



New Mexico Forest and Watershed Restoration Institute

New Mexico Highlands University

www.nmfwri.org

New Mexico Forest & Watershed Restoration Institute Summary Work Plan, Fiscal Year 2023

Introduction

The New Mexico Forest and Watershed Restoration Institute (“FWRI”)¹ is a federal-state partnership created to promote healthy forests and support technologies and land management practices that reduce the risk of high-intensity and catastrophic wildfires and that lead to that lead to healthier ecosystems and communities in the Southwestern and Intermountain United States. The FWRI is based at Highlands University (“HU”)² in Las Vegas, NM, and is one of three Southwest Ecological Restoration Institutes (“SWERI”), along with sister institutes located at Northern Arizona University and Colorado State University. The Fiscal Year 2023 (“FY23”) Work Plan details how the FWRI will apply funds from Congressional Annual Appropriations,³ and will be implemented once the FWRI receives appropriated funds, generally on or around June 1.

The New Mexico State Legislature also provides funds to the FWRI through the New Mexico Higher Education Department. The State classifies the FWRI as a Research and Public Service Project (“RPSP”).⁴ The FWRI also receives in kind support from Highlands University.

FWRI Programs, Positions and Staff

In recent years, the FWRI has increased its capacity to carry out its important work. Staff are organized into three programmatic areas: Administration, Coordination & Organizational Development (Education & Outreach; Public Information; Special Programs); Technical and Applied Science Programs (Geospatial Information Systems, Monitoring); and Civic and Community Action Programs (Collaboration, Conservation & Restoration Education). The FWRI staff consists of the following positions:

Administration, Coordination and Organizational Development

- Administration
 - Director, Alan Barton
 - Deputy Director, (Open)
 - Budget, Finance and Administration Manager, Kristine Bellmore
 - Administrative Assistant, Marla Martinez
- Coordination
 - Education and Outreach Coordinator, Natalia Shaw
 - Outreach Assistant, Raymundo Melendez
 - Public Information Coordinator, Staci Matlock
 - Student Workers

¹ New Mexico Forest & Watershed Restoration Institute; See <https://nmfwri.org/>.

² New Mexico Highlands University; See <https://www.nmhu.edu/>.

³ The FWRI is a Congressionally Authorized Program, and along with SWERI alliance partners, the FWRI receives an annual appropriation authorized by Congress in National Forest System – Fuels Management report language and channeled to the FWRI through the U.S. Forest Service’s Region 3 office. See Division G – Department of the Interior, Environment, and Related Agencies Appropriations Act, 2023, p. 64, <https://www.appropriations.senate.gov/imo/media/doc/Division%20G%20-%20Interior%20Statement%20FY23.pdf>.

⁴ See <https://hed.nm.gov/resources-for-schools/institutional-finance/research-and-public-service-projects>.

- Research Associates
 - Civic & Community Action, Michael Roberts
 - Technical and Applied Science, (Open)
- Special Programs
 - Special Programs Manager, Joe Zebrowski

Technical and Applied Science Programs

- Monitoring Program
 - Monitoring Program Manager, Kathryn Mahan
 - Assistant Manager/Crew Logistic Support, Carmen Briones
 - Data Manager/Analyst, Corey Beinhart
 - Monitoring Technicians/Crew Bosses, Alex Makowicki, Meredith Prentice, Carolina May
 - Monitoring Technician, Clay Goetsch
 - Monitoring Technician Assistant, Zoe Ahrens
 - Student Workers, including Summer Field Crew
- Geospatial Information Systems (“GIS”) Program
 - GIS Program Manager & Administrator, Patti Dappen
 - GIS Specialist & Data Manager, Katie Withnall,
 - GIS Specialist, Dana Heusinkveld
 - GIS & Monitoring Technician, Elizabeth Becker

Civic and Community Action Programs

- Collaboration Program
 - Collaboration Program Manager, Crystal Medina
 - Collaboration Technician, (Open)
 - Collaboration Specialist (VISTA), (Open)
- Conservation Science Center (“CSC”) Program
 - Conservation and Restoration Education Manager, Shantini Ramakrishnan
 - Conservation and Restoration Technician, (Open)
 - CSC Technician (VISTA), (Open)
 - CSC Post-Baccalaureate Fellowship, (Open)
 - Student Workers

FWRI Institutional Alliances and Partnerships

The SWERI include the Ecological Restoration Institute (“ERI”)⁵ at NAU and the Colorado Forest Restoration Institute (“CFRI”)⁶ at CSU, and are a key alliance that is crucial to the FWRI’s success. Congress created the SWERI with the Southwest Forest Health and Wildfire Prevention Act of 2004⁷ (“SWERI Act”) to promote the use of adaptive ecosystem management to reduce the risk of catastrophic wildfire and restore the health of fire-adapted ecosystems in the Interior West. The SWERI collaborate with a diverse set of partners and affected entities to build capacity in forest restoration, including land managers and regulators, such as federal, state, local and tribal agencies; interested or affected

⁵ Ecological Restoration Institute; See <https://eri.nau.edu/>.

