



# Watershed Management and Restoration Growth Platform

## Forest Service Research and Development Mission Area

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### VISION

Adequate supplies of clean water are essential to human health and economic growth. Population growth and climate change, however, are stressing surface and ground water resources. New approaches are developed to effectively manage water resources given the changing social, economic, and environmental conditions. Forest Service Research and Development helps:

- Understand and predict population and development pressures on the water resource
- Understand the new and sometimes unpredictable challenges climate change will have on our water resources
- Identify important contributors to water degradation at the watershed scale and develop focused approaches to enhance or restore these watersheds

### CAPABILITIES

In short, our research helps sustain this precious, life-supporting resource.

Forest Service Research and Development is well positioned to deliver significant results by providing scientific information and tools that can be used by managers and policymakers to address watershed concerns. A hundred years of Forest Service water-related research has produced:

- The scientific basis for forestry Best Management Practices across the United States
- Improved environmental monitoring that links air quality, hydrology, and forestry through multi-partner initiatives with United States Geological Survey, National Park Service, National Aeronautics and Space Administration, and The Nature Conservancy.
- Assessments of the impact of insect related tree mortality on the hydrologic budgets of watersheds.
- New knowledge about the accumulation of mercury in terrestrial and aquatic systems.
- Decisionmaking tools for evaluating and designing riparian buffer for water quality improvement.

### DELIVERABLES

An expanded emphasis in watersheds in Forest Service Research and Development will deliver:

- Best management practices for watershed management and restoration in forest, urban, and agricultural settings, which provide abundant, safe drinking water.
- Methods for assessing changes in watershed condition as a result of changing demographics and development pressures.
- Strategies for managing both surface and groundwater resources under changing climatic conditions and urbanization.
- Projections of national and regional water demand and supply as affected by climate change, population growth, agriculture production, energy generation, and economic development.
- Improved techniques for restoring watersheds, which will improve overall human and ecosystem health.

### BENEFITS

An expanded science program in watersheds will provide the following benefits:

- Ensure clean and ample water for a growing population.
- Protect and improve terrestrial and aquatic habitats in watersheds.
- Provide adaptive management in response to climate variability and change.
- Reduce impacts and mitigate extreme events such as floods and droughts.
- Engage and support community-based watershed restoration partnerships.
- Support restoration and conservation of at-risk species, communities, and ecosystems.
- Provide economic, recreational and aesthetic benefits dependent on clean water.