



## MINNESOTA

### FOREST SERVICE RESEARCH AND DEVELOPMENT

STATE FUNDING HISTORY	Enacted FY 2003 (\$)	Enacted FY 2004 (\$)	Pres. Budg. FY 2005 (\$)
<b>ST. PAUL</b>			
NC-4455 Global Change	249,000	246,000	246,000
NC-4502 Tree Diseases	960,000	1,093,000	1,118,000
NC-4801 Forest Inventory and Analysis	5,691,000	6,317,000	6,317,000
NC-4803 Social/Econ. Dimensions	793,000	781,000	799,000
<b>ST. PAUL TOTAL</b>	<b>7,693,000</b>	<b>8,437,000</b>	<b>8,480,000</b>
<b>GRAND RAPIDS</b>			
NC-4101 Ecology/Silvic of Lake States Forests	997,000	983,000	1,006,000
NC-4351 Riparian/Aquatic Ecosystems	1,644,000	1,619,000	1,726,000
<b>GRAND RAPIDS TOTAL</b>	<b>2,641,000</b>	<b>2,602,000</b>	<b>2,732,000</b>
<b>MINNESOTA TOTAL</b>	<b>10,334,000</b>	<b>11,039,000</b>	<b>11,212,000</b>

**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 **North Central Research Station**, headquartered in St. Paul, Minnesota, currently has research and development programs in six Midwestern states (Illinois, Indiana, Minnesota, Missouri, Michigan, and Wisconsin). The FY 2005 President's Budget is \$22,200,000, an increase of \$1,308,000 above FY 2004.

## ST. PAUL

**NC-4455, Global Change.** Research focuses on the potential impacts of global change on Midwestern forests and on the natural, social, and economic systems of the region. Studies on the terrestrial carbon cycle and the role that changes in carbon cycle dynamics play in long-term forest productivity and carbon storage inform policy debates surrounding carbon dioxide emissions control, carbon storage, and trading of carbon credits. <http://www.ncrs.fs.fed.us/>

**NC-4502, Diseases in Forest Ecosystems.** Research provides the information needed to minimize the impact of diseases on Midwestern forests, intensive short-rotation plantations, nurseries, and Christmas trees, all industries that support local and regional economies. Integrated control strategies help tree growers reduce the severity and impact of tree diseases in plantations, nurseries, and forests, so they can protect their long term investments and maintain local economies. <http://www.ncrs.fs.fed.us/4502/>

**NC-4801, Forest Inventory and Analysis.** Inventories are conducted annually in each of the 11 States in the region. Trends are evaluated in supply, use, condition, health, and productivity of forest lands and provide timely analyses for national, regional, and State assessments. National leadership is provided in data management and analysis and in developing product delivery tools for our customers. <http://www.ncrs.fs.fed.us/4801/>

**NC-4803, Social and Economic Dimensions of Ecosystem Management.** Linkages and interactions are being determined between people and the land by putting together biological, economic, and social information about people and

their environments. For example, conflicts are studied over riparian areas, examine the drivers and consequences of land use change, and assess how local communities produce successful fire management plans. <http://www.ncrs.fs.fed.us/4803/>

## GRAND RAPIDS

**NC-4101, Ecology and Culture of Lake States Forests.** Silvicultural systems useful to multiple landowners are being developed and evaluated that seek new strategies for maintaining economic production as lands available for harvest decline due to changing land use patterns. Landowners will have new options for restoring, managing, and harvesting resources from their forest lands. Mixed-species management, based on research conducted, will meet a wide range of water quality, wildlife, timber production, biodiversity, and forest health objectives. It also will lead to greater social acceptance of managed forests and a stronger, more competitive, forest-based economy for the northern Lake States.

<http://www.ncrs.fs.fed.us/4101/>

**NC-4351, Ecology and Management of Riparian/Aquatic Ecosystems.** Aquatic and riparian systems are classified to improve understanding of the physical, social, and biological factors that influence the health of riparian and aquatic ecosystems. Based on this understanding, standards, guidelines, and best management practices are developed for riparian zones. These new tools help planners and managers meet the needs of people who intensively use these areas while sustaining the quality and quantity of water resources. <http://www.ncrs.fs.fed.us/4351/>

## **FIRE RESEARCH IN MINNESOTA SUPPORTS THE NATIONAL FIRE PLAN.**

The Station expects to receive additional research funds to support the National Fire Plan in FY 2005. These funds are allocated as follows: St. Paul—\$659,000, Grand Rapids—\$165,000.

- Atmospheric, environmental, and social factors all play critical roles in the efficient implementation of hazardous fuels reduction projects. Station researchers are working hand-in-hand with managers in the Region to help them meet their fuel reduction targets by developing new products and accelerating their delivery. A novel effort underway at the Station involves taking the latest research tools and technologies “on the road” to deliver and demonstrate them in person and interactively with Regional staff.

### **FY 2005 PROGRAM CHANGES:**

- The FY 2005 President’s Budget directs increased spending on three priority research areas: Invasive species, watershed, and science application technology. It also includes increases for fixed costs.
- FS R&D will continue at Grand Rapids and St. Paul locations, which have:
  - Deployed a three pronged research approach designed to ensure continued protection and utilization of U.S. forest resources under an uncertain climate. These integrated programs will improve observations of forest carbon stocks and flows, analyze and predict likely effects of climate change on forests, and develop management practices that both mitigate and adapt to unexpected climate change.
- 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:**

Work continues toward developing and delivering the following products:

- Guidelines for reducing conflict over land-use decisions, based on analyses of similarities and differences between seasonal and year-round residents’ expectations of forest management.
- Timely, unbiased, and relevant forest resource information, tools, and maps that are comprehensive, consistent, and continuous.
- New management options that can continue to produce forest products as forest parcel size decreases, numbers of owners increase, and land becomes unavailable for harvest.
- Guidelines for improving stand quality and aesthetics, managing fuel accumulation, and supplementing income on small forest parcels.

**SOME CLIENTS/COLLABORATORS:**

Blandin Paper Company

Canadian Forestry Service

Champion International Corporation

Chippewa and Superior National Forests

Local community and township planners

Minnesota and Wisconsin DNRs

State Foresters of MN, MI, WI, IN, IL, IA, MO,

ND, SD, NE, KS

University of Minnesota - Duluth

University of Minnesota

