



U.S. Fish and Wildlife Service

Water Resource Inventory and Assessment (WRIA) Effort

Natural Resource Program Center

The Natural Resource Program Center is part of the National Wildlife Refuge System and will directly support the science-based management of the Nation's 554 National Wildlife Refuges and 38 Wetland Management Districts that manage more than 150 million acres of public lands and waters across the United States in all 50 States, several Territories, and the marine environment.

The underpinning legislation guiding the formation of the Center is the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57). The Act states that the Secretary shall, "monitor the status and trends of fish, wildlife, and plants in each refuge."

Background

Water is the lifeblood of the National Wildlife Refuge System (NWRS), but it is also a vital component of nearly every aspect of our society, including agriculture, manufacturing, energy production, and municipal drinking supplies. A limited resource, freshwater is increasingly the focus of competition and dispute. Climate change and increasing human populations will only heighten the demand for clean, fresh water in the future.



Lee Metcalf NWR, Credit: USFWS

What is needed?

The challenge for the Service in light of growing competition for water is to ensure that sufficient quantities of good quality water are available for fish, wildlife, and plants. There is an old adage that states you can't manage what you don't measure. To add to that, you can't measure if you don't know what you have. An accurate reconnaissance-level water resources inventory and assessment (WRIA) of water quantity and quality on NWRS lands is essential to identify needs

and threats, prioritize work, and to take prescriptive actions. WRIAs are the first and crucial step to understanding the data needs for a targeted water monitoring effort.



Kanuti NWR, Credit: USFWS

What is a WRIA?

The WRIA effort comprises a centralized database, a GIS function, and a web application that will collect, store, and retrieve water resource information from the entire NWRS.

A WRIA is an Inventory

The inventory component of a WRIA will collect a standardized set of existing baseline information—including geospatial data—on water rights, water quantity, water quality, water management, threats to water supplies (including potential climate change impacts), and other water resource issues for each field station. This information will be stored in a centralized database that can be queried to answer specific questions about NWRS water resources at regional or national scales.

A WRIA is an Assessment

The assessment component will provide an evaluation of these data by hydrologists and other water resource professionals to identify station-specific water resource needs and issues, and make recommendations for addressing these. This assessment will help the station in refuge management operations, and assist Regional and national planning and prioritization efforts.



Fort Niobrara NWR, Credit: USFWS

Who is doing it?

The WRIA effort is a coordinated activity among the NRPC, Regional Inventory & Monitoring offices, and Regional Water Resource branches, with cooperation from individual refuges. Water resource data needs for the WRIAs have been identified by a team of hydrologists, ecologists, GIS specialists, environmental contaminants specialists, and other water resource professionals from all Service Regions and the Washington Office.

The WRIA Process

Data collection has already begun in most Regions, overseen by Regional Water Resource staff. The inventory component will gather existing information about each refuge's water features and

supply, water quality, water rights, water-related infrastructure, needs and threats. A centralized WRIA database is being constructed that will store water resource information from every refuge in the System. Each assessment will be a narrative document with station-specific information that will guide water resource management for that individual refuge.

Summary

The WRIAs are designed to provide valuable information to multiple stakeholders: from individual refuges up to the Department of the Interior. In addition to providing baseline water resource data to Service regions currently lacking this information, the WRIA effort will deliver information usable by all Service regions to identify trends, track needs and threats, prioritize work, and plan for future impacts to NWRS water resources.



Credit: USFWS

Contact

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U.S. Fish & Wildlife Service
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