

Collaborative Forest Landscape Restoration Program 10-year Report to Congress

Introduction

Congress created the Collaborative Forest Landscape Restoration Program (CFLRP) in 2009 (P.L. 111-11) to enhance forest and watershed health, reduce risk from uncharacteristic wildfire, and benefit rural economies through collaborative, science-based approaches to forest management. All 23 CFLRP Projects were competitively selected to receive 10-year funding to restore landscapes ranging from 130,000 to 2,400,000 acres. These landscapes include a mix of ownerships and address cross-boundary needs, though CFLRP funds can only be spent on National Forest System (NFS) lands.

In its first 10 years, the CFLRP Projects created nearly \$2 billion in local labor income and supported an average of 5,440 jobs annually. CFLRP opportunities brought together over 420 organizations to engage in local collaboratives and attracted over \$470 million in partner funding and in-kind contributions, including work on private and State lands. The multi-year funding commitment and collaborative capacity are key enabling conditions for these results.

As one of the first national efforts to encourage collaborative restoration at the landscape scale, CFLRP successes and challenges offer innovations and insights to inform restoration and shared stewardship on landscapes across the country.



Achieving Ecological Restoration on Priority Landscapes

Collectively, the 23 CFLRP Project collaboratives are **increasing the scale of restoration with measurable improvements on landscapes**. The broad-scale, collaborative approach of CFLRP is expanding the quantity and quality of restoration work and achieving multiple benefits including reduced risk of uncharacteristically severe wildfire, improved habitat, and increased forest health. Collaboratives **are adapting and evolving as**

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they learn to scale up to the landscape level. While it will take time to monitor and understand the nature of landscape-scale change, 10 years of results indicate **progress towards desired conditions while adapting to unexpected events.**

Results on the Ground

With the long-term commitment of CFLRP, Project collaboratives became established and increased the extent and pace of restoration work resulting in increased efficiency and benefits.

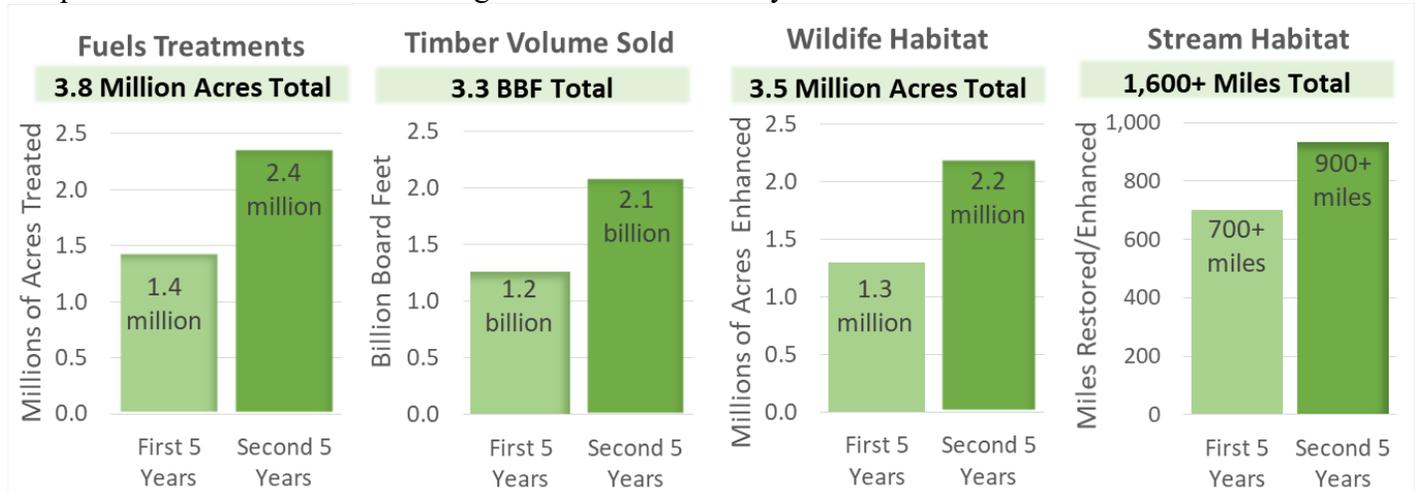


Figure 1. Accomplishments increased between the first 5 years (2010-2014) and the second 5 years (2015-2019) of CFLRP.¹

