NORTH DAKOTA

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 research work unit is temporally housed in a commercial facility in Rapid City and employs 3 scientists and 4 other professionals and support personnel. A contract to begin construction of a new laboratory, office space, visitor center and warehouse should be awarded in August or September 2004. The lab complex will be co-located with the Black Hills National Forest Mystic Ranger District Office to be constructed in FY 2005.

RMRS-4254, Management for Sustainable Ecological Systems on the Northern and Central Great Plains. RMRS-4254 is the major contributor to science used in ND. The unit mission is to increase knowledge and develop technology to sustainably manage the grassland and forested ecosystems of the Great Plains. Scientists are studying the mechanisms and processes that affect populations of both plants and animals, including threatened, endangered and sensitive species. Work is underway on the ecological community relationships between and among plants and animals in the prairies and forests of the Great Plains. Understanding these relationships and applying these principles is crucial for landscape management. Scientists are also investigating how

ecological stresses influence the sustainability and viability of landscapes.

National Agroforestry Center, Lincoln, NE. Provides relevant information for developing tree-based buffer systems that can protect water quality, enhance crop and livestock production, sequester carbon, and create wildlife habitat for private landowners and communities. Decision-making tools include:

- Buffers: A Conservation Economic Decision-Making Tool
- Buffer Capability and Design Tools for Water Quality
- GIS-Guided Assessments for Biodiversity in Buffers
- Suitability Assessments for Diversifying Rural Income
- Visual Computer Simulator of Conservation Practices
- Plant Selection Guide for Riparian Buffers

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.
- 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 PRODUCTS:

- Scientists are collaborating with TEAM Leafy Spurge to document response of leafy spurge to flea beetle in Montana, South Dakota, North Dakota, and Wyoming. Several sites experienced 100% reduction in leafy spurge while cover and diversity of the native vegetation increased.
- Reseachers determined habitat requriements and food habitats of the swift fox and developed methods for detection and monitoring now being implemented in Forest Plan and by State Game Agencies.
- Scientists updated the report, *"Ecology, Management and Silviculture of Black Hills Ponderosa Pine"* to include the role of disturbances and management alternatives for wildlife habitat, esthetics, ecosystem restoration, biodiversity, and watershed management. This report addresses many of the ecological and management challenges currently facing managers of ponderosa pine in southwestern South Dakota and northeastern Wyoming and was used in the development of the Black Hills Draft Environmental Impact Statement.

SOME CLIENTS/COLLABORATORS:

Custer National Forest

North Dakota Game, Fish and Parks

U.S. Army Corps of Engineers

USDI Fish and Wildlife Service