

**Forest Service Handbook  
National Headquarters - Washington Office  
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**Forest Service Handbook 6509.11g – Service-Wide Appropriation Use Handbook  
Chapter 10 - Forest and Rangeland Research**

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**Approved by:** Robert Velasco, Chief Financial Officer

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**Responsible Staff:**

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**Digest:** Following is an explanation of the changes throughout the directive by section.

**Chapter 10:** Revises chapter in its entirety and adds information on Research and Development Salaries and Expenses budget line item.

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## 10.1 - Authority

1. Department of Agriculture Organic Act of 1944 (7 U.S.C. 2250). Section 703 provides authority to erect, alter, and repair buildings necessary to carry out authorized work.
2. Granger-Thye Act of April 24, 1950, as amended (16 U.S.C. 581i-1). This Act provides authority for advancing funds to cooperators for cooperative research.
3. Research Grants Act of 1958, as amended (42 U.S.C. 1891-1893). This Act provides authority to make grants for research projects to nonprofit institutions and organizations; with title to scientific equipment purchased with such grants being vested with the nonprofit organization or institution.
4. McIntire-Stennis Act of 1962, as amended (16 U.S.C. 582a and 582a-1-582a-7). This Act:
  - a. Authorizes the Secretary of Agriculture to cooperate and assist State colleges and universities in forestry research on a matching funds basis.
  - b. Authorizes the Secretary of Agriculture to make competitive grants to a State agricultural experiment station, college or university, research institution or organization, Federal agency, private organization, or corporation with the demonstrable capacity to conduct forestry, natural resource, and environmental research; and to update research facilities and equipment available for this type of research.
5. Research Facilities Act of 1963, as amended (7 U.S.C. 390). This Act authorizes support for agricultural research (including forestry) at eligible institutions through Federal grant funds, on a matching funds basis, to help finance physical facilities and equipment as required for the effective conduct of agricultural research and related academic programs.
6. Agriculture Grants and Powers Act of 1965, as amended (7 U.S.C. 2250a and 450i). This Act:
  - a. Provides authority to erect buildings and other structures on nonfederal land, if a long-term lease on the land is obtained. For this section, long-term lease is defined as the estimated life of or need for the structure. This Act also includes authority to enter into a long-term lease on nonfederal land.
  - b. Provides authority to make competitive grants to institutions that meet the select criteria in 7 U.S.C. 450i, including special grants and grants for facility renovation and refurbishment, to further the programs of the Department of Agriculture.
7. Food and Agriculture Act of 1977 (Title XIV), as amended (7 U.S.C. 1281 note and 7 U.S.C. 3221, 3222, 3291, and 3318-3319d). This Act:
  - a. Provides the authority to increase cooperation and coordination between Federal departments and agencies with States, State agricultural experiment stations, colleges,

universities, and other user groups when performing agricultural research (7 U.S.C. 1281).

- b. Authorizes the Secretary of Agriculture to engage in international agricultural research and extension, including to " ... assist the Agency for International Development with agricultural research and extension programs in developing countries." The Act also designates the U.S. Department of Agriculture as the lead agency of the Federal Government for agricultural research, extension, and teaching. It also removes restrictions on the use of cooperative agreements with universities and permits cost reimbursable agreements with State cooperating institutions without competition.
8. Forest and Rangeland Renewable Resources Research Act of June 30, 1978, as amended (16 U.S.C. 1641-1648). This Act:
- a. Provides authority:
    - (1) To conduct, support, and cooperate in investigations, tests, and other activities necessary to obtain, analyze, develop, demonstrate, and disseminate scientific information about protecting, managing, and utilizing forest and rangeland renewable resources in rural, suburban, and urban areas.
    - (2) For competitive grants and advance of funds to cooperators and grantees.
    - (3) For research encouraging improved reforestation of cutover lands.
  - b. Authorizes development and implementation of improved methods of survey and analysis of forest inventory information.
  - c. Authorizes research studies and other activities deemed necessary to:
    - (1) Evaluate renewable resource management problems associated with urban-forest interface.
    - (2) Assess effects of changes in Federal Internal Revenue Code on private forest management and investment.
    - (3) Develop improved delivery systems for information and technical assistance provided to private landowners.
  - d. Authorizes an expanded wood fiber recycling research program.
  - e. Authorizes establishment of a forestry student grant program for minority and female students.
9. International Forestry Cooperation Act of 1990 (Title VI of Pub. L. 101-513; 104 Stat. 1979). This Act:

