

Refuges - Division of Natural Resources

Regional Project Updates

March 2015

Northeast Regional Service Catalog (ServCat) Effort

The Division of Natural Resources (DNR) has hired an SCA intern, Jenny Davis, to visit refuges to scan and upload historic and biologically important documents to ServCat, an online database for centralizing and archiving USFWS documents. Documents targeted include refuge annual narratives, management plans, information related to water resources, biological reports, and documents prioritized by refuge staff. This effort provides assistance to refuges in the archiving of historic documents, as well as training for refuge staff so that implementation continues after Jenny's visit.

Milestones to date include:

- Effort started this past January and will last for one year.
- Focus will be on the region's more southern refuges this winter; refuges with housing will receive priority.
- Visits to Bombay/Prime Hook and Chincoteague NWRs have been completed.
- DNR staff will formulate a strategy for those refuges not included in this year's effort.

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ServCat training - Jenny Davis



Burning Phragmites - USFWS

Phragmites Management Decision Support Tool

Effective management of invasive *Phragmites* remains a challenge for refuges across the country. To address the need for better informed decisions, Regions 5 and 3 have partnered to create a monitoring protocol and associated decision support tool in an adaptive management framework for rapid surveying, prioritization, and treatment of *Phragmites*. This partnership allows information on treatment effectiveness to be shared across regions immediately through automated learning in the decision model. The next steps will include piloting the full process in Summer 2015 and incorporating the results into existing decision models. Key products to date include:

- Data collection protocol which was first piloted in Regions 5 and 3 during 2014.
- Decision model with a simple web-based interface for data entry and model updating.
- Bayes Net decision support tool for rapid prioritization of patches developed by Region 5.
- Full refuge area prioritization tool for ArcGIS developed by Chicago Botanic Garden.

Project collaborators: USGS, Chicago Botanic Garden, USFWS Region 3.

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Nanotag Project Coordination

Many agencies and partners are using radiotelemetry (nanotag technology) to investigate the movements of birds and bats along coastlines and other critical habitats in the Northeast US and Eastern Canada. DNR staff are using the principles of structured decision-making to identify areas of potential collaboration on nanotag projects between the USFWS and partners in the US and Canada. This process will inform the design and coordination of nanotag projects across multiple spatial scales. Milestones to date include:

- An initial meeting of USFWS staff in December 2014 identified draft questions and objectives, as well as whether nanotag technology can address these.
- A conceptual model linking offshore wind turbine decisions and nanotag-related metrics to seabird mortality and other factors. It will serve as a template for similar models of other bird groups and bats.
- A draft regional strategy, including eliciting input from other USFWS staff and partners.

USFWS collaborators: Refuges, Migratory Birds and Ecological Services.

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Nanotag tower - Pam Denmon

North and Mid-Atlantic Coast Salt Marsh Integrity Index (SMI) Project

National wildlife refuges in Region 5 completed their 3rd year of collecting breeding bird, nekton, vegetation, and water quality and quantity data at key tidal marsh units, following the Northeast Regional Protocol for Inventory and Monitoring Salt Marsh Integrity (SMI). Based on these data, the multi-year project is developing refuge- and regional-scale salt marsh integrity indices to assess how well refuge salt marshes meet Refuge System integrity and health objectives and to determine where marsh management or restoration is needed. Project milestones include:

- Since 2012, 14 refuges have enrolled in the project, with 109 marsh units surveyed.
- Refuges completing Hurricane Sandy Resiliency restoration projects, from Massachusetts to Virginia, are using SMI protocols to assess pre- and post- restoration conditions. Eight refuges affected by Hurricane Sandy have collected pre-storm baseline data on a total of 36 marsh units.
- SMI integrity scores and individual refuge reports are being produced for refuges as they complete their baseline sampling.

Project collaborators: Saltmarsh Habitat & Avian Research Program (SHARP), Migratory Birds

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SMI survey - Laura Mitchell



NOAA

Coastal Refuge Monumentation Effort

Planning for sea level rise on refuges requires surveying the current elevation of critical natural resources, such as tidal marshes or dunes, and infrastructure, such as buildings, roads, and dikes. This information is vital to determining which critical habitats, resources, and key components of the visitor experience are most threatened by projected tide levels, storm surges, and increased flooding. Standardized elevation monuments containing National Geodetic Survey (NGS) benchmarks are needed to accurately measure baseline elevation and monitor long-term elevation changes (e.g., from accretion and erosion). However, many Northeast refuges currently lack stable, high-quality, elevation benchmarks. Region 5 recently initiated a contract to establish a network of NGS benchmarks on 10 coastal refuges.

- This network will provide ground control for multiple projects: determining elevations for Hurricane Sandy restoration work, ground-truthing LiDAR collection, and determining elevations of buildings in flood zones.
- Phase I of the project, which is currently underway, will identify appropriate locations and install the NGS benchmark monuments.
- Phase II, which is expected to be completed by August 2015, will measure the elevation of the newly installed benchmark monuments.

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Managing Coastal Impoundments for Long-term Resiliency

DNR and partners are compiling baseline information to assess the ecological function and resiliency of all Region 5 coastal impoundments, including both USFWS and partner-managed wetlands. This impoundment catalog will incorporate many factors used in modeling and decision-making at both the refuge and regional levels, including ecological resources, vulnerability to storm surge, resiliency to sea level rise, management alternatives, and social/economic benefits provided to communities. It will be used to prioritize restoration and other management for individual impoundments and impoundment systems.

Milestones to date include:

- A draft catalog framework, including metrics to be collected at each impoundment.
- A compilation of geospatial information for all Region 5 partner impoundments.
- A draft list of management actions to improve or account for deficiencies in sediment budget within impoundment systems.

Project collaborators: Princeton Hydro, New Jersey Audubon, Conservation Management Institute, National Wildlife Federation.

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Bombay Hook NWR - USFWS

Conserving the Nature of America

