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May 4, 2015

Chippewa National Forest
Darla Lenz
Forest Supervisor
200 Ash Avenue NW
Cass Lake, Minnesota 56633

FWS No. 03E19000- 2015-F-0125 Great River Energy Tree Removal Project
Formal Consultation on Northern Long-Eared Bat

Dear Ms. Lenz:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion and is based on our review of the Chippewa National Forest's (CNF or Forest) proposed Great River Energy danger tree removal project on the CNF and potential effects to the northern long-eared bat (*Myotis septentrionalis*). The Forest's request for consultation under section 7(a)(2) of the Endangered Species Act, as amended, was received on 23 March, 2015 and the Biological Assessment (BA) was received in our office on April 15, 2015. Consultation with the Service for Canada lynx (*Lynx canadensis*) and gray wolf (*Canis lupus*) was completed for construction and maintenance of this transmission line in July 2010. Therefore, this BO addresses only the northern long-eared bat.

This biological opinion is based on the best available scientific and commercial data including meetings, electronic mail and telephone correspondence between Chippewa National Forest and the Service; information in the Service's files; pertinent scientific literature; and, other sources. A complete administrative record is on file at the Service's Twin Cities Ecological Services Field Office.

Please contact the Service if the project changes or new information reveals effects of the proposed action to proposed or listed species or critical habitat to an extent not covered in your biological assessment. If you have any questions or comments on this biological opinion, please contact Mr. Phil Delphey, Fish and Wildlife Biologist, at (612)725-3548 ext. 2206, or via email at phil_delphey@fws.gov.

Sincerely,



Peter Fasbender
Field Supervisor

Enclosure

BIOLOGICAL OPINION

Effects to the Northern Long-eared Bat (*Myotis septentrionalis*) from Chippewa National Forest Great River Energy Danger Tree Removal

Prepared by:
U.S. Fish and Wildlife Service
Twin Cities Ecological Services Field Office

May 2015

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INTRODUCTION

This document transmits the U.S. Fish and Wildlife Service's (Service) BO based on our review of the U.S. Forest Service's proposed activities on the Chippewa National Forest (USFS or Forest), and their effects on the northern long-eared bat (*Myotis septentrionalis*; northern long-eared bat) in accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The Forest's request for consultation under section 7(a)(2) of the Endangered Species Act, as amended, was received on 23 March, 2015 and the Biological Assessment (BA) was received in our office on April 15, 2015. Consultation with the Service for Canada lynx (*Lynx canadensis*) and gray wolf (*Canis lupus*) was completed for construction and maintenance of this transmission line in July 2010. Therefore, this BO addresses only the northern long-eared bat.

This biological opinion is based on the best available scientific and commercial data including meetings, electronic mail and telephone correspondence between Chippewa National Forest and the Service; information in the Service's files; pertinent scientific literature; and, other sources. A complete administrative record is on file at the Service's Twin Cities Ecological Services Field Office.

Interim 4(d) for the Northern Long-Eared Bat

On April 2, 2015, the Service has published a species-specific rule pursuant to section 4(d) of the ESA for northern long-eared bat (80 FR 17974). Section 4(d) of the ESA states that:

Whenever any species is listed as a threatened species ... the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species (16 U.S.C. 1533(d)).

The Service's interim 4(d) rule for northern long-eared bat exempts the take of northern long-eared bat from the section 9 prohibitions of the ESA, as follows:

- (1) Take that is incidental to forestry management activities, maintenance/limited expansion of existing rights-of way, prairie management, projects resulting in minimal (<1 acre) tree removal, provided these activities:
 - a. Occur more than 0.25 mile (0.4 km) from a known, occupied hibernacula;
 - b. Avoid cutting or destroying known, occupied roost trees during the pup season (June 1–July 31); and,
 - c. Avoid clearcuts (and similar harvest methods, *e.g.*, seed tree, shelterwood, and coppice) within 0.25 (0.4 km) mile of known, occupied roost trees during the pup season (June 1–July 31).

(2) Removal of hazard trees (no limitations).

(3) Purposeful take that results from:

- a. Removal of bats from and disturbance within human structures; and,
- b. Capture, handling, and related activities for northern long-eared bats for 1 Year following publication of the interim rule.

Thus, any take of northern long-eared bat resulting from activities that are implemented in compliance with the conservation measures, as necessary, is exempted from section 9 prohibitions by the interim 4(d) rule and does not require further incidental take authorization.

Note that no conservation measures are required as part of the interim 4(d) rule for forest management actions that would affect only areas with no known roost trees and no known hibernacula. The Forest currently contains no known roost trees or hibernacula, but will incorporate the above conservation measures into its proposed action in the anticipation that some roost trees may be identified in the action area before the proposed action is complete.

The interim 4(d) rules do not afford exemption from the ESA's section 7 procedural requirements. Consultation remains appropriate when actions (even those within the scope of the interim 4(d) rule) are funded, authorized or carried out by a federal agency. The purpose of section 7 consultation is broader than the mere evaluation of take and issuance of an Incidental Take Statement; such consultations fulfill the requirements of section 7(a)(2) of the ESA, which directs that federal agencies insure that their actions are not likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of designated critical habitat.

Consultation History

On 23 March 2015, the Service received a request from USFS to confer or consult on projects proposed for implementation on three national forests in Minnesota and Wisconsin. This request included the action that is the subject of this consultation, Great River Energy Danger Tree Removal. The USFS had concluded section 7(a)(2) consultation previously with the Service on the proposed action, but recognized that reinitiation would be required in the event that the Service listed the northern long-eared bat as threatened or endangered. After sending its March 23 letter, the Service listed the northern long-eared bat as threatened on April 2, 2015, with an effective date of May 4, 2015. The CNF provided its biological assessment for the proposed actions to the Service on April 15, 2015. On 27 April 2015, the Service sent its draft biological opinion to the CNF for review. CNF returned the draft to the Service on 29 April, 2015.

DESCRIPTION OF PROPOSED ACTION

As defined in the ESA Section 7 regulations (50 CFR 402.02), “action” means “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas.” The “action area” is defined as “all areas to be

affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” The direct and indirect effects of the actions and activities must be considered in conjunction with the effects of other past and present federal, state, or private activities, as well as the cumulative effects of reasonably certain future State or private activities within the action area.

The following project background and action area descriptions are summarized from the BA. Additional information on the Chippewa National Forest background and description can be found in the BA, which is incorporated by reference.

The Forest issued an Electric Transmission Line Permit to Otter Tail Power Company on November 13, 2013, which grants the holder right-of-way for an electric transmission line across National Forest System land within the CNF. Construction of the power line is complete, but as part of its routine maintenance, the permit holder has requested to remove approximately 2,422 live trees along the right-of-way. These trees pose a risk to the transmission line based on tree height and distance from the line.

