USDA Forest Service Research & Development: Labor Analysis

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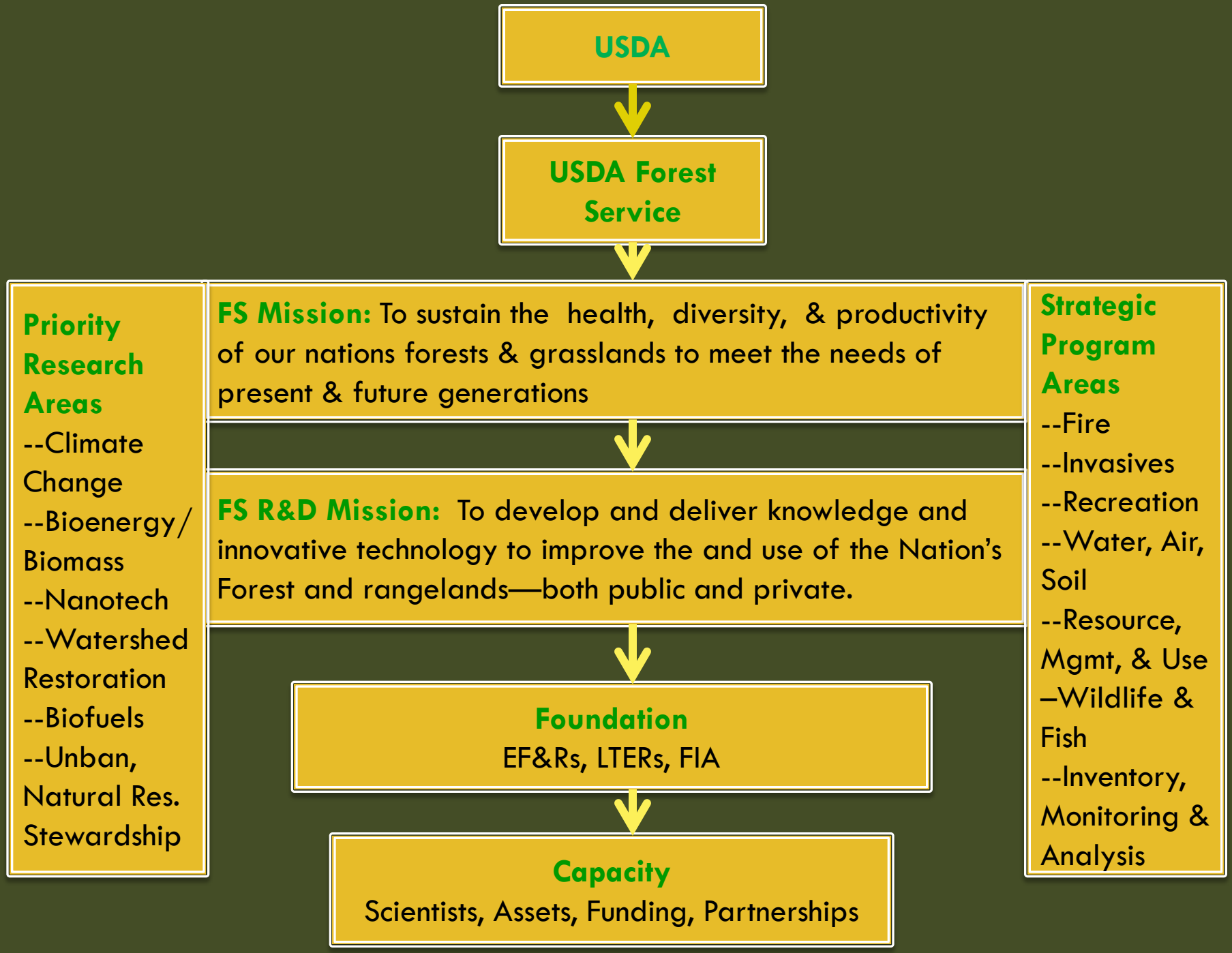
USDA
USDA Forest Service
Priority Research Areas
--Climate Change
--Bioenergy/ Biomass
--Nanotech
--Watershed Restoration
--Biofuels
--Unban, Natural Res. Stewardship
FS Mission: To sustain the health, diversity, & productivity of our nations forests & grasslands to meet the needs of present & future generations
FS R&D Mission: To develop and deliver knowledge and innovative technology to improve the and use of the Nation's Forest and rangelands—both public and private.
Strategic Program Areas
--Fire
--Invasives
--Recreation
--Water, Air, Soil
--Resource, Mgmt, & Use
–Wildlife & Fish
--Inventory, Monitoring & Analysis
Foundation
EF&Rs, LTERs, FIA
Capacity
Scientists, Assets, Funding, Partnerships

Our Dilemma

- Natural resources science needs are increasing.
- FS&RD resources are decreasing overall, thus impacting all research programs.

