

Chapter 7

Terrestrial Wildlife Communities Progress Report

Insert at beginning of LaMP 2000 Chapter 7.



Bull Moose, Superior National Forest
Photograph by USDA Forest Service

Lake Superior Lakewide Management Plan
2004

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Chapter 7

The Terrestrial Wildlife Community

7.0 INTRODUCTION

The members of the Terrestrial Wildlife Community Committee (TWCC) come from a wide variety of agencies and educational institutions around the basin. There are members from both the U.S. and the Ontario side of the basin. On the US side, TWCC members come from all three states in the Lake Superior Basin (Minnesota, Michigan, and Wisconsin) as well as several federal and Tribal agencies. Non-profit organizations are represented by the Sigurd Olson Environmental Institute. On the Canadian side, Ontario Ministry of Natural Resources is represented. Universities are represented by Lakehead University, Northland College, and University of Minnesota, Duluth.

Just as there are many participants in the Lake Superior Binational Program, there are many agencies that are contributing to the implementation of the Lake Superior Management Plan and the vision set forth in that plan. The projects and their accomplishments listed below represent a sampling of all of the activities taking place in the basin.

7.1 LaMP ACCOMPLISHMENTS 2002 TO 2004

Ontario's Herpetofaunal and Rare Plant Inventories in the Lake Superior Basin

As identified in the LaMP 2000 document, knowledge of both herpetofaunal (reptile & amphibian) and rare plant populations and distributions within the Lake Superior Basin are incomplete and fragmented. This project is aimed to fill in some of our knowledge gaps in the distribution and relative abundance of reptiles, amphibians and rare plants within the Ontario portion of the basin.

Standard inventory techniques will be utilized for both herpetofaunal (e.g., pond searches, auditory surveys, and litter/debris searches) and rare plant surveys. Specimens will be photographed and accurate locational data recorded so that inventory results can be mapped.

This project provides direct linkages to LaMP 2000 Terrestrial Wildlife Inventory Strategy A – inventory all levels of the biotic community, assess wildlife needs and develop actions for protection, maintenance and restoration, with priority attention to groups for which little is known. This undertaking also supports a number of Ontario's provincial priority program areas including the Species at Risk program (SAR).

Development and Evaluation of Species Monitoring Protocols

This Ontario Ministry of Natural Resources (OMNR) project, started in 2003, will initiate implementation of monitoring protocols, sampling procedures, and data handling for identified high priority “best bet” indicator species. The project is designed to identify one “best bet” indicator each year (2003, 2004, and 2005) and develop a basin-wide monitoring protocol for that indicator. The monitoring protocol will be evaluated under field conditions during subsequent field seasons and its utility evaluated and appropriate modifications made as appropriate. Year one is aimed at developing basin-wide monitoring protocols for reptiles and amphibians.

Monitoring protocols will be developed using a “species expert” workshop approach. The first workshop will initiate the process of identifying appropriate species to monitor within the basin. This will be followed by a further workshop(s) to develop an appropriate monitoring protocol for the preferred indicators, peer review of the proposed monitoring protocol, and subsequent publication of the protocol for distribution to workshop participants and agency personnel within the basin. The second year will see the development of monitoring protocols for the next “best bet” and an evaluation of the proposed monitoring protocols utilized to date.

Wood Turtle Recovery Plan Implementation Project

Wood Turtles (*Glyptemys insculpta*) are a small (average 20 cm), docile turtle displaying colourful markings that makes them popular targets for the pet trade. They have been designated a species of “Special Concern” (Litzgus and Brooks 1996) by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); in Ontario they are designated “Vulnerable,” but have been recommended for “Endangered” status by the Committee on the Status of Species at Risk in Ontario (COSSARO). Despite these listings, and the inclusion of Wood Turtles on CITES (Convention on International Trade in Endangered Species), this species has suffered population declines throughout their range due to habitat destruction and commercial collecting (Harding and Blooper 1979; Garber and Burger 1995). Collectors can easily harvest an entire population in only one or two years by timing their exploitation to coincide with the turtles’ emergences from hibernation (Anon. 2000; Cameron and Brooks 2002).

During the spring and summer of 2002, the Ontario government provided “Species at Risk” funds to begin a study of Wood Turtles within the Lake Superior basin. This study resulted in locating Wood Turtle populations in 4 streams of 11 searched. There are another 13 streams that have not been surveyed. Of these 4 streams, one was found to have a healthy population and has therefore been proposed as a candidate for “The Room to Grow” program as a new protected area (Knudsen and Crins, 2002). Due to the undisturbed nature of the habitat in the Lake Superior Basin, this population is one of the last refuges for the Wood Turtles in Ontario.