⁶ Colorado Forest Restoration Institute; See <https://cfri.colostate.edu/>.

⁷ Southwest Forest Health and Wildfire Prevention Act (aka “SWERI Act”), Pub. L. No. 108-317, 118 Stat. 1204 (Oct. 5, 2004), codified as amended at 16 U.S.C. §§6701–6707 (2020); See <https://www.govinfo.gov/content/pkg/USCODE-2020-title16/html/USCODE-2020-title16-chap86.htm>.

stakeholders; concerned citizens; organizations representing natural resource users; traditional groups including land grants and acequias; state and local representatives; and political subdivisions of states, such as soil and water conservation districts.

The FWRI also participates in the Forest Restoration Triangle (“FORT”), along with the Department of Forestry at HU⁸ and the John T. Harrington Forestry Research Center⁹ operated by New Mexico State University (“NMSU”) and located in Mora, NM. The three FORT entities share a common board that meets biannually to coordinate and review the activities of the three institutional partners. In 2019, the FORT partnership received a 5-year National Science Foundation (“NSF”) Centers of Research Excellence in Science and Technology (“CREST”) grant to engage HU students in forest restoration research.¹⁰

FWRI Statutory Purposes and Duties

The SWERI Act requires an annual work plan and defines the general purposes and conditions of the SWERI:

- (1) To promote the use of adaptive ecosystem management;
- (2) To reduce the risk of high-intensity wildfires;
- (3) To restore the health of forest and woodland ecosystems in the interior West;
- (4) To promote the use of collaborative processes;
- (5) To prepare an Annual Work Plan that ensures the proposed work of the Institute serves the informational needs of affected entities

The specific duties of the three Institutes as defined in the SWERI Act¹¹ are:

- (1) Develop, conduct research on, transfer, promote, and monitor restoration-based hazardous fuel reduction treatments to reduce the risk of severe wildfires and improve the health of dry forest and woodland ecosystems in the interior West;
- (2) Synthesize and adapt scientific findings from conventional research to implement restoration-based hazardous fuel reduction treatments on a landscape scale using an adaptive ecosystem management framework;
- (3) Translate for and transfer to affected entities any scientific and interdisciplinary knowledge about restoration-based hazardous fuel reduction treatments;
- (4) Assist affected entities with the design of adaptive management approaches (including monitoring) for the implementation of restoration-based hazardous fuel reduction treatments; and
- (5) Provide peer-reviewed annual reports.

Project Formulation

The projects and deliverables in the FWRI’s FY23 work plan respond to needs identified from various sources, including:

- The U.S. Forest Service (“USFS”), including personnel at the Southwestern Regional Office, Forest Supervisors’ Offices and District Rangers’ Offices;
- The New Mexico State Forestry Division (“NMSFD”) and the Energy, Minerals and Natural Resources Department (“EMNRD”), drawing on objectives spelled out in the New Mexico Forest

⁸ HU Department of Forestry; See <https://www.nmhu.edu/departments-of-forestry-2/>. The HU Forestry Department is accredited by the Society of American Foresters (“SAF”) and is the only academic forestry department in the State of New Mexico.

⁹ John T. Harrington Forestry Research Center; See <https://morasc.nmsu.edu/>.

¹⁰ See <https://www.nmhu.edu/5-million-grant-to-improve-forest-health-in-new-mexico-and-southwest/>.

¹¹ SWERI Act § 5(c), *op. cit.*

Action Plan (“FAP”) of 2020¹² and the agreement between the USFS and NMSFD titled “Toward a Shared Stewardship Across Landscapes: An Outcome-Based Investment Strategy” issued on Nov. 15, 2019 (“Shared Stewardship”)¹³;

- Other federal agencies, including the Natural Resources Conservation Service (“NRCS”), the Bureau of Indian Affairs (“BIA”), the Bureau of Land Management (“BLM”), the National Park Service (“NPS”), and the Fish and Wildlife Service (“FWS”);
- Other state agencies, including the N.M. Environment Department (“NMED”), the State Land Office (“SLO”), the Department of Game and Fish (“DGF”), and the Office of the State Engineer (“OSE”);
- Tribal governments and natural resource agencies;
- The offices of municipal, county, state, and federal elected officials;
- Soil and Water Conservation Districts (“SWCD”) and Resource Conservation and Development Councils (“RC&D”);
- Non-governmental organizations (“NGO”);
- Academic institutions in New Mexico, neighboring states, and beyond;
- Local forestry collaboratives and watershed groups;
- Individual stakeholders;
- The FORT Advisory Board;
- The leadership and staffs of the CFRI and the ERI;

This FWRI FY23 Work Plan continues themes and specific projects initiated over the last several years in GIS, monitoring, collaboration, and outreach. In addition, this plan incorporates new themes and projects, reflecting the growth that FWRI has undergone over the past year in staffing and capacity.

