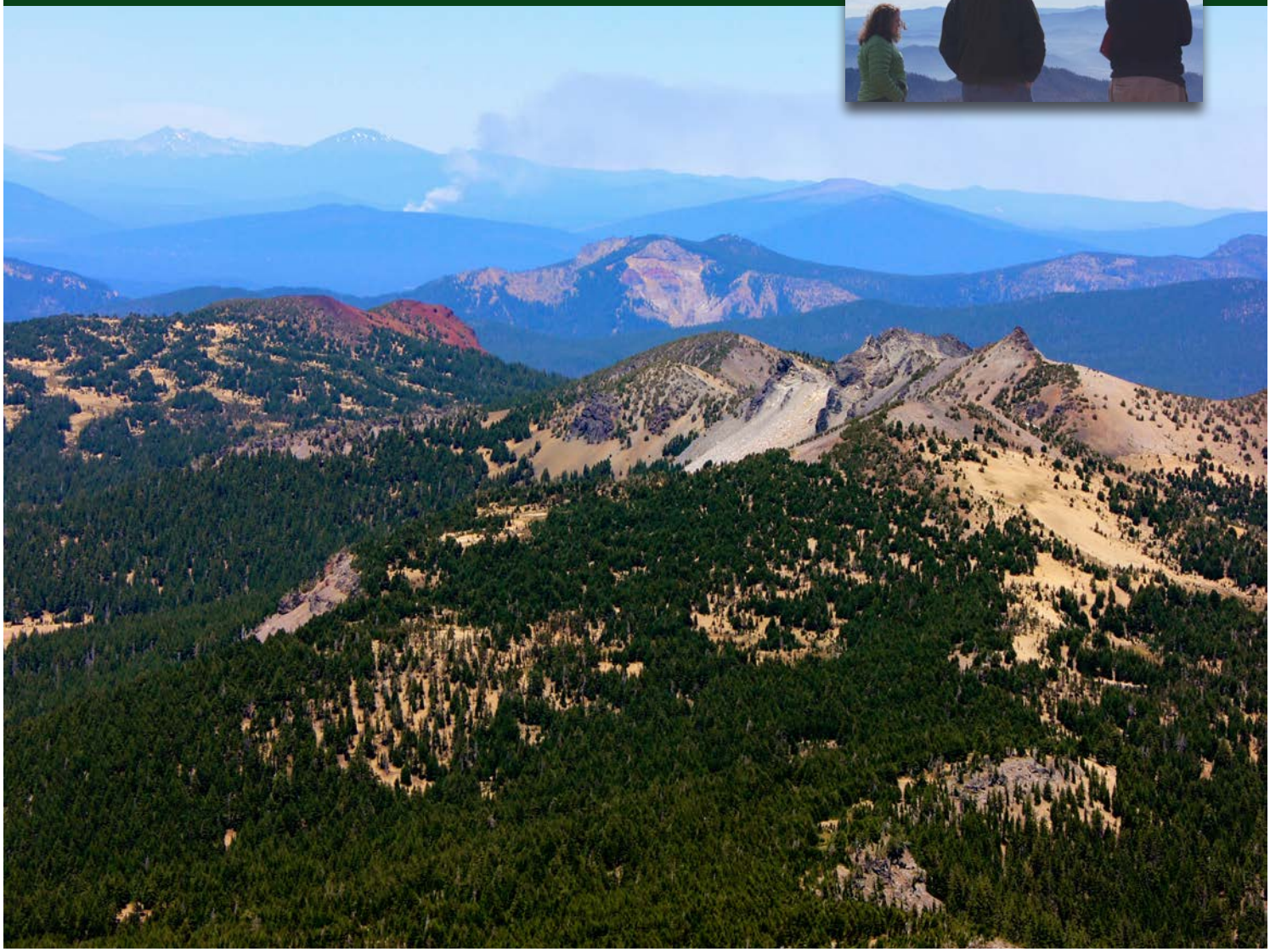
Stewarding Forests and Communities:

The Final Report of the Dry Forest Zone Project

SPRING 2014



ECOSYSTEM WORKFORCE PROGRAM WORKING PAPER NUMBER 48

UNIVERSITY OF OREGON

Ecosystem Workforce Program

WATERSHED CENTER HAYFORK, CALIFORNIA

WR WALLOWA RESOURCES

Sustainable Northwest

Author: Emily Jane Davis (faculty research associate in the Ecosystem Workforce Program and Institute for a Sustainable Environment, University of Oregon)

Contributors: Dylan Kruse (program director at Sustainable Northwest), Michelle Medley-Daniel (project and development coordinator at the Watershed Research and Training center), Nils Christoffersen (executive director of Wallowa Resources), Nick Goulette (executive director of the Watershed Research and Training Center), Lynn Jungwirth (senior policy fellow at the Watershed Research and Training Center), Cassandra Moseley (executive director, Ecosystem Workforce Program and Institute for a Sustainable Environment, University of Oregon), Alaina Pomeroy (program manager at Sustainable Northwest), and Patrick Shannon (Forest Program director at Sustainable Northwest).

Acknowledgements

The Dry Forest Zone project was supported by the US Endowment for Forestry and Communities (2009-2014) and USDA Rural Development (2010-2012). The team thanks its numerous partners, especially those who participated in interviews for the monitoring process. Autumn Ellison provided design and editing services.

About the Dry Forest Zone

The Dry Forest Zone (DFZ) is a five-year project to address common natural resource-based economic development challenges through increased networking and capacity building at a regional scale. Sustainable Northwest leads this project in partnership with Wallowa Resources in northeastern Oregon, the Watershed Research and Training Center in northern California, and the Ecosystem Workforce Program at the University of Oregon. The central components of the DFZ strategy are: 1) To build strong local nonprofit organizations and collaborative processes to achieve forest and economic resilience, 2) Create multiple value streams from land management and incentives for forest restoration and stewardship, 3) Develop integrated biomass utilization and renewable energy; and 4) Create the policy conditions to support sustainable forest stewardship on public and private lands.

Photos: All photos by Emily Jane Davis, Ecosystem Workforce Program, except front cover inset (by Caleb Dean) and page 39 (Watershed Research and Training Center).

Maps: Cody Evers and Greg Oldson—Ecosystem Workforce Program

For additional information about the Dry Forest Zone project and its partners, contact:

Sustainable Northwest
813 SW Alder Street, Suite 500
Portland OR 97205-3113
503-221-6911
info@sustainablenorthwest.org
www.dryforestzone.org

For additional information about this report, contact:

Ecosystem Workforce Program
Institute for a Sustainable Environment
5247 University of Oregon
Eugene OR 97503-5247
541-346-4545
ewp@uoregon.edu
ewp.uoregon.edu

Executive summary

The Dry Forest Zone (DFZ) project was a five-year (2009-2014) initiative to support forest stewardship and economic development in eastern Oregon and northern California. With support from the US Endowment for Forestry and Communities and USDA Rural Development, a core team of four organizations working in close partnership collectively leveraged their strengths and networks to take innovations in community-based forestry "to scale." A regional nonprofit organization (Sustainable Northwest), two community-based organizations (Wallowa Resources and the Watershed Research and Training Center), and an applied research group (the Ecosystem Workforce Program at the University of Oregon) led the DFZ project. The project had four integrated "roadmaps":

1. Steward public and private forestlands for community wellbeing and multiple value streams
2. Build strong local nonprofit organizations and collaborative processes
3. Develop integrated biomass utilization infrastructure and capacity
4. Create policy conditions that support sustainable forest stewardship

The Dry Forest Zone model

The DFZ project sought to improve forest stewardship and community wellbeing by using networks and diffusing innovations across a defined region with shared socioeconomic and ecological challenges. The strengths of this model included: 1) leadership from a small core team with established relationships; 2) diffusion of local-level innovations from Wallowa Resources and the Watershed Center; 3) capacity-building and research provided by regional intermediary organizations; and 4) deliberate focus on using networks and partnerships to achieve more collective impact by replicating and disseminating local innovations, leveraging resources, and uniting disconnected entities for collective impact.

This is a final report for the DFZ project and concludes the monitoring and learning component led by the Ecosystem Workforce Program (EWP). It summarizes the DFZ approach and core activities, describes outcomes, evaluates effectiveness, and documents lessons learned (see Appendix 1, pages 44-47 for a more detailed list of accomplishments). Monitoring methods included structured interviews, team focus groups, analysis and mapping of primary and secondary data, and qualitative analysis including network use analysis.

Project accomplishments

The DFZ project had numerous positive outcomes, including:

- **At least 72 full-time equivalent jobs were supported.** The DFZ project helped support seasonal employment implementing projects on field crews with the Watershed Center and through contracts with Wallowa Resources, biomass processing jobs in Wallowa County, and in-house employment at each organization. On average, Wallowa Resources and the Watershed Center together supported an estimated total of 72 jobs per year. Wallowa Resources's employment represented three percent of all 2011 nonfarm employment in Wallowa County, and the Watershed Center's represented two percent in Trinity County.

- **8,843 public and private acres were directly treated** (hazardous fuels reduction, prescribed burning, and other management activities) either by the Watershed Center's summer adult and youth work crews or through contracts administered by Wallowa Resources.

- **214,350 acres of national forestland in the DFZ have been or are being analyzed by national forests with active collaborative groups** that the DFZ team has directly supported (provided facilitation, coordination, or other significant leadership).

- **Over 4 million acres of national forestland are the focus of increased planning efforts** due to the Forest Service's Accelerated Restoration Strategy in Region 6, and collaborative initiation of a landscape-scale assessment on the Shasta-Trinity National Forest.

- **Policies and programs that meaningfully support sustainable forest stewardship were passed** due to the efforts of the DFZ team and many others, including the Collaborative Forest Landscape Restoration Program, permanent reauthorization of stewardship contracting authorities, Community Capacity and Land Stewardship Program, Eastside Restoration Strategy, California Senate Bill 1122, and the National Cohesive Wildland Fire Strategy.

These outcomes demonstrate the importance of an integrated, networked approach to improving sustainable forest stewardship and economic wellbeing. By working at all scales from local to national, the DFZ team was able to effect change at home (create jobs and treat acres) as well as transform larger policy conditions (create funding and programmatic support for collaborative forest management). Importantly, much of the DFZ team's national policy work also helped change conditions outside the zone's geography.

To learn more about sustainable forest stewardship outcomes, see pages 17-24.

To learn more about capacity building outcomes, see pages 25-32.

To learn more about integrated biomass utilization outcomes, see pages 33-38.

To learn more about policy change outcomes, see pages 39-43.

Challenges

The most significant challenge to the DFZ project was the difficult political and financial environment that began with the 2008 recession. A very slow recovery since 2009 meant that public sector funding, private foundation support, and bank lending were limited, affecting the ability of government agencies, businesses, and nonprofit organizations to manage forests and create economic well-being. Despite this, the team managed to achieve or readapt most of its goals, and build increased resilience.

The DFZ project also faced challenges related to its scale and approach. Since the project was broad in its scope and types of strategies, some partners and stakeholders in the region did not recognize this broad focus, or were not aware of the DFZ project and its goals. Conversely, others who were aware of the scope thought it was too large and unfocused. Further, the use of existing networks and venues made it difficult at times for partners to clearly see the DFZ project and its contributions. Monitoring helped pull out and clarify specific activities of the DFZ team, but challenges in counting accomplishments remained. Communications were also a significant challenge, both internally (keeping the team together to share, learn, and leverage opportunities) and externally (to convey the DFZ approach effectively and engage partners). The team faced several transitions in key leadership and communications staff, which hampered internal communications efforts somewhat and made them less frequent. The team established infrastructure including a website, DFZ listserv, and publications, but these were not used heavily, in large part because other venues were already functioning for similar purposes.

Section I. Introduction

About the Dry Forest Zone Project

The Dry Forest Zone (DFZ) project was a five-year (2009-2014) initiative to support forest stewardship and economic development in eastern Oregon and northern California. Funded by the US Endowment for Forestry and Communities, and USDA Rural Development, its intent was to address the interlinked social, economic, and ecological obstacles to creating good livelihoods and managing the land in a large rural region of 15 counties.

To respond to these complex challenges, a core team of four organizations in close partnership collectively leveraged their shared strengths and networks to take innovations in community-based forestry "to scale." Since the late 1990s, leaders in some rural communities in this region had been developing new ways to simultaneously manage forestland, support businesses, and increase long-term social wellbeing. Yet these efforts were often localized, and there was a need to more clearly identify innovations that could possibly be useful in other landscapes dominated by public lands and facing similar challenges, and to share and learn from them. In addition, rural leaders in the West are not always heard by policy makers, agencies, or each other when they speak in isolation.

The DFZ project thus premised that rural voices needed to come together for collective impact, and united a regional nonprofit organization (Sustainable Northwest), two community-based organizations (Wallowa Resources and the Watershed Research and Training Center), and an applied research group (the Ecosystem Workforce Program at the University of Oregon). Together, this team implemented the DFZ project through four integrated "roadmaps":

1. Steward public and private forestlands for community wellbeing and multiple value streams
2. Build strong local nonprofit organizations and collaborative processes
3. Develop integrated biomass utilization infrastructure and capacity
4. Create policy conditions that support sustainable forest stewardship