- a. Authorizes support (including financial and technical assistance and cooperation, without reimbursement) for international forestry and related natural resource activities outside the United States, and its territories, and possessions, with a focus on those countries that could have a substantial impact on emissions of greenhouse gases related to global warming.
  - b. Authorizes support of the Tropical Forestry Action Plan and activities specifically addressing tropical deforestation and degradation.
  - c. Authorizes expansion of the capabilities of the International Institute of Tropical Forestry in Puerto Rico.
10. Food, Agriculture, Conservation, and Trade Act of 1990 (Pub. L. 101-624, "Farm Bill;" 104 Stat. 3359), Title XII, Subtitle B, Chapter 2, "Specialized Research," and Title XXIV "Global Climate Change." This Act:
- a. Authorizes continuation of the Modern Timber Bridge Initiative on a cost share basis for modern bridge technology transfer projects, conferences, and the construction of bridges.
  - b. Authorizes a grant to a State for the establishment of a Southern Forest Regeneration Center for the study of forest regeneration problems and forest productivity in the south.
  - c. Authorizes establishment of the Semiarid Agroforestry Research, Development, and Demonstration Center at The National Agroforestry Center (also called Forestry Sciences Laboratory) in Lincoln, Nebraska, to:
    - (1) Conduct research, investigations, studies, and surveys of agroforestry systems and practices.
    - (2) Collect and disseminate information and promote the use of agroforestry conservation technologies and practices.
  - d. Authorizes establishment of a research and demonstration program for the forests and rangelands of Oregon and Washington east of the Cascades Crest in consultation and cooperation with Federal, State, and local agencies, universities, and the private sector. Establishes an advisory committee to assist in the formulation of implementation plans for the program.
  - e. Authorizes establishment of an International Forest Products Trade Institute to increase the competitive position of forest industries of the northeastern United States as major producers of international forest products.
  - f. Provides authority to:
    - (1) Conduct studies on the emissions of methane, nitrous oxide, and hydrocarbons from tropical and temperate forests and the manner in which they may affect global climate change.

- (2) Establish an Office of International Forestry within the Forest Service.
  - (3) Establish an International Institute of Tropical Forestry and an Institute of Pacific Islands Forestry to conduct research including management and development of tropical forests.
  - (4) Establish biomass energy demonstration projects.
  - (5) Negotiate an interagency cooperative agreement with the Department of Defense to maximize biomass growth.
11. The Tropical Forest Conservation Act of 1998 (Pub. L. 107-26, 22 U.S.C. 2431). This Act has been reauthorized through fiscal year 2004. The Act authorizes research projects that facilitate greater protection of tropical forests, especially those with the highest levels of biodiversity and under the most severe threat.
  12. Forest and Rangeland Renewable Resources Planning Act, August 17, 1974, as amended (Pub. L. 93-378, 16 U.S.C. 1601 note), Sections 2-5. Requires preparation of a renewable resource assessment, program plans, inventories, and budget request, and update every 5 years; such sums as appropriated; no expiration date.
  13. National Forest Management Act of 1976, October 22, 1976 (Pub. L. 94-588, 16 U.S.C. 472 (a-I) and 1601 (d)(3), Sections 1-14. Amends Forest and Rangeland Renewable Resources Planning Act of 1974 and provides authority and requirements for the sale of timber on the National Forest System; such sums as appropriated; no expiration date.
  14. Global Change Research Act of 1990 (Pub. L. 101-606, 15 U.S.C. 2931). This Act establishes the Committee on Earth and Environmental Sciences, part of the Federal Coordinating Council on Science, Engineering, and Technology under the Office of Science and Technology Policy of the Executive Office of the President. The Act also authorizes funded participation in the United States Global Change Research Program as the Forest Service Global Change Research Program.
  15. Food Security Act of 1985 (7 U.S.C. 2276(d)), as amended by the 2000 Interior and Related Agencies Appropriations Act (H.R. 3423). The 2000 Appropriations Act added the Forest Inventory and Analysis (FIA) Program to the existing Food Security Act, thus providing a legal basis for protecting the privacy of the data suppliers. These protections take the following form:
    - a. Authorized Disclosure. In the case of information furnished under a provision of law referred to in subsection (d), neither the Secretary of Agriculture, any other officer or employee of the Department of Agriculture or agency thereof, nor any other person may do the following:
      - (1) Use such information for a purpose other than the development or reporting of aggregate data in a manner such that the identity of the person who supplied such

information is not discernible and is not material to the intended use of such information; or

- (2) Disclose such information to the public, unless such information has been transformed into statistical or aggregate form that does not allow the identification of the person who supplied the information.

b. Duty of Secretary; immunity from disclosure; necessary consent:

- (1) In carrying out a provision of law referred to in subsection (d), no department, agency, officer, or employee of the Federal government, other than the Secretary of Agriculture, shall require a person to furnish a copy of statistical information provided to the Department of Agriculture.