The administration and staff at the FWRI and HU and our partners throughout New Mexico and the West are thankful for the annual funding provided by Congress through the USFS. We are proud to serve the United States and New Mexico and are excited to continue our partnerships and projects, and to scale up our work and accomplishments in FY23.

Summary of Programmatic Themes for FY 2023

For FY23, the FWRI will work on projects in seven programmatic themes:

■ Theme 1 – Community Engagement, Science Communication, and Restoration Education:

Designed to increase awareness and understanding of ecological processes within forested ecosystems and watersheds throughout New Mexico and the related impacts of wildfire, including managed wildfires; to build capacity of community stakeholders and remove barriers to adaptive management through Tribal outreach, K-16 education, technical trainings; and to support of federal-state shared stewardship.

■ Theme 2 – Geospatial Analysis and Support: The FWRI’s GIS work strengthens our connections to stakeholders and affected entities, offering technological solutions to restoration-based questions. The FWRI is an important center of restoration-based GIS, remote sensing, and Global Positioning System (“GPS”) expertise in northern New Mexico. GIS staff provide mapping and technology support to collaborative groups, geospatial technology training for land managers and natural resource professionals, as well as continued development and maintenance of the widely used New Mexico Vegetation Treatment

¹² New Mexico Forest Action Plan, Sep. 2020; See <https://www.emnrd.nm.gov/sfd/forest-action-plan/>.

¹³ New Mexico Shared Stewardship Portal; See <https://nmssp.org/#/>.

Geodatabase.¹⁴ FWRI GIS experts also use remote sensing to assess, monitor, and visualize forests in New Mexico. Technologies such as drones and 360-degree cameras offer a unique perspective to capture and assess forest conditions and adaptive management applications.

■ **Theme 3 – Monitoring Ecosystem Response and Reducing Barriers to Adaptive Management:**

Ecological monitoring data provides the scientific basis for restoration treatments and is critical for applying effective adaptive management strategies. The FWRI’s in-house monitoring crews collect, process and analyze data on ecosystem response to restoration treatments. Each summer, the Monitoring Program employs several students, who gain valuable practical experience in forest restoration, building New Mexico’s future forestry work force, and monitoring staff provide internship opportunities, trains partners, and serves as a data repository and network.

■ **Theme 4 – Collaboration and Partnerships:** The FWRI advances collaborative conservation by promoting and coordinating partnerships, developing collaborative capacity in rural communities, creating and facilitating networks of collaborative organizations, improving communications among collaborative groups and the public, and supporting administrative needs of volunteer groups. The Collaboration Program employs AmeriCorps-VISTA volunteers who work closely with community-based collaborative groups on projects that create greater economic opportunities.

■ **Theme 5 – Communication and Public Information:** FWRI staff craft strategic and effective communications to inform and engage the public in our work. The Public Information Specialist develops videos, story maps, briefing papers, slideshows, posters and articles that describe and highlight projects, and distributes these to media outlets, partners and affected entities. The Public Information Specialist coordinates and manages public events on behalf of the Institute. The FWRI also supports effective internal communication among FWRI and SWERI staff, and with colleagues at Highlands University.

■ **Theme 6 – Forest Operations, Economics and Utilization:** The FWRI supports a sustainable restorative and regenerative economy, focusing on economic development and business growth for the wood utilization industry as an agent for forest restoration. Operations, Economics and Utilization includes working with forest industry, agencies and affected entities to enhance business capacity, reduce barriers to trade, develop uses for small diameter timber, and plan and implement outreach on forest restoration protocols and treatment effectiveness. Forest Operations also includes developing and promoting forest restoration protocols, and studying treatment effectiveness and the effects of managed and prescribed fire.

■ **Theme 7 – Professional and Organizational Development:** The FWRI supports professional development opportunities for staff members to increase capacity and maintain a healthy and productive workplace. Organizational development includes shared leadership, and regular staff field trips and retreats, and extends to inter-SWERI collaborations, workshops and annual summits.

