

WILDLIFE: THREATENED AND ENDANGERED SPECIES (T&E)

Overview

During this first year of Plan implementation monitoring focuses on assessment of population trend and consistency of projects with management objectives for the Superior NF's three threatened species: bald eagle, gray wolf, and Canada lynx. More detailed analysis of habitat conditions (based on Forest Plan and Project habitat indicators) is on file and available upon request. Assessment of habitat trends will be conducted in future monitoring reports when several more years of data become available and the degree of accomplishment of desired conditions for threatened species can be more meaningfully evaluated.

Bald Eagle

The Minnesota DNR's Statewide bald eagle survey in 2005 detected 90 active nests on the Superior National Forest, a 15% increase over the previous statewide survey in 2000 (78 nests). The Forest-wide goal of 85 nests has been met.

Vegetation management projects such as the Dunka, Tomahawk, and Virginia are consistent with Forest Plan management direction to promote eagle recovery. Projects maintain, protect, or enhance eagle habitat through project design that maintains and protects suitable nesting and aquatic foraging habitat, establishes young red and white pine for future nesting habitat, and avoids disturbances near nests in breeding season. In addition to the many vegetation management actions that will benefit or protect eagles, all projects would have *no adverse effects* to eagles.

The success of eagle recovery from the local landscape scale of the Superior National Forest to the State and national scale had provided the Fish and Wildlife Service with support to reopen the comment period on its 1999 proposal to remove the bald eagle from the endangered species list (February 2006).

Gray Wolf

The most recent statewide or Superior National Forest wolf survey was conducted in 2003-2004 by the Minnesota DNR(http://files.dnr.state.mn.us/natural_resources/animals/mammals/wolves/wolfplan2000.pdf). The results of the survey suggest the statewide population is about 2,300 to 3,700 wolves (90% confidence interval). Since 1997 there has been no significant change in the distribution or abundance of wolves in Minnesota. However, average wolf territory size has decreased since 1997-1998, likely a result of 70% increase in white-tailed deer populations in wolf range in Minnesota. Based on limited information from Cook and St. Louis counties, Superior's population is probably stable or increasing and continuing to meet or exceed Forest Plan objectives for contributing to the State wide goal of 1250-1400 gray wolves.

Vegetation management projects such as the Dunka, Tomahawk, and Virginia are consistent with Forest Plan management direction to promote wolf recovery. Projects maintain, protect, or enhance wolf habitat through establishment of young forest habitat and conifer cover habitat suitable for prey species, white-tailed deer and moose, and through management of roads and trails to reduce human access and associated risks (trapping, illegal shooting, disease). In addition to the many vegetation management actions that will benefit or protect eagles, all projects would have *no adverse effects* to wolves

Because of the success of wolf recovery from the local landscape scale of the Superior National Forest to the Western Great Lakes (distinct population segment) the Fish and Wildlife Service (FWS) has proposed removing the gray wolf from the endangered species list (March 2006).

Canada Lynx

This is the 3rd year of a project to study Canada lynx ecology and monitor lynx population in the Great Lakes region (<http://www.nrri.umn.edu/lynx/>). The project is designed to address four major questions about this population of Canada lynx: distribution, habitat use, abundance, and persistence. Addressing these major questions is a critical step in learning effective ways to promote lynx conservations and recovery. In the first 33 months of this project, 32 Canada lynx have been captured and released with radio-telemetry collars. Tracking their movements is helping us understand local lynx ecology.

In addition to the telemetry component of the lynx project, a third year of surveys for snowshoe hare (the major prey species of lynx) through pellet counts and mark-recapture has been conducted. Information gained is being used to develop an index of relative hare abundance and to identify habitat types where lynx are more likely to be present (based on prey density). Results to date show highest hare pellet counts in upland conifer forest types.

In 2004-2005 major vegetation management projects such as Dunka, Tomahawk, and Virginia have been developed to promote habitat for lynx by establishing or maintaining snowshoe hare habitat, ensuring adequate denning habitat and cover/connectivity habitat. Roads and trails are being managed to be consistent with Forest Plan standards and guidelines. All projects for 2004-2005 are consistent with Forest Plan objectives for Canada lynx recovery. In addition to many vegetation management actions that will benefit lynx, all other vegetation projects would have *no adverse effects* to lynx.