About the DFZ region

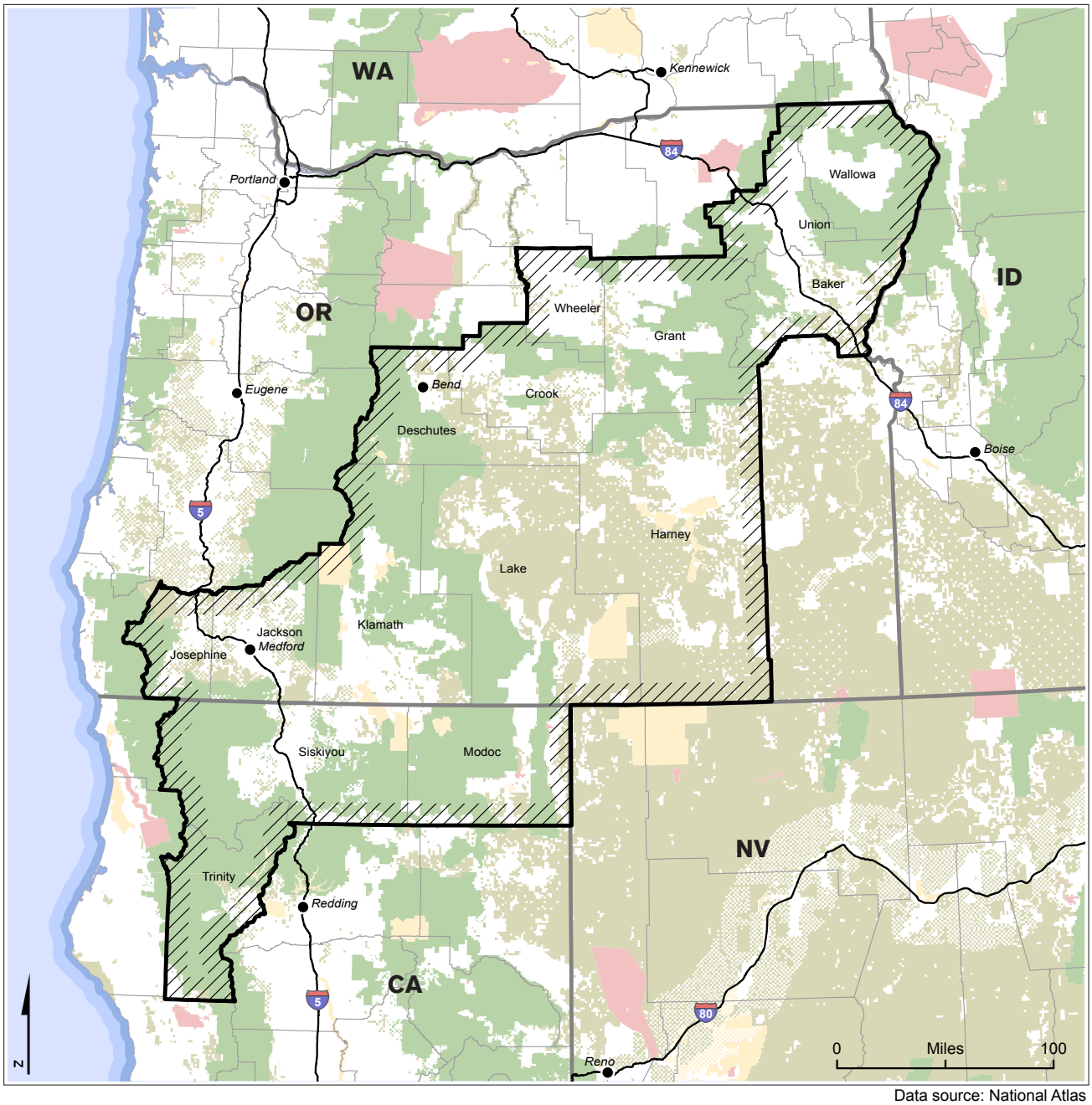
The DFZ region consists of 15 counties (12 in eastern Oregon and three in northern California). This diverse area includes nearly all of the dry forest and range ecotypes in the western US. Forest types range from moist mixed conifer to open ponderosa pine and sage-steppe deserts. Although precipitation varies significantly, three-quarters of the zone receives less than 30 inches of rain per year. Wildfire has been the dominant disturbance force, and occurred regularly in the past. Fire regime class conditions today suggests that many of the zone's forests are departed from their historic ranges of variability. The zone is 68 percent public land (see Figure 1, page 4), making federal policy an important factor in forest management and community wellbeing.

The zone covers a large land area of nearly 64,000 square miles, yet much of it is sparsely populated with relative isolation from transportation corridors and markets. The exception is Jackson and Deschutes counties in Oregon, which are metropolitan areas with higher population densities. Forest-based businesses in the zone can face challenges in harvesting, processing, and selling their products in this context. Forest products employment has declined since the 1970s. The primary employers in zone counties today are typically governments, schools, and hospitals. Unemployment and poverty are consistently above state and national averages (see Figures 2 and 3, pages 5 and 6).

FIGURE 1

Federal land ownership

Dry Forest Zone



Data source: National Atlas

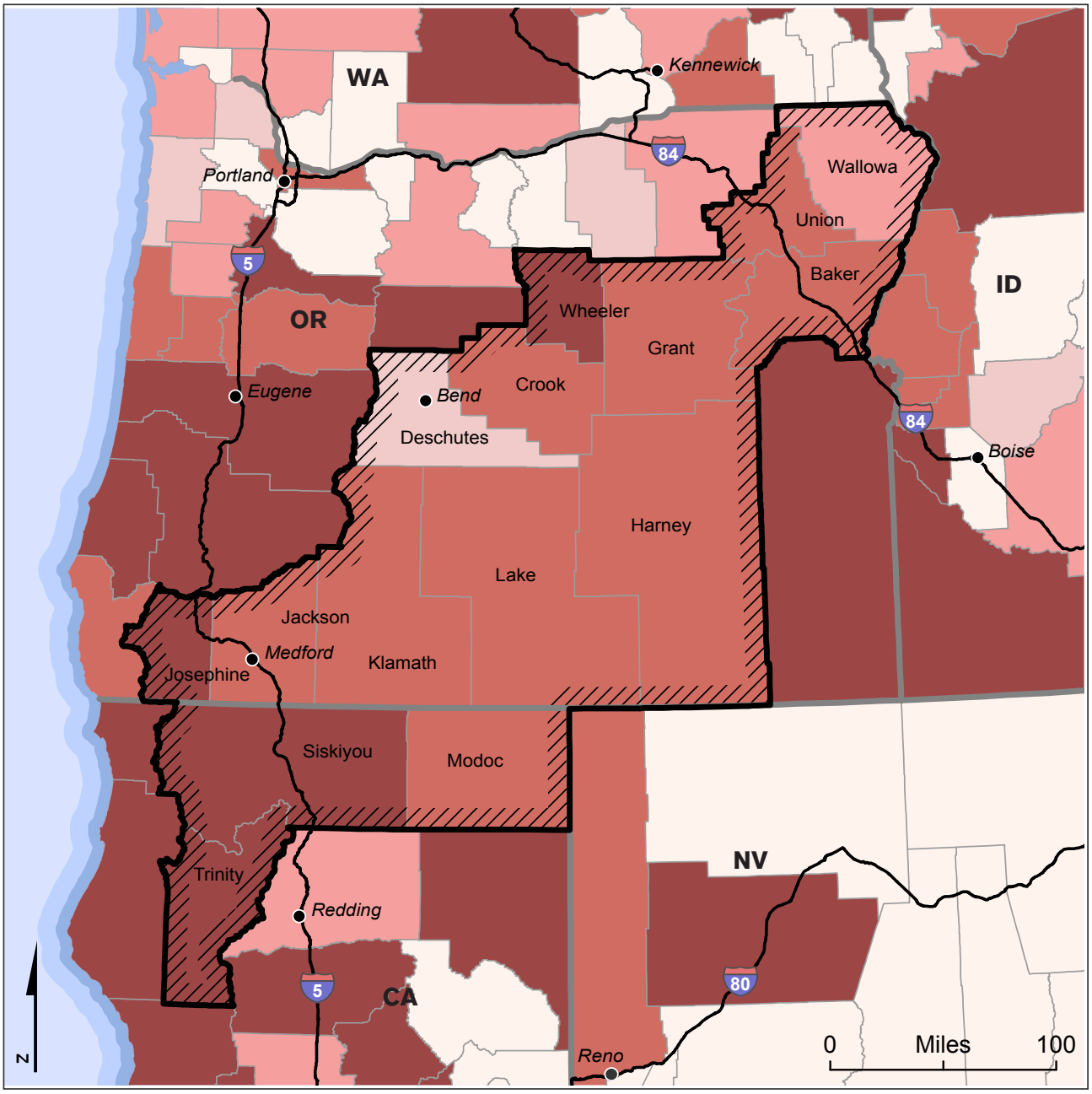
Land management

- US Forest Service
- Bureau of Land Management
- Other federal agencies
- Indian reservations

FIGURE 2

2012 Poverty level

Dry Forest Zone



Data source: Census Bureau SAIPE

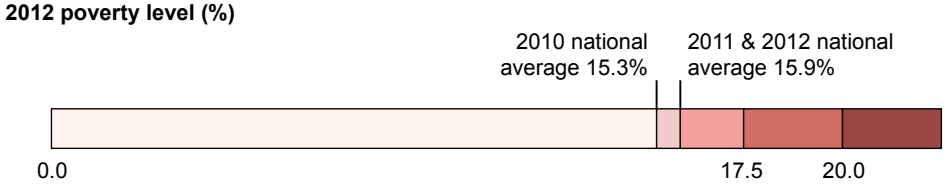
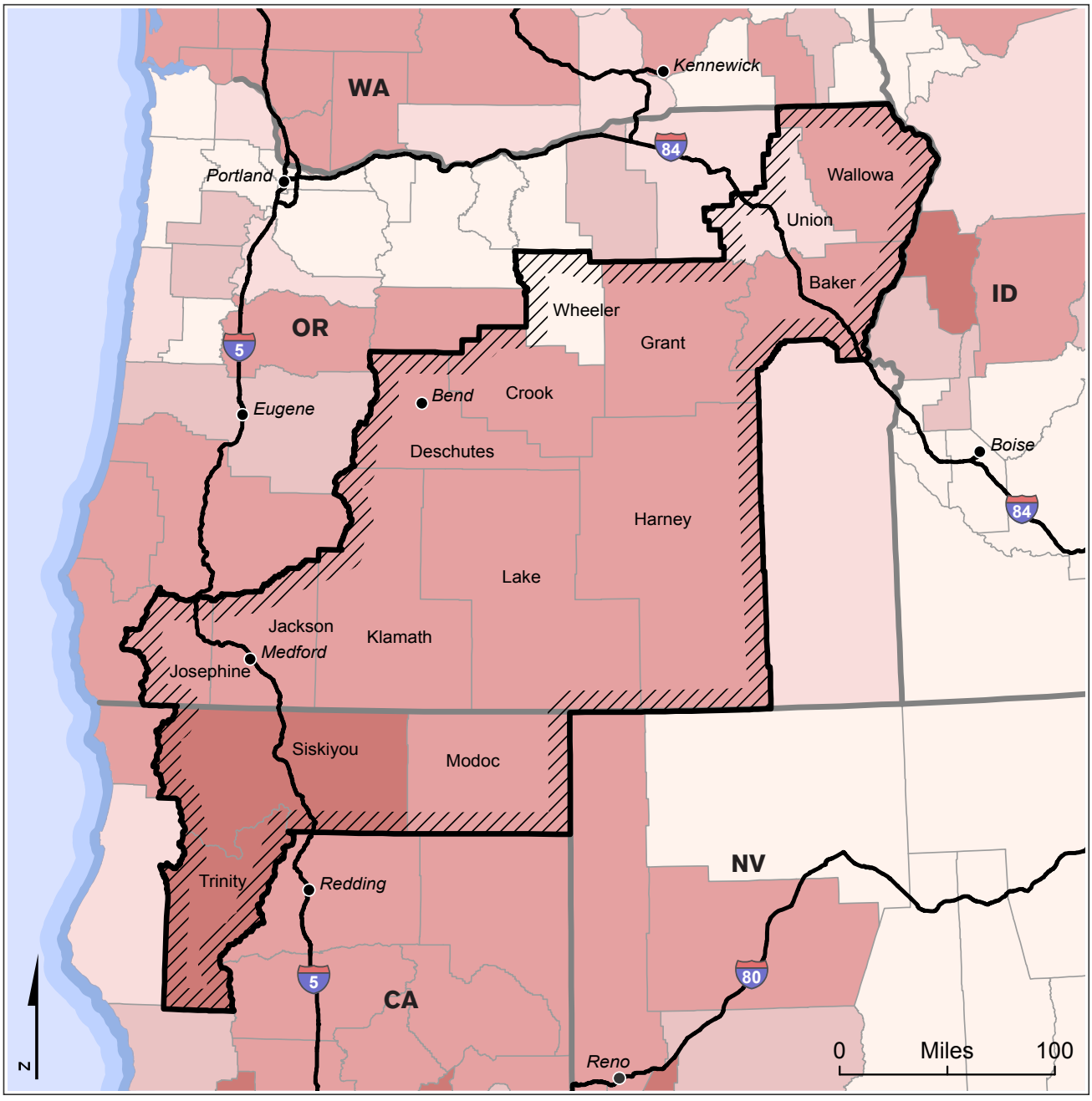


FIGURE 3

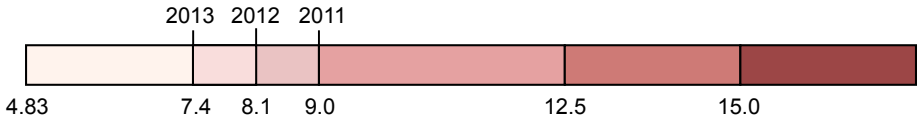
2013 Unemployment rate

Dry Forest Zone



Data source: Bureau of Labor Statistics

2013 unemployment rate (%)



Recent annual national averages

Purpose of this report

This is a final report for the DFZ project and concludes the monitoring and learning component led by the Ecosystem Workforce Program (EWP). It summarizes the DFZ approach and core activities, describes outcomes, evaluates effectiveness, and documents lessons learned. The body of this report is not intended to be a comprehensive summary of every activity occurring in the region over five years (see Appendix 1, pages 44-47 for a more detailed list of accomplishments). Rather, it focuses on understanding how the team carried out the project's goals and lessons learned from working together to achieve impacts at multiple scales. Further, it is also essential to recognize that there are numerous entities and activities in this region beyond the DFZ project. Where possible, we identify specific contributions that the DFZ team made through this project; but many outcomes that we describe are the result of collective action through networks, and this is in fact a key quality of the DFZ model.

Monitoring and learning approach

The DFZ project included a monitoring and learning component to better track the diverse activities taking place under the project and collectively learn and adapt. Methods included structured interviews, team focus groups, analysis and mapping of primary and secondary data, and qualitative analysis including network use analysis. The DFZ team held at least one in-person learning meeting annually to discuss monitoring findings, evaluate their work, and inform planning for the next year.

The project began with a baseline assessment in 2009-2010.[1] This had three primary components:

- Establishment of specific targets and metrics of desired outcomes for the project.
- Ninety-two interviews in fall 2009 with partners and key stakeholders across the DFZ area to learn about current conditions in forest management, biomass utilization, community capacity, and policy.
- Mapping of important characteristics to better understand regional context: poverty, unemployment, population and political representation, rural-urban linkages, landownership, ecological regions, fire regime condition class, fire frequency, forest types, annual average precipitation, and summer temperature change.

Broadly, the assessment found that many diverse stakeholders shared the goals of the DFZ project. Approximately half of the counties in the DFZ region had collaborative groups, partnerships, and active community-based organizations already working toward these goals, while others were at earlier stages of development. We also found that although many stakeholders were active in the Rural Voices for Conservation Coalition (RVCC), a policy network led by Sustainable Northwest since 2001, there was an appetite for further networking around issues beyond policy. These included collaborative approaches to forest management, innovative biomass business ideas, and capacity-building of small community-based organizations. The assessment helped the DFZ team refine specific strategies for reaching its goals, including ways to work with the different types of partners and levels of activity that existed across the region.

For each year of the project, EWP collected data on team activities, measured progress on desired outcomes, and re-mapped conditions, as well as added maps of other trends such as Forest Service contracting to further inform learning. In 2011, EWP conducted an expanded mid-term assessment by interviewing approximately 30 partners.[2] The assessment synthesized activities, outcomes, and challenges. In 2013-2014, the team interviewed approximately 35 stakeholders for this final report, measured completion of desired outcomes, and remapped conditions. Findings from this final monitoring process are shared in several formats including this report, a map packet, and infographics and briefing papers that delve into specific issues or accomplishments.

Section II. The Dry Forest Zone model and its collective impacts

Project approach and theory of change

The DFZ project's theory of change was that by increasing alignment between partners, using networks, and diffusing innovations across a defined region with shared socioeconomic and ecological challenges, sustainable forest stewardship and economic activity would result. This model had several components:

- **Small core team with established relationships.** The four organizations on the team had lengthy (over 15 years) experience working together on community forest management and policy change. They were well equipped to partner even more closely on this project.

