

## Appendix A Conservation Measures

### Cultural Resources (CR)

The following measure would be applied to Treatment Units that contain known cultural resource sites:

1. Known heritage resource sites will be protected. A buffer of 20 meters (66 feet) will be established around identified sites. Cultural Resource Reserve Areas consist of high probability locations that were not adequately tested for cultural resources. Until adequately tested, the Reserve Areas will be protected as heritage resource sites. The Reserve Areas will be buffered areas extending 60 meters (200 feet) from terrace/slope breaks or 30 meters (100 feet) from the edge of streams or creeks. If additional heritage resource sites are found during project implementation, the Zone Archaeologist will be informed and work will be suspended until adequate protection measures are established.
2. The Zone Archaeologist has identified specific areas in which ground disturbances are restricted, as follows:
  - a) C414, s16, and s35, s36 & s50: Along Sand Creek no ground disturbing treatments within 100 meters of the slope break.
  - b) C418, s32, s65, s75, s95 & s111: No ground disturbing treatments east or south of FR's 9312, 9870 or south of Roosevelt Rd.
  - c) C438, s22, s25, & s31: No ground disturbing treatments west or south of FR 5306.
  - d) C439, s15, s18: No ground disturbing treatments east or south of FR 5295.

Ground disturbance includes activities such as: plow lines, stumping, heavy equipment, etc. It does not include hand-cutting, prescribed burning, or the planting of plugs.

### General Timber (GT)

For savanna creation and opening restoration units, refer to the conservation terms below that apply to the KBB. The following measures would be applied to all Treatment Units that are prescribed for any type of harvest treatments:

1. Recommendations included in the Water Quality Management Practices on Forest Land (MDNR 1998) and Forest Service Handbook 2509.18 (Soil Management) will be incorporated to provide protection of soil and water resources. Commercial timber harvesting activities will be excluded from riparian areas by a distance of approximately 100 feet. These areas are identified by the presence of water, vegetative composition, and soil type.
2. Some stands typed as openings that do not have a history of use by Karner blue butterflies will be used for landings and skid trails. Whether or not slash is left in these openings will be determined on a site-by-site basis. Site-specific characteristics of

individual openings will be maintained. Rehabilitation of these openings will occur as needed.

3. On slopes of 15-35%, trees will be processed at the stump retaining slash at the harvest location. Skid trail gradients should not be greater than 15%, with the exception of short, steep gradients not to exceed 20%. Skidding on slopes of 15-20% should be dispersed. No mechanical harvesting on slopes greater than 35%.
4. Skid trails, temporary roads, and other areas throughout the Project Area will be rehabilitated, as needed, after harvest activities are completed. Landings will be rehabilitated after the harvest activities are completed to reduce erosion potential and compaction, amount of logging residue, and non-native invasive species colonization, and to promote revegetation. Slash will be redistributed at landings throughout the units so as to not exceed 3 inches in depth to promote revegetation. Landings will be treated to a minimum depth of 12 inches (where stumped), planted immediately with a cover crop, and reseeded with native seed.
5. Logging slash will be removed from within 25 feet of adjacent highways, county roads, and major forest roads.
6. Only native species or non-persistent non-native species will be planted in areas where revegetation is needed.
7. In pine thinnings that are *not to be treated with broadcast prescribed fire*, approximately 25% of the topwood less than 4" in diameter will be retained within thinning harvest units to help sustain soil productivity.
8. In all treatment units, retain all snags unless they are a safety hazard, according to the following table:

Structural Component	Regeneration Harvest		Intermediate Harvest		Uneven-age Harvest		Savanna/Barren Creation			
	Number <sup>1</sup>	DBH <sup>2</sup>	Number	DBH	Number	DBH	Deciduous		Coniferous	
	Number	DBH	Number	DBH	Number	DBH	Number	DBH	Number	DBH
Snags	9	9	9	9	9	9	10	9	10	9
Mast/ Den Trees	4		4		4		2		2 per 5 acres	
Down Wood	3	10	3	10	6	10	3	10	3	10

<sup>1</sup> = Numbers are per acre minimums.