Photos of lynx below are from Minnesota's lynx project.



Getting radiotelemetry equipment ready



Processing a kitten near the den site



The den site was under this log



Positioning an ear tag for insertion



One of the Canada lynx kittens



Collecting a blood sample

(2) Monitoring Activities

Monitoring Question

To what extent is Forest management contributing to the conservation of threatened and endangered species and moving toward short term (10-20 years) and long-term (100 years) objectives for their habitat conditions and population trends?

Monitoring Driver(s): Objectives.

Objective. O-WL-4. Maintain, protect, or improve habitat for all threatened and endangered species by emphasizing and working toward the objectives of federal recovery plans and management direction in this Forest Plan.

Objective. O-WL-5. Seek opportunities to benefit threatened and endangered species by integrating habitat management objectives into plans for the full spectrum of management activities on NFS land.

Objective. O-WL-6. Reduce or eliminate adverse effects on threatened and endangered species from the spectrum of management activities on NFS land.

Objective. O-WL-16. Bald Eagle. Promote the conservation and recovery of the bald eagle. Population goal minimum: 85 occupied breeding territories.

| Applicable Monitoring Activity, Practice, Or Effect Measured | Methods | When Monitored | Location or Project Area |
|--|---|---|---------------------------|
| Occupied breeding territories; Potential nesting habitat. Population & Trend | Populations: MNDNR 5 yr interval aerial surveys of known or new nest sites: 2005 survey. Habitat: FSVEG/Compartment Stand Data (CDS) GIS & analysis | Nest Surveys: 2005/Apr to June Habitat: End of FY 2005 (frozen database 11/2205). | State-wide Forest-wide |

Objective. O-WL-17. Wolf. Promote the conservation and recovery of the gray wolf. Population goal minimum: contribution to State-wide goal of 1,250 to 1,400.

| Applicable Monitoring Activity, Practice, Or Effect Measured | Methods | When Monitored | Location or Project Area |
|--|---|----------------|---------------------------|
| Wolf population trend | Populations: MNDNR periodic wolf surveys. USGS BRD Wolf Study progress Report. Habitat: FSVEG/Compartment Stand Data (CDS) GIS & analysis | Year round | State-wide Forest-wide |

Objective. O-WL-8. Lynx. Promote the conservation and recovery of the Canada lynx and its habitat.

| Applicable Monitoring Activity, Practice, Or Effect Measured | Methods | When Monitored | Location or Project Area |
|--|---|---|---------------------------|
| Populations, Known locations. Habitat conditions. | Study plan- Ecology of Canada lynx in Minnesota – NRRRI: Snow tracking survey protocol Radio-collaring, tracking, monitoring Snowshoe hare study | 2005 year round 2005 Jan-Feb-Mar | State-wide Forest-wide |

(3) Evaluation and Conclusions.

Desired Conditions/Objectives

Bald Eagle

Monitoring Driver(s): Objective. O-WL-16. Bald Eagle. Promote the conservation and recovery of the bald eagle. Population goal minimum: 85 occupied breeding territories.

2005 Accomplishments

National bald eagle recovery: Bald eagles no longer face extinction and are thriving nationally due to the ban on DDT and protection and management provided by the Endangered Species Act. The bald eagle population in the lower 48 states has recovered from a population estimated at less than 500 breeding pairs in 1967 when the birds were first listed, to a current population of over 6,500 breeding pairs. In February 2006, Fish and Wildlife reopened the comment period on its 1999 proposal to take the bald eagle off the endangered species list. If de-listed, bald eagles would continue to be protected under the Bald and Golden Eagle Protection Act. For more information: <http://www.fws.gov/midwest/eagle/>

