

Appendix 4 – Section 7(a)(1)

Measures for Species Protection, Management, and Recovery

Section 7(a)(1) of the Endangered Species Act states that Federal Agencies should take a pro-active approach to conserving endangered species.

“All other Federal Agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act, by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act”

Indiana Bat (*Myotis sodalis*)

The Green Mountain National Forest (GMNF) has a pro-active *bat conservation* program that includes:

1. Public Education
 - a) Bat presentation with slides and discussion to the following groups:
 - 1) Rutland Northeast Elementary School - December 1997 and 1998
 - 2) Clarendon Elementary School - January 1998
 - 3) Associated Industries of Vermont - December 1998
 - b) Fact Sheet on Indiana bat statistics and management situation - Nov. 1998
 - c) Development of in-house assessment method to determine potential relationship between on-the-ground projects and Indiana bat habitat.
 - d) Display specific to bats of the northeast, and their habits is exhibited in or Supervisor's Office in Rutland, VT
2. Habitat Improvement
 - a) The one known bat hibernaculum, owned by the GMNF, was gated in 1993 in an effort to protect hibernating bats from human disturbance. This gating effort was a cooperative venture undertaken by The Nature Conservancy (TNC), Vermont Department of Fish & Wildlife, Hand Chevrolet, U.S. Fish and Wildlife Service(FWS), and the GMNF.
 - b) Bat boxes are constructed and installed in various places on the GMNF.
3. Monitoring
 - a) GMNF staff participates in annual hibernacula monitoring surveys in central and southern Vermont. Annual monitoring is a coordinated effort between the Vermont Department of Fish & Wildlife, Middlebury College, University of Vermont (UVM), Vermont Cavers Association, and the GMNF. Additional hibernacula studies are being planned and developed.

- b) Annually several projects are examined to determine if the proper number of snags, den trees, and/or clumps have been retained in timber harvest units. Results of these field reviews are maintained in the Forest Supervisor's Office.
 - c) Annually tree mortality is monitored both aerially and through on-the-ground inventory.
 - d) Conducted summer inventory and monitoring of different bat species found at several locations on the GMNF.
 - e) Staff participation in Vermont and New York hibernacula swarm surveys.
4. Late-successional and old-growth management
- a) The landscape approach to providing late-successional forests and associated functions and values is a strategy for providing old-growth values on about 63% of the GMNF. This, majority, portion of the Forest is essentially contiguous, and lays along the spine of the Green Mountain range, thereby meeting recovery objective to foster the development of large diameter, mature and over-mature trees and manage portions of the forest for old-growth.
5. Assessment of Potential Habitat
- a). About 5,000 acres of habitat, associated with Forest management projects, are assessed annually on a site specific basis to determine suitability for Indiana bats and whether additional standards and guidelines beyond those in the Forest Plan are needed.
 - b). We initiated efforts to inventory areas for summer use by forest bats (including Indiana bat) during the 1999 field season, and continued this effort in 2000.

The Green Mountain National Forest is considering these additional actions to strengthen our conservation program for *Indiana bat*:

1. Education

- a) Continued distribution of woodland bat reports for continuing surveys conducted at selected GMNF sites. This distribution will be to all interested parties including:
 - 1) Local colleges and universities (e.g., Middlebury, UVM)
 - 2) Conservation Groups (e.g., Forest Watch, Native Forest Network, TNC)
 - 3) Agencies (e.g., State's Agency of Natural Resources, FWS, U.S.Postal Service)

These reports will also be made available through the GMNF's Internet website (www.fs.fed.us/r9/gmfl).
- b) Develop a guide to field-assess relative suitability of trees with exfoliating bark as potential roost trees. Intent is to utilize this guide during future resource management projects.
- c) Continue to provide training for appropriate GMNF employees on bats (including Indiana bat) occurring on the GMNF. Training will include sections on bat identification, biology, habitat requirements, and sampling techniques.

- d) Develop public displays, similar to that found in our Supervisor's office, specific to bats for use in our three, Vermont, District Offices.

2. Habitat Improvement

- a) Update the Forest Plan wildlife reserve tree Standards and Guidelines to reflect state-of-the-art understanding of Indiana bat roosting requirements, these updates will include:
 - 1) Retention of all shagbark hickory trees in the GMNF.
 - 2) Increase number of retention trees, > 9" dbh, following timber harvest operations from current 4-8 per acre, to 6-12. Increasing the numbers to include either 2 Class I/Class II potential roost trees, or 4 future potential roost trees if no Class I or Class II trees are currently present
- b) Establish primary area(s) around known *M. sodalis* hibernacula in which no, or limited, vegetative manipulation will occur - intent is to protect the area directly adjacent to the hibernacula; each occurrence will require site specific assesment, we estimate a minimum of 10 chain radius (660 feet) will be needed for this protection.
- c) Establish secondary areas around known *M.sodalis* hibernacula of approximately 5 miles in which management will focus on the protection of spring and fall swarming habitat. The actual area will be determined by on-the-ground conditions and topography.
- d) Prescribed burn planning will include known bat hibernacula in smoke management analyses. Management techniques will be utilized to minimize potential smoke impacts to occupied hibernacula and roost sites.
- e) Newly located bat hibernacula will be assessed for potential threats to bats utilizing respective sites. Each hibernacula will have its own, specifically designed management plan developed and implemented to insure continued bat use and protection.

