U.S. Fish & Wildlife Service

National Wildlife Refuge System
Southeast Region Inventory & Monitoring Network

Network Update
May 2014

ServCat Implementation Underway

Have you ever looked for a management plan, biological report, or information about a particular species on your refuge and found yourself searching through paper files, bound documents on shelves, or hidden files somewhere on a computer hard drive? How about the same information from another refuge? – nearly impossible! This challenge is being addressed through the new Service Catalog (ServCat). It is a digital library of secure, archived biological information from all refuges stored in a centralized, web-based, easily searchable database. ServCat provides a safeguard from lost documents, whether from staff turnover or a natural disaster. It is a means to search all the "file cabinets" at one time, which will promote data sharing and improve science capacity. ServCat is a powerful tool to archive, reference, and share refuge information. It is a fundamental step forward in improving Refuge information management.

The Southeast Region I&M Network is working directly with refuges to archive existing documents at field stations. This is the first step in our regional implementation strategy. In 2014, we plan to complete the process at 20 refuges using I&M ecologists and cost-sharing interns to scan and upload existing refuge documents. It is anticipated that legacy data (document) collection at most field stations will take 2-3 weeks to complete. The initial focus is on refuges with high risk for catastrophic weather related loss. Our long-term plan is to complete the process at several refuges each year so all of R4 is working with ServCat by 2018. After the initial setup, the station will be responsible for uploading new documents as they are produced. I&M staff will continue to provide guidance and training as necessary.

A secondary objective of ServCat is to meet the DOI Open Data Policy (*Executive Order* 13642) responsibilities for FWS. In the Southeast Region, refuge managers will set refuge document sensitivity levels (public or internal). Regulatory guidance is available to help make these document sensitivity determinations. I&M staff and the regional FOIA officer will work closely with managers to facilitate this step.

To learn more about ServCat, check out these helpful videos: http://www.fws.gov/Refuges/NaturalResourcePC/IandM/serviceCatalog.html

Species Highlight

Species: Woodbury's Stopper (*Eugenia woodburyana*)

Status: Endangered

Location: Sierra Bermeja, Laguna Cartagena NWR, Puerto Rico

I & M Plans - On the Horizon

The national Inventory and Monitoring Plan (IMP) policy (701 FW 2) was finalized in January of 2014, and so it is now time to begin developing IMPs for refuges in R4. I&M and Refuge staff will work together in the coming years to develop plans for each refuge. Refuge staff will provide background and help define the monitoring needs. I&M is committed to providing advice, decision making tools, and the bulk of the writing and coordination. The plan development process will be similar to a Biological Review, only the outcome will be a focused plan that meets policy and outlines the specific refuge inventory and monitoring priorities. An IMP will include the description, ranking, selection, and justification for surveys that the refuge intends to conduct, taking in to account the time and resources needed to conduct the surveys and the data needs of local refuge management, USFWS priorities, and regional/national partners. Some of the required information should already be in PRIMR. We are currently watching our counterparts in other regions as they develop IMPs and will employ pieces and parts of the successful strategies we see. I&M staff hope to develop IMPs with a handful of refuges this fiscal year. We want to start the process with care and ensure that we identify an efficient and effective way forward, because we are very cognizant of the workload stress and staffing shortfalls most refuges are working under now. A few refuges have already volunteered to be first in this process. If you are interested in a sooner-rather-than-later approach, let us know so we can begin developing a schedule for this year and next.

Jena Moon - R2 I&M Zone Biologist

Wildlife and their habitats span administrative boundaries and, despite the feeling of an imaginary wall, we must make an effort to coordinate and collaborate with other regional FWS staff to achieve our goals. We would like to highlight Jena Moon (R2 Zone Biologist, Upper Texas Coast) and the work she has done with R4 I&M staff, particularly Sue Wilder and Nicole Rankin. Jena has assisted with I&M projects at Southwest LA Refuge Complex because of her close proximity at McFaddin NWR in Texas. She has also coordinated with Sue, Nicole, and others to install Surface Elevation Table (SET) monitoring sites on Texas coastal refuges as part of a larger network of sites on the Gulf and South Atlantic coasts. We applaud and appreciate Jena's work and look forward to continued collaboration.