Cross-Cutting Themes

In addition to our programmatic themes, which guide our project development and implementation, our Program of Work also draws on cross-cutting themes that tie together several of the FWRI’s programs and projects.

■ **Post-Fire Recovery and Management:** In 2022 there were 21 fires that exceeded 1,000 acres in size in New Mexico. Eight of these burned more than 10,000 acres, including the two largest wildfires in New Mexico history. In total, wildfires charred over 900,000 acres in 2022, the second highest annual total in the past 30 years. The HP-CC Fire burned more than 340,000 acres in San Miguel, Mora and Taos Counties, and reached the edge of Las Vegas, the FWRI’s home community. The HP-CC Fire affected the Institute’s programming and operations, our staff’s homes, families and neighbors, and the partners and

¹⁴ New Mexico Vegetation Treatment Geodatabase, *See* www.vegetationtreatments.org.

affected entities that we work with. The FWRI is uniquely positioned to address the challenges created by large wildfires, and responded quickly to the HP-CC Fire with support to communities in post-fire response, recovery, and restoration. As the extent of post-fire landscapes increases, Institute staff will include post-fire related activities, considerations, and content to our programs. Working with partners, our GIS, public information, education and outreach, monitoring and collaboration staff can draw on lessons learned from recent wildfires to build tools and institutionalize post-fire response processes that communities can draw on to respond more quickly, efficiently and effectively to future wildfires.

■ **Developing Local Workforces:** For many years, New Mexico's forest industry has found it challenging to employ and retain forest workers. This has been exacerbated in recent years by changes in labor practices due to the global COVID-19 pandemic and increased competition for labor. Solutions to this issue require long-term investments in recruitment, training and capacity building, beginning with youth engagement. Taken together, the FWRI's programs are engaging K-12 students, pre-service and in-service teachers, college students and faculty, forestry field technicians, agency and NGO professionals, and researchers in developing career-building pathways in natural resource fields. Workforce development and capacity building today will bring dividends in the future, by drawing more individuals into careers that steward our nation's natural resources and that find creative solutions to future issues.

■ **Integrating Scientific and Traditional Knowledge:** The SWERI Act charges the three institutes with synthesizing, adapting, translating and transferring scientific findings and knowledge to affected entities. Among the affected entities in New Mexico are many communities that draw on generations of traditional knowledge in their policies and practices. Accordingly, the FWRI adapts and synthesizes scientific and traditional knowledge to reach its partners and affected entities with practical and useful information.¹⁵

■ **Strengthening Communities:** The FWRI's programs and projects are built around practical, applied research and community development, providing tools and information that communities can use to increase their own security, resiliency and well-being, to uphold and sustain their local culture and values, to create opportunities for place-focused education and sustainable economic advancement, to hold families together and retain youth in the community, and to plan with confidence for their common future.

■ **Community Health and Well Being:** Forest restoration has a greater chance at success if a wide range of communities buy into its purposes and objectives, and benefit from its outcomes. Expanding participation in forest restoration requires entities like the FWRI to be intentional in selecting programs, projects, partners and purpose. This implies carrying out restoration activities to accomplish more than just ecological objectives. Embracing inclusion means reaching out to underserved and underrepresented groups and engaging them in participatory planning. It means carrying out restoration projects side-by-side with Tribes and Pueblos, land grants, acequias, and residents in lower-income communities, and learning from their traditional practices. The overall goal includes buy-in as a goal on equal footing with ecological restoration. The end result is stronger community cohesion and fairness.

The FWRI can incorporate a concern for healthy communities into all of its programs and projects by engaging various groups in developing work plans, considering how the outcomes outlined in our work plans affects many entities in New Mexico, and looking for opportunities to engage and work with underrepresented and marginalized entities. The same principles apply to outreach and collaboration. The FWRI can identify affected entities that we might not be reaching and initiate outreach efforts to these entities, and include fairness in outreach planning and reporting. In work with collaborative groups, the FWRI can help ensure all stakeholders are at the table in collaboratives and can promote community

¹⁵ The U.S. Forest Service, a key FWRI partner, recognizes the value of integrating scientific and traditional knowledge. In its ten-year Wildfire Crisis Strategy, the Forest Service states that science "includes acknowledging and incorporating Indigenous and traditional ecological knowledge." See U.S. Forest Service. (2022). *Confronting the Wildfire Crisis: A 10-Year Implementation Plan*. FS-1187b. <https://www.fs.usda.gov/sites/default/files/Wildfire-Crisis-Implementation-Plan.pdf>.

health and well-being as goals for collaborative groups. Finally, the FWRI can promote environmental justice by carefully evaluating the individual and social justice outcomes of our programs and projects, and by developing and conducting research on social impacts and environmental just in forest restoration.