Labor Analysis Questions

1. How many scientists would you need to fully address the priorities over the next 5 years?
2. What research areas are you expected to maintain or increase?
3. How will your Station address the needs of your stakeholders with your current cadre of scientists?
4. What research needs will not get done in your Station because of your reduced capacity?

Note: The data collected from these questions is a sample. A comprehensive analysis will be done later.

1. How many scientists would you need to fully address national and regional priorities over the next 5 years?

- Rocky Mountain Research Station: 90 + (15) = 115
- Int'l Institute of Tropical Forestry: 9 + (6) = 15
- Pacific Southwest Station: 42 + (10) = 42
- Pacific Northwest Research Station: 80 + (2) = 82
- Northern Research Station: 131 + (29) = 160
- Southern Research Station: 106 + (6) = 112
- Forest Products Laboratory: 55 + (27) = 82

**Note: New scientists needs are in parentheses.*

2. What research areas are you expected to maintain or increase in the Southeast?

- Fire role in ecosystems at multiple scales
- Effects of interacting disturbance on ecosystems/risk assessments
- Vegetation strategies to support landscape scale restoration
- Restoration of native & non-native species effects on landscapes
- IM &A of Water quality/quantity & aquatic habitats
- Interaction between people & natural environments

2. What research areas are you expected to maintain or increase in the Northeast?

- Vegetation strategies to support landscape scale restoration
- Watershed restoration
- Restoration of native & non-native species effects on landscapes
- IM &A of Water quality/quantity & aquatic habitats
- Urban & natural resource stewardship
- Urban watershed management

2. What research areas are you expected to maintain or increase in the Rocky Mountain?

- Vegetation strategies to support landscape scale restoration
- Watershed restoration
- IM &A of Water quality/quantity & aquatic habitats
- Effects of interacting disturbance on ecosystems/risk assessments
- Detect & assess native pest & pathogens
- Ecology of native pest & pathogens & modeling

2. What research areas are you expected to maintain or increase in the Pacific Northwest?

- Post-fire restoration
- Fire ecology and restoration
- IM &A of Water quality/quantity & aquatic habitats
- Climate change effects ecosystems & ecosystem services
- Watershed restoration
- Effects of interacting disturbance on ecosystems/risk assessments
- Biodiversity across fragmented landscapes

2. What research areas are you expected to maintain or increase in the Pacific Southwest?

- IM &A of Water quality/quantity & aquatic habitats
- Climate change effects ecosystems & ecosystem services
- Fire ecology & restoration
- Watershed restoration
- Vulnerability assessment & habitat conservation
- Resource allocation tradeoff with risks

2. What research areas are you expected to maintain or increase in the Tropics?

- Fire regimes evaluation & characterization
- Climate change effects ecosystems & ecosystem services
- Non-native pest ecology & ecosystem function
- Urban watershed management
- Vulnerability assessment & habitat conservation
- Migrant birds IM&A
- IM &A of Water quality/quantity & aquatic habitats

2. What research areas are you expected to maintain or increase in the Forest Products?

- Economics of beetle-killed wood
- Value added technologies of wood including advanced materials
- Green buildings
- Nanotechnology
- Bioenengy

3. What research needs will not get done in your Station because of your reduced capacity?

- Provide for the availability of quality native plants
- Non-native invasive species
- Land Use, Restoration and Management
- Neotropical migratory birds
- Biodiversity management
- Water resource management
- Wildlife sciences
- Fire and fuels management

3. What research needs will not get done in your Station because of your reduced capacity? (Cont.)

- Policy and tax code implications
- Forest utilization research program
- Research on threats to our nation's forests
- Ecosystems services
- Research on low-value biomass from forest restoration operations
- Water quality research
- Other low priority research

4. How will your Station address the needs of your stakeholders with your current cadre of scientists?

- Leverage the research capacity of other research and research funding organizations (e.g., university researchers, other federal research organizations, NSF, Joint Fire Science Program and industry).
- Provide opportunities for clients and customers to fund science application and delivery activities of mature lines of research.
- Seek additional clients and customers that align with the R&D's priorities at a Station level.

4. How will your Station address the needs of your stakeholders with your current cadre of scientists? (Cont)

- Find economically viable commercial outlets for low-value biomass from forest restoration operations, beetle-killed tree removal and forest.
- Identify cost-saving efficiencies that free up funds for research, including sharing resources and services across research stations and with other organizations.

Investment In Partnerships (2009 – 2013)

Fiscal Year	FY2009	FY2010	FY2011	FY2012	FY2013
Number of Grants & Agreements	749	735	732	649	TBD
R&D Grant Funding **($ Millions)**	44	47	49	38	TBD
Percent of R&D Budget	15	15	16	13	TBD

Key Scientists Needs

- Pathologists
- Entomologists
- Hydrologists
- Social Scientists
- Economists

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