



MONTANA

FOREST SERVICE RESEARCH AND DEVELOPMENT

STATE FUNDING HISTORY	Enacted FY 2003 (\$)	Enacted FY 2004 (\$)	Pres. Budg. FY 2005 (\$)
BOZEMAN/MISSOULA			
RMRS-4151 Forest Ecology & Management	1,202,000	1,257,000	1,257,000
MISSOULA			
RMRS-4201 Wildlife Habitats	1,023,000	1,007,000	1,007,000
RMRS-4802 Multi-Use Economics	364,000	388,000	388,000
RMRS-4654 Bitterroot Ecosystem Research	421,000	414,000	414,000
RMRS-4901 Leopold Wilderness Institute	876,000	892,000	992,000
RMRS-4401 Fire Behavior	1,668,000	1,642,000	1,642,000
RMRS-4403 Fire Effects	1,261,000	1,241,000	1,241,000
RMRS-4404 Fire Chemistry	\$943,000	\$928,000	\$928,000
MISSOULA TOTAL	6,556,000	6,512,000	6,612,000
MONTANA TOTAL	7,758,000	7,769,000	7,869,000

RESEARCH & DEVELOPMENT, a division of the USDA Forest Service (FS R&D), strives to be the “go to” organization for information and solutions to sustain forests and rangelands and the values they provide people. FS R&D has the flexibility to address today’s issues effectively and to respond to tomorrow’s needs. Among the world’s leaders in forest conservation research, scientists contribute to the stewardship of land, real property and society by providing research results that help create jobs and affordable homes, and improve the health of trees, forests and forest ecosystems. Innovative research products permit the Forest Service and other public and private land managers to monitor and manage forest responses to environmental change, contributing

significantly to the sustainability of the nation’s forests and rangelands and improving human health.

FS R&D operates six research stations, the Forest Products Laboratory, and the International Institute of Tropical Forestry located in Puerto Rico. It employs over 500 scientists and hundreds of technical and support personnel at 67 field sites throughout the nation. The FY 2005 President’s Budget includes \$280,654,000 for Forest and Rangeland Research.

The **Rocky Mountain Research Station (RMRS)**, headquartered in Fort Collins, Colorado, maintains forest and rangeland research and development programs and facilities in 10 states of the Interior

West (AZ, CO, ID, MT, NE, NV, NM, SD, UT, and WY) and covers ND and KS. The FY 2005 President's Budget includes \$43,082,000 for the Rocky Mountain Research Station.

The Station currently maintains three major research laboratories in Missoula, the Forestry Sciences Laboratory, the Aldo Leopold Wilderness Research Institute, and the Fire Sciences Laboratory and a Forestry Sciences Lab in Bozeman on the Montana State University campus. Research in Montana will be carried out among eight research work units that employ 29 scientists and about 99 technical and support personnel.

MISSOULA/BOZEMAN

RMRS-4151, Forest Ecology and Management. Co-located in Missoula and Bozeman, the unit mission is to provide knowledge and guidelines to sustain ecosystems and improve forest health.

MISSOULA

RMRS-4201, Wildlife Ecology. The unit mission is to develop wildlife habitat information at multiple spatial scales to use in managing and conserving wildlife in forest and rangeland ecosystems of the Rocky Mountains.

RMRS-4654, Bitterroot Ecosystem Research Program. The unit mission is to strengthen the scientific theory and practice of managing Rocky Mountain ecosystems at the landscape level in the context of social, economic, and ecological opportunities and constraints.

RMRS-4802, Economic Aspects of Forest Management on Public Lands. The unit mission is to better integrate analyses of economic

efficiency and economic effects into forest management decisions on public lands.

ALDO LEOPOLD WILDERNESS RESEARCH INSTITUTE (RMRS 4901) The unit mission is to develop and transfer knowledge needed to improve management of wilderness and other natural areas to assure high-quality experiences while maintaining ecosystem integrity.