Minnesota recovery: In Spring 2005 the Minnesota Department of Natural Resources Nongame Wildlife Program (DNR) led two interagency statewide bald eagle surveys. A summary of the results on the DNR website reports: "A survey of all known nest sites identified 872 nests with adult eagles present, a 28% increase over the 681 active nests found in 2000, the year of the most recent similar survey. A separate, first-time survey of 61 random plots yielded an estimate of 1,312 active bald eagle nests within Minnesota, indicating that the locations of only 66% of the state's nests had been found in the survey of known nests." (http://files.dnr.state.mn.us/ecological_services/nongame/projects/eagle_report_2005.pdf)

Superior National Forest recovery:
Occupied nests:

Through the Statewide survey in 2005, 90 active nests were found, a 15% increase over 2000 (78 nests). Additionally, in the rest of NE Minnesota, outside the Superior, 60 additional nests were located, a 10% increase over 2000. All land ownerships together, Cook County showed a 30% increase over 2000.

Habitat:

- ↘ All projects for 2004-2005 are consistent with Forest Plan objectives for bald eagle recovery. In addition to many vegetation management actions that will benefit or protect eagles, all projects would have *no adverse effects* to eagles.
- ↘ Dunka, Tomahawk, and Virginia vegetation management projects protected eagle habitat through project design that maintains and protects suitable nesting habitat and avoids disturbances near nests in breeding season.
- ↘ Dunka project will increase future potential habitat with underplanting and diversity planting of white pine to increase within stand diversity: 1700 acres project area wide and 800 acres within ½ miles of fish bearing streams and lakes 20 acres or greater.
- ↘ Virginia project will increase red and white pine forest through planting of 380 acres project area wide.
- ↘ Tomahawk project will increase red and white pine forest through planting of 180 acres project area wide.

| Record of Decision (7/04) | (DECADE 1) | | 2005 Accomplishments and/or Condition | |
|---|--|--------------------------------------|--|--|
| Existing Condition | FP Objective | FEIS Projected or Proposed Condition | Actual Accomplishments implemented | Actual Accomplishments & Approved NEPA Decisions |
| Management of Superior promotes recovery of bald eagle. <u>Population:</u> In 2000, Superior had 78 active nests. | Promote recovery of bald eagle. <u>Population goal minimum:</u> 85 breeding territories. | | Management of Superior continues to promote recovery of bald eagle. <u>Population goal minimum:</u> 90 breeding territories. | NA |

Gray Wolf

Monitoring Driver(s): O-WL-17. Wolf. Promote the conservation and recovery of the gray wolf. Population goal minimum: contribution to State-wide goal of 1,250 to 1,400.

2005 Accomplishments

Population and distribution

- ↘ The most recent statewide or Superior National Forest wolf survey was conducted in 2003-2004 by the Minnesota DNR

(http://files.dnr.state.mn.us/natural_resources/animals/mammals/wolves/wolfplan2000.pdf). The results of the survey suggest the statewide population is about 2,300 to 3,700 (90% confidence interval). Since 1997 there has been no significant change in the distribution or abundance of wolves in Minnesota. However, average wolf territory size (with an estimate of 485 pack in Minnesota) has decreased since 1997-1998, likely a result of 70% increase in white-tailed deer populations in wolf range in Minnesota. Based on limited information from Cook and St. Louis Counties, Superior's population is probably stable or increasing and continuing to meet or exceed Forest Plan objectives for contributing to the Statewide goal of 1250-1400 gray wolves.

Because of the success of wolf recovery from the local landscape scale of the Superior National to the Western Great Lakes (distinct population segment) the Fish and Wildlife Service proposed removing the gray wolf from the endangered species list (March 2006). The Fish and Wildlife Service's current proposal, if finalized, would also remove Endangered Species Act regulation of critical habitat in Minnesota, and eliminate special rules for wolf management in Minnesota, as they are no longer required. Wolf management responsibility would be entrusted to the State and tribes. For more information see Fish and Wildlife Service website: http://www.fws.gov/midwest/wolf/2006pr_dl/index.htm

Habitat:

- ✎ All projects for 2004-2005 are consistent with Forest Plan objectives for gray wolf recovery. In addition to many vegetation management actions that will benefit or protect wolves, all projects would have *no adverse effects* to wolves.
- ✎ Vegetation management projects such as the Dunka, Tomahawk, and Virginia are consistent with Forest Plan management direction to promote wolf recovery. Projects maintain, protect, or enhance wolf habitat through establishment of young forest habitat and conifer cover habitat suitable for prey species white-tailed deer and moose and management of roads and trails to reduce human access and associated risks (trapping, illegal shooting, disease).