Jena Moon.

Pilot Monitoring for *Phragmites*

One of the highest biological priorities identified in the South Atlantic Refuge Biological Reviews, CCPs, and HMPs is to reduce invasive species to allow for the reestablishment of native emergent wetland plants in management units. Over the past century, the exotic and invasive common reed (*Phragmites australis* ssp. *australis*) has continued to encroach on fragile wetland habitat managed intensely for waterbirds and other Service Trust Species. Once established, *Phragmites* quickly takes over marsh communities. Intensive efforts have been focused to manage this plant, but no standardized monitoring has occurred. Sea level rise will exacerbate this challenge as the more adaptable *Phragmites* invade these stressed environments and out-compete the more specialized native plants. A pilot monitoring effort is currently underway on South Atlantic LCC refuges in North Carolina. This pilot will provide treatment recommendations and develop a standardized protocol for rapidly assessing the effectiveness of actions used to manage *Phragmites* at acceptable thresholds and promote regeneration of native wetland plants. For more information, please contact Wendy Stanton or Forbes Boyle.

Invasive common reed—Phragmites australis

Gulf Coast SET Monitoring

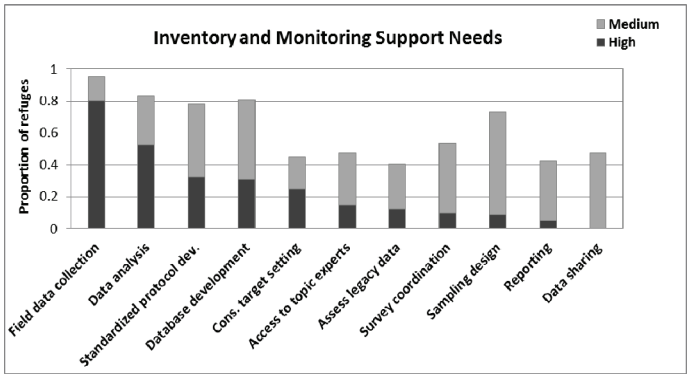
Erosion of coastal marshes is of significant concern to Gulf Coast refuges. Under natural conditions, in the absence of disturbance, healthy marshes increase in elevation over time as sediment and dead organic matter is deposited (accretion). Rising sea level, hydrologic changes, and storm events however, contribute to increased subsidence, coastal erosion, and land loss. As a result, coastal marsh habitat is negatively impacted, making management of coastal marshes a real challenge.

To understand the patterns of change in marsh elevation and coastal erosion, refuges throughout the US are host to a network of monitoring stations called Surface Elevation Tables (SET) that capture elevation changes over time in various marsh and wetland habitats. In the South Atlantic LCC geography, for example, marshes and pocosin wetlands on 18 coastal refuges are being monitored. In Texas, an interagency effort is underway to establish a network of SETs in 14 marsh habitats on coastal refuges. Recently, R4 I&M Ecologist, Sue Wilder, put together a report (Surface Elevation Table Status Report) that outlines the location and purpose of all 58 SET monitoring sites on refuges in Louisiana, Mississippi, and Alabama. The SET data collected on refuges will be used to improve climate and sea level rise modeling and management for species such as whooping cranes and mottled ducks. For more information, contact Sue Wilder.

Sue Wilder installing an SET rod.

Refuge I&M Needs—Gulf Zone

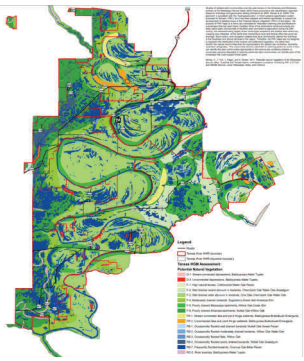
A report will be released later this month that represents the culmination of the I&M Status & Needs Assessment effort in the western half of R4. It summarizes the information collected from refuge staff between June 2012 and June 2013. I&M staff visited 65 National Wildlife Refuges in Louisiana, Arkansas, Mississippi, Tennessee, and Alabama to help refuge staff populate the Planning and Review of Inventory and Monitoring on Refuges (PRIMR) database and to discuss I&M data and staff support needs. These data provide a broader picture of monitoring in the west half of R4 and help identify opportunities to coordinate and improve data collection, data management, and analysis so that refuge data contributes effectively and efficiently to USFWS and partner objectives at the local and landscape scale. The most outstanding opportunities for I&M to improve and support refuge biological programs are identified in the report. Please contact Janet Ertel for more information.