<sup>2</sup> = Diameter at Breast Height. Minimum size objectives are displayed. The larger diameter trees practical should be used.

### Aspen Regeneration (AR)

The following measures would be applied to all Treatment Units that are prescribed for aspen clearcut units.

1. All stem wood <4" in diameter will be retained to help sustain soil productivity and to provide downed woody material.
2. Retain 5 - 10% crown cover of dominant, well-formed oaks, conifers and other hardwoods.
3. Harvest operations will occur from October 1 to March 31 to promote natural regeneration.
4. Residual trees (not shrubs) 1-5" DBH will be felled, except reserve trees, to promote natural regeneration. Non-invasive shrubs and apple trees will be protected, where possible, in all units.
5. Regeneration surveys will be done in all aspen/oak regeneration units to ensure that desired stocking levels have been obtained. Tree planting will be evaluated for units that have not obtained 60% stocking following the third growing season after harvest in order to meet desired wildlife habitat and timber productivity conditions.

### Prescribed Fire (P)

The following measure would be applied to all Treatment Units that are prescribed for burning:

1. Prescribed burns will take place after a burn plan is written and approved by the agency administrator for the Units to be treated. The burn plan will describe the management objectives for different Units, provide details of fireline and firebreak locations, desired weather conditions, firefighting forces required, safety concerns, and the anticipated smoke dispersal. Fireline intensity generated by the broadcast prescribed burns in red pine stands will be between 50 - 350 BTU/ft/sec. Rehabilitate firelines and firebreaks as needed.

### Herbicides (H)

The following measures refer to the use of herbicides in Treatment Units to suppress the spread of non-native invasive species and limit the regeneration of persistent woody vegetation:

1. All guidelines and mitigation measures presented in the Forest Service Manual 2150, *Pesticide Use Management and Coordination*, and in the Forest Service Handbook 2109.14, *Pesticide Use Management and Coordination Handbook*, will be adhered to in herbicide application on the Huron-Manistee National Forests. Also, compliance with all federal, state, and local regulations regarding herbicide use will be met.
2. Herbicides will be applied in complete compliance with the product label (FSH 2109.14, 52.11).

3. In general, all treated areas will be identified on the ground, notifying visitors of the herbicide treatment; signs will be removed when the risk of direct exposure has passed.
4. To minimize herbicide drift, herbicides will be applied only when wind speeds are less than 10 mph.
5. Herbicide solutions would be mixed at appropriate locations to eliminate the potential for spills in naturally vegetated areas.
6. To prevent application prior to extreme rain events and prevent runoff to adjacent sites and aquatic systems, herbicide applicators will obtain a weather forecast of the treatment area prior to initiating a spraying project.
7. Mechanically removed specimens of non-native invasive species having reproductive parts will be placed in containers and disposed of in a manner that reduces the spread of that species.
8. Displaced soil from mechanical removal of non-native invasive species will remain on-site.
9. Within 100 feet of an open body of water, only the aquatic formulation of glyphosate can be used.
10. Glyphosate will only be applied using spot or strip application methods.
11. Triclopyr and imazapyr can only be applied using spot application methods.
12. Triclopyr, in the ester form, will not be used within 100 feet of an open body of water.
13. Botanist (or botanist designee) will provide identification and delineation of herbicide spray locations in savanna treatment units to avoid impact to desired savanna species.

#### Roads (R)

The following measures would be applied in Treatment Units that propose activities affecting the road system:

1. Roads in the Project Area will be used to access treatment units. Roads that are to be left open after the management activities are complete will be rehabilitated to a standard that is consistent with their existing Maintenance Level. Maintenance Level 1 (closed or gated) roads will be closed or blocked to public traffic.

