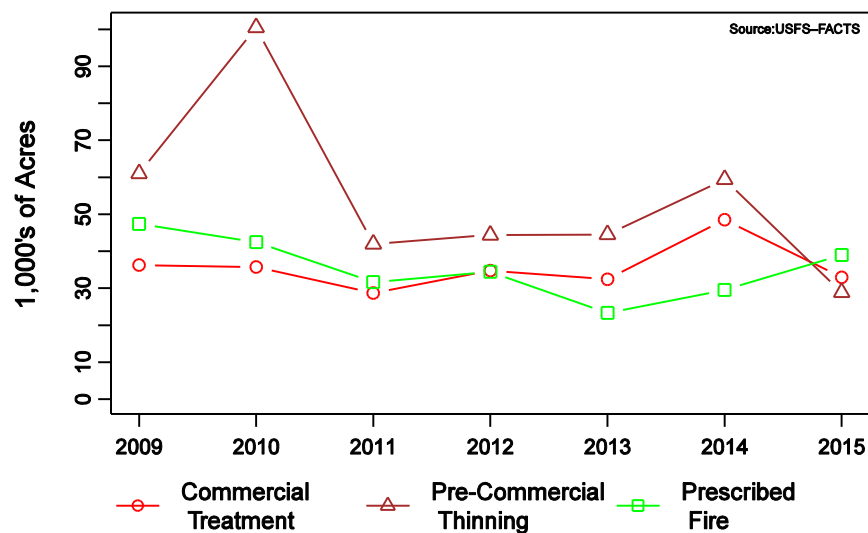
“We try to look at the big picture, the entire watershed, especially in these dry-side landscapes where fire is part of the landscape. These catastrophic fires can really alter the watershed. It’s very clear to us that what happens upslope really matters.” ■

When a forest ecosystem is out of whack, it can have far-reaching effects.

Upper Deschutes Watershed Council Executive Director Ryan Houston is keenly aware of this. The watershed council collaborates with the Deschutes National Forest and other local, state and federal partners on projects to restore the overall health of rivers and streams in central Oregon. But those efforts to enhance critical fish habitat are undermined when the forests that surround waterways are unhealthy and prone to uncharacteristic wildfire.

Forest Acres Treated

Figure 6: Forest Acres Treated



Takeaways

- In the last six years, about 35,000 acres have undergone commercial treatment with timber harvests annually.
- Pre-commercial thinning has varied significantly from year to year. Extensive treatments in 2009 and 2010 reflect American Recovery and Reinvestment Act (ARRA) funding.
- The number of acres treated with prescribed fire was greatest during the ARRA years, and has increased for two years from a low in 2013.



JIM WALLS
Project Coordinator
Lake County Resources Initiative

View from the Field Creating Healthy, Fire-Resilient Forests

restoration and other projects the group has led to improve the health and fire-resiliency of the Fremont-Winema National Forest.

Walls retired as executive director, but has remained involved with the Lake County Resources Initiative as a project coordinator. He says the monitoring program has made a large impact on how the Lakeview Stewardship Group operates.

projects so they more successfully meet the collaborative group's goals of improving forest health and

"We have both ecological and economic goals....We're still working on finding that balance, and monitoring helps."

producing timber that supports local jobs, Walls says. Monitoring findings have shown that some thinning projects didn't remove enough fuel to reduce wildfire severity. In other cases, findings show that too many trees were taken out, potentially hampering future forest growth.

"We have both ecological and economic goals," Wall says. "We're still working on finding that balance, and monitoring helps." ■

Jim Walls has learned it's important to track the success of efforts to restore the health and fire-resiliency of eastern Oregon's federal forests.

While serving as director of the Lake County Resources Initiative, an organization dedicated to fostering economic and environmental prosperity in southeastern Oregon's Lake County, he helped set up a monitoring program in partnership with the Lakeview Stewardship Group, a forest collaborative.

The Biophysical Monitoring Project tracks the effects of thinning, stream

"I don't think we would have as strong a collaborative group if we didn't have that monitoring program."

"That is the cornerstone of the collaborative," he says. "I don't think we would have as strong a collaborative group if we didn't have that monitoring program."

One of the advantages of the monitoring program is the ability to use the findings to adjust restoration

Frequently Asked Questions

What is the purpose for creating this dashboard?

The Federal Forest Working Group (FFWG) proposes the dashboard as a way to make available a small set of consistently measured, well-defined key tracking metrics that can be shared and discussed with broad audiences, including elected officials, other policy makers, and the public. The overall goal is to better track trends regarding forest health and the pace, scale, and quality of management and restoration on Oregon's federal forests. The intent is for the metrics to be consistently measured from year to year using clearly defined methods. Initially, the dashboard will focus on the dry forests of eastern and southwestern Oregon and eventually expand to include the "wet-side" federal forests of western Oregon.

The dashboard is not intended as a tool for monitoring specific increased investments by the U.S. Forest Service (USFS) Regional Office and the State of Oregon to accelerate the pace, scale, and quality of restoration on Federal forests lands in Oregon. Multiple monitoring efforts are underway to evaluate specific state and federal investments. The dashboard will not replace current federal forest monitoring efforts, and is not intended to preclude or replace indicators developed by local community-based collaborative groups or federal agencies. The dashboard by itself does not analyze relationships between the gauges or prove cause and effect.

Why is the FFWG interested in developing a dashboard?

The magnitude of forest health issues and the extent of federal forest lands in Oregon demands better information and more discussion.