Theme 1: Community Engagement, Science Communication and Restoration Education

Budget: \$480,107

Purpose: The projects under Theme 1 are focused on sharing holistic approaches to natural resources management, workforce development, technical training, partnership cultivation, leadership growth, and career exploration.

Staff: Theme 1 projects are primarily staffed through the Conservation Science Center Program and Education and Outreach Coordination.

Outcomes: Successful implementation of Theme 1 leads to:

- Meaningful engagement of K-12 youth in STEM and increased understanding of New Mexico's forest and woodland ecosystems through practical instruction and field experiences.
- Increased workforce capacity for post-graduates in the fields of forestry, ecological restoration, fire ecology, and natural resource management, through interventions that increase understanding of STEM disciplines and careers.
- Community members demonstrate greater knowledge and understanding of natural resource issues and engage more actively in their communities, resulting in fire-adapted communities and increased community capacity in post-fire recovery.

Theme 1. Community Engagement, Science Communication and Restoration Education	
Project	Audience/Outcomes
Community Engagement (CE)	
1.1 Wood for Life/Northern New Mexico Fuel Wood Working Group	<u>Audience:</u> Tribal nations; USFS; NMSFD; NGOs <u>Outcome:</u> Identification of communities in need of fuel wood resources; Improved communication and coordination among interested parties; Increased awareness of the challenges associated with fuelwood harvesting and distribution; Better understanding of the overall stakeholder perceptions and challenges associated with accessing fuelwood
1.2 Landowner Engagement	<u>Audience:</u> Private landowners <u>Outcome:</u> Increased participation in landowner-led and community-based organizations; Improved capacity to leverage relationships to facilitate coordination on working lands
Science Communication (SC)	
1.3 Outreach on Monitoring & Forest Restoration Protocols	<u>Audience:</u> Public land managers and NGOs; NMSFD; Private landowners; Firewood dealers; NRCS <u>Outcome:</u> Continued implementation of desired conditions in P-J, ponderosa pine and mixed conifer

1.4 Support to Shared Stewardship	<u>Audience:</u> NMSFD; USFS; Regional stakeholders <u>Outcome:</u> Coordination in federal-state partnerships
1.5 Knowledge Transmission: Publications, Guides, Manuals	<u>Audience:</u> Public land managers and NGOs; NMSFD; Private landowners; General public <u>Outcome:</u> Increased understanding of post-fire impacts and mitigation methods; Improved communication and sharing of knowledge to diverse audiences on topics related to forest restoration, post-fire landscapes, and monitoring protocols
Restoration Education (RE)	
1.6 K-12 Education & Outreach	<u>Audience:</u> K-12 students; Formal and informal educators; Outdoor learning providers <u>Outcome:</u> Increased public support for forest and watershed restoration; Recruitment of youth into conservation careers
1.7 Tribal Education and Capacity Building	<u>Audience:</u> Tribal nations; Partnering agencies <u>Outcome:</u> Improved local management of tribal lands; Recruitment of tribal youth into conservation or STEM careers; Opportunities for Tribal professionals to share lessons learned with other land managers in post-fire landscapes
1.8 Undergraduate & Graduate Student Support	<u>Audience:</u> HU undergraduate & graduate students; HU faculty <u>Outcome:</u> Increased opportunities to introduce students to future STEM employers, explore STEM careers in forestry, ecology, biology, and related fields, and build related skill sets; Increased coordination between STEM programs
1.9 Technical Trainings & Workforce Development	<u>Audience:</u> Public land managers and NGOs; NMSFD; Private landowners; Firewood dealers; NRCS <u>Outcome:</u> Increased involvement with partnering agencies to address community and partner needs; Improved skills to address challenges associated with forest restoration and monitoring; Framework for pathways that mitigate workforce shortages in natural resources and build capacity through trainings and certifications

Theme 2: Geospatial Analysis and Support

Budget: \$309,534

Purpose: Geospatial Analysis and Support offers technological insights to help answer restoration-based questions.

Staff: Theme 2 projects are carried out by GIS Program staff and the Special Programs Manager.

Outcomes: Successful implementation of Theme 2 leads to:

- FWRI stakeholders able to make more informed decisions in planning and fire suppression or management by using effective decision-support tools such as the New Mexico Vegetation Treatment Geodatabase and NM Fire Viewer.

- Increased understanding and informed use of GIS and technology applications in natural resource management and adaptive management.
- Provide web-based maps and forest visualization tools to encourage landowners to embrace forest restoration activities.