The focus of the newest project initiated in 2003 and funded under Ontario's commitment to COA (Canada-Ontario Agreement), is to locate new populations and to monitor existing populations for population demographics in adherence with the Ontario Wood Turtle Recovery Plan (revised, 2002). The Ontario Turtle Recovery Team implements this plan on a provincial basis. Therefore, data collected, the habitat suitability model developed and the studies currently on-going on the other populations in the province, will be analyzed and compared to assist in the development of a province-wide protection guidelines. In addition, marking techniques and DNA profiling have been undertaken through a partnership with Trent University to protect these vulnerable populations from poaching activities.

Northwestern Lake Superior Peregrine Falcon and Bald Eagle Monitoring

This project was initiated in 2003 to monitor endangered bird species in Ontario's portion of the Lake Superior basin. The focus was to inventory and monitor nest success of Peregrine Falcons and Bald Eagles within the Thunder Bay and Terrace Bay areas of the Lake Superior Coast.

Boat and helicopter surveys were used to identify birds and map locations of active territories. The origin of adult falcons or eagles was established where possible through identification of colour leg bands. Nesting success was monitored at a number of sites. Through repeat visits at critical stages of development, the banding of Peregrine chicks took place to estimate dispersal and post-fledgling survival in subsequent surveys. Mapping of nesting locations and active territories was also undertaken and will contribute to Ontario's provincial GIS database.

Knowledge of nesting activities will assist in determining species recovery success and will be used in a variety of planning roles (municipal, provincial and Lake Superior LaMP). This project is scheduled to continue through 2005.

Minnesota Department of Natural Resources (MN DNR)

- **North Shore State Parks Spruce Beetle Study.** A \$26,000 grant to MN DNR to determine the extent of spruce beetle infestation in state parks and to determine population trends.
- **Shoreline Plant Community Survey.** A \$30,000 grant to MN DNR to evaluate the impacts of visitor use on native plant communities on public lands by comparing areas of high use in state parks to areas of moderate and low use on public and private lands.
- **The Minnesota County Biological Survey.** Engaged in an intensive, systematic survey of high quality natural plant communities in the North Shore Highlands subsection for the past several years. Plant community survey work is nearing completion. Animal Survey work is underway and is scheduled to continue for at

least another field season. Surveys of hepatofauna and bats are notable components of this survey.

Wisconsin Department of Natural Resources (WDNR)

- **Common Tern Habitat.** In the fall of 2002, a new island was built for common terns, a Wisconsin endangered species, in Ashland. The Ashland colony is one of only two common tern nesting colonies in the entire Lake Superior basin. The other colony is located on Interstate Island in the St. Louis River estuary. There was a slight increase in the number of nesting pairs using the new island in 2003 with about 90 pairs of terns nesting. Production was one of the highest ever observed with nearly two young fledged per nest.
- **Forest Openings.** Maintenance of small grassy openings within blocks of publicly managed forestlands provides habitat for many animals such as flickers, cedar waxwings, chestnut-sided warblers, mourning warblers, broad-winged hawks, smooth green snakes, leopard frogs, badgers, bear, and provide critical feeding area to deer after severe winters. Wisconsin's Lake Superior Basin counties have approximately 2,000 openings on state and county forest lands. Openings are maintained by a variety of methods including mowing, hand cutting, and herbicide treatment of woody vegetation.
- **Sedge Pond Project for Native Species Establishment in Restored Wetlands.** The WDNR has developed a project plan and is seeking funding to develop a local sedge nursery pond. The project would involve construction of a three-acre pond with water control capabilities at the University of Wisconsin Ashland Agricultural Research Station. The pond would serve as a nursery for native sedges and rushes, which would be harvested periodically for use as a seed source for wetland restoration and creation projects in the Lake Superior Basin. This project will attempt to establish a diverse stand of native sedges and rushes from seed, and develop a protocol for successful mechanical harvesting of seed and establishment of these plants in other wetland projects in the basin.
- **Native Grass and Forb Nursery.** WDNR has developed plans and is seeking funding for the construction of a 10+ acre native grass and forb nursery at the University of Wisconsin Ashland Agricultural Research Station. The purpose of the project is to create a readily accessible seed mix source for habitat improvement projects in the Lake Superior Basin.
- **Sharp-tailed Grouse Reintroduction.** A sharp-tailed grouse reintroduction project is being coordinated in a 12,000-acre agricultural area just south of the City of Ashland. At the request of several landowners, the WDNR completed an evaluation of the area to determine habitat suitability. Maintenance of existing grasslands and brushlands along with some conversion of woodland edge and creation of additional brushlands, should provide adequate habitat to sustain a small population. The entire project area is privately owned and divided into

many small parcels. Over 170 landowners have been contacted to determine their interest in managing their lands for suitable habitat. If support for this proposal continues, a release of wild captured birds could take place as early as 2005. Long-range goals include creating corridors to existing populations in northern Wisconsin, thereby improving genetic diversity among the population.