2005 Accomplishment Contribution Towards Desired Conditions & Objectives

| FOREST PLAN DIRECTION/FEIS CONDITION | | | | |
|---|---|--------------------------------------|--|--|
| Record of Decision (7/04) | (DECADE 1) | | 2005 Accomplishments and/or Condition | |
| Existing Condition | FP Objective | FEIS Projected or Proposed Condition | Actual Accomplishments implemented | Actual Accomplishments & Approved NEPA |
| Management of Superior promotes recovery of wolf. Estimated State-wide population 2,300-3020. | Promote recovery of wolf. Pop goal minimum: contribution to State goal of 1,250 to 1,400. | NA | Management of Superior continues to promote recovery of wolf. At Statewide level, no significant population change likely. On Superior NF, population likely stable or increasing. | NA |

Canada Lynx

Monitoring Driver(s): Objective. O-WL-8. Lynx. Promote the conservation and recovery of the Canada lynx and its habitat.

2005 Accomplishment

This is the third year of a project to study Canada lynx ecology and monitor lynx population in the Great Lakes region. The project is designed to address four major questions about this population of Canada lynx: distribution, habitat use, abundance, and persistence. Addressing these major questions is a critical step in learning effective ways to promote lynx conservation and recovery. In the first 33 months of this project 32 Canada lynx have been captured and released with radiotelemetry collars. Attempts were made to locate each animal at least twice a month after being collared. Of the 32 Canada lynx that have been radio-collared, 2 died in 2003, 1 died in 2004, and 8 died in 2005. Out of 10 known kittens born to radio-collared females in 2004, 5 were radio-collared in the winter of 2005, and 2 of these 5 are still alive 19 months later. Radio-collared females again raised litters in 2005, and kittens survived through December, 2005 in 3 of the 4 known litters. GPS collars have been deployed on 13 of the Canada lynx in this project. Over 10,000 locations will have been obtained from these collars when they are recovered. GPS collar locations will be fundamental to understanding movements and habitat use of Canada lynx. Ambient temperature and animal activity level is recorded by the collars indicating daily patterns in activity, and also shows how active an animal was when each GPS location was obtained.

✎ In addition to the telemetry component of the lynx project, a third year of surveys for snowshoe hare (the major prey species of lynx) has been conducted. The study established over 200 permanent plots for conducting hare pellet counts, an indirect method of obtaining abundance estimates, that is being validated through mark-recapture of hares. In addition to developing an index of relative hare abundance, the study is helping to identify habitat types where lynx are more likely to be present (based on prey density). Results to date show highest hare pellet counts in upland conifer forest types, specifically cover types identified as red pine pole and sawtimber, jack pine sawtimber, and upland black spruce regeneration. Results also is being analyzed to detect the cover types not likely to be used by lynx, since about 90% of plots did not have hare pellets.

✎ For more information on lynx project see website: <http://www.nrri.umn.edu/lynx/>

Habitat:

✎ All vegetation management projects for 2004-2005 are consistent with Forest Plan objectives for lynx recovery. In addition to many vegetation management actions that will benefit or protect lynx, all vegetation projects would have *no adverse effects* to lynx.

In 2004-2005 major vegetation management projects such as Dunka, Virginia, and Tomahawk have been developed to promote habitat for lynx by establishing or maintaining snowshoe hare habitat and ensuring adequate denning and

connectivity habitat. Roads and trails are being managed to be consistent with Forest Plan standards and guidelines to reduce potential impacts associated with human access to lynx habitat.

Other resource projects such as road, trail, and recreation projects all also were designed to protect or maintain lynx and its habitat and are likely to have *no adverse effects* on lynx, with one exception. The ongoing 2004 project of reconstruction of Trunk Highway 1 (Lake County) which partly crosses National Forest, is expected to adversely affect lynx. This is due to the significantly wider rights-of-way and higher vehicle speeds that may result in lynx-vehicle collisions and lynx mortality. The project has included terms and conditions and reasonable and prudent measures to mitigate effects with the result that this Fish and Wildlife Service expects that the project will not jeopardize the recovery of lynx.