### Recreation (Rec)

The following measures would be followed in locations where management activities may conflict with recreational trail use:

1. The Baldwin-White Cloud District Trails Coordinator will work with the timber marking and layout crew in locations where harvesting efforts and designated recreation trails overlap to ensure that scenic objectives are met and conflict of use is minimized.
2. Crossing of designated trail systems with timber harvesting/hauling equipment will be minimized, with crossings occurring infrequently and at 90° angles to the trails.
3. If, at any time, horse use compromises the integrity of Karner blue butterfly habitat, cultural resources, or other recreational attributes of the White River Semi-Primitive Non-Motorized Area, then this use will be removed from this area and relocated to other, more suitable locations on National Forest System lands.
4. Harvesting activities adjacent to designated motorized trails will be designed, with input from the Trails Coordinator, to minimize future off-Trail use.
5. If, at any time, the non-motorized trail located in Management Area 9.2 compromises the qualities of the White River, a Wild and Scenic Study River, then the trail will be removed from this area and may be relocated to other, more suitable locations on National Forest System lands.

### Threatened, Endangered, and Sensitive Species

The following measures apply to Treatment Units where threatened, endangered, or Regional Forester's Sensitive Species could occur:

#### 1. Karner Blue Butterfly (KBB)

The following conservation measures are designed for the protection, restoration, and maintenance of Karner blue butterfly as they apply to occupied and unoccupied habitat. They will be implemented where Karner blue butterflies or their habitat are documented or found within the Project Area (i.e. currently applies to opening restoration and savanna creation treatment units). These are from the Final Recovery Plan for the Karner blue butterfly (*Lycæides melissa samuelis*) (USDI Fish and Wildlife Service 2003), the Draft Karner Blue Butterfly (*Lycæides melissa samuelis*) Habitat Management Strategy for the Huron-Manistee National Forests (USDA Forest Service 2004a), the Biological Opinion on the Programmatic Biological Assessment for the Huron-Manistee National Forests Land and Resource Management Plan (USDI Fish and Wildlife Service 2006), the Programmatic Biological Assessment for the Huron-Manistee National Forest (USDA Forest Service 2006a), and the Forest Plan for the Huron-Manistee National Forests (USDA Forest Service 2006b).

<b>Karner Blue Butterfly Conservation Measures</b>	<b>Occupied Habitat</b>	<b>Unoccupied Habitat</b>
Implement The Karner Blue Butterfly Recovery Plan (USDI Fish and Wildlife Service 2003).	√	√
<b>Trail Management, Vehicle and ORV Traffic, and Camping and Recreation</b>		
Road construction, trail construction, and vegetation management activities will be designed to protect and improve potential Karner blue butterfly habitat.	√	√
Roads and trails will be managed and maintained in a manner to protect or maintain areas with wild lupine. Where this is not feasible and damage is occurring, trails and roads may be relocated or decommissioned.	√	√
Occupied Karner blue butterfly sites will be protected by installing signs and blocking public access using a variety of methods, such as: road closures, barricades, Forest Service gates, woven-wire fencing, wind-rowed slash, rocks, stumps, barrier posts, cross bucks, woodland strips, or brush piles. Signs and barriers will prohibit ORV use and camping in occupied sites and direct camping to areas outside occupied habitat. Passage for wildlife will be provided regardless of the method used. If closures are needed, a Forest Supervisor's closure order would be written to facilitate enforcement of this protection measure.	√	
Post signs along roads and trails within or adjacent to potential Karner blue butterfly habitat to ensure the public stays on designated roads and trails. If damage from human activities is noted within potential Karner blue butterfly habitat, a variety of methods will be used to block public access, such as: road closures, barricades, forest service gates, woven-wire fencing, wind-rowed slash, rocks, stumps, barrier posts, cross bucks, woodland strips, or brush piles. Passage for wildlife will be provided regardless of the method used. If closures are needed, a Forest Supervisor's closure order would be written to facilitate enforcement of this protection measure.		√
<b>Development</b>		
Oil and gas development within occupied Karner blue butterfly habitat will contain a "no surface occupancy" stipulation and will exclude road building.	√	
<b>Habitat Management and Protection</b>		
Conduct pre-activity surveys of proposed treatment units to determine presence/absence of the Karner blue butterfly. If the species is found, the Huron-Manistee National Forests will follow conservation measures for occupied habitat.	√	√
Monitor activities at the project level.	√	√
Conduct annual pre- and post-treatment monitoring of habitat conditions (i.e., wild lupine cover, cover of other Karner blue butterfly nectar plants, savanna plant species presence, presence of non-native invasive species, canopy cover) and occurrence or abundance of Karner blue butterflies at selected treatment sites (and under Alternative 3, selected reference sites) to determine treatment effectiveness and whether measures of restoration success have been accomplished.	√	√
Maintain or restore Karner blue butterfly habitat using prescribed burning, timber harvest, manual or mechanical vegetation removal, chemical vegetation removal, soil scarification, and seeding/planting methods as outlined in the Forest Plan, Chapter II, and the Final Recovery Plan for the Karner Blue Butterfly, Appendix G.	√	√