- **Diffusion of local innovations from "anchors."** The project approach situated Wallowa Resources and the Watershed Center as anchors at the northern and southern ends of the DFZ region. These two high-capacity organizations have a history of creating place-based innovations that could be shared broadly.

- **Diffusion and knowledge sharing through regional intermediary organizations.** Sustainable Northwest shared innovations and convened a capacity-building program, while EWP generated research on specific topics such as challenges to rural economic development and community capacity.

- **Emphasis on building the capacity of the team and partner organizations.** The project identified organizational capacity as key to improving land management and economic outcomes. As a result of this project, the anchors increased in their ability to work beyond their communities.

- **Deliberate focus on using networks and partnerships to achieve more collective impact.** The team saw their relationships within and outside the zone as significant assets for collective action across a large rural region facing shared challenges.

What were the major accomplishments?

Over the course of the DFZ project, the team as well as partners, decision makers, and others were interested in some specific indicators of change such as employment, acres of public land managed, and systemic policy and program changes. Congruent with the DFZ model, EWP tracked and aggregated these outcomes at multiple scales to better understand our collective impact on forest stewardship and economic wellbeing.

Table 1 Full-time equivalent jobs (FTE) supported by anchor organizations through the DFZ project, 2009-2013

Anchor organization	Average annual number of jobs supported project implementation (FTE)	Average annual number of jobs supported in processing (FTE)	Average annual number of jobs supported in house (FTE)	Sum of average annual jobs supported (FTE)
Wallowa Resources	14.5 (contracted with businesses)	13.2 at biomass businesses	12.5	40.2
Watershed Research and Training Center	19.6 (hired work crews)	0	12.6	32.2
Sum of jobs supported by both anchors	34.1	13.2	25.1	**72.4**

Impacts on employment in anchor areas

Jobs are significant in rural communities where unemployment rates are typically high and reached over 20 percent in some places in the DFZ region. The DFZ project helped support seasonal employment implementing projects on field crews with the Watershed Center and through contracts with Wallowa Resources, biomass processing jobs in Wallowa County, and in-house employment at each organization. On average, Wallowa Resources and the Watershed Center together supported an estimated total of 72 jobs per year (see Table 1, page 9). Wallowa Resources's employment represented three percent of all 2011 nonfarm employment in Wallowa County and the Watershed Center's represented two percent in Trinity County. The largest proportion of these jobs was in project implementation (34 jobs or 47 percent of the annual total).[3]

Impacts on land management outcomes

The DFZ project contributed to land management in several ways: by directly implementing projects, providing technical assistance to the Forest Service and other partners to complete necessary analyses, and facilitating agreement about planned Forest Service projects in collaborative groups.

Since the start of the Dry Forest Zone Project:

- 8,843 public and private acres were directly treated (hazardous fuels reduction, prescribed burning, and other management activities) either by the Watershed Center's summer adult and youth work crews, or through Forest Service contracts administered by Wallowa Resources.
- 214,350 acres of national forestland in the DFZ have been or are being analyzed by national forests with active collaborative groups that the DFZ team has directly supported (provided facilitation, coordination, or other significant leadership).
- Over 4 million acres of national forestland in total (2.6 million acres in eastern Oregon and Washington, and 1.5 million acres on the Shasta-Trinity National Forest in California) are the focus of increased planning efforts due to the Forest Service's Accelerated Restoration Strategy in Region 6, and a collaborative initiation of a landscape-scale assessment on the Shasta-Trinity.

Transformative policy and program change

Federal and state policies made far from home and a lack of support for collaborative and community-based organizations have long challenged capacity in the DFZ region. The DFZ project deliberately focused on changing these policy conditions and increasing resources for community capacity. By working with numerous partners through networks and groups such as the Rural Voices for Conservation Coalition, Federal Forests Advisory Committee in Oregon, and state biomass working groups in both states, the project helped lead to several transformative policy changes:

- **Collaborative Forest Landscape Restoration Program:** (CFLRP; launched in 2010) provided funding and support for landscape-scale restoration activities across selected areas. Within the DFZ region, there are three CFLRP landscapes (Deschutes Skyline, Southern Blues, and Lakeview), which will treat at least 460,000 acres over the course of the program. Each of these landscapes has long histories of collaboration. Sustainable Northwest also created a Forest Service Region 6 CFLRP network to convene participants for shared learning and problem solving on issues such as monitoring and administration.

- The **Community Capacity and Land Stewardship (CCLS) Program** was created as the direct result of DFZ partners' efforts to support collaborative capacity, which is often difficult to fund. It provides grants of up to $24,000 from the National Forest Foundation. This program was ini-

tially piloted in Region 6 in 2010, and as of 2013, includes Regions 6, 5, and 10. CCLS in Region 5 was made possible as the Watershed Center and National Forest Foundation advocated for its use to the Regional Office. This program has awarded a total of $973,781 through 51 grants to collaborative groups, community-based organizations, watershed councils, and other local organizations since its inception.

- Forest Service Region 6 launched an **Eastside Restoration Strategy** for Oregon's eastside national forests in 2012. This strategy is a commitment from the Regional Office to support more rapid planning and analysis in order to increase the pace and scale of restoration activity in response to widespread forest health concerns. The strategy includes: (1) a ten-year stewardship contract and increased restoration and harvest activity on the Malheur National Forest, implemented after Malheur Lumber Company planned to close its sawmill in John Day; (2) a dedicated Forest Service interdisciplinary team to lead analysis processes on selected projects in the Blue Mountains to innovate and speed up planning; and (3) the convening of all collaborative groups and partners on the eastside to support this effort.

- The State of Oregon recognized the need to invest in collaborative and partner capacity to help the Forest Service reach its accelerated restoration goals. The Governor initiated an **Eastside Forest Health Strategy** to provide resources to collaborative groups and regional intermediaries working on accelerated restoration in the "dry forest" area of Oregon. The 2013 legislative budget authorized $2.88 million to support this effort.

- Due to the direct work of the Watershed Center and its partners on the California State Biomass Working Group, the California Legislature passed **Senate Bill 1122** in 2012. It requires California's public utilities to procure a minimum of 250 megawatts of power annually from small, low-emission bioenergy projects. Thirty of these megawatts must come from forest biomass. This bill provides significant incentives for community-scaled biomass thermal projects.

- DFZ team organizations contributed to the **National Cohesive Wildland Fire Strategy**, a national-level effort to respond to wildfire management issues that includes fire-adapted communities as one of its three key areas. The team: (1) ensured that the Strategy included integrated stewardship and community development, not just fire response; (2) provided national-level leadership; and (3) implemented on-the-ground project opportunities. In 2013, the Watershed Center became the coordinator of a new national Fire-Adapted Communities (FAC) Learning Network.

- DFZ team organizations organized in collaboration with a diversity of regional and national organizations to secure the reauthorization of **stewardship contracting authorities.** Stewardship contracting is a set of tools that allows the Forest Service and BLM to enter into contracts and agreements to implement integrated restoration activities. It was reauthorized as part of the 2014 Farm Bill.

Understanding the DFZ model

The DFZ team was aware that they accomplished much of their work prior to the project by relying on extensive partnerships and networks, often outside their communities. They wanted to use the DFZ project as an opportunity to more deliberately use, build, and learn about networks for greater shared impacts.

Replication of innovations

An original and enduring goal of the DFZ project was to take localized innovations and replicate them in other places where they could be useful. Specific innovations included collaborative group models and development of an integrated biomass utilization business. The most wide-spread of these was the collaborative group model of the Blue Mountains Forest Partners, which Sustainable Northwest and Wallowa Resources helped create by sharing collaborative models and providing guidance. The BMFP's approach informed the creation of several new collaborative groups with similar goals on other national forests (see page 20). This innovation was replicable because it had demonstrable results (increased acres of projects planned on the Malheur National Forest), developed written documents such as operating principles that could be easily shared, and the support of numerous entities who could help share the model including Sustainable Northwest as a regional intermediary. It was also timely as interest in collaboration and restoration were already high.

The development of Integrated Biomass Resources (IBR), in contrast, is an innovation that remains of great interest across the DFZ region, but has not been replicated (see pages 35-36). At the start of the DFZ project, components of this business as well as the Hayfork Integrated Wood Campus in Trinity County were running, such as specific production lines; and there was much attention to this model. Entities in other locations (e.g. the Klamath Tribe, Baker County landowners, Siskiyou County leaders) were also actively pursuing it by acquiring land or exploring possible business designs. It took the entirety of the DFZ project period for IBR to become fully operational as an integrated facility that sorted small diameter logs and efficiently processed them to their highest-value uses. Challenges included investment risk, finding suitable entrepreneurs, and obtaining supply. Among Wallowa Resources' many roles in the creation of IBR was helping interested parties learn about the design concept so that the private sector owner could focus on building the business, and also helping the owner make connections with private landowners, national forests, and others in the biomass supply chain. A significant challenge in this networking and partnership was a tension between meeting interests and sharing lessons learned, while also protecting the innovations and business design of the private sector owner.

Adapting existing networks for shared goals

The DFZ team organizations frequently participated in and adapted existing networks or efforts to achieve DFZ goals, rather than creating formal new networks or groups. These included state-level efforts such as Oregon's Federal Forests Advisory Committee and Board of Forestry, and national efforts such as the Forest Stewardship Council Board. Participating in these existing efforts allowed the DFZ team to use established processes and partnerships to gain efficiencies and avoid redundancies. This made it more difficult at times to recognize "DFZ investments" and identify impacts of the team intertwined with others. However, this is an appropriate—and often, the only—way to work in public lands settings, where partners may be busy, geographically distant, and want to make the most of existing opportunities to convene.

Convening previously disconnected or little-connected entities

There were some instances in which the DFZ team did create new networks or groups in order to convene entities that could work better together to achieve something specific. This occurred when there were no existing or well-suited venues to accomplish DFZ goals.

One example was the Watershed Center's state biomass engagement (see page 37). The Watershed Center first began to work with the North Coast Resource Partnership, a group of seven northern California counties that came together to develop an integrated restoration and economic revitalization plan for the

North Coast. There was shared interest in woody biomass utilization within this group and among partners in the Sierra Nevada region, as well as a potentially opportune policy and administrative environment in California with the election of Governor Jerry Brown, who is supportive of homegrown bioenergy and community development efforts. The Watershed Center began to convene partners from across the state to create an ad hoc California Forest Biomass Working Group in 2011. This group brought together numerous state agencies, utilities, nonprofits, and community leaders to develop state-level strategies for increasing thermal biomass use in rural communities. Many of these entities were not in communication or alignment prior to the group's emergence. This group was needed because woody biomass utilization requires partnership between numerous sectors and it is difficult for one type of entity alone to develop workable plans for increasing activity across a region or state. This group was well-poised when the Forest Service developed a new wood energy partnership program to evolve into a more formal Statewide Wood Energy Team; it may not have been readily able to respond to this opportunity otherwise. This group's actions also led to the passage of SB 1122, which incentivized community-scale thermal biomass usage, and the selection of two northern California thermal installation projects for Woody Biomass Utilization Grant program awards.

A further example of a new DFZ-led effort was the Organizational Capacity Building Program led by Sustainable Northwest. The DFZ assessment and further research (see pages 30-31) identified that community-based organizations and collaborative groups in the region were doing extensive, diverse work, often beyond their resource bases, and were facing challenges in developing stronger organizations. Yet, there was no dedicated resource or venue for these groups to build capacity and communicate more regularly, so a new effort was warranted. In partnership with Dynamica Consulting, Sustainable Northwest developed a peer-learning program for 12 organizations. The 18-month program included three face-to-face meetings and a regular schedule of webinars, "homework" assignments, and site visits. From implementing and participating in this program, the DFZ team learned that deliberate networking around capacity is useful to rural partners, but takes time and may be difficult to sustain unless organizations see a need to communicate about specific issues or activities. Organizations attempted to balance their capacity building and networking activities with their regular programs of work to varying degrees.

Anchors becoming regional and multi-scale intermediaries

Although Wallowa Resources and the Watershed Center had historically used broad networks to accomplish their local work, during the DFZ project both anchor organizations developed additional capacity to work at regional scales in new and unprecedented ways. Wallowa Resources provided multiple years of investment in Baker and Union counties, which led to the creation of the new entities including the Blue Mountain Forest Cooperative and the Wallowa Whitman Forest Collaborative, as well as the Cohesive Wildfire Strategy pilot in the northern Blue Mountains. The Watershed Center convened state and regional partners around thermal biomass use (see page 37), and developed and led a nationwide Fire-Adapted Communities Network (see pages 20-21). It also created new relationships with the Southern Oregon Forest Restoration Collaborative and other partners in Josephine and Jackson counties by engaging it in this network as a pilot project, and by working together on shared challenges across the Klamath-Siskiyou bioregion.

The anchors were able to act as regional intermediaries for several reasons: they had experience working on tangible issues at the community level, they had vision and interest in identifying reasons why partners needed to work together at larger scales, and they were typically seen as neutral or balanced in their objectives, making them suitable conveners of multi-stakeholder efforts.

Lessons learned and challenges to the DFZ model

The most significant challenge to the DFZ project was the difficult political and financial environment that began with the 2008 recession. Unemployment and poverty increased in many communities across the zone, and investments and appetite for risk were low. A very slow recovery since 2009 meant that public sector funding, private foundation support, and bank lending were limited, affecting the ability of government agencies, businesses, and nonprofit organizations to manage forests and create economic wellbeing. Despite this, the team managed to achieve or readapt most of its goals, and build increased resilience. The DFZ project's accomplishments and challenges should be seen in light of this larger context.

The DFZ project faced several challenges related to its scale and approach. First, the project was broad in its scope and types of strategies, seeking to simultaneously address land management, biomass utilization, capacity building, and policy issues. Our monitoring found that some partners and stakeholders in the region did not recognize this broad focus, identifying only with a specific activity or project. Many were not aware of the DFZ project and its goals. This did not necessarily challenge the effectiveness of the project's local-scale work, but made it more difficult for monitoring to clarify the impacts of the DFZ investments specifically versus the activities of the organizations more broadly. Local-level partners were not always able to describe how their networks increased as a result of the DFZ project.

Some areas of the DFZ region were less engaged. For example, involvement of southern Oregon partners was inconsistent through much of the project, and it took the team time to find specific ways that they could potentially add value to efforts in that area through the FAC Network.

Conversely, some others who were aware of the scope of the project thought it was too large and not focused, and did not necessarily recognize the need to work on multiple issues at once. Further, the use of existing networks and venues made it difficult at times for partners to see the DFZ project and realize its contributions. An important goal of the monitoring was to help pull out and clarify the specific activities of the DFZ team as situated in larger contexts and networks, ensuring that the collaborative nature of DFZ activities was appropriately conveyed. Yet the challenge of how to count and credit accomplishments remained substantial throughout the project.

Third, communications were a crucial dimension both internally (keeping the team together to share, learn, and leverage opportunities) and externally (to convey the DFZ approach effectively and engage partners). The team faced several transitions in key leadership and communications staff, which hampered internal communications efforts somewhat and made them less frequent. Monitoring focus groups and learning meetings with the team revealed that team members felt they did not pick up the phone or get in touch with each other on an ad-hoc basis as much as they could have. Externally, communications about the DFZ were also inconsistent. The team established infrastructure including a website, DFZ listserv, and publications, but these were not used heavily, in large part because other venues were already functioning for similar purposes (e.g. the RVCC policy listserv).