At present, data is not consistently collected and analyzed across all of Oregon's federal forests, which make up about 60 percent of all forestland in the state. The purpose of a dashboard is to organize information to help Oregonians better understand trends in federal forest health and management. For a number of reasons, much of the dry forestland throughout eastern and southwestern Oregon has grown unnaturally dense, unhealthy and at increasing risk to severe wildfire. These lands are in urgent need of restoration work to make them more resilient to wildfire, insects and disease, and to protect water resources and wildlife habitat. Opportunities also exist in the wet forests of western Oregon for restoration of terrestrial and aquatic habitats. Both dry-side and wet-side forest restoration projects will create jobs, additional timber supply and help support local economies.

Why are local collaborative groups important for improving forest health?

The Oregon Legislature's investment and the work of local collaborative groups are putting the state on a track to increase the pace, scale, and quality of management of the state's federal forests to improve forest health and increase fire resilience. Over the last two decades, place-based collaboration has often resulted in agreements about forest management practices that achieve desired ecological, social, and economic outcomes for forests and communities. In many cases, these groups have fostered the social agreements needed to implement collaboratively-developed, active management forest projects. These collaborative groups are typically inclusive and self-directed, and their work is funded through grants and

agreements. To better support local collaboration and accelerate restoration efforts, the Oregon Legislature in 2013–15 took the unprecedented step of creating a Federal Forest Health Program with an investment of \$2.88 million. For 2015–17, the Legislature increased the program's funding to \$5 million and expanded it statewide.

What is the geographic scope of the dashboard at this time?

The "dry-side forests" are included in the initial dashboard. The dry-side encompasses all six National Forests east of the Cascades (Deschutes, Fremont-Winema, Malheur, Ochoco, Umatilla, and Wallowa-Whitman). Through the FFWG's ongoing efforts, the intention is to expand the scope statewide in subsequent dashboard versions and to include additional gauges to reflect west-side (wet-side) conditions.

Does the dashboard focus only on projects funded with Oregon's Federal Forest Health Program support?

The dashboard reflects all of the USFS programs of work including those supported with partnering investments from the State's Federal Forest Health Program (FFHP).

Does the dashboard use a baseline year for comparison purposes?

The years 2009 through 2011 serve as the baseline for the dashboard gauges. The use of one stand-alone year is not considered a good baseline due to the annual variability in federal budgets, agency capacity, market dynamics, weather, and other factors. This baseline aligns well with two other significant points in time

related to increased investment: 1) the Collaborative Forest Landscape Restoration (CFLR) Program was authorized in 2009 and Oregon projects were selected in both 2010 and 2012, and 2) the State FFHP partnership investment was initiated in July 2013 for the 2013–15 biennium. Of note over this period is the awareness that stimulus funding from the American Recovery and Reinvestment Act (ARRA) landed on the ground primarily in 2010. Wildfire data has been consistently collected since 1984. This earlier baseline year is helpful for considering changes in acres burned annually and wildfire severity.

What data sources are used? Will the FFWG create new datasets?

As much as possible, the dashboard draws from existing USFS data sources. Invariably, the FFWG's interest in including a particular metric on the dashboard may require some collecting, searching through, analyzing and packaging of data beyond existing work that has been done to date. The degree of this additional work will need to be weighed as part of ongoing discussions about the dashboard gauges, and balanced against funding to build a dataset and maintain and update that data for future years.

What is NEPA?

The National Environmental Policy Act (NEPA) is one of the nation's bedrock environmental laws. It requires federal agencies to proactively consider, analyze and disclose the scope, purpose, and effects of federal decisions including, among others, impacts on social, cultural, and economic, as well as natural values. The environmental review process under NEPA provides an opportunity for the public to be involved in the federal agency decision-making process through public notice, comment, and response requirements. In addition to the above requirements, projects analyzed through the NEPA process must generally consider different alternatives before resulting in a NEPA decision. USFS decisions are then subject to an objections process before being implemented on the ground through a wide variety of management and restoration activities. Local collaborative group involvement informs but does not change the NEPA process. USFS is one of many federal agencies subject to NEPA. Reference: USFS NEPA information at http://data.ecosystem-management.org/nepaweb/nepa_home.php

Has more detailed research been completed regarding outcomes from Oregon's model of federal forest collaboration and the Federal Forest Restoration Program?

Yes, as of this writing, two related reports have been published and are available online:

- *Monitoring of Outcomes from Oregon's Federal Forest Health Program.* Eric M. White, Emily Jane Davis, Drew E. Bennett, Cassandra Moseley. Ecosystem Workforce Program Working Paper Number 57. Summer 2015. https://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_57.pdf
- *Economic Outcomes from the U.S. Forest Service Eastside Strategy.* Eric M. White, Drew E. Bennett, Emily Jane Davis, Cassandra Moseley. Ecosystem Workforce Program Working Paper Number 64. Spring 2016. https://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_64.pdf ■

Contacts

For specific information about individual gauges and additional content in this document, contact the following:

- Wildfire Severity Gauge—Bryce Kellogg, The Nature Conservancy, bryce.kellogg@tnc.org
- NEPA Decision Acres Gauge—Chad Davis, Oregon Department of Forestry, chad.davis@oregon.gov
- Stewardship Contracts Gauge—Mark Stern, The Nature Conservancy, mstern@tnc.org
- Forest Product Volume Gauge—Eric White, U.S. Forest Service, ericwhite@fs.fed.us
- Watershed Indicators Gauge—Carol Boyd, U.S. Forest Service, cboyd@fs.fed.us
- Forest Acres Treated Gauge—Eric White, U.S. Forest Service, ericwhite@fs.fed.us
- *View from the Field* stories—Inka Bajandas, Oregon Forest Resources Institute, bajandas@ofri.org

For questions about the data and data sources, contact Pete Dalke, Oregon Solutions, dalke@pdx.edu