- (2) A copy of such information:

- (a) Must be immune from mandatory disclosure of any type, including legal process; and
- (b) Must not, without the consent of such person, be admitted as evidence or used for any purpose in any action, suit, or other judicial or administrative proceeding.
- (c) Violations; penalties. Any person who shall publish, cause to be published, or otherwise publicly release information collected pursuant to a provision of law referred to in subsection (d), in any manner or for any purpose prohibited in section (a), must be fined not more than \$10,000 or imprisoned for not more than 1 year, or both.

16. Healthy Forests Restoration Act of 2003 (Pub. L. 108-148, December 3, 2003, 117 Stat. 1887). This Act improves the capacity of the Secretary of Agriculture to conduct hazardous fuels reduction projects on National Forest System lands aimed at protecting communities, watersheds, and certain other at-risk lands from catastrophic wildfire, to enhance efforts to protect watersheds and address threats to forest and rangeland health, including catastrophic wildfire.
17. Consolidated Appropriations Act, FY 2021 (Pub. L. 116-260, December 27, 2020). This Act directs the Forest Service to implement a modernized budget structure to fund activities with the appropriate combination of salaries and expenses and programmatic funds within each appropriations account.

## **11 - Forest and Rangeland Research - Fund FRFR And Treasury Symbol 121104**

Use Forest and Rangeland Research funds for ecological, material, and social science research to understand ecosystems, how humans influence those ecosystems, and how forests can be managed, utilized, and sustained for both environmental conservation and economic expansion.

### 11.1 - Forest Research and Development - Program FRRE

Use FRRE to fund program-related contracts, agreements, fleet, equipment, materials, and supplies supporting the following research and development activities that are not associated with agency personnel. Approved activities are:

1. Research to enhance forest and rangeland productivity and health, to restore degraded ecosystems, and to predict and manage disturbances. Major research program areas include the following:
  - a. Vegetation management and silviculture; genetics and biotechnology; forest and range ecology; soil, forest, and range productivity;
  - b. Forest operations and engineering; fire and other disturbances;
  - c. Native and non-native insects, pathogens, and plants;
  - d. Microbes; quantitative analysis;
  - e. Forest inventory and analysis (FIA) and carbon inventory; and
  - f. Climate change.
2. Research to enhance the viability of fish and wildlife populations and communities along with the purity of water, air, and soil resources which are key indicators of forest, rangeland, and aquatic ecosystems' health. The following activities are included:
  - a. Wildlife habitat including species or communities considered threatened, sensitive, or endangered;
  - b. Fisheries and aquatic ecology;
  - c. Watershed; hydrologic processes; water availability and supply; water quality and biochemistry; erosion and sediment transport;
  - d. Maintenance of soils; and
  - e. Forest air quality and the affect of weather and climate on the sustainability of forests.
3. Research to improve understanding of ecological, social, and economic dimensions of, and trade-offs associated with various resource management and use options and technologies. Major research program areas include the following:
  - a. Research to improve understanding of the properties, performance, and markets of forest products; to increase the role of forest product utilization in managing sustainable forests; and to improve processing methods and the safety and health of people manufacturing and using forest products;



- b. Designs and treatments for durable, forest-based materials, energy conservation technology, and recycling to reduce impacts on natural resources;
  - c. Outdoor recreation research to improve an understanding of visitor demographics, uses, and expectations for forest-based recreation, and to analyze the importance of recreation and tourism in rural communities;
  - d. Economics research to understand responses of domestic and international forest products' markets and consumption to economic, technological, and institutional forces;
  - e. Social science research to understand how human behavior, culture, values, institutions, and demographic changes affect natural resources and their management;
  - f. Urban forestry research to maximize the benefits of urban and community forest resources;
  - g. The comprehensive assessment and analysis of supply and demand trends for the nation's natural resources; and
  - h. Information outreach on Forest Service Research and Development through education, technology transfer, and information infrastructure design and management.
4. Research and development activities to improve wildfire risk management and to enhance the wildland fire system in five key areas, as follows:
- a. Research to enhance our fundamental understanding of fire behavior and fuels;
  - b. Interactions of fire with ecosystems and the environment;
  - c. Improved knowledge and tools for working with communities and partners and for assessing social and economic aspects of fire and fuels management;
  - d. Integrated landscape level evaluations of social, economic, and ecological/ environmental impacts and risks of alternative fire and fuels management strategies; and
  - e. Moving science into application.

### **11.2 - Joint Fire Science - Program FRJF**

The Joint Fire Science Program (JFSP) is an interagency research, development, and applications partnership between the Departments of the Interior and Agriculture. Funding priorities and policies are set by the JFSP governing board with representatives from the Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, U. S. Geological Survey and the Forest Service. The JFSP program office is located in Boise, Idaho.