Trees are proposed for removal based on their distance from the centerline of the right-of-way. Within 62.5 feet of the centerline, all trees will be removed. From 62.5 to 82.5 feet from the centerline, all trees over 45 feet in height will be removed. From 82.5 to 102.5 feet from the centerline, all trees over 62 feet will be removed. The trees that will be removed range from 2 to 28 inches diameter at breast height (dbh, Table 1).

Table 1. Summary of trees identified for removal as part of the 87-acre Great River Energy Danger Tree Removal project.

Species	Estimated Number of Trees	Diameter Range (in.)
Ash	41	4 – 23
Aspen	1000	3-24
Balsam fir	20	3-18
Balsam Poplar	12	2-13
Basswood	6	8-11
Birch	306	4-19
Box Elder	1	14
Cedar	11	3-9
Cherry	3	4-6
Jack Pine	55	6-19
Maple	132	2-18
Oak	108	4-22
Red Pine	572	4-28
Tamarack/Spruce	54	5-16
White Oak	38	5-22
White Pine	47	5-26
Miscellaneous	16	2-28
Total	2422	

The Forest Service has inventoried the trees proposed for removal, and plans to issue a timber sale contract for their removal. This project will cover approximately 87 acres along the existing right-of-way within the Chippewa National Forest. Trees that do not meet the height and distance thresholds described above will remain in the action area.

The Operations and Maintenance Plan associated with this permit states that routine clearing activities will not be conducted between April 15 and August 1 to avoid potential disturbance to wildlife nesting activities, except for emergency situations or with prior approval from the Service. In accordance with this plan, it is likely that the majority of tree removal for this project will occur after August 1 and before April 14. In its BA, however, the Forest stated that the permit holder may independently seek approval from USFWS to remove the trees between April 15 and August 1.

The proposed action falls into a category of activity for which incidental take of northern long-eared bats is exempted under an interim final 4(d) rule published in the Federal Register on April 2, 2015. The interim rule exempts take from maintenance and limited expansion of transportation and utility rights-of-way as long as the activity (1) occurs more than 0.25 miles from known, occupied hibernacula; (2) avoids cutting or destroying known, occupied roost trees

during the pup season (June 1 – July 31); and, (3) avoids clearcuts and similar harvest methods within 0.25 miles of known occupied roost trees during the pup season. The proposed project meets all of the above criteria.

Conservation Measures

The Forest proposes to implement the conservation measures contained in the interim 4(d) rule for the northern long-eared bat as part of this proposed action. For details on these measures, see the section, **Interim 4(d) for the northern long-eared bat**, above. These measures will only materially affect the proposed action if known, occupied hibernacula or known, occupied roosts are discovered in the action area. If an occupied roost tree is discovered in the action area, for example, the Forest will ensure that it is not cut down during June or July.

STATUS OF THE SPECIES

Refer to the final rule (80 FR 17974) for the best available information on northern long-eared bat life history and biology, threats, distribution, and overall status. The following is summarized from that rule.

Life History and Biology

The northern long-eared bat is a temperate, insectivorous, migratory bat that hibernates in mines and caves in the winter and spends summers in wooded areas. The key stages in its annual cycle are: hibernation, spring staging and migration, pregnancy, lactation, volancy/weaning, fall migration and swarming. Northern long-eared bat generally hibernate between mid-fall through mid-spring each year. Spring migration period likely runs from mid-March to mid-May each year, with timing varying depending on the portion of the range. Females depart shortly after emerging from hibernation and are pregnant when they reach their summer area. Parturition (birth) likely occurs in late May or early June (Caire et al. 1979, p. 406; Easterla 1968, p. 770; Whitaker and Mumford 2009, p. 213), but may occur as late as July (Whitaker and Mumford 2009, p. 213).

Summer habitat and ecology

Suitable summer habitat¹ for northern long-eared bat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts, as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure.

¹ See the Service's current summer survey guidance for our latest definitions of suitable habitat: <http://www.fws.gov/midwest/Endangered/mammals/inba/inbasummersurveyguidance.html>.

Many species of bats, including the northern long-eared bat, consistently avoid foraging in or crossing large open areas, choosing instead to use tree-lined pathways or small openings (Patriquin and Barclay 2003, Yates and Muzika 2006). Further, wing morphology of the species suggests that they are adapted to moving in cluttered habitats. Thus, isolated patches of forest may not be suitable for foraging or roosting unless the patches are connected by a wooded corridor.

Upon emergence from the hibernacula in the spring, females seek suitable habitat for maternity colonies (typically consisting of females and young). northern long-eared bat actively form colonies in the summer (Foster and Kurta 1999) and exhibit fission-fusion behavior (Garroway and Broders 2007), where members frequently coalesce to form a group (fusion), but composition of the group is in flux, with individuals frequently departing to be solitary or to form smaller groups (fission) before returning to the main unit (Barclay and Kurta 2007). As part of this behavior, northern long-eared bats switch tree roosts often (Sasse and Pekins 1996), typically every 2 to 3 days (Foster and Kurta 1999; Owen et al. 2002; Carter and Feldhamer 2005; Timpone et al. 2010). northern long-eared bat maternity colonies range widely in size, although a maximum of 30-60 individuals may be most common early in the season, with the colony size decreasing post-lactation of young (U.S. Fish and Wildlife Service 2014). Northern long-eared bat show some degree of inter-annual fidelity to single roost trees and/or maternity areas. Male northern long-eared bat are routinely found with females and young in maternity colonies. Northern long-eared bat use networks of roost trees often centered on one or more central-node roost trees (Johnson et al. 2012). Northern long-eared bat roost networks also include multiple alternate roost trees and male and non-reproductive female northern long-eared bat may also roost in cooler places, like caves and mines (Barbour and Davis 1969, Amelon and Burhans 2006).

northern long-eared bat roost in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥ 3 inches dbh). northern long-eared bat are known to use a wide variety of roost types, using tree species based on presence of cavities or crevices or presence of peeling bark. northern long-eared bat have also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable).

Migration

Males and non-reproductive females may summer near hibernacula, or migrate to summer habitat some distance from their hibernaculum. northern long-eared bat is not considered to be a long distance migrant (typically 40-50 miles). Migration is an energetically demanding behavior for the northern long-eared bat, particularly in the spring when their fat reserves and food supplies are low and females are pregnant.

Winter habitat and ecology

Suitable winter habitat (hibernacula) includes underground caves and cave-like structures (e.g. abandoned or active mines, railroad tunnels). There may be other landscape features being used by northern long-eared bat during the winter that have yet to be documented. Generally, northern long-eared bat hibernate from October to April depending on local climate (November-December to March in southern areas and as late as mid-May in some northern areas).