In the first 10 years of the program, **CFLRP achieved integrated restoration outcomes and treated a total footprint of 5.7 million acres¹**, an area larger than New Jersey. The 23 Projects accomplished a suite of management actions specific to the needs of each landscape:

- nearly ⅓ of hazardous fuel treatments occurred in the wildland urban interface (WUI),
- established 200,000 acres of forest by tree planting, seeding, and natural regeneration,
- increased access for recreational visitors by improving nearly 1,000 miles of trails,
- maintained over 25,000 miles of roads, and
- treated over 186,000 acres with 74% efficacy to reduce or eradicate invasive plants.

Between FY 2013 and FY 2019, CFLRP Projects comprised 11% of the NFS treatable acreage and 9% of restoration-related spending while they accomplished **19% of the agency’s total hazardous fuels treatments, 15% of the timber volume sold, 15% of terrestrial wildlife habitat enhanced, and 26% of vegetation improved.**

Impacts of Management

The integrated restoration accomplished by the 23 Projects provides multiple uses and benefits. For example, hazardous fuel treatments protect wildlife habitat and water supply areas, restore more ecologically appropriate fire regimes, increase forest health and resiliency, and reduce opportunities for non-native plant invasions. Evidence of impacts includes:

- Jointly, the 23 Projects improved habitat for 70+ species of animals and plants, 18 of which are threatened or endangered.
- Surveys of CFLRP participants found:
- 80% agree that treatments have reduced the threat of uncharacteristically severe wildfire and are improving ecological conditions.²

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- 86% agree that CFLRP Projects are improving ecosystem resilience.³
- 87% agree that CFLRP treatments align with their project objectives.³

Each CFLRP Project collaborative defined its own objectives and desired conditions to fit the needs of the landscape. Each collaborative selected ecological indicators to track progress related to fire regimes, fish and wildlife habitat, invasive species, and watershed condition. To assess progress, the CFLRP Projects used a “Green-Yellow-Red” rating representing progress on more (green) to less (red) of the landscape at both the project (i.e. specific treatments like a prescribed fire) and landscape scales (i.e. results across the entire CFLRP landscape).

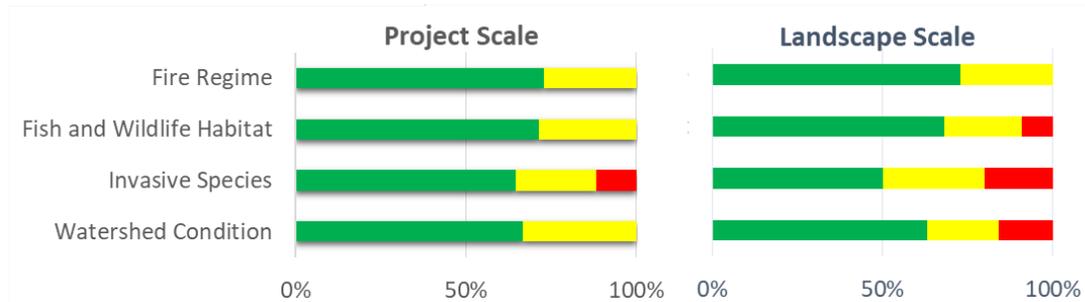


Figure 2. Further information is available on the CFLRP website at <https://www.fs.fed.us/restoration/CFLRP/guidance.shtml>.

Generally, more progress towards desired conditions occurred at the project-scale than at the landscape-scale. Commonly selected desired conditions included:

- **Fire Regime:** reduce wildfire risk; reestablish natural fire regimes; move landscapes towards historical or natural range of variability; increase use of prescribed fire
- **Habitat:** reestablish appropriate forest structure, tree density, and species composition; increase plant diversity, and protections for sensitive ecosystems; increase stream habitat complexity and connectivity
- **Invasive Species:** stabilize, reduce, prevent, and accurately map/inventory invasive species
- **Watershed Condition:** adjust roads and trails (e.g., reduce density, improved maintenance), improve water quality, improve stream and riparian habitat, reduce sediment levels

Overall, the CFLRP Projects report progress towards their objectives. Over 80% of the Projects are achieving their objectives for fire regimes, over 95% for fish and wildlife habitat, over 56% for invasive species, and 85% for watershed condition.