In 2005 the Fish and Wildlife Service proposed designation of critical habitat for the lynx nation-wide. This included Minnesota and the Superior National Forest in areas within the proclamation boundary, but outside of Lynx Analysis Units (LAUs): areas within LAUs on the Forest were excepted from proposed critical habitat because Forest Plan management guidance, adapted from the National Lynx Conservation Strategy, adequately promotes lynx recovery. In November 2006 a final rule was published that does not include any critical habitat within the boundaries of the National Forest. During the timeframe between the proposal and the final rule, the Superior NF considered and made determinations of effect on the lynx specifically for "proposed critical habitat". Regardless of whether all future projects occur within or outside of LAUs, management to promote recovery of lynx and impacts of management will continue to be considered per Plan direction.

| FOREST PLAN DIRECTION/FEIS CONDITION | | | | |
|--|---|--------------------------------------|---|--|
| <i>Record of Decision (7/04)</i> | <i>(DECADE 1)</i> | | <i>2005 Accomplishments and/or Condition</i> | |
| Existing Condition | FP Desired Condition, Objective, or S&G's | FEIS Projected or Proposed Condition | Actual Accomplishments implemented | Actual Accomplishments & Approved NEPA Decisions |
| Sufficient habitat for recovery of lynx & avoidance of adverse impacts to lynx | Same as existing condition | Maintain, improve, protect lynx | Habitat maintained, protected or improved. | |

Standards and Guides

| S&G Descriptor | Standard & Guide Description | Compliance |
|----------------|--|------------|
| G-WL-1 | Within LAUs on NFS land, moderate the timing, intensity, and extent of management activities, if necessary, to maintain required habitat components in lynx habitat, to reduce human influences on mortality risk and inter-specific competition, and to be responsive to current social and ecological constraints relevant to lynx habitat. | Yes |
| G-WL-2 | Provide for the protection of known active den sites during denning season. | Yes |
| G-WL-3 | Limit disturbance within each LAU on NFS land as follows: if more than 30% of the total lynx habitat (all ownerships) within an LAU is currently in unsuitable condition, no further reduction of suitable conditions should occur as a result of vegetation management activities by the National Forest. | Yes |
| S-WL-1 | Management activities on NFS land shall not change more than 15% of lynx habitat on NFS land within an LAU to an unsuitable condition within a 10-year period. | Yes |
| G-WL-4 | Within an LAU, maintain or promote well distributed denning habitat in patches generally larger than five acres, comprising at least 10% of lynx habitat. Where less than 10% of forested lynx habitat within an LAU provides denning habitat, defer those management actions on NFS land that would delay achievement of denning habitat structure. | Yes |
| G-WL-5 | Following a disturbance on NFS land greater than 20 contiguous acres (such as a blowdown, fire, insect, or disease) that could contribute to lynx denning habitat, generally retain a minimum of 10% of the affected area on NFS land unless salvage or management-ignited fire is necessary to address human health and safety (such as in the Wildland Urban Interface) or scenic integrity. | Yes |
| S-WL-2 | In LAUs on NFS land allow no net increase in groomed or designated over-the-snow trail routes unless the designation effectively consolidates use and improves lynx habitat through a net reduction of compacted snow areas. | Yes |
| G-WL-6 | Where a designated trail for snowcompacting activities is desired within LAUs, the proposed route should be planned to protect or improve the integrity of lynx habitat and minimize snow compaction in lynx habitat. The trail should be designed to: <ul style="list-style-type: none"> • Move recreational use away from more sensitive or better quality lynx habitat, • Concentrate use within existing developed areas rather than developing new recreational areas in lynx habitat, and/or • Be located within the outer boundaries of a currently used road and trail system. | Yes |
| G-WL-7 | For newly constructed snow-compacting trails, effectively close or restrict to public access those trails and OML 1, OML 2, temporary, and unclassified roads that intersect the new trails unless these trails or roads are being used for other management purposes. | Yes |
| G-WL-8 | Within LAUs generally maintain road and snow-compacting trail densities below 2 miles per square mile to maintain the natural competitive advantage of lynx in deep snow. Where total road and regularly-used snow-compacting trail densities are greater than 2 miles per square mile and coincide with lynx habitat, prioritize roads for seasonal restrictions or reclamation in those areas, where practical or feasible. In this guideline "roads" include all ownerships of classified and unclassified roads and "regularly-used trails" are those that are used most years for most of the snowseason. | Yes |
| G-WL-9 | Dirt and gravel roads that are under the jurisdiction of the National Forest and that traverse lynx habitat on NFS land (particularly those roads that could become highways) should generally not be paved or otherwise upgraded in a manner that is likely to lead to significant increases to lynx mortality or substantially impedes movement and dispersal. If the dirt and gravel roads described above are upgraded or paved in order to meet human health and safety or other environmental concerns and essential management needs, conduct a thorough analysis on effects to lynx and its habitat to determine minimum road design standards practical (including measures to minimize traffic speeds), to minimize or avoid foreseeably contributing to increases in human activity or adverse impacts to lynx and its habitat. | Yes |
| S-WL-3 | Management activities for the bald eagle will be governed by Northern Lakes States Bald Eagle Recovery Plan: 1983 | Yes |
| S-WL-4 | Management activities for the gray wolf will be governed by Recovery Plan for Eastern Timber Wolf (1992). | Yes |
| G-WL-10 | Provide for the protection of known active gray wolf den sites during denning season. | Yes |