- **Wisconsin State Natural Areas.** The WDNR conducted Phragmites (giant reed) control on three acres of a six-acre stand in the Bark Bay Sloughs State Natural Area. Phragmites control efforts will continue in 2004. Wetland restoration of 2.4 acres on two private properties included agreements to maintain adjacent grasslands in undisturbed condition during the nesting and early brood rearing seasons. WDNR restored a rock entry barrier to the beach to prevent further habitat degradation from inappropriate motor vehicle access at Port Wing Boreal Forest State Natural Area.

U.S. Department of Agriculture Forest Service

Invasive Species

- The Eastern Region of the Forest Service **Non-Native Invasive (NNIS) Species Framework** was released in April 2003. Its focus includes leadership, prevention, early detection and rapid response, control and management, restoration, cooperation, research and information, and education.
- The Eastern Region is providing leadership for the **Midwest Natural Resource Group (MNRG)** in FY 2003. A memorandum of understanding has been signed, and plans are being made to develop early detection and rapid response plans for aquatic and terrestrial NNIS in the Midwest. The region is also providing leadership to form a Midwest NNIS plants group in conjunction with MNRG.
- National Forests in the basin treated 143 acres for invasive species control in Fiscal Year 2003.

Wildlife

- 647,000 acres of Canada Lynx were inventoried.
- Initiated a 5-year study of Canada Lynx in the Superior National Forest.
- Completed annual wolf monitoring.
- Participated in the annual breeding bird survey.
- Regional Forester's Sensitive Species (665 species) update completed in 2003.
- Conservation assessments (665 sensitive species needing assessments):
 - 35% Completed
 - 42% Pending
 - 23% In progress

**U.S. Department of Interior
National Park Service**

Apostle Islands

- Restoration of Oak Island Sandscape began in 2000 with the primary restoration in 2001 and 2002. Monitoring of the sandscape occurred through 2003.
- Restoration of old cabin sites began in 2003 and will continue in 2004. In a cooperative effort with NRCS, native plants were gathered and propagated to be used in the restoration effort.
- In a cooperative effort with FWS and NRCS, restoration of South Twin and Raspberry Sandscapes began in 2003.
- Estimated the relative abundance of American otter.
- Monitored beaver populations.
- Estimated relative abundance of deer on 2 islands of the Apostle Islands National Lakeshore. A browse survey was conducted on Sand Island in 2003.
- Regular monitoring was conducted of breeding birds, migratory birds, water quality, sandscape monitoring, purple loosestrife control, spotted knapweed control, and eagle nests.

Pictured Rocks

The following studies were completed:

- Refinement of small carnivore monitoring techniques.
- Resource selection by sympatric fisher and American marten.
- Effects of human disturbance on black bear distribution.
- Forest carnivore survival and mortality factors.
- Diet of forest carnivores.
- Suitability of otter hair to assess mercury levels.
- Avian response to hiker disturbance.

- Avian community structure in relation to landscape- and stand-level characteristics.
- Landscape-scale vascular plant abundance and distribution.
- Distribution and abundance of down woody materials.
- Management impacts upon forest structure and composition.

Grand Portage

The following studies were completed:

- Night-calling bird survey. 2004 is the final year of four-year effort to document bird species not detected in traditional breeding bird survey.
- Migrant/Winter bird survey. Fall 2003/Spring 2004 effort to document species not detected in traditional breeding bird survey.
- Annual Breeding Bird Survey.
- Vegetation monitoring (five-year cycle of only two stands).
- Historic disturbance regimes and natural variability of Grand Portage National Monument forest ecosystems.
- Forest history study to assist with future management decisions for forested trail corridor of the Monument.
- Inventory of ground beetles and characterization of the vegetation of Grand Portage National Monument.
- Effort to evaluate disturbance history of trail corridor habitats to guide future management.
- Initial inventory of the moths of Grand Portage National Monument, Cook County, Minnesota.
- Inventory of caddis flies of Grand Portage National Monument, Cook County, Minnesota.

**US Department of Interior
Fish and Wildlife Service**

- **Partners for Fish and Wildlife Program.** Wildlife habitat restoration on private land in Lake Superior basin during the reporting period: 179 acres of wetlands enhanced or restored and 64 acres of upland habitat enhanced or restored.

