Thunderbird
Strategies

Realizing the Promise of Land and Water Restoration

Trout Unlimited Musselshell Meadows restoration project in Pierce, Idaho.

Report Executive Summary developed with support from the

The William and Flora Hewlett Foundation
March 2025

EXECUTIVE SUMMARY

Ecological restoration is vital for sustaining healthy habitats that support both human and wildlife populations in the United States. With limited intact natural ecosystems remaining, restoration plays a crucial role in reversing environmental degradation by halting harmful activities and implementing proactive management strategies. Beyond benefiting wildlife, restoring degraded lands and waters provides essential services to human communities, including clean water filtration, carbon sequestration, soil erosion prevention, and climate resilience. Restoration efforts help mitigate drought, curb the spread of invasive species, and enhance wildfire resilience and flood control. They also foster economic opportunities for local communities through sustainable land management and thriving working landscapes.

Land and water restoration is essential for maintaining biodiversity and supporting resilient communities. Although recent financial investments for restoration provided unprecedented support, uncertainties in federal funding due to shifting political and budgetary priorities present challenges to sustaining these efforts at scale. Regardless of federal funding availability, the need for ecological restoration remains. Philanthropy, along with state and Tribal governments, private-sector partners, and conservation organizations, is crucial in ensuring these efforts continue and expand.

A study conducted jointly by the National Science Foundation, U.S. Geological Survey, and the School of Natural Resources at the University of Arizona concluded that "Restoration as a means for climate mitigation has global benefits, whereas restoration as a means of adapting to climate change has benefits at the local and regional scales. Restoration is valuable for addressing climate change effects because it can be deployed at landscape-level scales, which is relevant to both changing environmental conditions and management parcels."[i]

In addition, the economic benefits are significant. The U.S. Chamber of Commerce 2024 Climate Resiliency Report highlights the financial benefits of resiliency activities, such as ecosystem restoration, estimating that each dollar invested saves $13 in the economic costs driven by climate-related catastrophes.[ii] In addition, research from the World Resources Institute shows that "every $1 invested in restoring degraded land generates an estimated $7–$30 in economic benefits, including improved food production, carbon sequestration, and water quality."[iii]

Additional economic benefits of land and water restoration include significant employment opportunities. A University of Oregon study found that forest and watershed restoration contracting leads to between 15.7 and 23.8 jobs per $1 million of public investment. The report also indicated that restoration investments generate more jobs compared to other alternatives because most of the investment goes towards labor rather than materials."[iv] In *Jobs, Restoration, and Resilience for the 21st Century - Stewardship of America's Lands and Waters,* the National Wildlife Federation estimates that "investing roughly $200 billion in restoring our natural systems and bolstering climate resilience over five years would put more than 3.5 million Americans to work."[v] The location of priority public, private, and Tribal lands and waters for restoration would provide enormous opportunities for needed workforce expansion, particularly in rural and tribal communities. It could also foster increased partnerships between government and non-profits with ranchers and farmers.

This report outlines a bold and actionable agenda to address the urgent challenges of sustaining the health of our nation's land and waters. It presents key recommendations for philanthropy and other stakeholders to scale and sustain land and water restoration efforts, focusing on four priority areas:

- Expanding public and private funding to meet the moment in both magnitude and pace.
- Investing in science and data-based tools shared across the field that will improve decision-making and support shared prioritization in the restoration community.
- Catalyzing engagement of critical stakeholders and growing opportunities for collaboration that can exponentially expand impact.
- Supporting efforts that build a durable public will in support of restoration activities.

This executive summary consolidates key philanthropic recommendations from the full report, providing a roadmap for funders to amplify impact, drive innovation, and scale successful restoration efforts.

Expanding Private Funding

To capitalize on recent historic investments in restoring the ecological health of the U.S. West and address the pressure and pace of dual biodiversity and climate crises, an ongoing philanthropic commitment at a scale that meets the need and the moment is required. The outreach and investigation for this report highlighted the importance of the philanthropic community adopting and scaling the following practices in their investment approach and focus:

- Extend grant terms (minimum five years) to allow long-term restoration success.
- Increase flexibility in funding to adapt to emerging restoration challenges.
- Support Tribal-led restoration efforts, which often lack access to federal funding.
- Fund local and state-level conservation efforts to complement federal initiatives.
- Continue to invest in areas where public funding is limited, such as communications, innovation, and capacity building, particularly engagement, partnership, and collaboration, and prioritize funding for projects that include engagement, outreach, and partnership development.
- Incentivize landowners and non-profits to partner with federal and state agencies and Tribal governments on an allotment boundary approach to stewarding public and private lands.
- Prioritize funding for initiatives with multiple benefits - habitat, community, and climate resilience.
- Develop a rapid response grantmaking process that supports the immediate needs of grantees to continue this work of place-based land and water restoration resulting from gaps created by substantially reduced federal support.