Spring Staging and Fall Swarming habitat and ecology

Upon arrival at hibernacula in mid-August to mid-November, northern long-eared bat “swarm,” a behavior in which large numbers of bats fly in and out of cave entrances from dusk to dawn, while relatively few roost in caves during the day. Swarming continues for several weeks and mating occurs during the latter part of the period. After mating, females enter directly into hibernation but not necessarily at the same hibernaculum as they had been mating at. A majority of bats of both sexes hibernate by the end of November (by mid-October in northern areas).

After hibernation ends in late March or early April (as late as May in some northern areas), most northern long-eared bat migrate to summer roosts. Females emerge from hibernation prior to males. Reproductively active females store sperm from autumn copulations through winter. Ovulation takes place after the bats emerge from hibernation in spring. The period after hibernation and just before spring migration is typically referred to as “staging,” a time when bats forage and a limited amount of mating occurs. This period can be as short as a day for an individual, but not all bats emerge on the same day.

Threats

No other threat is as severe and immediate for the northern long-eared bat as the disease white-nose syndrome (WNS). It is unlikely that northern long-eared bat populations would be declining so dramatically without the impact of WNS. Since the disease was first observed in New York in 2007 (later biologists found evidence from 2006 photographs), WNS has spread rapidly in bat populations from the Northeast to the Midwest and the Southeast. Population numbers of northern long-eared bat have declined by 99 percent in the Northeast, which along with Canada, has been considered the core of the species’ range. Although there is uncertainty about how quickly WNS will spread through the remaining portions of these species’ ranges, it is expected to spread throughout their entire ranges. In general, the Service believes that WNS has significantly reduced the redundancy and resiliency of the northern long-eared bat.

Although significant northern long-eared bat population declines have only been documented due to the spread of WNS, other sources of mortality could further diminish the species’ ability to persist as it experiences ongoing dramatic declines. Specifically, declines due to WNS have significantly reduced the number and size of northern long-eared bat populations in some areas of its range. This has reduced these populations to the extent that they may be increasingly vulnerable to other stressors that they may have previously had the ability to withstand. These impacts could potentially be seen on two levels. First, individual northern long-eared bat

sickened or struggling with infection by WNS may be less able to survive other stressors. Second, northern long-eared bat populations impacted by WNS, with smaller numbers and reduced fitness among individuals, may be less able to recover making them more prone to extirpation. The status and potential for these impacts will vary across the range of the species.

Bats affected but not killed by WNS during hibernation may be weakened by the effects of the disease and may have extremely reduced fat reserves and damaged wing membranes. These effects may reduce their capability to fly or to survive long-distance migrations to summer roosting or maternity areas.

In areas where WNS is present, there are additional energetic demands for northern long-eared bats. For example, WNS-affected bats have less fat reserves than non-WNS-affected bats when they emerge from hibernation (Reeder et al. 2012; Warnecke et al. 2012) and have wing damage (Meteyer et al. 2009; Reichard and Kunz 2009) that makes migration and foraging more challenging. Females that survive the migration to their summer habitat must partition energy resources between foraging, keeping warm, successful pregnancy and pup-rearing, and healing and may experience reduced reproductive success. In addition, with wing damage, there may be an increased chance of WNS-affected bats being killed or harmed as a result of proposed action. Again, this is particularly likely if timber harvest or burns are conducted early in the spring (April – May) when bats have just returned, have damaged wings, and are exposed to colder temperatures when torpor is used more frequently.

Over the long-term, sustainable forestry benefits northern long-eared bat by maintaining suitable habitat across a mosaic of forest treatments. However, forest practices can have a variety of impacts on the northern long-eared bat depending on the quality, amount, and location of the lost habitat, and the time of year of clearing. Depending on their characteristics and location, forested areas can function as summer maternity habitat, staging and swarming habitat, migration or foraging habitat, or sometimes, combinations of more than one habitat type. Impacts from tree removal to individuals or colonies would be expected to range from indirect impact (e.g., minor amounts of forest removal in areas outside northern long-eared bat summer home ranges or away from hibernacula) to minor (e.g., largely forested areas, areas with robust northern long-eared bat populations) to significant (e.g., removal of a large percentage of summer home range, highly fragmented landscapes, areas with WNS impacts).

Lastly, there is growing concern that bats, including the northern long-eared bat (and other bat species) may be threatened by the recent surge in construction and operation of wind turbines across the species' range. Mortality of northern long-eared bat has been documented at multiple operating wind turbines/farms. The Service is now working with wind farm operators to avoid and minimize incidental take of bats and assess the magnitude of the threat.

Rangewide Status

The northern long-eared bat ranges across much of the eastern and north central United States, and all Canadian provinces west to the southern Yukon Territory and eastern British Columbia (Nagorsen and Brigham 1993; Caceres and Pybus 1997; Environment Yukon 2011) (Figure 1).

In the United States, the species' range reaches from Maine west to Montana, south to eastern Kansas, eastern Oklahoma, Arkansas, and east through the Gulf States to the Atlantic Coast (Whitaker and Hamilton 1998; Caceres and Barclay 2000; Amelon and Burhans 2006). The species' range includes the following 37 States (plus the District of Columbia): Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. Historically, the species has been most frequently observed in the northeastern United States and in Canadian Provinces, Quebec and Ontario, with sightings increasing during swarming and hibernation (Caceres and Barclay 2000). However, throughout the majority of the species' range it is patchily distributed, and historically was less common in the southern and western portions of the range than in the northern portion of the range (Amelon and Burhans 2006).

Although they are typically found in low numbers in inconspicuous roosts, most records of northern long-eared bat are from winter hibernacula surveys (Caceres and Pybus 1997). More than 780 hibernacula have been identified throughout the species' range in the United States, although many hibernacula contain only a few (1 to 3) individuals (Whitaker and Hamilton 1998). Known hibernacula (sites with one or more winter records of northern long-eared bats) include: Alabama (2), Arkansas (41), Connecticut (8), Delaware (2), Georgia (3), Illinois (21), Indiana (25), Kentucky (119), Maine (3), Maryland (8), Massachusetts (7), Michigan (103), Minnesota (11), Missouri (more than 269), Nebraska (2), New Hampshire (11), New Jersey (7), New York (90), North Carolina (22), Oklahoma (9), Ohio (7), Pennsylvania (112), South Carolina (2), South Dakota (21), Tennessee (58), Vermont (16), Virginia (8), West Virginia (104), and Wisconsin (67). northern long-eared bat are documented in hibernacula in 29 of the 37 States in the species' range. Other States within the species' range have no known hibernacula (due to no suitable hibernacula present, lack of survey effort, or existence of unknown retreats).