Evolving and Adapting to Achieve Broader Goals

Landscape-scale changes take time and investment. The CFLRP is a new approach in scaling restoration work to the landscape level, which lead to lessons learned, changes in process, and adaptation to unanticipated events, while significantly improving ecological conditions.

Fourteen Collaboratives made adjustments to their projects for various reasons, including:

- shifting project boundaries to better capture the area impacted by restoration work,
- adjusting timeframes and goals to match landscape-scale change processes,
- changing metrics to better reflect actual accomplishments, and
- incorporating new information and technology.

Unanticipated developments arose for all but one CFLRP Project.

- Natural phenomena were common and included wildfires (13 projects), flooding (2 projects), tree mortality events (2 projects), and hurricanes (2 projects).
- Wildfires created positive outcomes, such as restoring fire regimes and improved habitat, as well as negative outcomes, such as increased presence of invasive species or damaged soils.
- Other developments included: new occurrences or faster spread of invasive species, challenges meeting burn windows, and lack of contractor or workforce capacity. While some projects had litigation or delays in the environmental analysis process that required increased collaborative capacity to weather these changes.
- Positive developments included partner adding additional funding to the project and new partners joining to assist with implementation.

Reducing the Risk of Uncharacteristic Wildfire

Through strategic place-based investments and treatments, the USDA Forest Service and partners have been able to reduce the risk of uncharacteristic wildfire across CFLRP landscapes. Common treatments used by CFLRP projects include prescribed fire, mechanical treatments, and, where appropriate, managing wildfire for resource benefits. These treatments reduce risk to communities, protect wildlife habitat and water supply, provide wood products and jobs to local economies, maintain desired conditions, and increase firefighter safety.

Treatments

- CFLRP Projects treated 3.8 million acres to reduce wildfire risk, including 1.6 million acres of mechanical treatments, 1.6 million acres using prescribed fire, and 0.6 million acres of managed wildfire for resource benefits. **The amount of prescribed fire treatments increased significantly over time.** In 2019, CFLRP Projects provided 15% of the agency totals for prescribed fire treatments. This trend signals the potential for CFLR projects to increase the social license for prescribed fire use.
- **Treatments were prioritized** in high or very high wildfire hazard areas and areas in need of maintenance to maintain low fire hazard.
- **With dual goals of reducing flame lengths and wildfire intensities,** treatments were placed in wildland urban interface areas, areas with high likelihood of crown fire, and areas where fires might negatively impact infrastructure and watersheds.

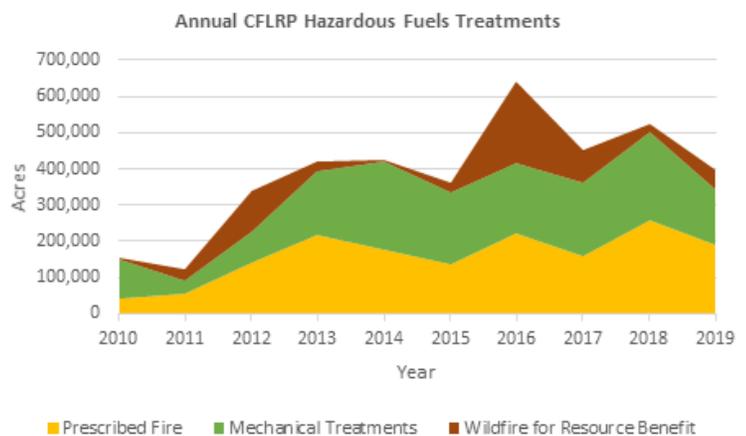


Figure 3. Hazardous fuels treatments (prescribed fire, mechanical treatments, and wildfire for resource benefit) on CFLRP landscapes from 2010 - 2019.