(4) Necessary Follow-up and Management Recommendations

| Monitoring Driver | Follow-up Actions |
|-------------------------------|---|
| O-WL-4 to O-WL-17 | Continue to survey, monitor, and improve understanding of species' ecology and management measures for Canada lynx, gray wolf, and bald eagle. |
| O-WL-8 O-WL-16 O-WL-18 | Develop methods in collaboration with other agency partners for tracking incidental take of lynx or wolf. <u>Supporting rationale.</u> The FWS Biological Opinion includes Reasonable and Prudent Measures for lynx and wolf management in Forest Plan. The Service recommends that the Superior National Forest document and report to the Service annually any known lynx or wolf mortality within the National Forest proclamation boundaries in Minnesota due to vehicle collisions, accidental trapping, or poaching. This project should be undertaken in FY06. |
| | Update the Forest Plan programmatic Biological Assessment annually with new information on lynx, wolf, and bald eagle. <u>Supporting rationale.</u> To promote efficient and effective management of threatened species on the National Forest, the Forest Plan programmatic Biological Assessment should be updated. This would consist primarily of updating Status of Species with any new information, but would also include new information or science on species' ecology and management. |

| Monitoring Driver | Recommended Management Actions |
|-------------------|---|
| G-WL-8 | Update inventory areas of regular cross-country over-the-snow travel. <u>Supporting rationale.</u> This action is needed to address <i>Conservation Recommendations</i> for lynx in the Fish and Wildlife Service's programmatic Biological Opinion for the Forest Plan. Updated inventory would allow more accurate assessment and appropriate management related to risk factors associated with compacted snow routes (competition with bobcat, human access to lynx habitat). |

(5) Collaborative Opportunities To Improve Efficiency And Quality Of Program

| Species | Collaborator/Partner | Monitoring Activity |
|-------------|---|--|
| Bald eagle | MN DNR Nongame Wildlife Program USDI Fish and Wildlife Service | Eagle surveys: active nests and random search |
| Gray wolf | USGS long-term wolf study MN DNR Nongame Wildlife Program | Wolf populations, demographics, behavior, biology Statewide population monitoring |
| Canada lynx | Natural Resources Research Institute USDI Fish and Wildlife Service MN DNR Threatened and Endangered Species Western Great Lakes States National Forests USDA-FS Northern Research Station USGS Biological Resources Division University of MN, Duluth MN Fish and Wildlife Cooperative Research Unit National Council on Air and Stream Improvement Potlatch Corporation Defenders of Wildlife | |