Northern Long-Eared Bat (*Myotis septentrionalis*) Range

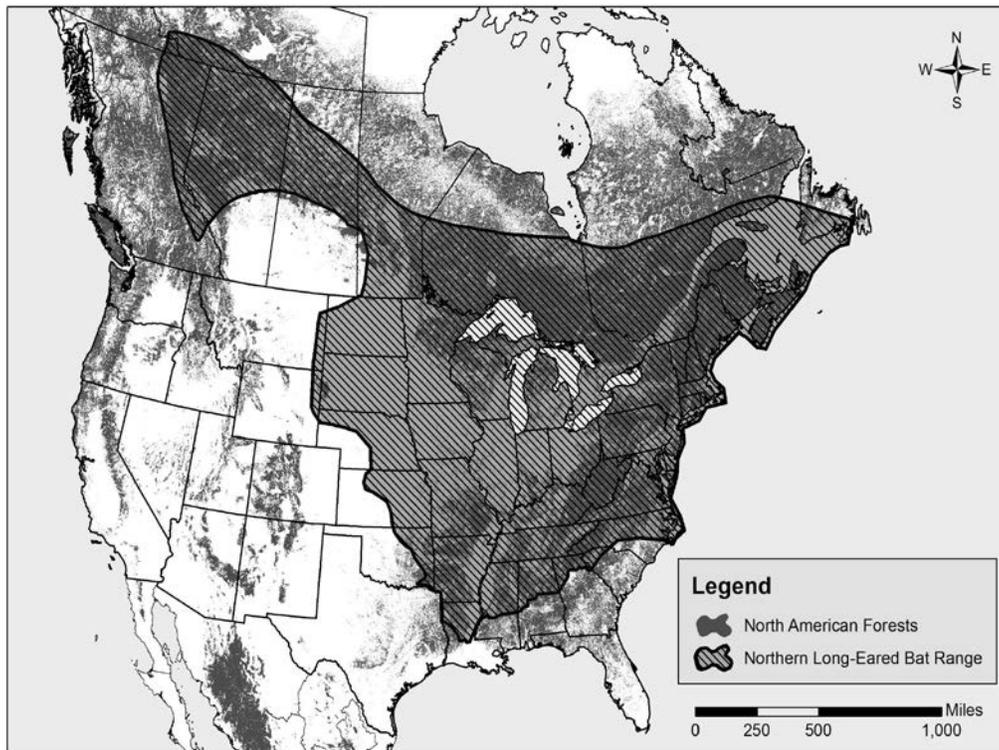


Figure 1. Range of northern long-eared bat.

The current range and distribution of northern long-eared bat must be described and understood within the context of the impacts of WNS. Prior to the onset of WNS, the best available information on northern long-eared bat came primarily from surveys (mostly focused on Indiana bat or other bat species) and some targeted research projects. In these efforts, northern long-eared bat was very frequently encountered and was considered the most common myotid bat in many areas. Overall, the species was considered to be widespread and abundant throughout its historic range (Caceres and Barclay 2000).

WNS has been particularly devastating for northern long-eared bat in the northeast, where the species was believed to be the most abundant. There are data supporting substantial declines in northern long-eared bat populations in portions of the Midwest due to WNS. In addition, WNS has been documented at more than 100 northern long-eared bat hibernacula in the southeast, with apparent population declines at most sites. WNS has not been found in any of the western states to date and the species is considered rarer in the western extremes of its range. We expect further declines as the disease continues to spread across the species' range.

Status of the Northern Long-eared Bat in Minnesota

Prior to 2014, there was little information on northern long-eared bat summer populations in the state. In 2014, passive acoustic surveys conducted at a new proposed mining area in central St. Louis County detected the presence of northern long-eared bat at each of 13 sites sampled. Calls that were assigned to northern long-eared bat accounted for approximately 14 percent of all recorded bat calls (Smith *et al.* 2014). Mist-net surveys in 2014 at 7 sites on Camp Ripley Training Center, Morrison County, resulted in capture of 4 northern long-eared bat (5 percent of total captures); mist-net surveys at 5 sites on the Superior National Forest, Lake and St. Louis Counties, resulted in the capture of 24 northern long-eared bats (Fig. 2; 55 percent of total captures) (Catton 2014). Acoustic and mist-net data were collected by a pipeline project proponent in 2014, which surveyed an approximately 125-foot wide and 300-mile-long (483-km) corridor through the northern third of the state. Positive detections were recorded in Hubbard, Cass, Crow Wing, Aitkin, and Carlton counties, and northern long-eared bats were the most common species captured by mist-net (Fig. 2; Merjent 2014). Mist-net surveys were conducted the previous year (2013) on the Kawishiwi District of the Superior National Forest, and resulted in capture of 13 northern long-eared bats (38 percent of total captures) over 9 nights of netting at 8 sites (Grandmaison *et al.* 2013).

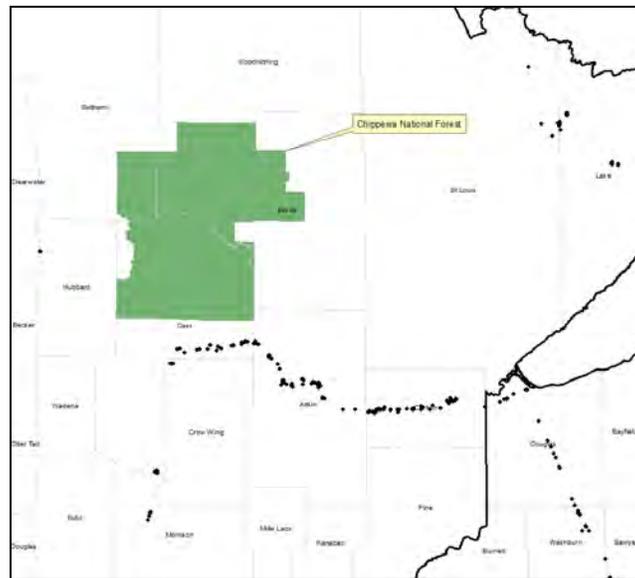


Figure 2. Locations of northern long-eared bat (northern long-eared bat) mist-net captures and roost tree locations based on surveys conducted in 2013-2014. These data are not based on an exhaustive inventory of the area shown; the lack of data for any geographic area shall not be construed to mean that no northern long-eared bats are present. No mist-net studies were conducted on Chippewa National Forest in 2013-2014.

The northern long-eared bat is known from 11 hibernacula in Minnesota; however, the status of most is unknown. The largest known hibernaculum in Minnesota is the Soudan Mine in St. Louis County; an estimated 3,000 northern long-eared bats are thought to hibernate within the

mine. WNS has not been detected in Minnesota; however, the fungus that causes WNS was first detected in 2011–2012. Currently, only Soudan Mine and Mystery Cave in Minnesota are known to harbor the fungus that causes WNS and to our knowledge, the fungus has not actually caused WNS in bats within the state.