Challenges in analyzing networks

There were several challenges specific to the monitoring of the DFZ project. Given the importance of networks to the project, EWP explicitly included network analysis in its monitoring plans. To build this analysis, we first reviewed pertinent literature on social network analysis in natural resource management, which has largely focused on network structure.[4] However, we did not have resources to conduct a full structural analysis, which would require annual data collection from every entity in the network to know their connections. Further, the networks of the team were not easily bounded by geography, time, or issue. They were by nature dynamic, with many important "latent" connections not necessarily being used at any given time, and many connections arising rapidly. It became difficult to bound the list of connections to entities engaged in the DFZ project because the DFZ project included multiple, integrated goals and many if not all of the connections at each organization could somehow be related to the DFZ. Second, we discovered that measures of structural network characteristics, even if we could have accurately generated them, did not necessarily illuminate how the DFZ project was using and building networks. Instead, the team wanted to address questions such as: What kinds of networks are needed to launch efforts such as an integrated biomass campus business, collaborative group, or region-wide policy working group? Who are the key entities that we need to connect with to achieve our work? What can we do, and what can others more effectively do? What are the most useful ways to maintain networks for different outcomes such as peer learning or collective impact?

In response, we adapted our monitoring strategy by conducting qualitative analysis of network use rather than quantitative measures of network structure. We added a significant number of interview questions about networks to our midterm assessment and final report processes. These asked partners in the DFZ region to tell us about: (1) new connections that they had gained as a result of the project; (2) how they were using them; (3) what networking meant to them and what kinds of activities and venues they thought were effective; and (4) if they thought the DFZ project's focus on network building and alignment was useful to their work.

Section III. Land management

Goals

- Restore and maintain public and private forests
- Create additional value streams for private landowners
- Secure long-term working forestland

Public land stewardship

Enabling conditions for integrated forest stewardship and economic development

The institutional environment in which the DFZ project took place changed significantly over the five-year period. Currently, there are many organizations and leaders active in collaborative natural resource management, new programs and tools for supporting them, and a new level of regional dialogue and partnership around the need for increased restoration of public lands. In 2009, there were fewer collaboratives and community-based organizations in the zone. They were primarily using resources from RAC Title II, the National Fire Plan, and the Ford Foundation to support work on fuels reduction and community wildfire protection. But there was little coordinated investment from federal or state agencies in public lands restoration. In Oregon, there was a state-level Federal Forests Advisory Committee, and several regional intermediaries including Sustainable Northwest, Oregon Solutions, and The Nature Conservancy providing technical assistance, but regional dialogue was minimal among local groups and with intermediaries.

Over the past five years, forest stewardship on public lands has increased in prominence and accomplishments because conversation, coordination, and alignment increased among the Forest Service, state government, collaboratives, intermediaries, and others. Collaboration has also grown from a scattered phenomenon to a model that is being used on all national forests in Oregon and many in California (see Figure 4, pages 18 and 19). This has resulted in programs and efforts to directly support collaborative forest restoration at larger scales. These programs create enabling conditions by supporting collaborative and agency capacity to increase land management activity.

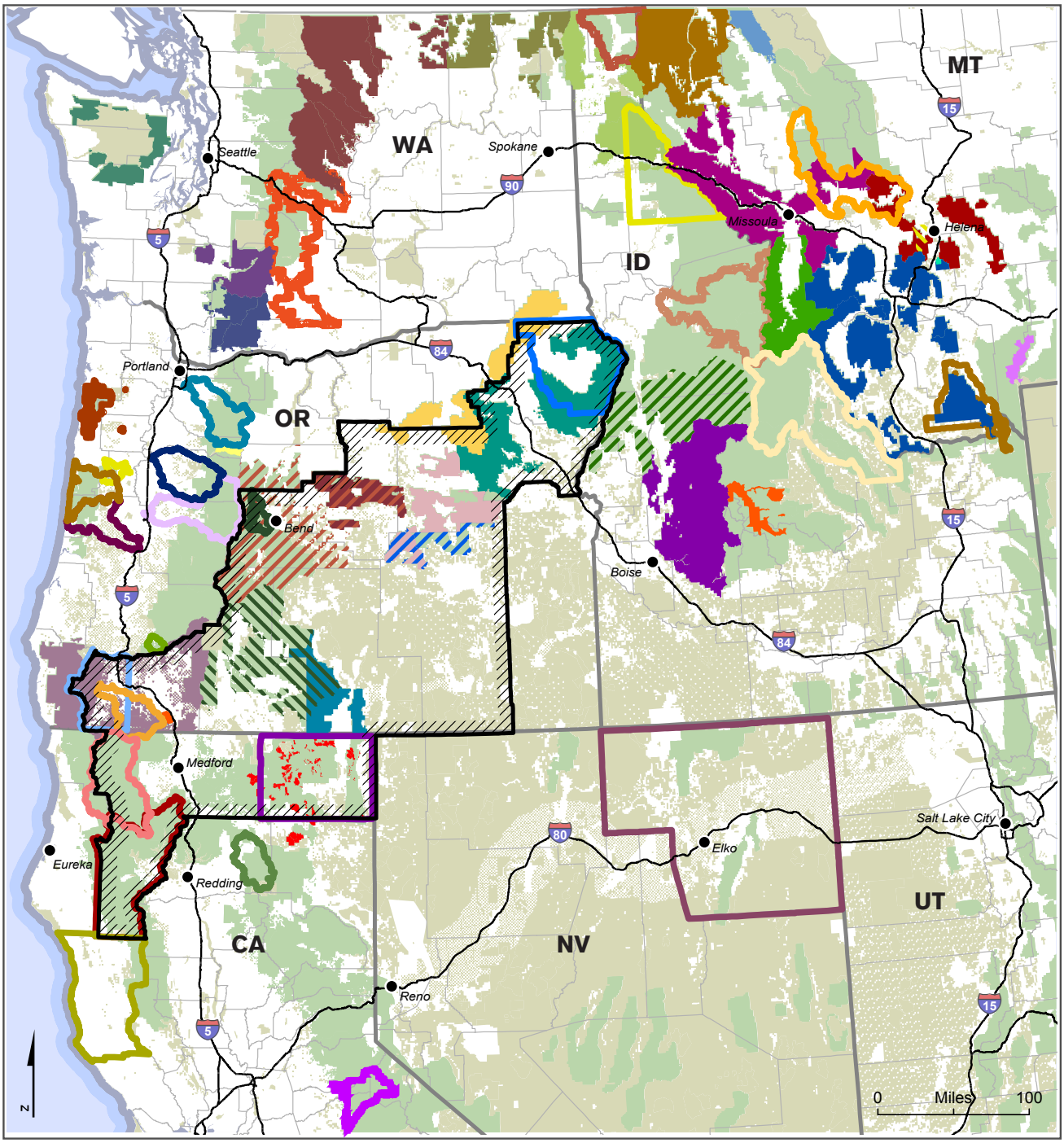
Land management outcomes

- Acres targeted for landscape-scale restoration projects: approximately 4 million
- CFLRP landscapes selected and funded: 3.7 million acres over three projects
- Acres planned through collaborative processes with direct DFZ team support: 214,350
- Acres directly treated using DFZ resources: 8,843
- Landowners assisted: approximately 120
- Forest products businesses certified: 2

FIGURE 4

Forest collaborative groups

Northwestern United States



Data collected by EWP

US Forest Service lands

BLM and other federal lands

	Public lands collaboratives	All lands collaboratives
Washington	N. Central Wa. Forest Health Collaborative Northeast Washington Forestry Coalition Olympic Forest Coalition Pinchot Partners South Gifford Pinchot Collaborative Group	Tapash Sustainable Forest Collaborative
Montana	Beaverhead-Deerlodge Working Group Bitterroot Restoration Committee Elkhorn Restoration Committee Gallatin Community Collaborative Kootenai Forest Stakeholders Coalition Lincoln Restoration Committee Lolo Restoration Committee Tenmile Watershed Collaborative Whitefish Forest Partnership	Gravelly Landscape Collaborative Southwestern Crown Collaborative
Oregon	Ashland Forest Resiliency Stewardship Project Black Hills Collaborative Project Blue Mountains Forest Partners Central OR Partnerships for Wildfire Risk Reduction Harney County Restoration Collaborative Lakeview Stewardship Group North Santiam Forest Collaborative Ochoco Forest Restoration Collaborative Southern OR Forest Restoration Collaborative Umatilla Forest Collaborative Group Wallowa-Whitman Forest Collaborative	Alsea Stewardship Group Applegate Partnership Clackamas Stewardship Partners Deschutes Collaborative Forest Project Hebo Stewardship Group Josephine County Stewardship Group Marys Peak Stewardship Group McKenzie Collaborative Group Siuslaw Stewardship Group South Umpqua Rural Community Partnership Sweet Home All Lands Collaborative Wallowa County NRAC
Idaho	Sawtooth Valley Wildland Fire Collaborative Panhandle Forest Collaborative Payette Forest Coalition	Lemhi County Forest Restoration Group Kootenai Valley Resource Initiative Clearwater Basin Collaborative Shoshone County Forest Health Collaborative
California	Modoc Sage-Steppe Collaborative	Burney-Hat Creek Community Forest and Watershed Group Mendocino Futures Modoc County NRAC Trinity Collaborative Western Klamath Uplands Prioritization Partnership Amador-Calaveras Consensus Group
Nevada		Eastern Nevada Landscape Coalition

The Lower Joseph Creek Project

The US Forest Service's Region 6 Leadership launched the Eastside Restoration Strategy in response to the Chief's call to accelerate the pace and scale of restoration across national forest system lands, and the significant social, ecological and economic imperatives to achieve this goal in eastern Oregon. A newly-formed interdisciplinary planning team was assigned to initiate work in the Blue Mountains where existing collaboratives are actively engaged with the Forest Service in landscape-scale restoration projects. Lower Joseph Creek was chosen as the first project due to the collaborative watershed assessment recently completed by Wallowa County's NRAC. The Lower Joseph Creek Restoration Project (98,561 acres) is well positioned to demonstrate the value of community partners working together to accelerate restoration, and ensure such work generates tangible and meaningful social and economic benefits. A key element in this pilot project is the Cooperating Agency status of Wallowa County in working with the USFS through the NEPA process. This approach will test the ability of such a partnership to sustain broad stakeholder support, and to build local capacity to assist in designing and developing future Forest Service projects. This is emblematic of the DFZ model of change: a local-level innovation in community planning going to scale and catalyzing action across eastern Oregon.

DFZ team activities

At the local scale, the DFZ team supported several collaborative groups, including the Blue Mountains Forest Partners (BMFP) in Grant County, with facilitation, process design, lessons learned from Wallowa County collaborative efforts, and other technical assistance needs. This also had a regional impact as the successful model of the BMFP, including its operating procedures and methods for building agreement, directly informed and was taken up by new collaboratives during the project period on the Ochoco, Umatilla, Wallowa-Whitman, and Shasta-Trinity national forests. DFZ team members also contributed at a larger scale by working with numerous partners to present a case for integrating restoration and economic development objectives to actors from local levels to the Forest Service's Regional Offices and state and national policy makers. Key components of this case included the need for long-term community capacity, not just collaborative group facilitation; and the crucial link between investments in capacity and land management outcomes. Making this case involved marshaling information on current conditions and trends and sharing it through working, briefing, and policy position papers with maps.

As a result of all these efforts, a shared language about the integration of collaboration, restoration, and community benefit emerged and became useful and resonant at multiple scales. The alignment between diverse actors, particularly within Oregon's Federal Forests Advisory Committee, made it possible for collective action that spurred policy and program changes.

Opportunities for innovation through the Cohesive Strategy

The DFZ team found opportunities to advance its goals through wildfire management programs, largely by (1) ensuring that they included integrated stewardship and community development, not just fire response; (2) providing leadership; and (3) implementing on-the-ground project opportunities. The National Cohesive Wildland Fire Strategy is a national-level effort to respond to wildfire management issues that includes fire-adapted communities as one of its three key areas. Prior to and during the DFZ project, the Watershed Center provided leadership in the evolution of the Cohesive Strategy, and in 2013, became the coordinator of a new national Fire-Adapted Communities (FAC) Learning Network. The Watershed Center helped articulate the need for this kind of network to facilitate multi-stakeholder, multi-scale learning about important community factors in fire adaptation such as collaborative planning and capacity, moving the dialogue beyond a narrower focus on homeowner actions. In its first year, the FAC Network established eight pilot communities, two of which are in the DFZ region. In a related but distinct effort, pilot projects to "implement

the Cohesive Strategy" were established in summer 2013, providing resources to specific regions to carry out the Strategy's goals by improving wildfire response effectiveness, increasing coordination among agencies, conducting fuels reduction projects, and other activities. One pilot is in the northern Blue Mountains, and engages DFZ partners including Wallowa Resources and collaborative groups.

This engagement with the Cohesive Strategy illustrates well the multi-scale, networked approach of the DFZ project. DFZ team organizations and partners worked at the national level to help convey the importance of fire-adapted communities goals, and to establish structures such as the FAC Network with pilots. These structures are allowing the Strategy to touch the ground in its implementation at local scales, where established partners can advance concepts that integrate wildfire response with forest stewardship and community development (e.g. cross-trained workforces, collaborative projects). The network itself creates the space for peer learning and innovation. Moreover, the DFZ project's emphasis on integration also helps bridge the often-disconnected worlds of wildfire response and forest management.

Lessons learned and challenges to public land stewardship

The changes in public lands stewardship in the DFZ region—the proliferation of collaborative approaches, multiple investments in collaborative and agency capacity, and the opportunities that the Cohesive Strategy provides—together are transformative. But this scope and scale of change also poses challenges.

First, collaborative groups and a regional eastside restoration strategy became the primary means through which integrated forest stewardship and economic development are expected to take place in eastern Oregon. It is assumed that collaborative processes for public lands restoration projects will create clear socioeconomic outcomes. Some of this expectation centers on the need to expand "zones of agreement" by obtaining the latest biophysical science on controversial issues and finding ways to increase active management. Less attention has been given to the kinds of collaborative processes and project qualities that could also be important to changing zones of agreement and improving socioeconomic conditions. Further, use of socioeconomic science has been limited to date.

In northern California, there is currently no unified vision about restoration and community needs that galvanizes the Forest Service's regional office, national forest units, and community-based organizations and collaboratives to work together closely. Although the Watershed Center and others have worked to import useful collaborative innovations from Oregon and elsewhere, the lack of shared language and investment in collaboration may affect the rate at which groups can organize and restoration can be accomplished. The Watershed Center has been a regional intermediary to help provide support and build more collective vision across the region; more of these efforts will likely be needed in the future.

A second set of challenges is about the kinds of issues and resources that national forest-level collaborative groups are able to effectively address. For example, national forest stakeholders in northeastern Oregon who have not traditionally participated in collaborative approaches have raised questions about what collaborative groups desire for roads and access, and who is represented in collaboration. In northern California, the Trinity Collaborative began as a broadly-focused group, with participants who wanted to work on issues aside from vegetation management such as lake recreation. It has taken time to figure out how to best organize this effort to include all community interests. As national forest-level collaborative groups continue to evolve, it will be important for stakeholders and the Forest Service to carefully consider the best governance models and approaches for different issues. Part of this consideration will be the respective roles of local entities versus regional intermediaries, and how local leadership and effective regional partnerships can continue to grow.