We also know the need is massive and that investments today in building resilient landscapes and communities will save us from even greater funding needs in the future to address the impact if we do not expand our efforts to build resiliency now. Private philanthropy investment will become paramount with the expectation of a severe reduction in federal investment in land and water restoration.

The most significant opportunity and need for restoration funding is building a long-term reliable source at the scale required for the work to maintain the healthy ecosystems necessary to thrive and keep pace with growing pressure from climate-related pressures and the proliferation of environmental threats. Philanthropic institutions should pool resources to establish a National Resiliency Fund to support land and water restoration, bolster our resilience to catastrophic impacts of climate change, and ensure funding support for ongoing restoration needs for generations to come. An economic study should be commissioned to determine the optimal size of the pool, and the fund should be structured to address both the urgent need and the longer-term imperative to sustain the healthy habitat essential to support our wildlife and communities.

Driving Innovation and Science

Comprehensive Inventory of Critical Lands and Prioritization Tools

Effective conservation planning requires prioritization to maximize benefits for both biodiversity and communities. Governments, nonprofits, and local stakeholders must collaborate to ensure the long-term health of our lands and waters. As communities develop strategies to protect the natural resources they rely on, they need access to science-based tools and data that measure success and track biodiversity protection amidst growing environmental threats.

Investing in local and national nonprofits that can work together to develop a comprehensive inventory of critical public lands and prioritization tools. This should be developed collaboratively between federal, state, and tribal land management agencies and partners. The comprehensive inventory would be available for use by agencies, county planning departments, non-profits and communities to drive shared priorities. The inventory will provide the starting point for comprehensive conservation planning and a shared decision-making tool for restoring public lands. Additional recommendations in this area for philanthropy:

- Support research on restoration's economic and social benefits and the cost of restoration work across varied landscapes.
- Fund technology and monitoring initiatives to enhance land and water conservation outcomes.

- Support a clearinghouse for existing protocols for evaluating potential restoration treatments and measures to ensure the durability of restoration investments that provide procedures for monitoring and reporting on treatment effectiveness and for making any adjustments in future investments. This might include ongoing measurement of community and wildlife health indicators, such as clean air, stable climate, adequate water, and calculating the number of species.
- Invest in a U.S. West-wide inventory of priorities for restoration work that are community-driven and/or engage communities in the process to help lift effective models for scaling and adaption and to identify gaps where new opportunities exist and includes a risk/threat with a GIS overlay that would include mapping priority landscapes for restoration based on biodiversity.

Growing Native Seed Production

Scientific research strongly supports the crucial role of native seeds in land restoration. It highlights that the use of seeds native to the local environment leads to better plant establishment, ecosystem resilience, and biodiversity compared to non-native species, making them essential for successful restoration. There is a growing and urgent shortage of native seed supplies in the U.S., and there is an expanding need for native seeds to restore natural habitats affected by wildfires, land management activities, and other disturbances. [vi]

There are opportunities for philanthropy to help bolster federal government efforts to address these challenges. Public agencies that purchase native seed and private funding can assist suppliers by taking steps to reduce uncertainty, share risk, increase the predictability of purchases, and help suppliers obtain stock seed. Regional programs could meet the specific seed needs of each region by developing a list of priority species and monitoring, collecting, and curating stock seed. Recommendations for philanthropy to invest in native seed production to address shortages and ensure resilient ecosystem recovery include:

- Supporting the rapid establishment of a National Interagency Seed and Restoration Center that adheres to accepted principles and practices and incorporates monitoring, tracking, and reporting. The Seed Center is needed and will expand the availability and supply of native seeds for large-scale restoration on federal lands. Restoration of native ecosystems will make them more resilient to the worsening impacts of the climate crisis and support native biodiversity.
- Investing in ecoregional native plant hubs by developing pilot programs, staffing, infrastructure, and risk-sharing.
- Pursuing opportunities for non-profits to partner with businesses to create a seed incubator program,
- Supporting research into elements of the native seed supply chain.
- Investing in exploring partnerships with universities and the benefits of creating economic opportunities for communities.
- Exploring interest among Tribes in leading programs around native seed and what investment, including infrastructure, is needed to support this initiative.