Critical Habitat

Critical habitat has not yet been proposed for the northern long-eared bat.

Conservation Needs of the Species

The species' conservation needs define what is needed in terms of reproduction, numbers, and distribution to ensure the species is no longer in danger of extinction. The conservation needs should be defined in the species' recovery outline or plan. Since there is no recovery plan or recovery outline available at this time, we will outline the conservation needs based on our current understanding of the species.

The primary conservation need of the northern long-eared bat is to reduce the threat of WNS. This includes minimizing mortality in WNS-affected areas and slowing the rate of spread into currently unaffected areas. In addition, northern long-eared bat that continue to exist within WNS-affected areas need to be able to continue to survive and reproduce in order to stabilize and/or increase the populations. This can be done by reducing the other threats to the species, as listed above.

Therefore, efforts to protect hibernacula from disturbances need to continue. These should include restricting human access to hibernacula particularly during the hibernation period, constructing/installing suitably designed gates where appropriate and maintaining the gates, and restoring microhabitat conditions in hibernacula that have been altered. Efforts should also be made to protect and restore (in some cases) adequate fall swarming habitat around hibernacula. Known maternity habitat should be maintained, and the removal of known roost trees, particularly when pregnant females and/or young are present should be reduced. Research to identify important hibernacula and summer areas and to delineate the migratory relationship between summering and wintering populations should also be pursued.

ENVIRONMENTAL BASELINE

The Environmental Baseline analyzes the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat, and the ecosystem within the action area.

Action Area

Action area, as defined by the ESA's implementing regulations (50 CFR 402.02), is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate

area involved in the action (our emphasis). Action is defined in the regulations as “...all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat; (b) the promulgation of regulations; (c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or (d) actions directly or indirectly causing modifications to the land, water, or air.

The action area consists of the transmission line corridor, which runs east to west through the CNF (Figs. 3 and 4). The corridor is largely afforested (Fig. 3), but trees from extensive forested areas encroach on it in multiple locations.



Figure 3. An aerial image, taken from Google Earth, that shows a portion of the transmission line corridor along which trees will be removed as part of the proposed action. The image shown was taken on 21 August 2013.

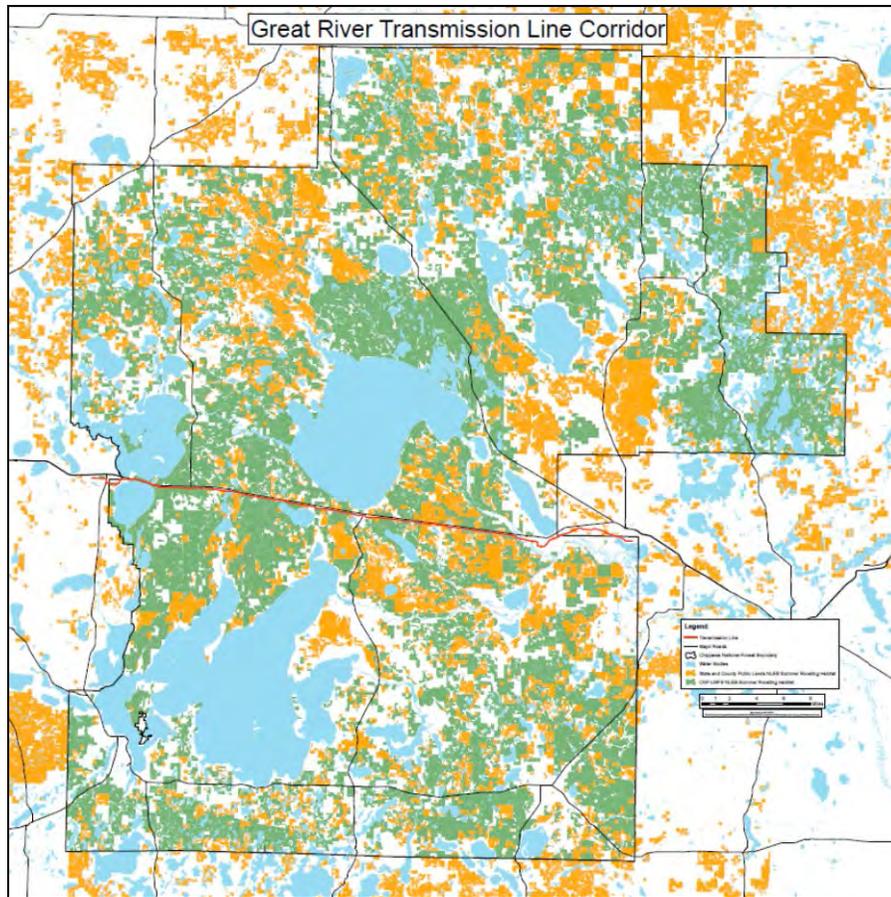


Figure 4. The Chippewa National Forest showing suitable northern long-eared bat roosting habitat on Forest Service (green) lands and on lands under other ownerships (orange). The transmission line is shown where it runs through the Forest.

Status of the Species in the Action Area

We assume that the northern long-eared bat is present throughout the Forest, based on available potential habitat; however, the population trend in the Forest (action area) is unknown and no project-specific surveys have been conducted. Data have been collected on three permanent acoustic monitoring routes on the Forest since 2011. These data will be used to identify baseline bat activity levels and observe how those levels may change in response to WNS, but completed data analyses are not expected until sometime later in 2015. We assume northern long-eared bat presence throughout the Forest; however, because survey data analyses not yet complete, we cannot estimate roost tree density or the proportion of the Forest that is inhabited by northern long-eared bat within a level of precision that would allow us to precisely estimate the number of bats that are likely to be affected.

The Forest is also working with the Minnesota Department of Natural Resources, the Superior National Forest, and the Service to increase our collective knowledge of northern long-eared bat

distribution and habitat use in northern Minnesota. Currently, there are no known hibernacula in the action area; the closest (Soudan Mine) is approximately 60 miles from the Forest boundary. Therefore, suitable hibernacula sites would not be affected by the proposed action. As stated above, there are also no known roost trees in the CNF. If northern long-eared bat are captured in mist nets and radio-tracked on or near the Forest, we would expect occupied roost trees to be found within the CNF boundaries. Results of mist-net surveys conducted in 2013 and 2014 in Minnesota have found a range of relative abundances for northern long-eared bat. Based on the frequency and proximity to CNF of positive northern long-eared bat detections in Minnesota and the prevalence of suitable habitat for the species on the Forest, it is reasonable to assume that the species is widespread in the action area.