Third, given that the Cohesive Strategy is a national-level initiative, it can be difficult to identify how to implement it at local scales and foster shared learning. In regions that are already institutionally dense with many ongoing efforts, such as the Blue Mountains, pilot projects that are assigned without adequate local collaboration may appear top-down. The DFZ team has worked to help translate higher-level programs into opportunities for local action that respect and enhance existing efforts. Wallowa Resources is helping ensure that the Cohesive Strategy pilot builds on the existing institutions and capacity of the region, and is using it to implement a new community wildlife protection planning template and an update to Union County's wildfire protection plan.

Additional value streams, private land stewardship, and working forestland conservation

Additional value streams

Additional value streams for private landowners who wish to restore and steward their forests may include small diameter forest products, and payments for stewarding ecosystem services (PES) such as carbon, wildlife, and water. To help landowners understand and access these streams, the DFZ team undertook several activities. First, at the local/regional scale, Wallowa Resources and partners assessed the potential for additional value stream production off northeastern Oregon's private lands. This assessment examined barriers to participation and identified a lack of opportunities for additional value streams in that region based on characteristics of the landscape (i.e. low productivity, high wildfire risk) and underdeveloped markets (no market demand from mills). However, with the emergence of an integrated biomass utilization facility in Wallowa County (see pages 35-36), several landowners have begun to sell small-diameter material to this business, greatly helping with the viability of their management. Over the next few years, this biomass value stream will become increasingly important. Wallowa Resources and Sustainable Northwest also provided technical assistance to the Baker County Small Woodland Owners' Association in northeast-

ern Oregon. This assistance included assessment of the feasibility of establishing a community sort yard and processing facility, with a Woody Biomass Utilization Grant through Sustainable Northwest; and assistance with the development of the Blue Mountain Forest Cooperative.

Finally, Sustainable Northwest and the Ecosystem Workforce Program participated in a research project led by Oregon State University on opportunities for PES across the inland Northwest, including Deschutes, Crook, Klamath, and Lake counties in the DFZ area. Part of this project was a survey of 800 landowners in Oregon, Washington and Montana to obtain insight into how to tailor programs to best meet landowner needs, and case studies that particularly showed how intermediary entities facilitate PES arrangements. The team produced numerous fact sheets describing case studies and a catalogue of online resources for landowners.[5] Sustainable Northwest also initiated a new Ecosystem Services Learning and Action Network to connect landowners and intermediaries across the West. This provided a venue for groups to share information about existing PES pilot projects and programs, and generate policy actionable ideas and recommendations.

Supporting landowner stewardship

In addition to working on additional value streams, the DFZ team provided technical assistance to private forest landowners to help improve their stewardship. There are many entities already active in providing stewardship support such as the state agencies, university Extension, and the USDA Natural Resources Conservation Service (NRCS). DFZ partners have contributed by helping connect and coordinate these partners on shared goals, rather than duplicating existing services. For example, Wallowa Resources organized a workshop in 2013 on estate succession with the Oregon Department of Forestry and Oregon State University Extension that benefited from the combined expertise of all three entities. The Watershed Center and a number of partners including local volunteer fire departments, The Nature Conservancy, CALFIRE, Firestorm, Forest Service district staff, private landowners, NRCS, among others, have formed the Trinity Integrated Fire Management Partnership. This partnership is at

once accomplishing ecosystem restoration goals by restoring natural processes, building local capacity and culture, and offering shared learning around fire resilience and stewardship. It coordinates local training and builds capacity for prescribed fire planning and implementation in Trinity County, and helps large private landowners in the municipal watershed of Hayfork and on ranch land in Hyampom develop burn plans that meet landowner and community objectives. The Watershed Center is also working with their local NRCS office to explore how prescribed fire might help NRCS achieve some of its conservation program goals on local private lands.

Securing working forestland

Over the course of the DFZ project, a depressed economy meant that threats to the divestment of working forestland declined. Our 2009 assessment identified several areas at risk of development in central Oregon, and several parcels of land of interest for purchase as locally-owned working forestland, but there was little advancement of these projects and limited need for DFZ partners to actively pursue conservation easements during the five-year period. Conversion of some national forest land to illegal marijuana growing sites, particularly in northern California has increased, and affects riparian areas and wildfire risk. This will continue to pose threats to public forest stewardship in the future.

Wallowa Resources did have continuous discussions with industrial forestland owners (Forest Capital Partners LLC, and now Hancock Natural Resource

Group) about the County's interest in acquiring any lands within Wallowa County that they might want to sell to create community forests, but these entities to date have focused on significantly larger land transactions. Wallowa Resources also worked on creating a model for acquisition of the East Moraine area, completed an assessment of the property as part of negotiations, and will continue to finalize the land value.

Lessons learned and challenges to additional value streams and private land stewardship

Assisting private landowners with additional value streams was one of the more challenging goals of the DFZ project. The team's networks were far more robust and deep around public lands management. Private landowner engagement often requires extensive time to visit landowners in person and understand their needs, and build trust and relationships. In addition, although Wallowa Resources and Sustainable Northwest provided information and support about organizing a shared sort yard or other way of aggregating landowner access to manufacturing capacity in Baker County, it was challenging to find an appropriate models for sharing the risk, investments, and responsibilities that would have come with establishing such a facility. Landowners in this area have since pursued a cooperative structure for harvesting and hauling logs to the Boise-Cascade facilities in Union County rather than creating their own local facility.

For the additional value streams from private lands component of the DFZ project to be stronger, the team would have had to reallocate focus and resources, and invest significant time in building new networks, detracting from its ability to have such a deep impact as it did on public lands and biomass development. The team and funders could have also have reframed the purpose and activities on private lands to better reflect existing strengths, which were not related to additional value streams. The anchor organizations both had established means through which they already worked with private landowners, such as fuels reduction and noxious weed control programs, yet the project's framing did not necessarily recognize the value of these activities.

Section IV. Community and organizational capacity

Strategies

- Strengthen organizations and collaborative processes at the community level
- Create additional value streams for private landowners
- Accelerate learning and innovation across the DFZ

Deliberate investments in capacity

The DFZ project deliberately included an emphasis on building the capacity of organizations such as collaboratives, community-based organizations, and regional intermediaries to achieve integrated forest stewardship and economic development. Capacity is the collective ability to respond to social, economic, and environmental stresses, and create and take advantage of opportunities. Community-based organizations (CBOs) are important, durable sources of capacity and perform many community development and natural resource management functions (see Figure 5, page 26-27). Collaborative groups convene diverse stakeholders, often around a given national forest, to build agreed-upon ideas for management on public lands.

Changing conditions for capacity building

Just as the context of land management changed significantly over the course of the DFZ project, so have the capacities of collaboratives and CBOs. In the case of collaboratives, they have proliferated across the DFZ and broader western landscape at an increased rate over the past several years. There are now more collaborative groups, and the groups are also taking on more complex forest types and land management questions. At the start of the DFZ project, our assessment identified that collaboratives primarily focused on dry forest landscapes. It was often challenging for these groups to find funding to support regular facilitation and activities such as field tours. The role of collaboratives in land management was not consistently understood or appreciated by some decision makers, agency staff, and others who were not familiar with the approach. Today, many of the groups are addressing questions about moist mixed conifer forests, riparian areas, and how to plan and manage at larger spatial scales. They have been able to increase the scope and complexity of their work in part because of new programs and sources of support for their operations, including the Community Capacity and Land Stewardship Program (2011 onwards in Region 6 and 2013 onwards in Region 5) and collaborative support grants from the state of Oregon (beginning spring 2014). One important component of the DFZ strategy was to articulate the need for these programs and advocate for their passage, creating more enabling conditions for sustainable forest stewardship. These programs are contributing substantially to capacity. CCLS has provided flexible support for high-quality facilitation, going into the field to look at management questions on the ground, and developing communication and organizational infrastructure (see Figure 6, pages 28-29). State of Oregon grants are anticipated to have similar effects. In addition, both CCLS and state grants have required collaboratives to more clearly articulate what they do and how it links to increased outcomes for land management, and are requiring metrics that can be used to help measure collaborative effectiveness. In early 2014, the Forest Service's Pacific Northwest Research Station also provided further support to the Blue Mountains area collaboratives in the form of small grants administered through Sustainable Northwest. One notable outcome of these investments in Oregon has been an increase in new capacity to facilitate collaborative groups and processes. For example, the Blue Mountains Forest Partners has hired a director who works locally, although Sustainable Northwest and the Western Environmental Law Center still play some leadership roles.

Analyzing capacity

The DFZ focused specifically on building CBO capacity by first assessing and analyzing CBO capacity and needs. The DFZ team used the research skills and expertise of EWP to help inform capacity-building activities. EWP and Sustainable Northwest together developed and administered a survey

Capacity outcomes

- Number of organizations served in DFZ capacity-building program: 12
- Total Community Capacity and Land Stewardship investments: $973,781 through 51 grants since 2011

FIGURE 5

Community-based forestry organizations

Northwestern United States

Data collected by EWP

Community-based organizations

Major cities

US Forest Service lands

BLM and other federal lands

Washington

1. Northwest Natural Resource Group
2. Chumstick Wildfire Stewardship Coalition
3. Initiative for Rural Innovation and Stewardship
4. Mt. Adams Resource Stewards

Oregon

5. Wallowa Resources
6. Blue Mountains Forest Partners*
7. Siuslaw Stewardship Group*
8. Central Oregon Intergovernmental Council
9. High Desert Partnership
10. Applegate Partnership
11. Lomakatsi Restoration Project
12. Southern Oregon Forest Restoration Collaborative*
13. Lake County Resources Initiative

California

14. Northern California Resource Center
15. Mid-Klamath Watershed Council
16. Salmon River Restoration Council
17. Redwood Coast Community Action Agency
18. Watershed Research and Training Center
19. Mattole Restoration Council
20. Redwood Forest Foundation
21. Camptonville Community Partnership

Montana

22. Flathead Economic Policy Center
23. Northwest Connections
    Swan Valley Ecosystem Center
24. Blackfoot Challenge
25. Clearwater Resource Council
26. Big Hole Watershed Committee
27. Centennial Valley Association

Idaho

28. Priest Community Forest Connection
29. Framing Our Community, Inc.
30. Salmon Valley Stewardship

Defining CBOs

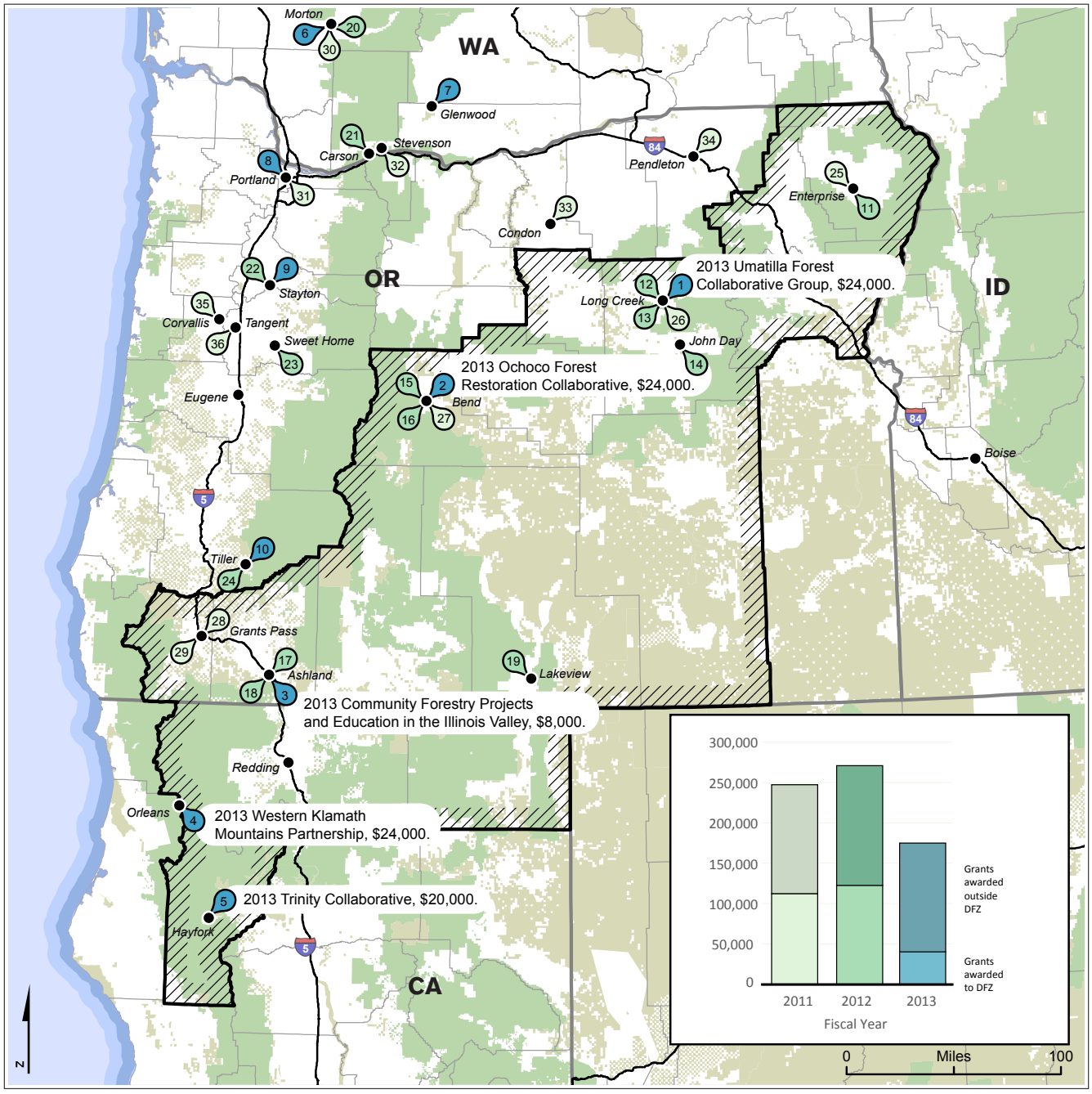
Community-based organizations are typically rural, small organizations focused on improving ecological and socioeconomic conditions in a specific local area.
We defined them here as organizations that:
1) Were not an established, widespread type of entity such as an Oregon watershed council,
2) Had both economic development and land stewardship goals, and
3) Had 501(c)3 status.

*A collaborative group that has acquired 501(c)3 status and meets our current definition of CBOs.