Theme 2. Geospatial Analysis and Support	
Action	Audience/Outcomes
2.1 New Mexico Fire Viewer	<u>Audience:</u> Interested public; Land managers; FWRI stakeholders; Tribal agencies <u>Outcome:</u> Provide service and outreach to land managers and interested parties in the use of our web-based maps identifying current and historical fire perimeters
2.2 New Mexico Vegetation Treatment GeoDatabase	<u>Audience:</u> Land managers; USFS; interested public; NGOs; CFRP grantees; NMSFD; Tribal agencies <u>Outcome:</u> Working collaboratively with and receiving data from agencies across the state; Developing user-friendly GIS tools and providing training and outreach
2.3 Forest Visualization of Desired Conditions	<u>Audience:</u> Land managers; NGOs; Range managers; Private landowners; NMSFD <u>Outcome:</u> Ability to showcase desired conditions statewide to large stakeholder groups online with no in-person contact or travel required
2.4 GIS Support and Outreach for Tribes	<u>Audience:</u> Tribal agencies; Native American individuals; Tribal students <u>Outcome:</u> Provide outreach to tribal agencies, Native American individuals, and tribal students using GPS/GIS/Drone technologies for natural resource management applications; Attend and sponsor the Tribal GIS Conference
2.5 GIS Support and Geospatial Technology Training for Collaborative Groups	<u>Audience:</u> Place-based collaborative groups; FWRI stakeholders <u>Outcome:</u> Improved application of geospatial technology to assist in coordination and implementation of conservation and restoration programs and projects; Develop training materials that cover geospatial data creation, management, and sharing techniques that will allow partners in collaborative to more easily work together
2.6 Geospatial Technology Training for Landowners and Natural Resources Professionals	<u>Audience:</u> Watershed groups; General public; Landowners; FWRI stakeholders; NMSFD; Other agency personnel <u>Outcome:</u> Provide outreach to land managers and interested parties in the use of GPS/GIS/Drone technologies for natural resource management; Training using existing tools to assess adaptive management and post fire landscape response; Webinars and white papers will be prepared and distributed if in-person trainings are not possible

2.7 Developing Geospatial Tools for Ecological Monitoring and Assessments	<u>Audience:</u> FWRI staff; Watershed groups; Landowners; NMSFD; Other agency personnel <u>Outcome:</u> Development of geospatial applications and outreach and training land managers and interested parties in the use of field-based tools; Develop and provide training and webinars in the use of web-based applications to monitor long-term vegetation trends
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Theme 3: Monitoring Ecosystem Response and Reducing Barriers to Adaptive Management

Budget: \$692,538

Purpose: Ecological monitoring data provides the scientific basis for restoration treatments and is critical for adaptive management.

Staff: Theme 3 projects are carried out by the Monitoring Program staff, student field crews and consultants.

Outcomes: Successful implementation of Theme 3 leads to:

- A strong and competent workforce in natural resources, as college graduates in forestry and conservation management with training and practical experience in field methods can transfer these skills directly to work in agencies and organizations
- Databases with quality data used in planning, management decisions, and research
- A unique long-term dataset providing opportunities for better understanding on fire interaction with treatments, treatment longevity, and how to produce and maintain resilient, fire adapted ecological and human communities

Theme 3. Monitoring Ecosystem Response and Reducing Barriers to Adaptive Management	
Action	Audience/Outcomes
3.1 Monitoring ecosystem response to restoration treatments and disturbances	<u>Audience:</u> Land managers and NGOs; USFS; Range managers; Private landowners; Work study students and summer interns. <u>Outcome:</u> High-quality long-term ecological monitoring data on treatment effectiveness; trained students; skilled professional crew well-informed of on-the-ground conditions
3.2 Survey and meet with partners to review overlapping monitoring protocols and how these robust indicators can form the basis of a shared monitoring strategy to support NMSFD's FAP	<u>Audience:</u> FWRI stakeholders; Broader collaborators including CFRP and GRGWA groups; NMSFD <u>Outcome:</u> Statewide collection and use of consistent, robust monitoring data for adaptive management decision-making and in modeling vegetation treatments and wildfire

3.3 Capacity-building and technical support among interested partners, including coordination across programs and partners for trainings and awareness of the importance of monitoring data	<u>Audience:</u> Tribes and tribal youth; Land Grants; SWCDs; Stakeholders; HU students; USFS <u>Outcome:</u> Local organizations trained in monitoring and restoration techniques; trained students and recent graduates; increased awareness of the importance of monitoring in decision-making
3.4 Develop a workflow to efficiently receive and compile monitoring data collected on restoration projects by partners in addition to our own.	<u>Audience:</u> FWRI stakeholders and collaborators <u>Outcome:</u> Use of our monitoring data for adaptive management decision-making and in modeling vegetation treatments and wildfire
3.5 Coordinate FWRI participation in efforts addressing treatment prescriptions, placement and effectiveness, and prescribed and managed wildfire.	<u>Audience:</u> Congress; Federal and state land management agencies <u>Outcome:</u> Federal, state, and local land managers have resources for decision-making related to vegetation treatments and wildfire risk reduction

Theme 4: Collaboration and Partnerships

Budget: \$304,359

Purpose: The FWRI Collaboration Program builds and expands effective collaborative capacity and organization, and serves as a resource for collaborative groups in New Mexico.