Superior Coastal Wetlands Initiative - Phase II Moving Forward

This highly successful partnership made up of communities, tribes, non-government organizations and agencies is working together to conserve wetlands in Lake Superior's Chequamegon Bay area. Through the hard work and over \$5,500,000 in matching contributions by the partners, North American Wetland Conservation Act (NAWCA) grants totaling nearly \$2,000,000 have been secured. Wetlands make up 10 percent of Wisconsin's Lake Superior watershed and play a critical role in the sustainability of the region's wildlife populations.

Nearly 10,000 acres of fish and wildlife habitat was restored, enhanced or protected in Phase I of the project. Highlights included establishment of the Whittlesey Creek National Wildlife Refuge and acquisition of lands within it. The restoration and enhancement of 4,383 acres of wildlife habitat in the watershed, and the acquisition of over 2,000 acres of critical coastal wetland/bottomland forest and associated uplands in the Kakagon/Bad River Sloughs.

Phase II is now underway and the partners of the Superior Coastal Wetland Initiative are targeting priority wetlands and their watersheds.

- The Kakagon/Bad River sloughs and associated Bad River watershed.
- Fish Creek Sloughs and watershed.
- Whittlesey Creek.
- Frog River.
- Raspberry River and estuary.

The objectives of Phase II are to acquire 1,037 acres of wetlands and 1,433 acres of upland in fee title, acquire 250 acres of wetland and 435 acres of uplands through easements, restore 249 acres of wetlands, enhance 70 acres of wetlands, and set aside 2,500 acres through a conservation stewardship program on private lands.

- **Great Lakes Coastal Program.** During the reporting period, partnered on 21 projects in the Lake Superior Basin. The program provided funding for restoration (7), research (12), outreach and education (2) projects. Restoration projects accounted for 814 acres of fish and wildlife habitat enhanced or restored and 2 ½ miles of stream habitat enhanced or restored.

- **North American Woodcock Singing Ground Survey.** As part of the U.S Fish and Wildlife Service and Canadian Wildlife Service's North American Woodcock Singing Ground Survey, the service's Ashland Fishery Resources Office surveyed some of the Wisconsin routes in the Lake Superior basin. This annual survey provides an index to the relative size of the woodcock breeding population and is the most important source of data used to guide the United States and Canadian woodcock programs.
- **Whittlesey Creek NWR.** Acquired 105 additional acres of land within the proposed refuge boundary in three separate parcels. Total acreage owned to date is 220 out of 540 acres to be acquired.
- **Whittlesey Creek NWR Forest Restoration.** Whittlesey Creek National Wildlife Refuge restored and enhanced approximately 22 acres of riparian forest along Terwilliger Creek. Native trees and shrubs were used in the restoration and planted in a manner that will increase the landscapes value to fish and wildlife. The restored area will benefit conservation priority migratory bird species such as the wood thrush, northern flicker and American woodcock. It will also improve water quality and habitat for coaster brook trout as well as other fish that spend all or part of their life cycles in refuge streams.
- **Great Lakes Piping Plover Recovery.** In May 2001, the U.S. Fish & Wildlife Service designated critical habitat for the Great Lakes piping plover, a federally endangered species. Critical habitat receives protection under section 7 of the Endangered Species Act through the prohibition against destruction or adverse modification with regard to actions carried out, funded, or authorized by Federal agencies. Critical habitat was designated throughout all of the Great Lakes basins. Within the Lake Superior basin five critical habitat "units" were designated totaling 73 miles (120 km) of shoreline in Michigan, Wisconsin, and Minnesota. Once found breeding in many places along Lake Superior, piping plovers currently nest in only two shoreline areas. Protection of critical habitat will facilitate recovery and return of piping plovers to many historical breeding sites on Lake Superior and throughout the Great Lakes.

Additional projects included the following:

- Participated in the annual Breeding Bird Survey.
- U.S. Geological Survey completed the ground-water flow and rainfall runoff models for Whittlesey Creek and published their report in 2003.
- Planted 10 acres of trees as a riparian forest restoration project within the Whittlesey Creek National Wildlife Refuge.

- Celebrated National Wildlife Refuge Centennial at special events that highlighted history of Lake Superior, Coaster Brook Trout rehabilitation efforts, and habitat restoration efforts.
- Initiated a purple loosestrife control project on the refuge through biological control.
- Mapped habitat types within the Whittlesey Creek NWR boundary. The information will be used to develop a habitat management plan for the refuge.