The JFSP finances research and science application activities, largely through competitively funded, peer-reviewed projects. These projects support the science needs of managers in planning, implementing, and analyzing the effects of fuels and fire management, and rehabilitation and restoration activities in fire-affected ecosystems and communities. The program solicits proposals at least once a year for specific research, development, application topics as determined by the governing board. Scientists are encouraged to submit proposals when JFSP solicitations align with an individual scientist's research interests. Information pertaining to program structure, operating procedures, proposal protocols and open solicitations are available on the JFSP program website at <https://www.firescience.gov/>.

Program FRJF funds must be expended in accordance with the terms of the proposals funded through the JFSP.

The JFSP activities include the following:

1. Providing research tailored to the needs of fire and fuels managers.
2. Developing new research responsive to identified needs.
3. Soliciting proposals from scientists who compete for funding through a rigorous peer-review process designed to ensure the best projects are funded.
4. Focusing on knowledge delivery when the research is completed with a suite of communication tools to ensure that managers are aware of, understand, and can use the information to make sound decisions and implement projects.

### **11.3 - Forest Inventory and Analysis - Program FRFI**

Use FRFI to fund program-related contracts, agreements, fleet, equipment, materials, supplies, imagery, and publications to collect, analyze, and report information on the status and trends of ecosystems, strengthen and enhance program capabilities in three broad areas, as follows:

1. Conduct and enhance resource monitoring.
  - a. Implement forest inventory and analysis (FIA) data collection in all 50 States and the Caribbean and Pacific islands to provide scientifically sound information for forest resource management, policy decision-making, and statewide, national and international reporting on forest trends and conditions. In particular, collected data enable accurate assessments on forest extent, stocks, growth and health; biomass supply, bioenergy, and other forest products; carbon; fire risk; habitat; forest ownership and characteristics of forest landowners; and timber products output.
  - b. Develop, test, and incorporate FIA vegetation monitoring, as follows:
    - (1) In urban areas to support urban planning and stewardship for improved forest health in tree-covered areas.

- (2) In wildland/rangeland areas to assess the effects of natural processes and management alternatives on the sustainability of the Nation's rangelands.
- c. Broaden and deepen relationships with State forestry agencies and other FIA partners who help collect, analyze, and report on the current status and recent trends in natural resource conditions.
2. Develop and evaluate models and procedures for the Nation's forests and rangelands for the following:
  - a. To detect and evaluate changes in forest cover and land uses.
  - b. To provide more precise forest estimations for small domains (spatial and temporal).
3. Online FIA information and data delivery tools.
  - a. Deliver FIA information through public access to the FIA database, applications, summaries, reports, publications, maps, tables, charts, and graphs of forest resource status, conditions, and trends, in a timely manner.
  - b. Deliver forest inventory data on vegetation and attributes to support analysis and scientific research for both federal and non-federal clients, including measures of status and trends in forest area, volume, biomass, carbon, products, ownership, invasive species, mortality, soils, and fuels.

#### **11.4 - Salaries and Expenses - Program FRSE**

The Research and Development Salary and Expenses (S&E) budget line-item funds the appropriated cost for agency research personnel salary and expenses. Employees shall charge S&E based on the Human Resource (HR) organizational alignment of their position. For shared employees, the funding for these positions resides with the employee's home Region/Station/Washington Office staff.

See FSH 6509.11g, Zero Code for additional information on the Agency's guidance on salaries and expenses.

#### **12 - Special Research Funding Situations**

In certain situations, joint Research and Development, State and Private Forestry, and/or National Forest System (NFS) projects may be appropriate. In these situations, programmatic funds (non-S&E) can be allocated between Regions/Stations and deputy areas to fund these multiple mission area projects where the agency has the legal authority to do so. Use the Work Financing principle to fund integrated projects. In these situations, it is the responsibility of the unit performing the work to fund the salary and expenses associated with the project. (See FSH 6509.11g, Zero Code regarding the Work Financing Principle)

**Funding Determination.** Consider the following to determine the appropriate program (non-S&E) funding sources:

1. Use research appropriations for activities that provide new information by applying the scientific method to studies that have as their purpose, the advancement of fundamental understanding of systems and relationships.
2. Research appropriations are not available for activities that are primarily for the purpose of managing NFS lands.
3. Research funds are not available for administrative studies. Administrative studies apply existing research study results or knowledge to management issues. Administrative studies often employ a scientific/statistical design to analyze relationships and provide data that improves resource managers' understanding of the issues and facilitates informed decisions regarding specific locations.