Planning Rule Blog Post on Watersheds

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A primary purpose for establishing the National Forest System was to protect watersheds. The Organic Act, Weeks Act, Multiple-Use Sustained-Yield Act, and the National Forest Management Act all discuss protection of watersheds. Today, roughly one out of five Americans depend on a national forest for drinking water, and 53% of the surface supply of drinking water originates on forest land (national, tribal, state and private).

We have heard from the public, from the science community and Forest Service employees that today, more than ever, water resources must be maintained, restored and protected. **Across the landscape** healthy watersheds direct and regulate water flow, filter pollutants, stabilize soils and control erosion, store carbon, provide diverse aquatic and terrestrial plant and animal habitats, and sustainably supply clean drinking water. Healthy watersheds on National Forest System (NFS) lands also nurture a sense of health and well-being; provide social, cultural, and economic opportunities and benefits, including through water-based recreation; and connect people to the land. Everybody lives in a watershed, and everybody has a stake in how well watersheds at different scales function and perform.

Healthy watersheds are more likely to supply desired ecological services in the face of climate change and are more **resilient** to disturbances such as floods, fire, insect outbreaks, or human impacts. However, the quantity and quality of America's water and aquatic habitat are affected by our changing climate, as well as by non-climate related stressors. Changing conditions or stressors can include: changing water temperatures, variability in volume and timing of precipitation, increased frequency and severity of floods, increased duration and severity of droughts, changing vegetative conditions, increased incidence of insects or disease, increased threats of catastrophic fire, the spread of invasive species, point and non-point source pollution, increased areas with impermeable surfaces, degraded roads, and other human-induced impairment. When watershed conditions are stressed or degraded, critical services can be threatened or compromised.

We propose that the 2011 Planning Rule guide management of NFS lands with a goal of maintaining and restoring healthy, resilient watersheds in order to protect and enhance America's water resources for humans and the environment. Water is a resource that epitomizes the need for a **collaborative, all-lands** approach: in order to accomplish this goal, managers will need to work closely with neighbors, partners and stakeholders, within the context of the broader landscape. Maintaining healthy watersheds and restoring damaged or degraded watersheds will help them be more resilient to climate change and other stressors, and will optimize their potential to continue to supply clean

water and critical aquatic and terrestrial habitat, along with cultural services, recreation opportunities, and other benefits, far into the future.

How would the 2011 Rule protect and enhance water resources and guide the maintenance or restoration of resilient watersheds?

As we have previously posted, the proposed planning rule contains a three-part planning framework: 1) Assess, 2) Revise/Amend, 3) Monitor. The proposed planning framework is a collaborative and continuous cycle that improves learning.

Assessments would be conducted at appropriate geographic scales, using shared data sets, to help us examine existing and foreseeable conditions and trends of water in the region, the function and services of NFS watersheds, and the factors that stress them. When assessing conditions and trends, we would work with partners and stakeholders to assess how watersheds on the unit supply clean water for people and support species that depend on aquatic, riparian habitats and unique water features such as lakes, wetlands, springs and fens. Managers would also identify other benefits provided by functioning watersheds in the broader region, and then would identify the watershed questions related to land management on the unit that need to be understood and addressed. For example, assessments might identify:

- the characteristics of functioning watersheds in the region
- the benefits functioning watersheds are providing (i.e., water based recreation, aquatic habitat, drinking water, soil stabilization, flood prevention)
- how water is moving across the landscape – where, how, when, and in what condition does it enter NFS lands; and where, how, when, and in what condition does it leave?
- impacts on and off NFS lands to water resources
- potential future demands and stressors and how they might affect water quality and availability, habitat, and watershed resilience

We would seek to build on existing information, such as water quality information stored by the Environmental Protection Agency, relevant state recreation or wildlife assessments and information from local watershed associations.

As we've stated in other posts, the goal of an assessment would **not** be to conduct an exhaustive review or take on a huge new research and assessment agenda. Rather, the goal is to use available information to better understand watershed conditions and trends and the role of the unit in the broader landscape, and identify the need to revise or amend a plan to protect or enhance water resources or watershed resilience.

If a plan **revision or amendment** is called for, managers would work with partners and the public to establish desired conditions and objectives in the plan for watershed health.

The plan may include desired conditions and objectives for restoring watersheds that have been degraded, damaged, or destroyed. It may include standards and guides for the protection of aquatic resources and the protection or enhancement of benefits. A plan could also identify characteristics of watersheds in poor condition in order to determine needs for restoration.

The Agency would then **monitor** progress toward achieving the desired future conditions and plan objectives. We would seek to capitalize on national efforts underway to identify data availability, needs, gaps, and protocols at various scales for watersheds, aquifers and aquatic habitat. Monitoring would focus on obtaining adequate information about water resources and needs to inform decisions about management for resilience and watershed function, and balance competing interests and demands. Monitoring would be targeted, collaborative, science-based, accountable through annual reporting, and based on a realistic analysis of what can be achieved. The Forest Service would coordinate with Forest Service research, federal, state, tribal, and local governments and with nongovernmental entities to help to achieve cost-effective broader scale monitoring programs.

Water and the Agency's Response to Climate Change

In this era of climate change, national forests and grasslands are playing an increasingly vital role in protecting the Nation's watersheds. Forests and grasslands reduce erosion, recharge aquifers, regulate stream flows, moderate water temperatures, and protect water quality. As the climate changes, America's forests will become an even more important source of clean and abundant water for people and the environment. A successful response to climate change will entail sound stewardship of America's watersheds.

The Forest Service has been committed to understanding and responding to our changing climate for many years. The recently published "Forest Service Roadmap for Responding to Climate Change" (http://www.fs.fed.us/climatechange/pdf/roadmap.pdf) affirms our commitment to watershed health and resilience. This roadmap and the accompanying scorecard rating system (http://www.fs.fed.us/climatechange/pdf/performance_scorecard_final.pdf) make the Forest Service better able to bring science and technology into play in order to assess, adapt to and mitigate climate change. The roadmap and scorecard hold the Forest Service accountable for engaging with communities and partners in responding to climate change. Like the proposed 2011 planning rule, these tools reinforce our commitment to make the nation's forests and grasslands, and their watersheds, more resilient.