Habitat Conditions in the Action Area

The action area consists of the area that is within approximately 102.5 feet on either side of a transmission line within an established right-of-way (Figs. 3 and 4). The corridor itself is already largely afforested (Fig. 3), but it is surrounded by extensive areas of forest. Trees occur within the corridor where they pose a risk to the power line. Trees slated for removal are along the edges of the more extensively forested areas and some likely provide roosting habitat for the northern long-eared bat. Overall, the Forest provides an abundance of well-distributed, suitable summer habitat. Approximately 798,000 acres in the CNF are considered potential summer habitat for northern long-eared bat. This includes all forested areas greater than or equal to 10 years old with trees greater than 3 inches diameter at breast height. Of this, approximately 546,000 acres are on National Forest System lands and approximately 252,000 acres are on state and county lands. Currently unsuitable habitat, defined as forested habitats less than 10 years old and non-forested areas, covers approximately 23,884 acres (4 percent) on the Forest and 16,481 acres (6 percent) on state/county lands.

Conservation Needs of the Species in the Action Area

The conservation needs of the species in the action area are similar to the needs rangewide. The Forest provides habitat for summering and potentially migrating northern long-eared bat. Therefore, within the action area the conservation needs include: 1) providing suitable habitat conditions for northern long-eared bat foraging and roosting; 2) reducing the removal of roost trees, especially during the roosting period; 3) searching for previously unidentified areas of maternity and hibernation activity; and 4) conducting research to understand the migration patterns of northern long-eared bat that use the area during the summer or winter.

The BA indicated that the Forest has initiated northern long-eared bat acoustic monitoring routes to identify baseline bat activity levels and observe how those levels change over time. It also indicated that the number of acoustic surveys will be increased across the Forest beginning in 2015. The Forest is also working in partnership with the Minnesota Department of Natural Resources, the Superior National Forest, and the Service to further their knowledge of northern long-eared bat distribution and habitat use in northern Minnesota. These measures, in addition to the continued implementation of conservation measures required under the Forest Plan, will

contribute to conservation needs of the northern long-eared bat in general and within the action area.

EFFECTS OF THE ACTION

This BO evaluates the anticipated effects of the proposed Great River Danger Tree Removal project on the CNF. This project will remove approximately 2,422 trees from a corridor that includes the area within 102.5 feet on either side of a transmission line that runs through the CNF (Figs. 3 and 4). The total area affected directly is 87 acres. Direct effects occur when bats are present while the activities are being conducted; indirect effects occur later in time.

Our analysis of effects for northern long-eared bat entails: (1) evaluating individual northern long-eared bat exposure to action-related stressors and the bats' likely responses; (2) integrating those individual effects (exposure risk and subsequent response) to assess the consequences to the populations to which those individuals belong; and, (3) determining the consequences of any population-level effects to the species rangewide. If we find that the actions are unlikely to affect the rangewide numbers, reproduction, and distribution of the species in a way that can be measured or described, we conclude that the agency's actions are not likely to jeopardize the continued existence of the species.

Effects to Hibernating Bats At or Near Hibernacula

The nearest known hibernaculum is at least 60 miles from the CNF boundary; therefore, neither direct nor are indirect effects anticipated to wintering northern long-eared bat or their hibernacula from the proposed action.

Fall swarming typically occurs within 5 miles of a hibernaculum. Because the nearest known hibernaculum is approximately 60 miles away, neither direct nor are indirect effects anticipated to fall swarming and/or to fall swarming habitat as a result of the proposed action.

Effects to Bats during Spring/Summer and/or to Spring/Summer Habitat

Tree Removal

Death/Injury

The risk of death or injury to individual northern long-eared bats as a result of tree removal varies depending on the timing of activities, their location, and the extent of the area affected. Tree clearing for the proposed action is expected to occur after August 1 and before April 15 and could occur during the maternity season.

The timing of forest management activities greatly influences the likelihood of exposure and the extent of impacts on individual bats and their populations. Female northern long-eared bat

typically roost colonially, with their largest population counts occurring in the spring or early summer, presumably as one way to reduce thermal costs for individual bats (Foster and Kurta 1999). Although bats may flee their roosts during tree removal, removal of occupied roosts during the active season while bats are present (spring through fall) is likely to cause injury or mortality to some roosting bats. Bats are likely to be injured or killed as a result of tree felling in the spring when bats often use torpor (temporary unresponsive state) to survive periods of cool weather and low prey availability. Bats present in trees that are felled are also likely to be killed or injured during early to mid-summer (approximately June-July) when flightless pups or inexperienced flying juveniles are present. Removal of trees outside these periods is less likely to result in direct injury or mortality when the majority of bats can fly and are more dispersed.

The likelihood and extent of impacts are also influenced by the type of tree removal relative to the amount of suitable roosting and foraging habitat from which affected bats may select. Northern long-eared bats use multiple roosts throughout the season. Therefore, only a certain number of roosts are anticipated to be occupied in a single day or year. The likelihood that bats will be affected by tree removal increases with the extent of the area affected and the intensity of the effects. Therefore, the effects will be greatest within 62.5 feet of the power line where all trees will be removed and less in the two successive treatment strips, where fewer trees will be removed.

The action area contains mostly marginal roosting habitat for the northern long-eared bat that is surrounded by extensive areas of suitable habitat. The proximity of the action area to large areas of suitable spring and summer habitat for the northern long-eared bat indicate that the species is likely to use a proportion of the trees in the action area for roosting. We cannot predict with a useful level of precision what proportion of the trees will be inhabited by northern long-eared bats when the trees are cut. The number of trees that will be cut – about 2,422 – suggests that northern long-eared bats will be present in at least a few of the trees when tree removal is carried out and that the bats present are likely to be killed, injured, or harassed to the extent that death or injury is likely to occur.

Response to Removal or Alteration of Roosting/Foraging Habitat

In addition to impacts on roost sites, timber harvest practices can also affect foraging and traveling habitat for northern long-eared bat. In southeastern Missouri, the northern long-eared bat showed a preference for contiguous tracts of forest cover, as opposed to fragmented or open landscapes for foraging or traveling. Similarly, in West Virginia, female northern long-eared bats spent most of their time foraging or travelling in intact forest and along road corridors, with no use of areas where forest cover was largely removed (Owen et al. 2003). In Alberta, Canada northern long-eared bat avoided the center of clearcuts and foraged more in intact forest than expected (Patriquin and Barclay 2003). On Prince Edward Island, Canada, female northern long-eared bats preferred forested areas more than open areas, with foraging areas centered along forest-covered creeks (Henderson and Broders 2008). In general, northern long-eared bats prefer intact mixed-type forests with small gaps (i.e., forest trails, small roads, or forest covered creeks)

in forests with sparse or medium vegetation for foraging and traveling, rather than fragmented habitat or areas that have been clear-cut.