Indian Tribes

Keweenaw Bay Indian Community

The following projects were completed:

- Conducted fall waterfowl surveys at 4 area wetlands.
- Completed frog and toad index surveys at 11 sites.
- Maintained 30 artificial duck nest boxes at 5 wetlands.
- Expanded Reservation wildlife refuge system to its present level of 926 acres.
- Monitored harvested deer for chronic wasting disease.
- Created a new waterfowl impoundment of 10 acres (Roubillard wetland) on a 30-acre refuge.

Fond du Lac Band

The following projects were completed:

- Conducted population surveys for ruffed grouse, wood turtles, frogs and toads, loons, small mammals, furbearers, wolves and moose.
- Collected samples from harvested deer for CWD monitoring.
- Worked on moose research involving population dynamics and movements.
- Used prescribed fire to improve habitat for waterfowl, sharptail grouse, moose and deer.
- Provided comments on the draft Superior National Forest Management Plan.

Herptile Workshop Held with Society of Conservation Biology Annual Meeting

The Terrestrial Wildlife Community Committee of the Lake Superior Binational Program organized a herptile monitoring workshop in Duluth, MN, held in conjunction with the 2003 *Society for Conservation Biology* annual meeting. The goal of the one-day workshop was to bring together reptile and amphibian experts from around the Lake Superior Basin to initiate discussion for the implementation of a basin-wide herptile monitoring program.

Specific workshop objectives were:

- To identify species that warrant monitoring,
- To identify which species can be effectively monitored, and
- To begin discussing appropriate monitoring methods or techniques for the species identified.

The State of the Lake Ecosystem Conference and the 2000 Lake Superior Lake-wide Management Plan identified reptiles and amphibians as a critical group to be monitored, since they are sensitive to both anthropogenic perturbations and to chemical contaminants. It is believed that since Lake Superior is at the northern edge of the natural range of many herptile species declines in their abundance within the basin may be indicative of pending declines elsewhere. Herptiles may also be particularly useful for monitoring in the Areas of Concern document progress in remediation and restoration at those sites.

Thirty-seven amphibian and reptile species occur in, and are considered ecologically significant components of, the Lake Superior watershed as identified by Gary Casper in "*A Review of the Amphibians and Reptiles of the Lake Superior Watershed, Technical Report provided to the Terrestrial Wildlife Community Committee, for the Lake Superior Lakewide Management Plan,*" submitted by G. Casper, 2002.

Nine 20-minute presentations were given during the afternoon session of the workshop. The session opened with a presentation outlining the range and status of each herptile species found in the basin. A moderated, round-table discussion aimed at establishing herptile monitoring priorities in the Lake Superior basin was the focus of the workshop's evening session. Initial discussions concentrated on determining the most acceptable means of identifying those herptile species that warranted monitoring.

Of the 37 species present in the basin, 30 species were identified and placed into one or more of 10 monitoring methods. Monitoring methods selected were:

- | | |
|-------------------------|---------------------------|
| • calling surveys | • basking traps |
| • aquatic cover objects | • visual encounters |
| • general cover objects | • egg mass surveys |
| • aquatic funnel traps | • drift fences with traps |
| • hoop net traps | • dip net surveys |

Great Lake Indian Fish and Wildlife Commission

The following projects were completed:

- Surveyed over 400 deer for chronic wasting disease.
- Completed years 1 and 2 of a collaborative (US Forest Service) research project designed to examine factors affecting successful dispersal of American marten and the Chequamegon National Forest.
- Conducted sharp-tailed grouse drumming counts on Moquah barrens, Wisconsin

Other Committee Accomplishments

- Nearing completion of integration of the four ecosystem chapters of the LaMP 2000 – Aquatics, Habitat, Terrestrial, Wildlife and Exotic Species.
- Completed setting long- and short-term ecosystem goals for LaMP implementation (jointly with aquatic and habitat committees).
- Approved and accepted final reports on herptile and soil invertebrate indicator projects.
- Held a herptile workshop in Duluth, MN.
- Completed an inventory of recovery plans or conservation strategies for Threatened and Endangered species (and their Canadian equivalents). Completed inventory of extirpated, recovered and reintroduced species.

7.2 CHALLENGES AND NEXT STEPS FOR 2004 TO 2006

Over the next two years, the committee will do the following:

- Continue to develop and implement a biological community-based monitoring program;
- Consolidate the ecosystem chapters of LaMP 2000;
- Continue to develop and implement a herptile monitoring program; follow up on the herptile monitoring workshop.
- Develop a method to monitor land use change over time;
- Initiate development of a monitoring program for medium sized carnivores;
- Combat the spread of exotic and invasive species; and
- Continue to encourage partner agencies to design and implement priority LaMP projects.

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