FIGURE 6

Community Capacity and Land Stewardship Program, 2011-2013

Dry Forest Zone



Data source: EWP

CCLS awards

Participant cities

US Forest Service lands

BLM and other federal lands

2013 Award Recipients

Inside the Zone

1. Umatilla Forest Collaborative Group, $24,000
2. Ochoco Forest Restoration Collaborative Development, $23,981
3. Community Forestry Projects and Education in the Illinois Valley, $8,000
4. Western Klamath Mountains Partnership, $24,000
5. Trinity Collaborative, $20,000

Outside the Zone

6. Expanding Community Capacity Building, $20,000
7. Growing Collaborative Capacity through Landscape Assessment, $20,267
8. Long-Term Strategic Planning and Multi-Party Monitoring Coordinator, $20,000
9. Stewardship Cont. for Indust. Dev. and Approach to Restore Watershed Health, $18,040
10. Elk Creek Watershed Restoration Project, $24,000

2012 Award Recipients

Inside the Zone

11. Wallowa-Whitman Forest Collaborative Planning Project, $20,00
12. Range Alliance for Malheur National Forest Allotments, $24,000
13. Umatilla Forest Collaborative Group - Phase 2, $24,000
14. Collaborative Forest Conservation on the Malheur National Forest, $19,000
15. Deschutes Collaborative Forest Project Capacity Building, $23,980
16. Ochoco Forest Restoration Collaborative, $23,947
17. Klamath Tribal Ecosystem Restoration Workforce Initiative, $24,000
18. Rogue Basin Dry Forest Restoration Project, $24,000
19. Lakeview Stewardship Group, $12,240

Outside the Zone

20. Pinchot Partners Continue Community Capacity Building, $24,000
21. South Gifford Pinchot Collaborative Continues, $24,000
22. Integrated Restoration of the Breitenbush Watershed at the Landscape Scale, $23,540
23. Sweet Home All Lands Collaborative, $20,665
24. Elk Creek Collaborative Restoration Program, $23,400

2011 Award Recipients

Inside the Zone

25. Joseph Creek Collaborative Watershed Restoration Program, $15,000
26. North Fork Whole Watershed Restoration Capacity Building Project, $10,000
27. Deschutes Skyline Collaborative Forest Landscape Restoration Project, $15,000
28. A Landscape Assessment for the Illinois Valley, Oregon, $22,500
29. Organizational Capacity Building, $14,000

Outside the Zone

30. Pinchot Partners Community Capacity Building, $10,000
31. Clackamas Stewardship Partners Coordinator, $23,911
32. Strengthening Collaboration on the Gifford Pinchot National Forest, $15,000
33. Lower John Day Tri-County Watershed Coop. Man. and Conserv. Coordination, $7,889
34. Umatilla National Forest Landscape Collaboration Capacity Project, $9,192
35. Greasy Creek Watershed Partnership and Project Design, $23,720
36. Hebo Stewardship Group Planning, $15,000

of community-based organizations in the West in 2010.[6] This survey found that these groups tended to be small with annual budgets under $500,000, few staff that were often part time, and a broad mission that included a range of natural resource management and community development activities. Most of their attention went to on-the-ground work, with few resources for organizational development. Respondents identified a need for more capacity building in areas such as financial and managerial systems, fundraising, and communications strategies.

The DFZ capacity-building program

The DFZ team used findings from its analysis to design a technical assistance program that would meet the unique needs of CBOs in the Northwest and allow them to network and learn from their peers. Sustainable Northwest partnered with a contractor, Barbara Wyckoff at Dynamica Consulting, to create and implement the program. It included three face-to-face meetings of all participant organizations, and a regular schedule of webinars, assignments, and individual site visits from Sustainable Northwest, Dynamica, and staff from the National Forest Foundation. EWP helped track organizations' progress and monitor outcomes. As a result of this program, many organizations in the DFZ area put better systems in place and increased sophistication in how they raised funds, performed communications, and developed their boards of directors. It also likely helped some organizations better understand their needs and what to pursue when applying for future capacity grants and resources.

Lessons learned and challenges in building capacity

Challenges associated with sustaining and building capacity in the DFZ project included being able to articulate what capacity is and its importance. Although there has been much academic research on "community capacity" over the past 15 years, there has been less attention to the specific organizations and processes that help constitute it. Funding and interest for local-scale work has primarily gone to groups implementing work on the ground, such as watershed councils. The DFZ project attempted to overcome this challenge by communicating how CBOs and collaboratives, even when not directly managing the land themselves, can greatly affect its health and stewardship. Now, many community, agency, and decision leaders do recognize the importance of these organizations, but there has been less consideration of the specific kinds of capacities needed to achieve outcomes on the ground. Sustainable Northwest has taken steps towards understanding this by surveying collaborative group leaders to inform their technical assistance work.

A further consideration is finding the right governance model for different types of land management and community development work. Currently, collaboratives are well recognized in Oregon and to some extent in California, yet remain informal entities that require fiscal sponsorship and leadership from other organizations such as CBOs and wa-

Organizations served by the DFZ capacity-building program

- Applegate Partnership and Watershed Council, Jacksonville, OR
- Blue Mountains Forest Partners, John Day, OR
- Deschutes Collaborative Forest Project, Bend, OR
- Ecosystem Workforce Program at the University of Oregon, Eugene, OR
- High Desert Partnership/Harney County Restoration Collaborative, Burns, OR
- Lake County Resources Initiative, Lakeview, OR
- Mt. Adams Resource Stewards, Salmon Valley Stewardship, Glenwood, WA
- Salmon Valley Stewardship, Salmon, ID
- Southern Oregon Forest Restoration Collaborative, Ashland, OR
- Sustainable Northwest, Portland, OR
- Wallowa Resources, Enterprise, OR
- Watershed Research and Training Center, Hayfork, CA

tershed councils. These established organizations therefore are essential to collaborative group success; they also perform a much larger range of work than collaboratives currently do. As collaborative groups grow in their scope and scale of focus, some participants may be considering how they could take on new activities such as becoming engaged in community development more broadly and become more like CBOs. This is a recent development, but brings up important questions about how organizations may grow and change to meet new needs. For example, the Blue Mountains Forest Partners is seeking 501(c)3 status and has recently hired a director, but there are varied perspectives within that group about whether to take on a larger range of activities or if they will continue to solely focus on collaborating with the Forest Service.

The DFZ team also learned that deliberately building capacity remains a challenge. Despite the successes of the DFZ capacity-building program, it was hard to consistently engage its participants around specific capacity issues, as their activities or conversations often tended towards emphasis on specific activities, rather than focusing on their own systems and resources. Despite the resources and support provided to participate, organizations also found it hard to make the time to participate outside of the meetings, (e.g. to complete tasks or use materials). It was clear that groups that made the time to participate received the most benefit from the program.

Finally, the capacity of the DFZ team organizations themselves was both an opportunity for growth and a significant challenge. Participating in the DFZ capacity-building program allowed the team organizations to invest in their own systems and resources in an unprecedented way (see Appendix 1, pages 44-47). Fulfilling DFZ project goals also led the anchors to expand their work and regional roles. The Watershed Center was able to hire several new kinds of staff to support their work in prescribed fire, watershed restoration, biomass utilization, communications, and GIS, creating a larger and more sophisticated team. But efforts to assist the integrated biomass campus development affected Wallowa Resources's stability, and several program staff have also left the organization. The intermediary organizations themselves also experienced changes in personnel, including a new executive director and the loss of two program managers at Sustainable Northwest. Transition in these organizations, however, also helped create opportunities for more junior staff to increase their skills and take on significant new leadership roles.

Section V. Biomass utilization

Strategies

- Catalyzing initial investment
- Market development
- Disseminating key lessons and replicating the model

The DFZ region is home to a number of businesses and facilities that utilize woody biomass from forest restoration projects (see Figure 7, page 34). The DFZ team took a multi-scaled approach to woody biomass utilization by simultaneously working on specific innovations and enabling conditions. This included thermal energy in schools, other community facilities, and municipal heating districts; integrated utilization businesses; and networks to support suitable policy and financial conditions.

Thermal biomass

Use of biomass for heating in facilities such as schools, hospitals, and other public buildings increased during the DFZ project. In addition, the profile of wood energy and the resources and networks around it grew. However, Rough and Ready Lumber, which used biomass to heat and power its sawmill, closed in 2013.

The DFZ team has helped to increase thermal energy use in several ways. First, they offered feasibility assessments and boiler scans that were affordable and rapid; the anchors conducted the majority of these studies and also provided a vision for partners. For example, the Watershed Center helped Modoc County leaders understand the need, opportunity, and community benefit of district heating systems and provided them with extensive information and resources. Sustainable Northwest's overall programmatic support and communications around wood heat, which included case studies of successful boiler installations with partners, also helped increase awareness and interest across Oregon. Communications and political advocacy were needed to promote the benefits of biomass utilization for energy and explain complex concepts like appropriate scale, efficiency, and integration with land management and reduced wildfire risks. Having specific examples of successful innovations on the ground helped spread the concept. By undertaking these studies, the DFZ team learned that thermal conversions may be most feasible in places where there are institutional users with constant and larger-scale energy needs, such as hospitals. To this end, the Watershed Center helped CALFIRE obtain a Woody Biomass Utilization Grant

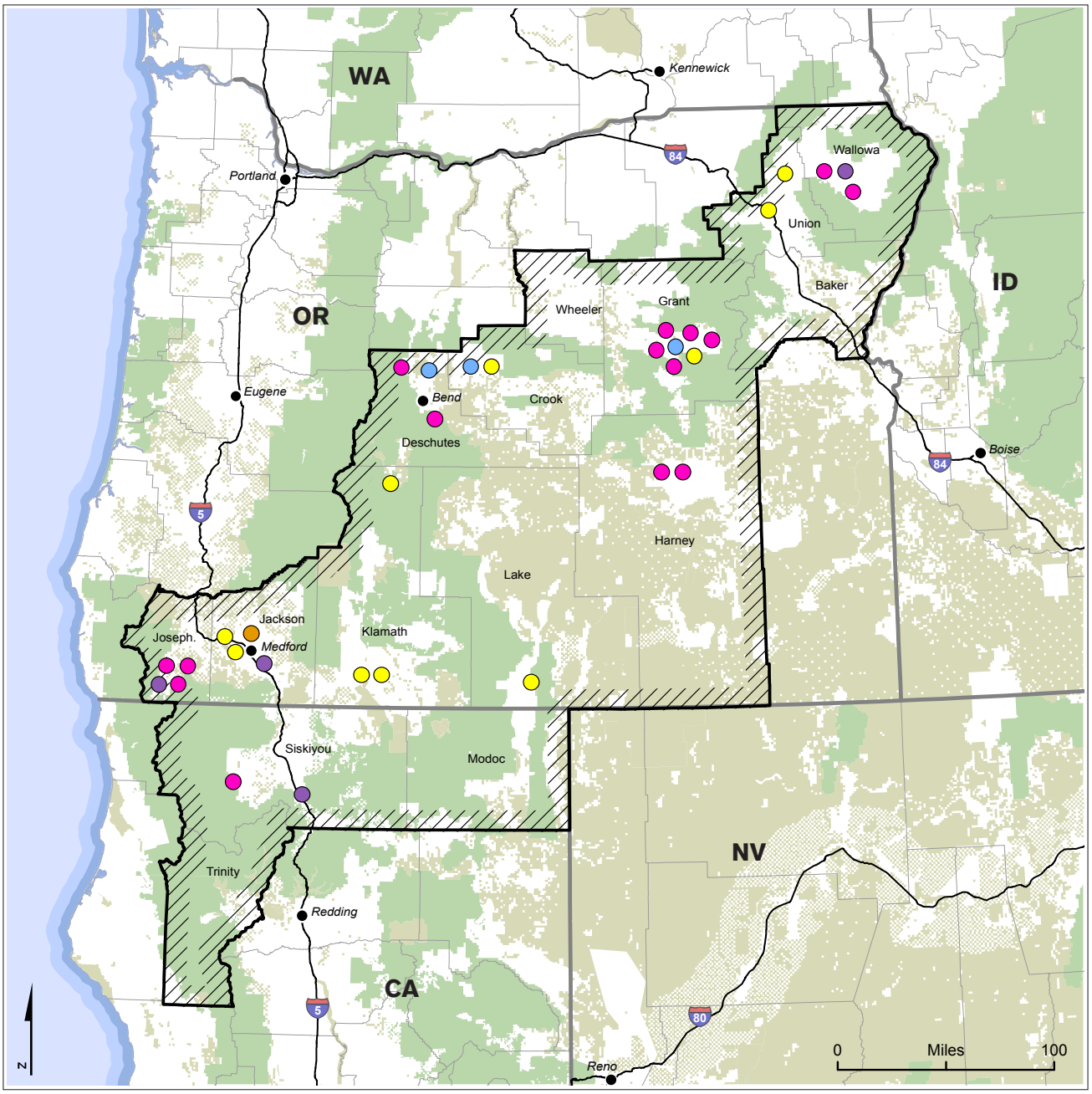
Biomass utilization outcomes

- Number of businesses developed or retained: 4 new, 2 retained, 1 relocated, 1 closed
- Number of businesses assisted: 21
- Number of new institutional heat users: 10
- Number of feasibility studies completed for new heating systems: 23

FIGURE 7

Wood-to-energy market

Dry Forest Zone



Data source: EWP

Biomass facility type

- Combined heat and power
- Densified fuels
- Electricity
- Process heat
- Space heat

- US Forest Service lands
- Other federal lands

for two conservation camps in northern California. However, most of the studies conducted and interest during the DFZ project came from municipal facilities such as schools.

Second, the team also worked at the state level through biomass working groups in both Oregon and California to advance wood energy development. These biomass working groups laid foundations for further initiatives by organizing necessary partners and developing strategies. In Oregon, the Forest Service and Oregon Department of Energy funded a Wood Energy Cluster Pilot Project in 2013. This provides support to a state-level team, which includes Sustainable Northwest, to support clusters of energy projects across the DFZ region with grants and technical assistance for feasibility, financial analysis, and initial development services. In California, the ad-hoc biomass working group led by the Watershed Center successfully sought funding through a new Statewide Wood Energy Team program in 2013, which is also supported by the Forest Service. This effort, now a subgroup of the working group, will include 15 feasibility assessments, practical solutions to barriers, and project planning programs and materials.