Staff: Theme 4 projects are carried out by Collaboration Program staff, the Special Programs Manager, the FWRI Director, and the Research Associate for Civic and Community Action.

Outcomes: Successful implementation of Theme 4 leads to:

- Strong relationships and partnerships among affected entities focused on a common landscape
- Increased knowledge and skill in collaborative techniques among facilitators and coordinators as well as participants in collaborative groups
- A wider range of tools, including increased use of technology, available to collaborative groups to improve collaborative capacity and increase opportunities for collaboration
- Stronger local economies and community connections

Theme 4: Collaboration and Partnerships	
Action	Audience/Outcomes
4.1 Statewide Operational Support to Collaborative Groups	<u>Audience:</u> Collaborative groups (especially new groups) and partnering organizations <u>Outcome:</u> Improved collaborative capacity and understanding of collaborative processes, facilitation and conflict resolution; Increased participation in collaborative conservation organizations

4.2 Regional Collaborative Networking	<u>Audience:</u> Collaborative groups, networks and partnering organizations <u>Outcome:</u> Increased interaction among different collaborative groups; Better understanding of resources available to address the needs and issues collaborative groups have
4.3 Collaborative Maps and Technological Applications	<u>Audience:</u> Collaborative groups and partnering organizations; Funding and support entities; General public <u>Outcome:</u> Roster of collaborative groups and support organizations, and their purposes and locations; Increased ability for collaborative groups to share information and strategies with each other
4.4 Supporting Local Economies Through Collaboration	<u>Audience:</u> Collaborative groups and partnering organizations; Community residents and leaders; Funding entities; Land management and regulatory agencies <u>Outcome:</u> Stronger community ties and connections; More economic resources for communities in New Mexico; Better understanding of how to achieve local economic development; Greater support for local timber industry; Communities dedicated to regenerative, restorative and resilient local economies
4.5 Planning and Design of a Collaborative Leadership Institute	<u>Audience:</u> Collaborative groups and networks <u>Outcome:</u> Improved capacity for collaborative leadership and engagement in collaborative practices

Theme 5: Communications & Public Information

Budget: \$180,232

Purpose: Communications and Public Information staff craft strategic and effective multimedia communications and coordinate and promote public events to inform and engage the public in the FWRI's work.

Staff: Theme 5 is carried out by the Public Information Specialist, students and consultants.

Outcomes: Successful implementation of Theme 5 leads to:

- Increased awareness among partners and the public about the FWRI's purpose, programs and goals
- Increased participation by the public in efforts to build wildfire resilient communities, forests, and watersheds

Theme 5: Communications and Public Information	
Action	Audience/Outcomes
5.1 Expand library of communications products	<u>Audience:</u> FWRI staff; Partnering agencies and organizations; General public <u>Outcome:</u> A comprehensive and easy-to-use archive of FWRI multimedia products, research papers and information

5.2 Build knowledge of FWRI through public information	<u>Audience:</u> General public; Partnering agencies <u>Outcome:</u> Increased understanding of the FWRI's mission and goals; Increased engagement by the public in FWRI events, surveys, and workshops
5.3 Localized post-fire/flood restoration and resiliency materials	<u>Audience:</u> Community groups and partnering organizations; Funding and support entities; General public <u>Outcome:</u> Post-fire/flood restoration and resiliency multimedia products localized to New Mexico audiences
5.4 Enhance inter SWERI communications	<u>Audience:</u> SWERI; Partnering organizations; Federal and state land management and regulatory agencies; General public <u>Outcome:</u> Enhanced consistent communications between the SWERI; Increased understanding of the purpose and mission of the SWERI

Theme 6: Forest Operations, Economics and Utilization

Budget: \$74,101

Purpose: Since October, 2020, the FWRI has sought to initiate a program to address issues related to utilization of small diameter timber and conservation-oriented economic development, working with forest industry in New Mexico to build capacity to harvest, process and find utilization for local timber resources, and to develop restoration economies in communities adjacent to forested areas.

Staff: The FWRI plans to hire an Operations and Utilization Program Manager to lead efforts in forest operations, economics and utilization.