The proposed action will maintain a 125-foot-wide strip of afforested habitat through the CNF. This is likely to result in a localized reduction in habitat quality for northern long-eared bat. This corridor, however, is already large free of trees and may only provide marginal habitat for the species. Northern long-eared bats are likely present in the action area due largely to the extensive area of surrounding forest, but it may provide less than optimal habitat for foraging and travel.

The northern long-eared bat habitat is likely abundant and well distributed throughout the Forest and there will be large areas of intact forested habitat adjacent to the action area. As mentioned, there are 798,000 acres of potential northern long-eared bat habitat within the CNF, of which 758,000 acres (95 percent) are currently considered suitable for northern long-eared bat – approximately 40,000 acres (5 percent) are unsuitable. Although the action area contains mostly marginal habitat for the northern long-eared bat, the surrounding area will continue to provide abundant roosting, foraging, and travel habitats.

Effects from Noise, Disturbance

Noise and vibration and general human disturbance are stressors that may disrupt normal feeding, sheltering, and breeding activities of the northern long-eared bat. Many activities may result in increased noise/vibration/disturbance that may result in effects to bats. Bats may be exposed to noise/vibration/disturbance from various USFS activities near their roosting, foraging, or swarming areas.

Significant changes in noise levels in an area may result in temporary to permanent alteration of bat behaviors. The novelty of these noises and their relative volume levels will likely dictate the range of responses from individuals or colonies of bats. Low noise levels and noise generated at far from the location of roosting bats may startle them initially, but they would likely habituate. Noise that is loud, close, or both to roosting bats, especially if it is accompanied by vibrations from heavy machinery and the crashing of falling trees, would likely cause many bats to flee from their roosts. For projects with noise levels greater than is usually experienced by bats and that continue for multiple days, bats roosting within or close to these areas are likely to shift their focal roosting areas further away or may temporarily abandon the roosting areas completely.

There is limited literature available regarding impacts from noise (outside of road/traffic) on bats. Gardner et al. (1991) had evidence that a northern long-eared bat conspecific, Indiana bat, continued to roost and forage in an area with active timber harvest. They suggested that noise and exhaust emissions from machinery could possibly disturb colonies of roosting bats, but such disturbances would have to be severe to cause roost abandonment. Novel noises would be expected to result in some changes to bat behaviors.

In summary, northern long-eared bat currently present in the forest are expected to be tolerant to a certain degree of existing noise, vibration, and disturbance levels. Temporary and novel noise/vibration/disturbance associated with heavy equipment operation and tree cutting, however, may result in responses by bats that are roosting or foraging in these areas. In some cases, northern long-eared bats exposed to the tree removal activities may flee during the day from roosts where they are exposed to significant noise associated with the proposed action. In only a few cases might this result in a shift of focal roosting areas or the temporary abandonment of roosting areas.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. Any actions conducted on Chippewa National Forest lands will either be conducted by the USFS, or will require approval by the USFS and thus will require separate section 7 consultation. Therefore, cumulative effects, as defined in the ESA, are not expected to occur on their Forest lands.

Numerous state, county, and private land use activities that may affect the northern long-eared bat occur within the action area including: timber harvest, recreational use, road maintenance and construction, and residential, industrial and agricultural development and related activities. The BA indicated (p. 10) that approximately 5,400 acres are planned for timber harvest from 2015-2017 on state land within the Forest. Beltrami, Cass, and Itasca Counties have planned for 962 acres of regeneration harvest or thinning beyond 2016. Harvest on state and county lands may alter available northern long-eared bat summer roosting habitat. Based on the same rationale discussed above on Federal lands and that northern long-eared bat habitat is abundant and well distributed within the Forest, we anticipate state and county harvest activities will result in minimal cumulative effects to the species or its habitat.

Summary of Effects

Impacts to Individuals

Potential effects of the action include direct effects to northern long-eared bat present within the action area when activities are being conducted, and indirect effects as a result of changes in habitat suitability. Direct effects include mortality, injury, harm, or harassment as a result of removal of roost trees and noise.

Indirect effects from the action may result from habitat modification and primarily involve changes to roosting and foraging suitability. The proposed tree removal will tend to maintain the status of the action area as marginal habitat for the northern long-eared bat. Given the scope of the projects in relation to the overall action area, however, the project will not substantially alter

the overall availability or suitability of northern long-eared bat roosting or foraging habitat in the CNF. Only minimal cumulative effects are expected.

While analyzing the effects of the proposed action, we identified the life stages that would be exposed to the stressors associated with the proposed action, and analyzed how those individuals would respond upon exposure to the stressors. From this analysis, we determined that:

- 1) Neither hibernating bats nor their hibernacula will be exposed to the project stressors as there are currently no known hibernacula within the vicinity of the Action Area.
- 2) Northern long-eared bats during the spring-fall period will be exposed to project stressors and their responses to some of them are likely to be adverse.

We considered the possibility for the northern long-eared bat to be exposed to the effects of project activities at currently unknown roost sites. If this should occur, we anticipate harassment of northern long-eared bat that may flush bats during daylight and cause them to temporarily or permanently abandon their roosts, which may have pups. In addition, mortality of pups and adults is possible as a result of tree removal. In summary, there will be impacts to individual bats in terms of either reduced likelihood of survival or decreased reproduction. This type of impact, however, is likely to occur only in a few areas and the status of habitat for northern long-eared bat in the action area, and in the CNF as a whole, will change only marginally.

Impacts to Populations

The action area will continue to provide mostly marginal habitat conditions for northern long-eared bat foraging and roosting during the summer while the proposed tree removal activities are implemented and after they are complete. There is potential for direct take of the species and for a small reduction in the extent of suitable habitat. Nevertheless, the action area is adjacent to extensive areas of suitable habitat for the northern long-eared bat on the CNF. The effects of the proposed activities are unlikely to affect the likelihood that northern long-eared bat will continue to survive and reproduce in and around the CNF.

Impacts to the Species

The proposed project is unlikely to have appreciable impacts on the population that inhabits the action area and the surrounding portions of the CNF. Thus, the proposed action is not expected to reduce the reproduction, numbers, or distribution of the northern long-eared bat locally or rangewide.