Impact

- **Fuels Treatment Effectiveness** - CFLRP Projects track effectiveness of treatments when a wildfire occurs on the landscape. In 2019, eleven CFLRP Projects provided information on when a wildfire interacted with a previously treated area. Based on subjective feedback, **Previous CFLRP project**

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treatments were effective, allowing for reduced wildfire intensity, increased firefighter safety, reduced vegetation losses, and improved forest resilience.

- Projected Impacts on Wildfire Behavior - In 2019, Forest Service researchers conducted a deeper analysis of fuels treatments on five CFLRP Projects (Southwest Jemez (NM), Southern Blues (OR), Northeast Washington (WA), Missouri Pine-Oak Woodlands (MO), and Accelerating Longleaf Pine (FL)). Analysts performed wildfire simulations and risk calculations on pre-treatment (2012) and post-treatment (2019) landscape conditions. In general, study sites showed a decrease in average burn probability, expected annual area burned and predicted flame lengths of 6 and 8 feet.

Effectiveness of Fuels Treatment on the Grandfather Restoration Project (NC): A lightning strike started the Bald Knob fire on July 14, 30 miles from Asheville, NC on the Pisgah National Forest. The surrounding area had received fuel treatments and had seen past wildfires. These decreases in fuel loading, fuel structure, historic line construction and local knowledge of values at risk afforded managers the opportunity to manage the fire to meet resource objectives while minimizing risk and exposure of firefighters.

Economic and Community Benefits

The 23 CFLRP Projects generate significant economic impacts and provide numerous benefits to local communities. CFLRP participants commonly cite relationship building, locally retained contracts, partnership composition, job training opportunities, and cross institutional agreements as key community benefits. These CFLRP Projects create positive shifts in local support and capacity for restoration work.

Supporting Local Jobs and Labor Income

- **CFLRP supports jobs in multiple sectors**, including forest product harvesting and processing, commercial firewood, as well as contracted restoration implementation and monitoring.
- Project activities have supported over \$200 million in local labor income and 5,440 jobs annually.⁴
- Forest restoration projects like the CFLRP Projects are important to growing the tourism industry and recreational opportunities for local residents.

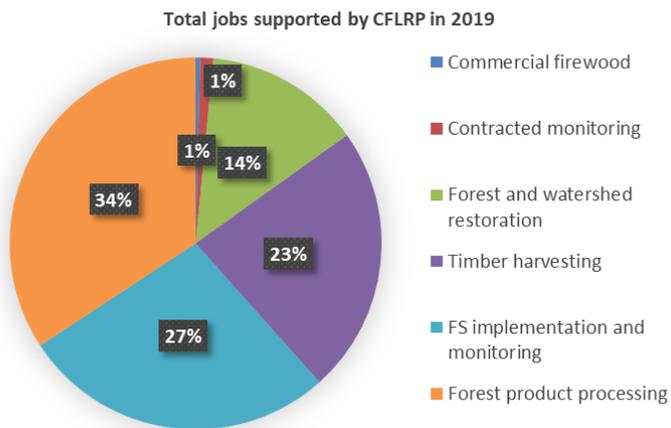


Figure 4. Commercial firewood includes jobs from the sale of firewood harvested. Contracted monitoring includes jobs from private business. Forest and watershed restoration jobs includes contracted restoration activities. Timber harvest contributions include jobs from logging and removal of commercial products. FS implementation and monitoring includes contributions from Agency implementation and monitoring. Forest product processing includes jobs from processing of commercial harvest.

Expanding Markets for Wood Products

- Forest industry capacity and markets are important considerations for landscape-scale restoration.
- Through a collaborative approach, CFLRP Projects can create a social license and expanded capacity to explore new opportunities and technologies.

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- While CFLRP Projects helped maintain and, in some cases, expand existing industry, projects reported a lack of infrastructure and markets for low-value wood products as a continuing challenge.

Training Program in Burney Hat Creek Basin (CA): Collaborative discussions identified a lack of qualified equipment operators as a major barrier to getting work done on the ground. As a result, the collaborative applied for funding through the California Climate Investment initiative and received three million dollars. In cooperation with Fall River Resource Conservation District, Shasta College developed a forest and logging workforce training program to build capacity within California's forest products industry. The Heavy Equipment Logging Operations certificate program has demonstrated tremendous success in its initial implementation.