Scaling Impact Through Collaboration

Collaborative conservation leads to greater impact and long-term sustainability. When stakeholders unite around a shared vision, they can effectively address common priorities and develop innovative solutions. Land management plans are most effective when they incorporate diverse stakeholder perspectives, ensuring local needs are met and long-term commitment is secured. Local and Indigenous land managers offer invaluable knowledge, bringing a deep understanding of landscapes, facilitating early risk detection, and the agility to adapt management strategies as needed.

Collaborative conservation is critical to addressing the complex challenges and environmental threats of climate change and biodiversity loss at the magnitude and pace required. Coordinated partnerships also support addressing the issue of landscape connectivity needed for optimal ecological function. Recommendations for philanthropic support in this area:

- Facilitate multi-sector partnerships between government agencies, nonprofits, and landowners.
- Expand capacity-building initiatives for local and Tribal conservation leadership.

- Create a National Resiliency Fund to ensure sustainable financing for long-term restoration.
- Support collaborative conservation models like joint ventures and state-driven initiatives.

Building Enduring Public Support for Land Restoration

Strengthening and growing a public constituency that will support these initiatives is also needed. Strategic storytelling that leverages and grows positive public opinion about the restoration of public and private lands and water, as well as active and thoughtful engagement of local officials and community members, is also needed. Activating the right voices and validators best positioned to inform and inspire key decision-makers and audiences will be important to sustaining adequate levels of investment, durable policy solutions, and on-the-ground conservation outcomes.

Critical in scaling and sustaining public and private resources for efforts to restore healthy habitats, protect wildlife, and fortify resilient communities will be communications that catalyze and build support and partnerships of diverse stakeholders and grow an active and influential public constituency. In this fractured political climate, there is considerable evidence that the conservation of public lands is an issue that can galvanize public support across the political spectrum. Philanthropy can help mobilize that support by:

- Invest in strategic communications to build bipartisan public support for restoration.
- Amplify trusted local voices (ranchers, Tribal leaders, community stakeholders) with the most significant potential to activate key stakeholders and serve as influential validators to reach decision-makers.
- Support policy advocacy efforts to sustain public funding for restoration initiatives.
- Promote messaging that mobilizes support and action around shared concerns, such as drought, catastrophic wildfires, and flooding, and narratives highlighting restoration's economic, cultural, and ecological benefits.

Conclusion

As expected, the early days of President Trump's second term indicate a strong emphasis on energy dominance, shaping policies across various sectors, including the management of federally held lands and waters. However, ecological restoration offers a rare opportunity for bipartisan support as a conservation priority. It resonates particularly with conservative constituencies and influential leaders in key landscapes, who can help advance restoration efforts with this administration and the Republican-led Congress.

The early days of the Trump Administration have also signaled reduced funding for federal land management agencies, state entities, and non-profits supporting restoration work. Yet, land and water restoration remain critical conservation strategies that should be resourced despite diminished federal funding. To sustain and expand restoration efforts essential for healthy landscapes, resilient communities, and wildlife, philanthropy must step up with scaled and sustained investments. With federal support substantially reduced, this moment presents a crucial opportunity for funders to act, leveraging resources, fostering collaboration, and securing long-term commitments to position restoration as a viable and politically effective climate adaptation strategy. Now is the time to ensure these landscapes are protected for future generations.

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[ii]Staff, U. S. C. (2024, December 3). *The economic benefits of investing in Climate resilience*. The Economic Benefits of Investing in Climate Resilience | U.S. Chamber of Commerce. https://www.uschamber.com/security/the-preparedness-payoff-the-economic-benefits-of-investing-in-climate-resilience

[iii] Ding, H., Faruqi, S., Gagné, C., & Ortega, A. A. (2017, December 19). *Restoration: One of the most overlooked opportunities for economic growth*. World Resources Institute. https://www.wri.org/insights/restoration-one-most-overlooked-opportunities-economic-growth

[iv] Nielsen-Pincus, M., & Moseley, C. (2010, Spring). *Economic and employment impacts of forest and watershed Restoration in Oregon*. Oregon Coast Alliance. https://oregoncoastalliance.org/documents_13/Restoration_Economy_Study_2010.pdf

[v] National Wildlife Federation. (2022b). *Jobs, restoration, and resilience for the 21st Century*. National Wildlife Federation. https://www.nwf.org/jobs-restoration-and-resilience-report

[vi] National Academies of Sciences, Engineering, and Medicine. (2023, January 26). Supply of Native Seeds Insufficient to Meet the Needs of Current and Future Ecological Restoration Projects, Says New Report. *National Academies*. Retrieved from https://www.nationalacademies.org/news/2023/01/supply-of-native-seeds-insufficient-to-meet-the-needs-of-current-and-future-ecological-restoration-projects-says-new-report.