CONCLUSION

After reviewing the current status of this species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the northern long-eared

bat. No critical habitat has been designated to date for this species; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR § 17.3). Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

On April 2, 2015, the Service published an interim species-specific rule pursuant to section 4(d) of the ESA for northern long-eared bat (80 FR 17974). The Service's interim 4(d) rule for northern long-eared bat exempts the take of northern long-eared bat from the section 9 prohibitions of the ESA, when such take occurs as follows (see the interim rule for more information):

- (1) Take that is incidental to forestry management activities, maintenance/limited expansion of existing rights-of way, prairie management, projects resulting in minimal (<1 acre) tree removal, provided these activities:
 - a. Occur more than 0.25 mile (0.4 km) from a known, occupied hibernacula;
 - b. Avoid cutting or destroying known, occupied roost trees during the pup season (June 1–July 31); and,
 - c. Avoid clearcuts (and similar harvest methods, *e.g.*, seed tree, shelterwood, and coppice) within 0.25 (0.4 km) mile of known, occupied roost trees during the pup season (June 1–July 31).
- (2) Removal of hazard trees (no limitations).
- (3) Purposeful take that results from
 - a. Removal of bats from and disturbance within human structures; and,
 - b. Capture, handling, and related activities for northern long-eared bats for 1 Year following publication of the interim rule.

There are currently no known roost trees or hibernacula on the Forest. This will likely change, however, as the Forest and others continue survey efforts in northern Minnesota. As described in the section, **Conservation Measures**, above, the Forest will ensure that no known, occupied roost trees are cut down during June or July if any are discovered in the action area.

The incidental take that is carried out in compliance with the interim 4(d) rule does not require exemption in this Incidental Take Statement because it includes only activities that will be carried out to maintain an existing right-of-way. Accordingly, there are no reasonable and prudent measures or terms and conditions that are necessary and appropriate for these actions because all incidental take has already been exempted.

Amount or Extent of Take

If northern long-eared bat are present or utilize an area where tree removal or related disturbance occurs, incidental take of northern long-eared bat could occur. The Service anticipates incidental take of the northern long-eared bat will be difficult to detect for the following reasons: (1) the individuals are small and occupy summer habitats where they are difficult to find; (2) northern long-eared bat form small, widely dispersed maternity colonies under loose bark or in the cavities of trees and males and non-reproductive females may roost individually, which makes finding the species or occupied habitats difficult; (3) finding dead or injured specimens during or following project implementation is unlikely; (4) the precise distribution and density of the species within its summer habitat in the action area is unknown; and, (5) in many cases incidental take will be non-lethal, will occur later in time, or both.

Monitoring to determine actual take of individual bats within an expansive project area may not yield useful information unless every individual tree that may contain suitable roosting habitat is inspected by a qualified biologist when felled. To minimize or avoid take that is caused by felling trees with roosting bats, a similar tree-by-tree inspection would have to occur before trees are felled.

Inspecting individual trees is not considered by the Service to be a reasonable survey method and is not recommended as a means to determine incidental take. All incidental take that is likely to occur as a result of the proposed action will be a result of the proposed tree removal. Therefore, the extent of tree removal that is proposed by the Forest and its relative distance from the power line can be used in this case as a surrogate to monitor the level of take. The Service anticipates that trees will only be removed as part of the proposed action as follows:

Within 62.5 feet of the centerline, all trees will be removed. From 62.5 to 82.5 feet from the centerline, all trees over 45 feet in height will be removed. From 82.5 to 102.5 feet from the centerline, all trees over 62 feet will be removed. The trees that will be removed range from 2 to 28 inches diameter at breast height (dbh, Table 1).

The species and number of trees to be removed is anticipated to approximate nearly what is shown in Table 1, above.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to northern long-eared bat. No critical habitat has been designated for northern long-eared bat, so none would be impacted.

Reasonable and Prudent Measures

Since all anticipated incidental take will be from activities addressed by the 4(d) rule and are therefore already exempted, no reasonable and prudent measures will be required.

Terms and Conditions

Since all anticipated incidental take will be from activities addressed by the 4(d) rule and are therefore already exempted, no terms and conditions will be required.

Reporting Requirements

1. The USFS shall provide a report summarizing the activities (and acreages) described in this ITS upon completion of the project(s).
2. The USFS shall make all reasonable efforts to educate personnel to report any sick, injured, and/or dead bats (regardless of species) located on the Chippewa National Forest immediately to the Forest Biologist. The USFS point of contact will subsequently report to the Service's Twin Cities Field Office (TCFO) (612-725-3548) and/or the Minnesota Department of Natural Resources (MNDNR; see <http://www.dnr.state.mn.us/wns/index.html> or call 1-888-345-1730). No one, with the exception of trained staff or researchers contracted to conduct bat monitoring activities, should attempt to handle any live bat, regardless of its condition. If needed, TCFO and/or MNDNR will assist in species determination for any dead or moribund bats. Any dead bats believed to be northern long-eared bat will be transported on ice to the TCFO or MNDNR. If a northern long-eared bat is identified, TCFO will contact the appropriate Service law enforcement office. Care must be taken in handling dead specimens to preserve biological material in the best possible state. In conjunction with the care of sick and injured fish or wildlife and the preservation of biological materials from dead specimens, the USFS has the responsibility to ensure that information relative to the date, time, and location of northern long-eared bat, when found, and possible cause of injury or death of each is recorded and provided to the Service. In the extremely rare event that someone has been bitten by a bat, please keep the bat in a container and contact the local health department.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, to help carry out recovery plans, or to develop information.

The Service has identified the following actions that, if undertaken by the USFS, would further the conservation of the northern long-eared bat. We recognize that limited resources and other agency priorities may affect the ability of the USFS to conduct these activities at any given time.

1. Assist with WNS investigations, where feasible. For example:
 - a. Monitor the status/health of known colonies;
 - b. Collect samples for ongoing or future studies; and,
 - c. Allow USFS staff to contribute to administrative studies related to WNS (on or off of USFS lands, as appropriate).

2. Monitor pre- and post-WNS distribution of the northern long-eared bat on the Chippewa National Forest.
 - a. Search for hibernacula within the National Forest;
 - b. Conduct inventory surveys;
 - c. Conduct radio telemetry to monitor status of northern long-eared bat colonies; and,
 - d. Participate in North American Bat Monitoring Program (NABat; a national effort to monitor and track bats) through submission of survey data.

3. Encourage research and administrative studies on the summer habitat requirements of the northern long-eared bat on the Chippewa National Forest that:
 - a. Investigate habitat characteristics of the forest in areas where pre- and post-WNS northern long-eared bat occurrences have been documented (acoustically or in the hand) (e.g. forest type, cover, distance to water).
 - b. Investigate the northern long-eared bat use (acoustics, radio telemetry) of recently managed areas of different prescriptions.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the conservation recommendations carried out.

REINITIATION NOTICE

This concludes formal consultation for the USFS's actions outlined in your request dated March 23, 2015. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over an action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or, (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such a take must cease pending reinitiation.

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