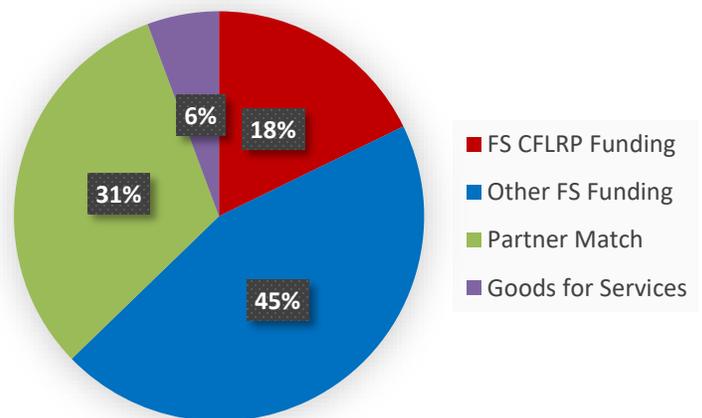
Leveraging Local Resources with National Resources

CFLRP funding has effectively **leveraged local, regional, and national funding streams** – including public and private funding – for restoration work on USDA Forest Service and private lands. This leveraged funding not only expands our ability to create results together, it also reflects shared ownership in the results.

Encouraging Public-Private Investments

- Between 2010 and 2019, CFLRP Projects attracted more than \$470 million in partner funding and in-kind contributions across all lands; of which, \$159 million supported work on NFS lands.
- For every dollar of CFLRP funding spent, we attracted \$1.80 from partner investments.
- Partner match for CFLRP Projects exceeds the Agency's minimum standard for agreements (20% match).
- Common funding partners include municipal utilities, watershed consortiums, youth educational groups, conservation NGOs, federal and state agencies, and forest products companies.

Total CFLRP Project Funding Expended (FY 2010 - 2019)



Supporting Results

- **Public-private funds expand the pace and scale of implementation** through volunteer hours to complete trail work or implement prescribed fire, direct implementation of treatments, monitoring, job training, and critical expertise.

Figure 5. FS CFLRP funding is appropriated by Congress and can be spent on implementation and monitoring on NFS lands. Other FS funds support CFLRP Projects across all lands. Partner match includes funding and in-kind contributions from partners to support CFLRP projects across all lands. Goods for Services represents the value of goods traded for services in stewardship contracts to implement treatments and monitor CFLRP projects on NFS lands.

Four Forest Restoration Initiative (AZ) Leveraged Funds: The City of Flagstaff contributed \$2.2 million to helicopter and steep slope logging contracts to reduce fire risk on steep slopes adjacent to the City of Flagstaff. *“This example of shared stewardship can be a model for other collaboratives to look at alternative funding sources to meet restoration goals.”* – 4FRI Project Coordinator

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The CFLRP Approach: Collaborative Restoration

The CFLRP's requirement for collaboration creates opportunities for diverse participants to influence decision-making and affect outcomes on the ground. **Over 420 unique organizations were represented across the 23 CFLRP collaboratives.** Participants include a diverse mix of businesses, non-profit organizations, local, State and Tribal governments, and other federal agencies such as the Department of Interior. Bringing people together augments the agency's capacity to get work done and builds support for implementation of restoration projects. Fostering relationships through collaboration is an investment in communities that pays dividends within and beyond the CFLRP boundaries.