The proportion of refuge staff indicating a high or medium level of need for inventory and monitoring support by category.

White River WRIA and HGM

Efforts to characterize the historic and current conditions of the aquatic resources, hydrology, and geomorphology for the White River National Wildlife Refuge are nearing completion. A Water Resource Inventory and Assessment (WRIA) was (re) initiated in spring 2013 and is anticipated to be finalized mid-to late 2014. A Hydrogeomorphic Analysis (HGM) that was originated in 2011 is anticipated to be complete by the end of 2014 as well. These efforts will provide refuge staff with a better understanding of the hydrological and geomorphological systems and associated changes that have occurred. With this information, refuge personnel can develop appropriate management actions to better address any needs or perceived threats to those resources. The WRIA and HGM are the result of extensive collaborative efforts between USFWS staff, state and federal partners, and two private contractors. Contact Lee Holt for more information.



Example HGM data map, Tensas River NWR.

Project Updates

Amphibian Community Monitoring at Roanoke River NWR

A pilot project to monitor the amphibian community at Roanoke River NWR was initiated in 2013. South Atlantic I&M staff worked closely with National Park Service's Southeastern Coastal Network (SECN) and refuge staff to implement their amphibian community monitoring protocol. Three techniques were used, including Automatic Recording Devices (ARDs) for anurans, visual-encounter surveys in 0.5 ha plots, and dip-net surveys. Ten species of vocal anurans were confirmed using the ARD technique. Of special note, a wood frog (*Lithobates syvaticas*) may have been detected, indicating a new range record for this species. Analysis to confirm this record is underway.

Biotech Rose Railey installing an ARD

PRIMR Up and Running

The Southeast Region I&M Network has finished the initial data entry for the PRIMR (Planning and Review of Inventory and Monitoring on Refuges) database. PRIMR critical information about biological surveys on refuges and allows us to map where they occur across the region. In addition, PRIMR data will help complete one of the sections of an Inventory & Monitoring Plan, and help us understand how inventory and monitoring activities on individual refuges can contribute to regional and national goals. Information in PRIMR includes the refuge name, species or group being monitored, survey objectives, time frame, and associated protocols. As of March 2014, there were 1,344 surveys entered in PRIMR for 125 Southeast Region refuges. As new surveys are initiated, these too will be entered in PRIMR. Service personnel can request access to the application via ECOS. For more information, please contact Steve Holzman.

Fish Community Assessment Work at Savannah NWR

In order to collect a standard set of data on native and non-native fish species at Savannah NWR, an interdisciplinary team from across the Service sampled a total of 115 kilometers within and adjacent to the Refuge using standardized boat electrofishing methods. During the study period from August 2012 through November 2013, over 4,300 individual fish were collected. More than 45 fish species were documented including some non-native to the Savannah Basin (e.g., grass carp). Fish community data (i.e., catch per unit of effort, abundance, and biomass) were calculated which will serve as baseline metrics for monitoring purposes. This project also developed species-specific primers for environmental DNA (eDNA) detection for three aquatic invasive species of concern for the Refuge: Mayan cichlids, Asian swamp eels, and lionfish. Two primers previously developed for African jewelfish, Bullseye snakehead were also tested. None of 5 target Aquatic Invasive Species (AIS) fish (African jewelfish, Bullseye snakehead, Mayan cichlid, Swamp eel, Lionfish) were detected in electrofishing samples or in eDNA samples. Data analysis is currently ongoing. A draft of the report and a presentation of findings will be available upon completion. For more information, please contact Theresa Thom.

Electrofishing on the Savannah NWR

Tom Sinclair, R4 Fisheries, measures Florida gar

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http://www.fws.gov/southeast/IMnetwork/

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