



Improving Lives and Landscapes in Idaho

The Rocky Mountain Research Station contributes to dynamic land management needs across public, State and private land in Idaho. Innovation and research centered around local solutions and partnerships offer new methods for adapting and shaping land management decisions.

Forest Inventory & Timber Management

[Forest Inventory and Analysis \(FIA\)](#) data supports Federal and State forest planning decisions, timber harvest, and silviculture prescriptions. This data guides significant financial investments, including locating timber mills, wood manufacturing plants, and identifying landscapes at high risk for wildfire. A **comprehensive suite of FIA data and tools is available** on a [geospatial webpage](#). An Idaho specific fact sheet is on this [website](#). Our [TreeMap model and tools](#) combine forest inventory and LANDFIRE data to provide spatial information on forest characteristics, including live and dead trees, biomass, and carbon.

RMRS data and analysis helps support Idaho's economy by **better understanding timber harvest, wood utilization, and employment in primary and secondary forest product sectors**. [This report examines trends](#) in sales value, mill residuals, and timber production, providing insights into sector structure and capacity.

Wood product innovations and other sustainable products like [biochar](#) and biomass are a **cost-effective way to reduce excess forest fuels**, improve soil productivity, and provide jobs to **help strengthen rural economies**.

Forest and Rangeland Health & Restoration

RMRS conducts extensive research on wildland fire management in Idaho, including wildfire behavior, prescribed fire, smoke, and [fuel treatments](#) to **improve forest health and reduce wildfire risks** to communities. [Additional studies](#) explore how changing forest structures

can **modify wildfire behavior and severity**, focusing on reducing crown fires and managing fuels. Reports for two high-risk firesheds, [Nez Perce-Clearwater-Lower Salmon](#) and [Southwest Idaho](#), offer specific fuel reduction treatment locations and strategies to overcome operational challenges to mechanical treatments. RMRS scientists lead the field of [post-fire emergency watershed stabilization](#) research, including [treatment methods](#) and [cost-effectiveness](#).

Scientists and forest managers are using [high-tech mapping and remote-sensing tools](#) to improve forest operations. These GIS technologies **ease navigation of steep slopes and large landscapes**, making work more efficient and safer for practitioners.

The [Whitebark Pine Resilience Network](#), an offshoot of the [High Elevation White Pines Project](#), is establishing research sites across the Interior West, testing **management strategies to enhance the resilience of whitebark pine forests** to wildfire and other environmental challenges. In a nearly decade-long study, researchers found [thinning competing trees improved growth and defenses of whitebark pine](#). Trees in cleared areas grew faster, had stronger protective structures, and greater seedling establishment compared to untreated area.

White pine blister rust is endangering white pine trees. Research findings indicate that western white pine favors natural regeneration [in areas with lower infection rates](#). Integrating disease-resistant planting, ecological restoration, and research-driven strategies can help combat additional pressures like fire, beetles, and changing climate.

The [Reforestation, Nurseries, and Genetic Resources program](#) aids in **reforestation** and restoration efforts in Idaho and beyond by offering technical support and researching ways to increase **native plant propagation** success. The new [Reforestation, Nurseries, and Genetic Resources Support Act](#) continues to build on the reforestation capacity of State, Tribal, and private nurseries.

RMRS is partnering with sagebrush practitioners on the [Sagebrush Conservation Design](#) project, which provides comprehensive strategies and resources for **managing sagebrush biomes**. This award-winning work supports better outcomes from rangeland wildfires in Idaho, tracking management progress and results, and improves the health and [resilience](#) of these ecosystems. New [research](#) also prioritizes areas where conifer management will support core sagebrush landscapes in Idaho.

RMRS **mapped and assessed** the condition of [riparian, wetland, and groundwater-dependent ecosystems for the Salmon-Challis National Forest](#). Information on conditions and threats to riparian health is helping resource managers plan restoration and maintenance projects. This was part of a larger effort to [assess streams, springs, and fens resources and aid in forest planning](#) across many forests and States.

Wildlife and Fish

In collaboration with the Nez Perce-Clearwater National Forest, [our researchers](#) found **lynx** tolerated non-motorized and low-density recreation, facilitating **winter recreation opportunities** while reducing conflicts with wildlife. Other lynx research findings [inform timber management and salvage](#).

Researchers worked hand in hand with Idaho Department of Fish and Game biologists and forest managers to [reverse declines of Idaho westslope cutthroat trout](#). Scientists investigated their life histories, population dynamics, habitat requirements, and angler preferences to help design and implement more successful restoration actions. [Long-term data collection efforts](#) contribute to **salmon recovery efforts** in the Snake and Columbia River Basins.

The eDNA work at the [National Genomics Center for Wildlife and Fish Conservation](#), helps **protect** America's **waterways and fishing resources**. [We collect eDNA to ensure early detection and rapid response to aquatic](#)

[invasive species and to help monitor species of concern](#), like [bull trout](#), to help in decision making and resolve litigation.

We have partnered with dozens of State and Federal agencies to build a **cost-effective, state-of-the-art eDNA biochip** that is a core component of regional invasive species monitoring programs. eDNA is also being used to **monitor boat ramps and docks for invasive zebra and quagga mussels in lakes**.

We publish and maintain an [open-access database](#) that makes over **\$10 million of species occurrence data publicly available** for State and industry partners.

RMRS Laboratories in Idaho

- [Boise Aquatic Sciences Laboratory](#) focuses on applied research supporting watersheds, water quality, wildlife, and fisheries.
- [Moscow Forestry Sciences Laboratory](#) specializes in forest health, water quality, aquatic ecosystems, post-fire emergency watershed stabilization, and restoring grasslands and deserts.

Future Collaboration Opportunities

- Studying ways to **balance grazing and wildlife needs**
- Guiding **management of wildlife habitat** in the context of recreation noise and its effects on deer, bears, cougars, and birds
- Developing and testing outcome-based performance metrics to identify **fuel treatments** that provide the best risk reduction
- Creating tools and standards that support forest management and sustainable grazing in the face of **increasing drought**
- **Promoting healthy grasslands** to mitigate invasive species, support pollinators, and target grazing for fuels reduction

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