

## Appendix B: Research Work Unit Charters

### RESEARCH WORK UNIT DESCRIPTION

#### SRS-4804 — Forest Economics and Policy

Research Triangle Park, NC; New Orleans, LA; Tuskegee, AL

Project Leader: David N. Wear

**Mission:** To advance understanding of how forest management and forest policy options affect forest conditions, the flow of goods and ecosystem services, and the hazards associated with wildfire and other disturbances; to forecast the effects of economic, social, biotic, and climate factors on future forests, goods, and services; and to develop methods and tools to assist landowners and government agencies in the management of the nation's forest resources.

#### **Problem 1. Forest disturbance and management economics.**

The nation's forests are affected and threatened by natural disturbances and a changing climate. Wildfires, invasive and endemic forest pests, hurricanes, and climate alter the values produced by forests and affect regional and national timber product markets. Management and policy actions can alter the consequences of these processes, but such actions involve costs and therefore economic trade-offs. Research can provide a better understanding of feasible options and economic tradeoffs for managing public and private forests affected by disturbance.

1a. Understand the spatial and temporal patterns, predictors of, and damages deriving from human-caused wildfires and develop tools for reducing the incidence and damages deriving from these wildfire sources.

1b. Evaluate the economic tradeoffs among interventions into wildfire processes, at multiple spatial and temporal scales; develop methods for understanding the demand for and supply of wildfire management inputs; and design tools for forecasting the supply and demand for wildfire management inputs.

1c. Quantify how the occurrence and economic effects of natural disturbances, including wildfire, and forests management approaches vary across the rural-urban gradient and how treatments can be targeted in this environment.

1d. Estimate costs and impacts of invasive and endemic forest pests by merging biological, climate, and economic analyses and evaluate the effects of alternative policies that can reduce the rates of introduction, establishment, spread, and damages resulting from these organisms.

1e. Evaluate the economic impacts of timber salvage following natural disturbances and evaluate how policies and programs alter the economic impacts from timber salvage.

#### **Problem 2. Forest policy and program evaluation.**

Taxes, subsidies, regulations, and federal and state government resource management guidelines affect the welfare of different societal groups, including public land users, private landowners, and industry; influence landowner decision making and alter the flow of ecosystem services.

Research can lead to policy and program design that can better achieve the objectives of various participants.

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2a. Develop knowledge of how local, state, and federal tax codes and their interactions affect landowners' decisions, welfare, government revenue, and landscape conditions.

2b. Improve our understanding of the effectiveness of subsidies, zoning, and other regulations in achieving their objectives and how they influence forest management decisions and the values produced by forests.

2c. Improve understanding of how existing and potential markets for ecosystem services influence the delivery of public goods and examine the potential role of government in encouraging market development.

2d. Evaluate the distributive effects of policies and programs on minority and limited resource forestland owners, rural communities, and other societal groups.

### **Problem 3. Forest assessment and forecasting.**

Natural disturbances and societal demands for forest based goods and services combine with biological and physical factors to create observed forest conditions. As nature and society change, forests and the values they produce will change. Research can evaluate historical relationships among disturbances, society, and biophysical variables to create tools for assessing current and forecasting future forest conditions and values.

3a. Refine our understanding of global and domestic timber product markets and response to changing technologies and products, the global economy, and domestic and international policies.

3b. Improve our understanding of how private and public good values are produced from forested landscapes, including commodities, income, and employment but also social and cultural values and the provision of ecosystem service values such as clean water and biodiversity.

3c. Evaluate the effect of changing demands for wood products, including demand for wood-based energy products, on the markets for established timber products and the provision of other forest values.

3d. Develop land use forecasting models that account for long-run shifts in timber product and agricultural markets, climate, natural disturbances, and the global economy.

3e. Develop a comprehensive modeling system for forecasting the future development of forest conditions in the United States in response to changes in economic, social, and climatic factors.

### **Research Partners**

Research described in this document involves collaborations with individuals at universities in the US South and nationwide, private organizations, and state and federal governments. Within the US Forest Service, this research involves collaboration with other Research Work Units at

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the Southern Research Station and other Stations, the RPA Assessment Team, the National Fire Plan, State and Private Forestry, and the National Forests.