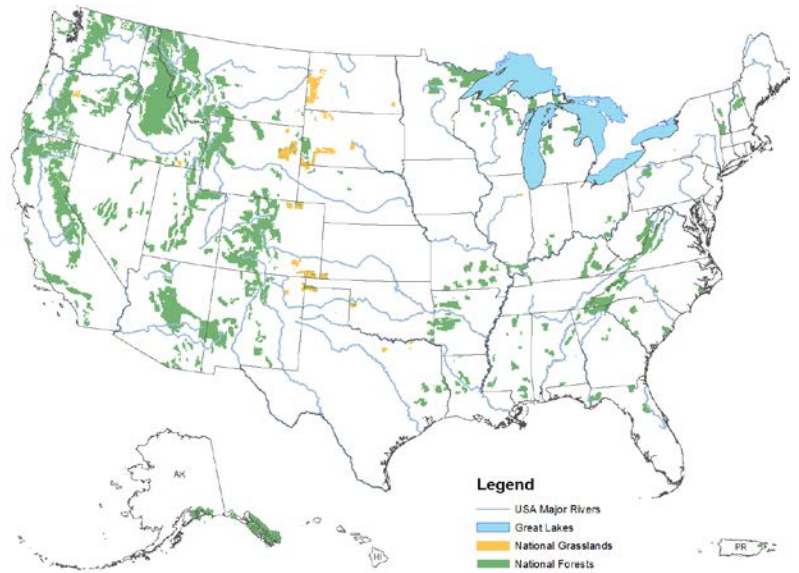




National Aquatic Biodiversity Assessment



Biodiversity is a key indicator of ecosystem health and resilience, both at the species and community levels. Biodiversity, in particular in freshwater ecosystems, is at risk due to numerous threats and stressors including: invasive species, changing climate, and habitat alteration. The U.S. Forest Service plays a key role in conserving freshwater biodiversity because of the diverse and high-quality aquatic habitats found on the national forests and grasslands across the country. Many of the aquatic ecosystems on national forests and grasslands form the headwaters of the nation's rivers, influencing the quality and quantity of water that flows in those rivers (see map on right). National forests and grasslands cover almost 10 percent of the United States, provide an abundance of clean water, and contain more than 50 percent of the Nation's imperiled aquatic species. Therefore, it is important to succinctly describe at a national scale the role of national forests and grasslands in sustaining fish and other aquatic resources. The data and tools to do this are lacking. Completing a National Aquatic Biodiversity Assessment (NABA) is an important first step to fulfill this need which is called for in the agency's updated Rise to the Future: Fish and Aquatic Strategy and would also inform agency assessments called for under the Resources Planning Act. A National Aquatic Biodiversity Assessment will shed light on the importance of Forest Service contributions to the conservation of fish and aquatic resources at the national scale and can serve to inform finer-scale, regional assessments by addressing the six key questions listed below.



Key Questions to be Addressed

1. What is the quantity, diversity, and condition of aquatic habitats (e.g., streams and rivers, lakes, ponds, wetlands, groundwater dependent ecosystems) on national forests and grasslands; and how do these habitats and their attributes compare to those elsewhere in the United States?
2. What fish and other aquatic species occur on national forests and grasslands, what is their conservation status, and where else do these species occur?
3. What role, relative to other public and private lands, do national forests and grasslands play in sustaining the Nation's fish and aquatic resources?
4. Where on national forests and grasslands are areas of high aquatic biodiversity and areas important for sustaining fish and aquatic resources of high ecological, economic, or social value?
5. What is the relationship between water quality and quantity and aquatic biodiversity on national forests and grasslands?
6. What are the critical gaps in our knowledge about fish and aquatic resources on national forests and grasslands?

The Assessment will

- Begin with a broad-scale characterization of aquatic biodiversity at the 8-digit hydrologic unit code scale (see map below) under which more detailed assessments can nest;
- Rely on datasets with national or range-wide coverage that provide species occurrence, distribution, and conservation status (e.g., datasets from NatureServe, National Fish Habitat Partnership, U.S. Geological Survey, and State Wildlife Action Plans);
- Focus on aquatic vertebrates and well-studied invertebrate groups such as mussels and crayfishes;
- Integrate environmental data, including water characteristics, physiography, climate, land use, roads, human population, and development; and
- Be flexible such that additional data sources can be incorporated, and will be available online.



Watershed boundary data 8-digit watersheds

Deliverables and Outcomes

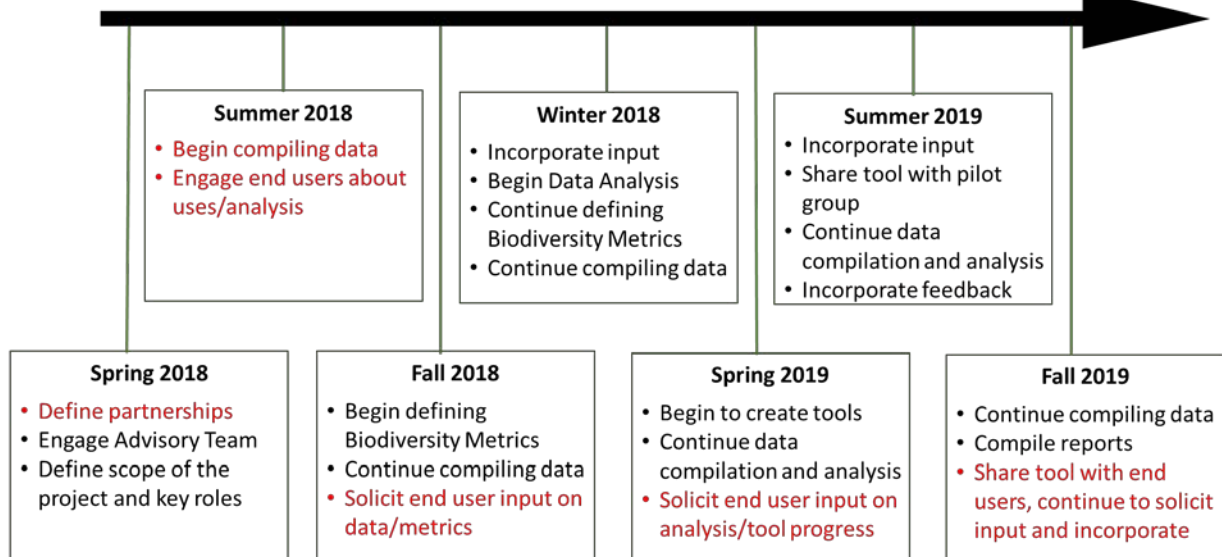
- List of aquatic species and their conservation status by 8-digit HUC
- Distribution maps of aquatic species
- Characterization of Forest Service lands and their contribution to conserving aquatic species, including at-risk species
- Species-specific case studies of social, cultural, economic, or ecological interest
- Indices of aquatic habitat quality
- Online, interactive delivery and visualization of data and analytic products
- Identification of critical information gaps
- Summary report for a broad audience
- Identification of opportunities for finer-scaled aquatic biodiversity analyses
- Improved understanding of interactions between biodiversity and environmental factors, especially water quality and quantity

Get Involved

We are looking for interested participants to inform the development of the assessment, identify datasets and user needs, communicate to others, and test applications. See timeline that shows key opportunities to provide input. If interested, please contact Dan Shively, National Fisheries Program Leader (dshively@fs.fed.us, 202-205-0951) or John Rothlisberger, National Program Leader for Fish and Aquatic Ecology Research (jrothlisberger@fs.fed.us, 202-365-4062).

Early 2018

End of 2019



• Important opportunities for partner engagement