Outcomes: Successful implementation of Theme 6 leads to:

- Integrated utilization and processing of New Mexican timber to achieve economic and restoration objectives

Theme 6: Forest Operations, Economics and Utilization	
Action	Audience/Outcomes
6.1 Collaborative Forest Landscape Restoration Program and Priority Landscapes mechanisms for forestry-based economic development.	<u>Audience:</u> CFLRP and Priority Landscape partners and affected entities <u>Outcome:</u> Strategy for place-based forest industry and community economic development in CFLRP and Priority Landscape area communities.
6.2 Examination of the economic needs of industry and agencies.	<u>Audience:</u> FWRI Director and staff; Forest industry and the New Mexico Forest Industry Association ("NMFIA"); Federal, State, Local and Tribal land management agencies including USFS and NMSFD <u>Outcome:</u> White paper on business development opportunities among forest industry and operators in New Mexico; Development of a FWRI program aimed at improving the capacity of local industry to utilize small diameter timber from New Mexico forests
6.3 Sustainable Forest Restoration Program	<u>Audience:</u> FWRI Director and staff, affected entities and partners <u>Outcome:</u> Hiring a FWRI program manager in forest restoration and/or a Research Associate in Technology and Applied Science, funding permitting

Theme 7: Professional and Organizational Development

Budget: \$159,129

Purpose: Theme 7 addresses the well-being and professional development of FWRI staff and the organization itself.

Staff: The FWRI Administration is primarily responsible for implementing Theme 7.

Outcomes: Successful implementation of Theme 7 leads to:

- FWRI staff members that are better prepared, more knowledgeable and better connected to other professionals in their fields by taking advantage of opportunities for professional development, including travel to professional conferences, and FWRI and SWERI retreats and workshops
- Increased means of communication and opportunities for cross-program collaboration among FWRI staff, resulting in stronger ties and coordination across FWRI programs and projects, better understanding of each of the FWRI programs, a strong staff esprit-de-corps, and staff retention
- Increased collaboration and communication with SWERI and FORT alliance partners

Theme 7. Professional and Organizational Development	
Action	Audience/Outcomes
7.1 Staff Professional Development	<u>Audience:</u> FWRI staff <u>Outcome:</u> Increased disciplinary knowledge and connections with other professionals; Presentations at professional conferences; Participation in 20 webinars and trainings
7.2 Organizational Development	<u>Audience:</u> FWRI staff, partners and affected entities <u>Outcome:</u> Additional staff and capacity; FY24 Work Plan and Budget; 2023 Annual Report; FWRI Staff and SWERI retreats
7.3 Organizational Health and Well-Being	<u>Audience:</u> FWRI staff <u>Outcome:</u> Staff participation in educational field days and learning events; Staff represent the FWRI with clothing and items bearing the FWRI logo; Staff use safety equipment to conduct their work safely
7.4 Inter-SWERI and FORT Coordination	<u>Audience:</u> FWRI staff and institutional alliances <u>Outcome:</u> Stronger relationships among SWERI staff and partnerships among SWERI programs; Regular FWRI participation in SWERI workshops, leadership meetings, coordination meetings, and planning; Co-produced materials and resources by SWERI staff; FWRI participation in FORT Board meetings; FWRI staff teaching courses/guest lectures in the HU Forestry Dept.; HU Forestry faculty collaborating with FWRI staff
7.5 Community Health and Well-Being	<u>Audience:</u> FWRI staff <u>Outcome:</u> Increased awareness of fairness issues in natural resource management and in FWRI operations; Equitable interactions and partnerships between FWRI staff, partners and affected entities; Outreach and partnerships with tribes and pueblos, land grants, acequias and underrepresented groups

NMFWRI Fiscal Year 2023 Summary Federal Budget

Item	Cost
Salaries	\$1,149,957.89
Fringe Benefits	\$429,913.89
Equipment	\$0.00
Consulting	\$93,500.00
Supplies	\$177,179.67
Travel	\$149,488.56
Indirect @ 10%	\$200,000.00
TOTAL	\$2,200,000.00

The overall budget includes three categories of personnel costs and three categories of operational costs. Personnel-related budget categories include salaries for regular, term and temporary full- and part-time FWRI staff, fringe benefits provided by NMHU to employees, and temporary consultants hired for specific projects. Operational categories include equipment over \$5,000 in value, materials and supplies, and travel. The funder provides 10 percent of the total budget to NMHU for overhead costs.

Breaking down the budget by category, approximately 52% of the FY23 federal grant goes to salaries, 20% to fringe, 4% to consulting services, 8% to materials and supplies, 7% to travel, and 10% to NMHU overhead.