RMRS-4401, Fire Behavior. The unit mission is to conduct research on wildland fire behavior to help land managers in pre-fire planning and management, fire suppression, and prescribed burning to better manage and protect the environment, firefighters, and communities. The unit conducts fundamental laboratory and field research on wildland fire behavior and synthesizes the knowledge into models and tools useful to managers.

RMRS-4403, Fire Effects. The unit mission is to determine the effects of fire on forest, range, and wetland ecosystems. Researchers provide practical guides and information systems so that land managers can better apply fire effects knowledge in land management decisions. Their findings provide a scientific basis for fuel treatment to restore fire-dependent ecosystems and manage vegetation in the wildland-urban interface.

RMRS-4404, Fire Chemistry. The unit mission is to characterize fuel composition, combustion processes, and smoke emissions from wildfires and prescribed burning in tropical, temperate and boreal ecosystems. Research results provide critical information on the extent of biomass burning and smoke emissions that can be applied

to improve smoke management, regional air quality, and global atmospheric chemistry and climate models.

FIRE RESEARCH IN MONTANA SUPPORTS THE NATIONAL FIRE PLAN.

National Fire Plan funding continues the long tradition of Forest Service Research and Development building and leading federal, state, and local partnerships (the guiding principle of the 10-year Comprehensive Strategy) to develop and deliver the scientific foundation of modern management practices.

National Fire Plan funding for research in Montana has already produced the following results:

- Fuels and vegetation have been mapped on over 15 million acres of land as part of the LANDFIRE pilot project, a multi-agency effort to map fuels, vegetation, and fire regime condition class. Methods and models developed from this research have been adopted by nearly all federal and state land management agencies and some private institutions.

FY 2005 PROGRAM CHANGES:

- The President's budget maintains the Station ongoing program of research focused on sustaining healthy forests and rangelands in the Interior West. In response to the President's Healthy Forest Initiative, an additional \$1,725,000 is focused on improving watershed conditions to provide clean and abundant water from western forests and rangelands and funding is provided for addressing the threat invasive species pose to our native ecosystems.

- RMRS-4901 (ALWRI) is increased by \$100,000 for describing the contributions of wilderness watersheds to clean water for urban areas and identifying the values people place on water and how these values are affected by landscape modification.
- Forest Service Research and Development will lead an Agency-wide effort to optimize the delivery and practical use of research findings. This is essential to successful implementation of Forest Service priorities, including the President's Healthy Forest Initiative. Opportunities have been identified that leverage current science and technology applications efforts in healthy forests applied science, watershed management, invasive species, hazardous fuels utilization and management, and community preparedness. New funds in FY 2005 will be targeted to leading-edge technical assistance on a competitive basis.

SIGNIFICANT RESEARCH RESULTS:

- The northern Rockies, especially western Montana, experienced many large fires in 2003. RMRS deployed a rapid response team to collect stream and fish data just ahead of and immediately after large, uncontrolled wildfires. The team worked on 8 large fires in Montana performing post-fire mortality surveys of west slope cutthroat trout.
- LANDFIRE concepts and procedures were put to the test in the 2003 fire season. The Multi-agency Area Command (MAC) requested that the Fire Sciences Laboratory provide them with technical support for locating fires and conducting a long-range assessment of

potential fire behavior and effects given best-, worst-, and most likely-case scenarios.

- The Wildlife Ecology Unit developed a DNA test to detect the hybridization of Lynx and Bobcats. Scientists have positively identified three hybrids in Minnesota and two hybrids in Maine.
- A cooperative study with National Park Service using travel simulation models is providing a valuable tool for visitor use management in National Parks and National Forests.

SOME CLIENTS/COLLABORATORS:

Colorado State University

Department of Defense

Forest Service Fire and Aviation Management

Montana State University

National Aeronautics and Space

Administration

Plum Creek Timber Company

Rochester Institute of Technology

State Departments of Transportation

State Foresters

University of Idaho

University of Montana

USDI, Bureau of Land Management