Establishment of an integrated utilization example

The creation of an integrated biomass utilization business in Wallowa County was a central goal of the DFZ project. By incorporating multiple uses for biomass on a single site and adding value to forest restoration byproducts, the team sought to increase stewardship of public lands and job creation, and disseminate lessons from this model. Currently, Integrated Biomass Resources, LLC, is operational and represents nearly a decade of work by Wallowa

Design benefits of the integrated biomass campus model in Wallowa County

- Reduced harvest cost per acre, due to simplified and reduced in-the-woods sorting and processing, estimated at 15 -18% ($/ton)
- Higher recovery rate in volume of small log and biomass materials—trial treatments suggest recovery may increase 18-22% (tons/acre)
- Smaller landings result in less site disturbance–fewer sorts reduce landing footprints and associated disturbance
- Reduced raw material cost for campus businesses—the sort yard can purchase unsorted loads at a gross savings of $2/ton over sorted loads
- Operational advantages to inventory, labor sharing, and market adaptation.
- Operational synergies for marketing and delivery
    - Diverse range of forest products to willing customers, which reduces marketing and transaction costs
    - Reduced trucking costs associated with more deliveries
    - The potential for reduced finished good inventory costs associated with combined loads
- Increased tons per acre removed by expanding the log specifications for the non-saw log component of each harvest
- Improved harvest economics
- Local ownership and control provides commitments to sustain operations and more adaptability to changing local circumstances
- Circulating payroll and revenue from the log and labor payroll, which is estimated at $2.5 to $3 million per year. This industry has a multiplier of 2.1, for an estimated $5.7 million of local economic benefit to Wallowa County
- Job creation, both on site and in the woods. When complete, IBR will employ 24-30 people. An equal number of jobs will be created or retained in associated contractor or service industries linked to this business
- Utilization of the human and infrastructural capital, and continuation of Wallowa County's forest products heritage
- Increase in acres treated for hazardous fuel reduction
- Reduced cost to tax payers associated with forest restoration

Resources, several entrepreneurs, Wallowa County, and other partners to restore local forest products processing infrastructure. At the start of the DFZ project, the concept focused on attracting multiple entrepreneurs to a site, envisioning that smaller specialized businesses would co-locate successfully. This business, which is now owned by a pair of local entrepreneurs, is designed to sort and merchandize diverse species and sizes of small logs and biomass from forest restoration. This system adds the most value possible to make it economically feasible to remove materials from the forest. In addition, the facility now contains a combined heat and power unit for its own operations. Over the past year, IBR has expanded its product lines and worked out the design and flow of materials on site, hired an increasing number of workers, and purchased small logs and biomass from both public and private lands. For private landowners, this provides an emerging opportunity to access additional value streams from their forests. To date, several landowners have sold material to IBR; for one landowner, this came at a crucial time for their finances. An additional effect of IBR's presence has been to create a slightly higher price for small logs in the regional market, providing another option for their use other than as chips for the pulp and paper industry.

DFZ team role

As a nonprofit CBO, Wallowa Resources was able to act as an intermediary and capacity builder for IBR. Prior to and during the DFZ project, they raised funds locally and regionally to reduce risk and create an appealing climate for an entrepreneur. They facilitated the county government acquiring the land to site the facility, acquired diverse equipment including post and pole, bundled firewood, densified firelog, and log sorting/merchandizing systems; and obtained financing for a combined heat and power system. Wallowa Resources also worked on creating enabling conditions for supply for this business by signing a memorandum of understanding with the Wallowa-Whitman National Forest in April 2010 to ensure more stable supplies of biomass from federal lands, and conducted a pilot project on the Forest to test the costs and efficacy of mechanical thinning and biomass utilization. More broadly, Wallowa Resources and Sustainable Northwest provided networking, storytelling, and vision while the entrepreneurs focused on the business operations.

Creating a supportive financial environment

At the start of the DFZ project, a lack of capital and high risk for businesses looking to enter into biomass utilization was a major barrier. Where investor interest in woody biomass did exist, it tended to be for larger-scale energy facilities (e.g. 20 megawatts or more). The team sought to improve opportunities for smaller scale and integrated businesses and thermal projects in several ways.

To foster a more supportive policy environment, RVCC made policy requests to develop federal programs including the Biomass Thermal Utilization Act of 2013 and Forest Service's State Wood Energy Team Program, and funding for the Woody Biomass Utilization Grant Program and Community Wood Energy Program; and provided comments on Biomass Tailoring Rule in response to proposed EPA regulations. At the state level, the team focused on

applying federal policy and providing leadership to state biomass working groups. In California, the state working group launched a State Wood Energy Team in 2013 and spurred the creation of state legislation for small-scale biomass energy (SB 1122); in Oregon, the working group helped include biomass energy in the Governor's 2012 10-Year Energy Plan.

In addition, the team has worked to include criteria and funds related to biomass in grant programs. USDA Rural Development programs (Rural Business Opportunity Grants and Rural Business Enterprise Grants), which DFZ partners including Malheur Lumber Company and Central Oregon Intergovernmental Council obtained, have been used for biomass projects and case studies. The Cohesive Strategy pilot in the northern Blue Mountains included feasibility and engineering funds for four projects related to forest products and biomass energy development. Also in northeastern Oregon, Wallowa Resources worked with United Fund Advisors to create the Northwest Community Capital Fund, which served as a revolving loan fund to cover upfront construction costs and lent about $315,000 to projects in advance of state and federal renewable energy subsidies.

The DFZ team also built networks and provided technical assistance to create more enabling conditions for biomass utilization at regional and local scales. For example, the Watershed Center provided regional biomass strategies to partners from seven northern California counties as part a larger integrated water management plan. They also convened many previously disconnected actors as part of the state biomass working group and brought Wallowa Resources and other experts from Oregon to visit the group. The Watershed Center also engaged important leaders such as CALFIRE in building new projects with potential for replicability across the state. Sustainable Northwest coordinated two biomass energy workshops to build network connections between NGOs, businesses, agencies, and prospective biomass facilities and provide education to encourage greater adoption of biomass energy in the region.

Finally, EWP contributed to the biomass components of the DFZ project by conducting studies of programs such as the Oregon Department of Energy's Biomass Producer or Collector Tax Credits and the US Forest Service's Woody Biomass Utilization Grant Program.[7] These studies helped provide in-depth accounts of how the programs worked and their economic impacts. EWP also developed a profile of the Reservoir Biomass Project with Wallowa Resources to highlight the keys to cost-effectively utilizing biomass from federal lands.

How did the Watershed Center create enabling conditions for biomass energy in northern California?

- Had prior local experience with Hayfork Integrated Wood Utilization Campus and business incubator
- Incorporated biomass utilization in a regional integrated water management plan
- Supported CALFIRE in obtaining Woody Biomass Utilization Grants for two engineering studies at conservation camps
- Convened an ad-hoc state biomass working group
- Advocated for and helped successfully pass California SB 1122, requiring public utilities to procure a minimum of 30 megawatts from forest bioenergy annually
- Continued to advocate for biomass energy through RVCC and other national-level efforts

Lessons learned and challenges

Developing biomass utilization businesses and thermal projects in a public lands context is inherently challenging due to larger trends such as energy prices and uncertainties about supply. During the last two years of the DFZ project, extremely low natural gas prices caused some potential projects to stall or disappear as biomass was no longer a competitive option. For the duration of the project, overall energy use was down due to the recession, also limiting the need for additional energy sources. Lower energy prices and utility-avoided costs in general limited potential breakthroughs in using biomass for electricity and confined most of the DFZ's work to existing thermal markets.

Other challenges that the team faced were limited capital for startup and risk taking. Despite their attempts to create a more supportive environment, up-front feasibility and engineering studies, grants, low interest loans, and private investments were not consistently available or suitable for longer-term investments. Through attempting to launch IBR and thermal projects, the DFZ team learned several lessons about how to build the right networks to address these challenges. Private sector sponsors and community leaders can enhance market connections and help stack funds, while the public and nonprofit sector can provide proof of concept and other case studies that illustrate successes. Business partners can provide strong design work and financial plans. Tying it together, a network of these diverse entities can help collectively leverage resources, aggregate funds, respond to issues, and be creative.

A third challenge was in communicating the concept of community-scaled biomass utilization. Sustainable Northwest responded by working on developing infographics and case story materials that would convey how biomass utilization functioned. The team also used its participation in larger venues such as the state level biomass working groups to share ideas. A further issue that arose was how to best share lessons and replicable innovations from existing projects. Case studies of thermal projects across the state helped meet this need for thermal projects, but identifying and sharing innovations from IBR became difficult as the private entrepreneurs that owned the business had proprietary information about their design that was not necessarily appropriate for Wallowa Resources and others to share. Moreover, at the conclusion of this five-year project, IBR has only just become operational, but opportunities to learn from its work and replicate innovations will emerge in the near future.

Finally, policy leader and public perceptions of woody biomass remained challenging. Policy leaders at both state and federal levels have tended to focus on other renewable energies and on biofuels rather than opportunities in thermal, electricity, and other nascent emerging technologies like biochar. Urban publics and environmental communities in particular continue to have a lack of information or misconceptions about community-scaled models, greenhouse gas emissions from boilers, and the connection to forest restoration and community wellbeing.

Section VI. Policy

Strategies

- Network leaders across the DFZ to advance innovative, common ground solutions that will support sustainable forest stewardship
- Market development
- Develop and influence policies and procedures of certification systems

Policy outreach and change was an important activity of the DFZ project because federal and state policies greatly affect prospects for forest stewardship, community and business development, and biomass utilization in a public lands context. The DFZ is 68 percent public land, and several counties have upward of 50 percent public land. The DFZ team has worked with partners in the Rural Voices for Conservation Coalition (RVCC) to track the implications of proposed policies, budgets, and policy changes for the zone, and to engage policy makers in understanding the priorities and needs of rural public lands communities. RVCC is a broad coalition of stakeholders that promotes conservation and economic development in the rural West.

Policy activities and outcomes

Federal policy

Identifying policy solutions that can integrate land management and community development goals has been a long-time RVCC focus. Through the DFZ project, the team continued to seek these solutions, using the DFZ region as an on-the-ground example yet achieving outcomes with nationwide implications. The team advocated for state and federal programs, policies, and administrative and budget structures that can accomplish these integrated goals by allowing flexibility in using funds and other resources. These have included:

- **Collaborative Forest Landscape Restoration Program:** The CFLR Program has grown from $10 million in its first year to $25 million in its second year, and has been funded at $40 million every year since (which is the maximum authorized in the enabling legislation). Sustainable Northwest coordinates the CFLRP Coalition, a national policy coalition that has successfully advocated for full funding and improved implementation of CFLRP since its inception. Selection of three CFLR projects in the DFZ region (on the Malheur, Fremont-Winema, and Deschutes national forests) provides significant opportunities for learning and future policy outreach from the DFZ.

Policy outcomes

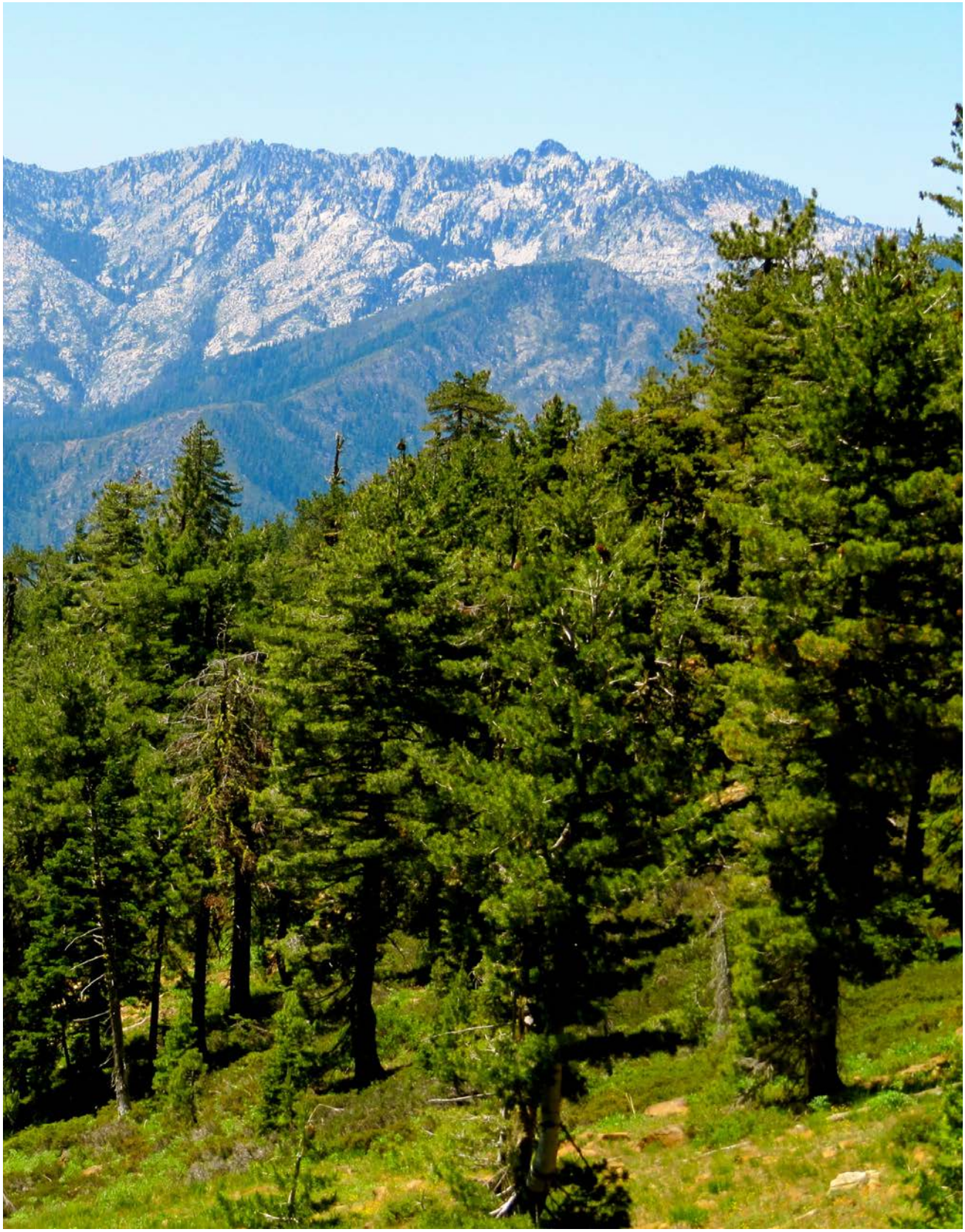
Collaborative Forest Landscape Restoration Program, Integrated Resource Restoration, State of Oregon Federal Forest Health Program, California Senate Bill 1122, Community Capacity and Land Stewardship Program, stewardship contracting reauthorization

- **Integrated Resource Restoration:** The DFZ team and others advocated the Integrated Resource Restoration (IRR) line item, which is designed to allow the Forest Service to organize its resources more flexibly to implement restoration projects and realigns its budget structure to combine multiple programs into a single item. Congress authorized a three-year pilot of IRR in Forest Service Regions 1, 3, and 4. Although this does not include the Dry Forest Zone (found in Regions 5 and 6), DFZ team members have participated in an evaluation of the pilots and are learning from this structural change in the Forest Service.

- **Cohesive Strategy:** In addition to its national level leadership and creating a FAC Network, the Watershed Center participated in the Western Regional Cohesive Strategy working group and staffed the drafting of the Fire-Adapted Communities strategies. Lessons from the DFZ and RVCC were incorporated, including the emphasis on integrated fire management. At the request of the working group, the Watershed Center completed an assessment on community-based experiences with integrated fire management, "Living with Fire", which was attached to the working group's strategy report.

- **Certification of public lands:** In 2012, the Forest Stewardship Council (FSC) US Board of Directors voted to change US policies that prevented certification of federal lands. The Watershed Center and The Nature Conservancy co-chaired the effort. The Chief of the Forest Service responded with a letter of inquiry. In 2014, FSC-US began to seek funds to support a stakeholder process to set additional considerations for federal lands. By representing the US-Social Chamber on the FSC-US board, the Watershed Center has been able to provide leadership on this important issue. Sustainable Northwest, Wallowa Resources, and other RVCC members who are members of FSC have provided important support and information.

