SENEY NATIONAL WILDLIFE REFUGE

APPLIED SCIENCES PROGRAM SUMMARY – 2016

INVENTORY AND MONITORING

Inventory and monitoring are critical aspects of management at Seney National Wildlife Refuge (NWR). Approximately one third of Applied Sciences Program staff time is devoted to collecting, analyzing, and reporting inventory and monitoring data. Which species are monitored depends on many factors, including their conservation status, the role Seney NWR plays in their broad-scale conservation, and time, money, and other resource constraints.

An *Inventory and Monitoring Plan* for Seney NWR and its satellite refuges was completed in 2016. The plan, in its entirety, can be found on the Seney NWR website: https://www.fws.gov/refuge/Seney/what_we_do/conservation.html

Surveys conducted with current resources of the Applied Sciences Program, other refuge programs, and partners. Not included are research projects, periodic inspections, or Wilderness characterizations.

Survey Name	Rationale
Annual Kirtland's Warbler Official Census: Lower and Upper Peninsulas of Michigan	This survey addresses specific goals and objectives in the Kirtland's Warbler WMA CCP and HMP and addresses monitoring and conservation issues for this species at national, regional, and state scales.
Piping Plover Census	This survey addresses specific goals and objectives in the Seney NWR (Whitefish Point Unit) CCP and HMP and addresses monitoring and conservation issues for this species at national, regional, and state scales.
National Marsh Bird Monitoring Program	This survey addresses specific goals and objectives related to wetlands and priority wildlife in the Seney NWR CCP and HMP and addresses monitoring and conservation needs at national, regional, and state scales.
Pool Surveys for Trumpeter Swan, Osprey, Common Loon Occupancy and Productivity	This survey addresses specific goals and objectives related to open water and priority wildlife in the Seney NWR CCP and HMP and addresses monitoring and conservation needs at the state scale.
Michigan Islands Colonial Waterbird Nest Count	This survey addresses specific goals and objectives related to colonial waterbirds in the Michigan Islands NWR CCP and HMP and meets monitoring needs at regional and state scales.
Mercury Deposition Network	This survey addresses national (continental) monitoring needs.

National Atmospheric Deposition Program	This survey addresses national (continental) monitoring needs.
Common Tern Survey and Reproductive Monitoring	This survey addresses specific regional and state needs for a species of conservation priority.
American Woodcock Singing Ground Survey	This survey addresses specific regional and state needs for a species of conservation priority as identified by R3 Migratory Birds Program and other conservation partners.
North American Amphibian Monitoring Program	This survey addresses specific national, regional, and state monitoring needs.

LAND MANAGEMENT

Land management, by its very nature, is an art guided by science. The *Habitat Management Plan* (HMP) for Seney NWR was finalized in 2013. Unlike many refuges, Seney NWR is relatively large, exists in a matrix of public lands with a low human population density, and is surrounded by native land covers. Nonetheless, two major ecological processes have been altered on the refuge (fire and hydrology). Our HMP de-emphasizes (but does not abandon) the management of anthropogenic habitats (e.g., pools, nest boxes/structures) and instead focuses on natural analogs (e.g., beaver ponds, dead trees or snags) and promoting the natural range of variation.

The management of invasive plant species continued in 2016, with most work occurring in Unit 1 (see report on Seney NWR website). Approximately 200 white pine were planted in the Chicago Farm forest treatment area, with 100 white pine and 700 red pine planted in the Driggs River Rd. opening. Water management on refuge pools continued to be directed at holding water high during the breeding season for Common Loon, Trumpeter Swan, and Osprey.

APPLIED RESEARCH AND RELATED PRESENTATIONS

- Tucker, M.M., R.G. Corace III and D.M. Kashian. 2016. Long-term effects of managing for an endangered songbird on the heterogeneity of a fire-prone landscape. *Landscape Ecology* 31:2445-2458.
- Corace, R.G. III, Korte, J.L., Shartell, L.M. and D.M. Kashian. 2016. Upland sandpiper: a flagship for jack pine barrens restoration in the Upper Midwest? *Ecological Restoration* 34:49-60.
- Shartell, L.M., R.G. Corace, III and S.A. Weiss. 2016. Fire effects on xeric pine ecosystems and related bird communities in the northern Lake States (Poster). 23rd Annual Conference of The Wildlife Society, Raleigh, NC.
- Weiss, S.A., R.G. Corace, III, E.L. Toman and D.A. Herms. 2016. Wildlife implications across snag treatment types in jack pine stands in eastern Upper Michigan. (Poster). 23rd Annual Conference of The Wildlife Society, Raleigh, NC.
- Weiss, S.A., R.G. Corace, III, L.M. Shartell, D.S. Marsh and E.L. Toman. 2016. An information exchange on wildlife in fire - dependent ecosystems of the northern Lake States [Poster]. Annual Meeting: Minnesota State Chapter of The Wildlife Society, Mankato, MN.
- Weiss, S.A., R.G. Corace, III, L.M. Shartell, D.S. Marsh and E.L. Toman. 2016. An information exchange on wildlife in fire dependent ecosystems of the northern Lake States [Poster]. 76th Midwest Fish and Wildlife Conference, Grand Rapids, MI.

FOR MORE INFORMATION

Dr. Greg Corace, Applied Sciences Program, Seney National Wildlife Refuge, 1674 Refuge Entrance Rd., Seney, MI 49883
Phone: (906) 586.9851 ext. 14, Fax: (906) 586.3800 Website: www.fws.gov/midwest/seney/