3. Monitoring

- a) GMNF staff participation in annual hibernacula monitoring surveys in central and southern Vermont will continue. Annual monitoring is a coordinated effort between the Vermont Department of Fish & Wildlife, Middlebury College, University of Vermont, Vermont Cavers Association, and the GMNF. Additional hibernacula studies are being planned and developed.
- b) Annual project examination to determine if the proper number of snags, den trees, and/or clumps have been retained in timber harvest units will continue.
- c) Annually tree mortality monitoring (both aerially and through on-the-ground inventory) will continue.
- d) Bat boxes will be monitored to determine if they are being use, and if so, by which species.
- e) Strategic plans for non-hibernation period inventories will be developed and updated annually; parties participating in this planning include Vermont

Department of Fish & Wildlife, US Fish & Wildlife Service, Antioch New England Graduate School, UVM, Middlebury College, and GMNF.

4. Assessment of Potential Habitat
 - a) About 5,000 acres of habitat will be assessed annually on a site specific basis to determine suitability for woodland bats, including *M. sodalis*. Findings from these assessments will be used during future project analyses to address project affect to Indiana bat.
 - b) Continue to inventory areas for summer use by forest bats (including Indiana bat) during the 2001 field season, and beyond.
5. Land Acquisition
 - a) Additional *M. sodalis* hibernacula (not currently owned by the Forest Service) discovered within the GMNF proclamation boundary, will be given high priority for acquisition

Canada Lynx (*Lynx canadensis*)

The Green Mountain National Forest has a pro-active *lynx conservation* program that includes:

1. Monitoring
 - a) GMNF staff is currently participating in a nation-wide survey of lynx occurrence in National Forests. We are following survey protocol developed by the national interagency lynx conservation team. This survey is planned to conclude in CY 2001.
 - b) GMNF has identified snowshoe hare as one of fourteen Management Indicator Species (MIS). Occurrence of this important lynx food staple is monitored annually on the GMNF. Occurrence information will be utilized in upcoming Conservation Assessment efforts for the GMNF.
2. Assessment of Potential Habitat
 - a) All of the GMNF has been assessed, as part of a national assessment effort, for potentially suitable habitats. These areas are now the first priority locations of survey efforts for determining lynx occupancy.

American Peregrine Falcon (*Falco peregrinus anatum*)

The Green Mountain National Forest has a pro-active *falcon conservation* program that includes:

1. Public Education
 - a) Since 1987, GMNF staff has participated in innumerable presentations to various audiences (including grade schools, tourists, interagency meetings, wildlife conferences, etc.). Topics of these evolving presentations have focused on re-introductions efforts (e.g., hacking process), habitat improvement and management, monitoring of both populations and individuals (e.g., persistance of

toxic elements in egg-shells), and responsibilities of humans visiting peregrine sites.

2. Habitat Improvement

- a) The two known and successful nesting territories owned by the GMNF have had human occupancy and use administratively controlled (by Forest Supervisor order). These control measures have improved habitat security to levels necessary for successful nesting and fledging.
- b) New nesting territories (e.g., Bristol Cliffs) are assessed for habitat security and measures that can be taken to rectify unacceptable human disturbance.

3. Monitoring

- a) GMNF staff participates in annual nest site monitoring to determine occupancy, nesting chronology, opportunities for banding of nestlings, and nest disturbance. Three known active cliffs are monitored, along with a number (5-6) potentially suitable nest cliffs, annually. Annual monitoring is a coordinated effort between the Vermont Department of Fish & Wildlife, Vermont Institute of Natural Science, local experts, and the GMNF.

Bald Eagle (*Haliaeetus leucocephalus*)

The Green Mountain National Forest has a pro-active *bald eagle conservation* program that includes:

1. Monitoring

- a) GMNF staff participates in annual bald eagle population and occupancy survey throughout Vermont. This monitoring is a coordinated effort between the Vermont Department of Fish & Wildlife, local experts, and the GMNF.

2. Habitat Improvement

- a) GMNF wildlife reserve tree Standards and Guidelines direct that nest trees (i.e., trees containing large nests that resemble a platform of sticks) will be retained.