Collaboration Benefits

- **Expanded capacity** - Collaboratives provide critical capacity, expertise, community engagement, and funding. A 2020 National Forest Foundation survey of CFLRP Forest Service staff and partners found 81% of participants agree more restoration is happening due to collaboration.³
- **Enhanced trust between partners** - Collaboratives bring together former adversaries and build the trust essential to success. 70% of CFLRP Projects cited relationship building and collaborative work as the most important community benefit from the CFLRP in their 2019 annual reports.⁵
- **Decreased conflict, including litigation** - The 2020 survey found 60% of participants report decreased conflict.³ In a 2018 survey of Forest Service staff, 61% of respondents said they decreased litigation.²
- **Better decision-making** - Large-landscape focus and collaborative involvement generated social license and capacity to "go big." 50% of Forest Service staff say this allows them to do larger-scale analyses in less time.² 82% of CFLRP participants agree that collaboration improves Agency decision-making.³
- **Cements collaboration as a way the agency does business** - 69% of respondents agreed that CFLRP has legitimized collaboration.³

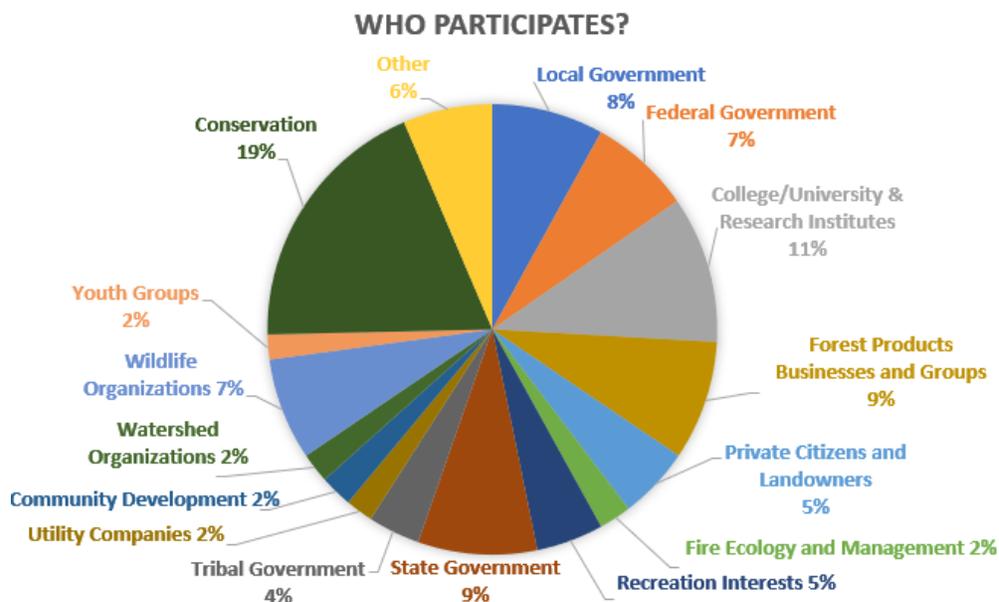


Figure 6. Participants in the 23 CFLRP Projects span multiple sectors, organizations, governments, and interests.

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What Does Collaboration Look Like?

Collaboration takes varied forms. Common best practices include clear roles, neutral facilitation, documented agreements, shared expectations, and approaches to managing participant turnover.²

“The CFLRP has created a unique forum for diverse stakeholders to learn from each other and identify overlapping zones of agreement. The group has been able to reach consensus on far more topics than ever before. The group has continued to work together to craft, defend and implement restoration projects on a meaningful scale.” – Respondent to NFF 2020 Survey

The CFLRP Approach: Science-based Restoration

The CFLRP statute requires multi-party monitoring. Collaboratives develop and implement multi-party monitoring plans to examine questions of collective interest to their stakeholders. Additionally, every 5 years collaboratives report on a consistent set of five national indicators.⁶

CFLRP Projects are a process of learning together. All 23 projects developed and implemented multi-party monitoring plans. Monitoring plans reflected integration of the stakeholders’ interests.

Monitoring builds mutual understanding and social license. The 2019 collaborative annual reports emphasized the role of monitoring in building and maintaining relationships and a social contract, e.g., “monitoring efforts have been crucial in the collaborative process.” Conflict is reduced, and challenges are met together. For example, in eastern Oregon and Washington there is now broad consensus for treatments in dry forest, based on mutual understanding of objectives and supported by monitoring.