Another important policy goal of the DFZ project was to help pass federal policies that would incentivize woody biomass utilization, working through RVCC on issues including supportive programs, tax credits, and a revolving loan program for retrofitting biomass boilers. Due to the team's efforts, biomass thermal was included in the initial draft of the Clean Energy Standard released by the Senate Energy and Natural Resources Committee. The team also worked on reauthorization and appropriations for the Community Wood Energy Program and other thermal biomass provisions. Further, the RVCC Biomass working group relied on the DFZ project to provide examples from facilities in the region, discussed the ecological and economic benefits of institutional biomass utilization based on the conclusions derived from DFZ monitoring reports to date. These examples were useful in documents such as the 2013 National Thermal Biomass Coalition sign on letter and in working group issue papers. However, the federal political environment for woody biomass remained challenging throughout the DFZ project, and a lack of understanding around the benefits of woody biomass utilization and uncertainty about its carbon offsetting potential made it difficult to advance federal policy solutions.



State policy

Two major and somewhat unanticipated accomplishments of the DFZ project were the passage of state-level policies to support forest restoration and smaller-scaled biomass utilization. In Oregon, the team worked through the State of Oregon's Federal Forest Advisory Committee to help design and draft a proposal for a Federal Forest Health Program budget package ($2.88 million). This included engaging community and collaborative partners in each step from program design to refinement, testimony and witness coordination, and advocacy at the legislature level. This policy package is novel in that it recognizes and supports the capacity of collaborative groups and intermediary technical assistance providers to increase restoration activity on federal lands. This emerged as a priority after Malheur Lumber Company in John Day announced it would close its sawmill in November 2011, spurring the Forest Service to look into doing business differently on the Malheur National Forest by supporting accelerated restoration and agency capacity. Partners across the state saw the need to respond as well by investing in the social infrastructure that could help make accelerated restoration possible. With the Federal Forestry Advisory Committee already in place, there was an effective structure through which the team and others could organize to bring this policy package into being.

In California, the Watershed Center and partners achieved the passage of Senate Bill 1122 in 2012. It requires California's public utilities to procure a minimum of 250 megawatts of power annually from small, low-emission bioenergy projects and 30 of these megawatts must come from forest biomass. The state's ad-hoc biomass working group, which the Watershed Center led, was able to help articulate the need for policies that would support smaller-scale projects and show that many partners across the state desired them. This is a significant accomplishment in a state where large-scale renewable energy production, e.g. from wind and solar, receives most of the policy attention and investment while forest biomass is little-understood.

Organizing for policy work

There were many transitions in the organizations through which the DFZ team implemented policy work. Most notably, RVCC became less active during the project period and the team used it less for the DFZ project than planned. This policy network had successfully convened diverse stakeholders from across the West through annual meetings, working groups, and trips to Washington D.C. ("Western Week in Washington") to directly interface with elected officials and agencies. Consistent and adequate funding for RVCC was lacking after 2010 when support from the Ford Foundation, Surdna Foundation, and Compton Foundation ended. This partially limited the impact of the DFZ's policy work. However, it also afforded new opportunities to build working relationships. Working groups focused on continuing their regular calls and policy platform development, and when major issues such as stewardship contracting emerged, they built coalitions with other actors with similar goals. The DFZ team still took annual trips to D.C., which were productive as they allowed for smaller meetings and a more focused agenda than in larger RVCC trips. The transition away from using RVCC for policy work also triggered useful conversations among that network's leadership about how they might adapt and re-develop it to meet evolving needs.

Another significant and unexpected shift in policy work was the DFZ project's focus on state-level policy, and the organization of new groups and networks to address it. In particular, biomass utilization working groups in both states allowed DFZ organizations and partners to develop unified strategies for working on thermal biomass use and other issues. State policy work was not an explicit goal of the DFZ project at its inception. However, it became clear that state agencies and decision makers were interested in many of the DFZ project's objectives and that working at the state level could be effective. This led to the passage of state bills and programs as well as an Oregon Board of Forestry Action Plan that included some DFZ goals. It also allowed the DFZ team to build stronger relationships with other partners working at the state level, such as The Nature Conservancy and Sierra Forest Legacy.

Lessons learned and challenges

The DFZ project endured two significant and related challenges to its policy work: difficult political environment for advancing legislative solutions, and a lack of financial support for RVCC and policy organizing. Partisan conflict and acrimony meant that congressional representatives were not necessarily willing to take on new ideas or work creatively together, and that important tools such as stewardship contracting were vulnerable because they were entangled in larger controversial issues as part of the Farm Bill. Working with appropriations required time and energy, but did not always lead to timely outcomes. The DFZ team addressed this challenge by focusing on administrative accomplishments within the Forest Service and other agencies.

RVCC and the DFZ team also experienced the end of several grants supporting their policy organizing, and found that many funders were not focused on this type of work at this time. Despite broad interest in transformative change and collective impact in the foundation world, RVCC faced challenges in conveying how it was an effective venue for these kinds of outcomes. RVCC leaders identified a need to rethink their approach to organizing around federal lands policy in the West. This process is ongoing, but includes several components that build on lessons from the DFZ project. First, there is a need to better convey the vision of RVCC and why policy is an important change agent through combined stories and metrics. This includes recognizing that RVCC was never just about policy—it was also about networking and peer learning opportunities—and figuring out how to include that value in future renewals of the coalition. Second, DFZ monitoring interviews suggested that the team's relationships were deep and productive, but often too narrow and that they and other members of RVCC needed to build a broader bench of collaborators within the Forest Service in particular. Finally, rural economic conditions have only improved slowly, and the decline in federal payments to counties mean that many communities in the West face enormous fiscal issues and are increasingly unable to provide services such as public safety, roads, and schools. The magnitude of this issue has spurred RVCC leaders to focus more directly on how they can improve rural wellbeing and develop "out of the box" solutions that fundamentally restructure how economic activity can be derived from natural resources.

Appendix 1. Dry Forest Zone project detailed accomplishments

Indicator	Final accomplishment	Funder target	Notes
1. Number of acres directly treated across public and private ownerships using Endowment and matching funds	8,843 acres	6,000 acres treated	Treatments included hazardous fuels reduction, prescribed burning, and other management activities, and took place either through the Watershed Center's summer adult and youth work crews or through contracts administered by Wallowa Resources.
2. Number of acres analyzed by national forests with active collaborative groups that the DFZ team has directly supported	214,350 acres	None set	National forests with active collaborative groups that the DFZ team has directly supported (provided facilitation, coordination, or other significant leadership) are the Wallowa Whitman, Malheur, and Shasta-Trinity.
3. Number of private landowners assisted with alternative value streams including certification systems and/or state stewardship planning or cost-share programs.	At least 120 landowners and three landowner groups	100 landowners assisted	Landowners were assisted in most counties of the DFZ. Assistance included: ▪ Baker County Landowners' Association—with information about certification and biomass utilization ▪ NE OR landowners assisted in selling biomass to IBR ▪ Estate planning and diversifying incomes workshops in Enterprise and La Grande ▪ Prescribed fire program, restoration, and stewardship assistance in the Hayfork and Hyampom area ▪ Provided information on grass banking to Modoc Cattlemens' Association ▪ Provided private lands biomass supply assessment assistance to the Siskiyou Woody Biomass Working Group
4. Number of acres under forest certification	None	2,000 acres in Wallowa County	Opportunities to certify private land did not come to fruition in Wallowa County, although Wallowa Resources did certify acres in western Washington and Ontario, Canada.
5. Number of manufacturing businesses with chain of custody certification	Two	Five businesses certified	Wallowa Resources became a representative of Woodmark and certified Bronson Lumber, and Miller Lumber and Home Center in Wallowa County.

Indicator	Final accomplishment	Funder target	Notes
6. Number of acres of forest purchased as community forest or development rights acquired	None	Community forest ownership or management or development rights established in at least one county in the DFZ region	Wallowa Resources has undertaken negotiations for community ownership of lands on the Wallowa Lake East Moraine, but they are not complete at this time.
7. Number of priority landscapes selected through the Collaborative Forest Landscape Restoration Program within the DFZ	Three landscapes selected with at least 460,000 acres in planning. One regional network was launched.	Two landscapes selected	Deschutes Collaborative Forest Project, Lakeview Stewardship Landscape, and Southern Blues Coalition were selected. Sustainable Northwest created a Region 6 CFLRP Network to increase efficiency and implementation of the CFLR Program in the area.
8. An increase in the number and diversity of woody biomass utilization businesses that maximize value from sustainable forest management	21 businesses assisted, four created, two retained, one relocated, one closed.	Five new businesses created and five retained	*Businesses created:* Integrated Biomass Resources, LLC; Elkhorn Biomass; Hayfork Integrated Campus; and Trinity Wood Products. Elkhorn Biomass is now a minority owner within IBR, and the Hayfork Integrated Campus is not operational. *Businesses retained:* IBR acquired Community Smallwood Solutions, LLC. The DFZ team helped Malheur Lumber Company find additional stewardship opportunities and avoid a planned closure. *Businesses relocated or closed:* Jefferson State Forest Products relocated from Hayfork to Grants Pass, leaving Trinity County but remaining within the zone. Rough and Ready Lumber closed.
9. Increased local ownership of forest-related businesses leading to increased opportunity for local profit retention and wealth capture in local economies	Four businesses are locally owned	Three of the new businesses or new business partnerships include some local ownership	Three businesses created or retained are locally owned; one is partially locally owned; and IBR bought Community Smallwood Solutions, LLC.

Indicator	Final accomplishment	Funder target	Notes
10. An increase in local and regional generation and consumption of wood-based energy across the DFZ	Ten new institutional users	Ten new commercial or institutional users of woody biomass heating systems that use regional sources of woody biomass	Provided technical assistance to most of these new users, and conducted 23 feasibility studies.
11. The anchor organizations are strong, have improved organizational processes, leadership transition strategies, and board development	Anchor organizations have diversified funding sources and completed a capacity-building program	Anchor organizations have stabilized and diversified funding sources, successfully completed leadership transitions, and able to recruit and retain quality staff	*Funding sources:* Both anchors increased their ability to draw in private donations. Wallowa Resources has increased its work with foundations while the Watershed Center has attracted government support for its prescribed fire program, Fire-Adapted Communities Network, and state-level biomass work. *Capacities built:* New systems at Wallowa Resources included a financial and administrative structure, development of an employee manual, and a five-year strategic plan. At the Watershed Center, they included a leadership transition plan, match tracking system, development planning tool, organizational calendars, and updated policies manual. *Staff:* Wallowa Resources: Wallowa Mountain Institute Director and Watershed Stewardship Forester resigned; hired one new administrative assistant. Watershed Center: Hired Field Crew Supervisor, Prescribed Burn Coordinator, Field and GIS Technician, Seasonal Technical Field Crew Leader, Communicators and Volunteer Coordinator, and Energy/Thermal Development staff.
12. A DFZ network comprised of nonprofit, business, agency, and interest group organizations and leaders exists	Network of at least 68 entities used for DFZ work	There are at least 15 organizations within the DFZ involved in the DFZ network	The DFZ project engaged a multitude of diverse entities including federal and state agencies, local governments, contractors, biomass businesses, and nonprofit organizations.
13. New collaborative efforts are underway and connected to existing, mature organizations	Four new collaborative groups	Two new collaborative groups in the DFZ area	Wallowa-Whitman Forest Collaborative, Ochoco Forest Restoration Collaborative, Western Klamath Uplands Prioritization Partnership

Indicator	Final accomplishment	Funder target	Notes
14. Lessons learned and information from the DFZ region applied to RVCC papers and policy work	Four RVCC issue papers	DFZ lessons used in three issue papers	2013 – Biomass issue paper cited examples from facilities identified in DFZ monitoring and discussed the ecological and economic benefits of institutional biomass utilization based on the conclusions derived from the monitoring reports to date. 2013 – National Thermal Biomass Coalition sign on letter made points about the ecological and economic benefits of institutional biomass utilization based on the conclusions derived from the monitoring reports to date. This included wildfire risk reduction, improved forest health, job creation, and energy savings. We also discussed important issues of distribution and appropriate scale that the monitoring reports have highlighted as elements that make biomass utilization effective and economically and ecologically viable.
15. Passage of key laws and policies	Stewardship contracting reauthorized	A national energy policy recognizes federal fiber as a renewable energy; and reauthorization of stewardship contracting	Stewardship contracting was reauthorized as part of the 2014 Farm Bill. Conditions were not ripe for a federal fiber policy.
16. Federal land certification established	No pilot established but enabling conditions improved	One pilot certification of federal lands within the DFZ	The Watershed Center advanced the concept of federal lands certification with the FSC during the DFZ project and it is currently under consideration.
17. Learning meetings conducted	Five meetings	Five meetings conducted	Annual learning meetings were held, as well as site visits to the anchors and Grant County.
18. DFZ webpage established	Dedicated DFZ webpage	One new dedicated webpage created	In addition to the primary page, DFZ pages were created on all team organization websites.

Appendix 2. About the contributing organizations

Sustainable Northwest helps people and communities restore and maintain ecological health, balance diverse interests, and promote economic opportunities. It is headquartered in Portland, Oregon. Through collaboration, it works to bridge rural and urban interests, encourage entrepreneurship, and build trust in sustainable natural resource management and utilization in the western U.S.
www.sustainablenorthwest.org
info@sustainablenorthwest.org

Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon is built on the fundamental belief that ecology, economy, and governance are intimately interconnected. It believes that by understanding the relationships between ecological health, economic well-being, and a vibrant democracy, we create the building blocks of a sustainable society. It serves rural forest communities and other people that face limited economic opportunity, political exclusion, or degraded landscapes with applied research, policy education, and technical assistance.
www.ewp.uoregon.edu
ewp@uoregon.edu

Wallowa Resources works through partnerships with a diverse group of people to design and realize a new, healthier, rural community. In 1997, the Wallowa County Court passed a resolution establishing the Wallowa County Chamber and Wallowa Resources as the lead agencies implementing the Wallowa County Strategic Plan for Economic Development.
www.wallowaresources.org
info@wallowaresources.org

Watershed Research and Training Center was started in 1993 to promote healthy communities and sustainable forests through research, education, training, and economic development. This work centers around the belief that the relationship between local communities and the public forest must change so that the economy can rebuild itself based on an ethic of land stewardship. Their activities reflect this attempt to develop and encourage sustainable forest-based activities and a vibrant economic system for Hayfork and all of Trinity County.
http://www.thewatershedcenter.com/
wrtc@hayfork.net

Notes

[1] To see the assessment, please see:

http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/downloads/DryForestZoneAssmt.pdf

[2] To see the midterm report, please see:

http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/DFZ_midterm.pdf

[3] Calculated based on 2011 employment data from the US Bureau of Labor Statistics.

[4] Methods for structural network analysis include listing all entities in a given network and their relationship to each other, visually representing that network in a diagram, and quantitatively analyzing characteristics such as density and degree of connectivity. We began to attempt a quasi-structural analysis by leading the DFZ team through "free list exercises" as part of the assessment and annually for the first three years of the project. We attempted to identify every entity in each team organization's network, what type of entity it was (e.g. government, NGO), and how they used that relationship.

[5] For more information, please visit

http://www.sustainablenorthwest.org/what-we-do/success-stories/ecosystem-services-research-project.

[6] EWP's capacity studies can be found at:

http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_39.pdf
http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_38.pdf
http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_28.pdf
http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_27.pdf

[7] These biomass studies can be found at:

http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_46.pdf
http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_45.pdf
http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_32.pdf

UNIVERSITY OF OREGON