“The collaborative’s ‘citizen science’ and ongoing collaborative monitoring has definitely improved decision-making -- more transparent, evidence-based, and collaborative dialogue based.” – Respondent to NFF 2020 Survey

Multi-party monitoring expands capacity by integrating efforts of partners. Nearly 70% of surveyed CFLRP participants said third party science organizations such as Forest Service Research and Development, land-grant universities, or The Nature Conservancy provided capacity or expertise to implement monitoring.³

Dedicated funding is critical. Projects dedicated up to 10% of their CFLRP funding to support monitoring, elevating its importance, and using this as leverage to recruit additional resources.

We’ve made progress in monitoring at multiple-scales, and there is more work to be done.

- Monitoring generally worked well at the local (project) scale. Lessons learned showed monitoring efforts at broader scales need improvement, through increased skills and capacity to conduct landscape assessments and develop more effective landscape metrics, especially geospatial measures.⁷
- CFLRP Projects seek long-term restoration in ecosystems and other benefits. We may need decades to adequately document the extent of benefits achieved. Despite this challenge, collaboratives developed useful metrics to examine progress toward success and to recognize barriers to meeting objectives.

Monitoring for Continual Improvement: Using remote sensing, the Northeast Washington Forest Vision 2020 project was able to assess changes in forest pattern and structure to determine whether treatments resulted in movement towards desired targets – NE Vision 2020 annual reports.

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Conclusion

Through 10 years of CFLRP implementation, USDA Forest Service and CFLRP participants have advanced our knowledge about collaborative landscape restoration:⁷

- **Multi-year funding and requirement for partner match.** Long-term commitments attract partners to leverage resources and enable effective cross-boundary work.
- **Investing in collaboration.** The requirement to collaborate allows for local variability and creates durable outcomes. Coordination and communication are critical. Limited staff capacity and turnover can cause delays. Implementing best practices can mitigate these issues.
- **Monitoring and adaptive management in action.** The multi-party monitoring requirement support accountability and build trust with partners. CFLRP advanced adaptive management and highlighted areas for further improvement.
- **Working at the landscape scale for integrated outcomes.** When multiple interests come together to identify opportunities across the landscape, they can achieve cross-cutting results. Often, they must evaluate tradeoffs among options for multiple outcomes.
- **Accelerating results while navigating challenges and change.** Collaboratives expanded the scale of prescribed burns to reduce uncharacteristic wildfire risk and continue to work to achieve the desired scale of impact. Some CFLRP Projects benefited from more robust local forest products infrastructure. All CFLRP Projects highlight the importance of sustaining infrastructure and markets for restoration byproducts and further addressing barriers to expanded use of prescribed fire.

Moving forward, the USDA Forest Service will continue to work with partners to apply lessons learned to existing and future CFLRP Projects, and to its other priority work. Through collaborative approaches to addressing landscape-scale needs, we can share risks and successes, overcome setbacks, and advance the shared stewardship of our public lands.

What's Next?

In the 2018 Farm Bill, Congress reauthorized CFLRP through FY 2023. In Summer 2019, the USDA Forest Service, in coordination with the Department of the Interior, issued a call for new CFLRP proposals and project extensions and received 22 proposals. A Federal Advisory Committee will review these proposals and make recommendations to the Secretary of Agriculture for selection. The 13 CFLRP Projects selected in 2012 and 2013 will continue through FY 2021 when their 10-year term ends.

¹ 5.7 million acres is total treatment footprint. Individual treatment types like habitat improvement and hazardous fuels reduction may overlap in their treatment area.

² “Strategies for Success Under Forest Service Restoration Authorities”

https://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_81.pdf.

³ NFF collaboration survey. In Press. Will be posted to CFLR website at <https://www.fs.fed.us/restoration/CFLRP/results.shtml>.

⁴ Data from the Forest Service’s Treatment for Restoration Economic Analysis Tool (TREAT), 2011-2019.

⁵ 2019 Annual reports <https://www.fs.fed.us/restoration/CFLRP/results.shtml>.

⁶ National ecological indicators discussed on page 3. Social and economic indicators discussed on pages 5-8. Further details available at <https://www.fs.fed.us/restoration/CFLRP/guidance.shtml>.

⁷ See CFLRP Resource Library: <https://www.fs.fed.us/restoration/CFLRP/resource-library.php>.