Karner Blue Butterfly Conservation Measures	Occupied Habitat	Unoccupied Habitat
Within treatment units managed for Karner blue butterfly, provide savanna-like conditions with an average of 25-50% crown closure and openings with an abundance of wild lupine and other Karner blue butterfly first and second flight nectar plant species.	√	√
Within treatment units managed for Karner blue butterfly, maintain savanna-like conditions by removing woody encroachment and promoting the growth of savanna plant species.	√	√
Within treatment units managed for Karner blue butterfly, provide dispersal corridors in order to facilitate dispersal between occupied and unoccupied areas (suitable habitat sites).	√	√
Application and use of herbicides or pesticides is prohibited in and adjacent to occupied Karner blue butterfly habitat between April 1 and August 15, except when the wind is not blowing toward the habitat and there is a minimum buffer of 100 feet (30 m) between the habitat and the treatment area. Avoid wild lupine during application.	√	
Manual cutting and girdling of trees is prohibited between March 15 and August 15 in occupied Karner blue butterfly habitat. Avoid impacts to wild lupine. Allow cutting of trees that pose a safety hazard.	√	
Cutting trees with non-mechanized equipment such as chainsaws is preferred in occupied Karner blue butterfly habitat. Other mechanized tree cutting equipment may be allowed by exception. If possible, mechanical and hand pruning of shrubs and trees should be done under frozen ground conditions.	√	
Pile slash not to exceed 20 percent of an occupied Karner blue butterfly site. Slash in excess of this limit must be placed outside of occupied sites. Remove slash from and avoid piling slash in areas containing concentrations of wild lupine. Piles can be burned during the winter.	√	
Locate logging roads, skid trails, and log yards to avoid or minimize impact to occupied Karner blue butterfly habitat. Where possible, place landings ≥ 200 m from historically or recently occupied sites.	√	
Mowing and brush hogging activities are prohibited between March 15 and August 15 in occupied Karner blue butterfly sites. Divide sites into at least 2 treatment areas, each of which supports lupine and nectar sources. At least one treatment area will remain untreated each season unless there is colonization source within ¼ mile that has the capability to re-colonize the site. Treatment will be conducted first on the most degraded half of a site. This approach will reduce take of Karner blue butterfly and facilitate re-colonization of recently treated portions. Leave cut vegetation on site that may contain eggs, unless the cut vegetation is collected and placed in another suitable habitat site. Mow with the mower blade set at least 6 inches above the ground; preferably 8 inches where wild lupine occurs. Mow or brush hog preferably after September 1 when all second-flight females have laid their eggs and died and wild lupine has set seed. Avoid ant mounds. If possible, mow or brush hog under frozen ground conditions.	√	
Mechanical equipment, of similar size and weight to a mower or brush hog, may be used to remove slash/woody debris within occupied Karner blue butterfly habitat. Removal of slash/woody debris is prohibited between March 15 and August 15, and would occur on no more than half of occupied Karner blue butterfly site each season unless there is a colonization source within ¼ mile that has the capability to re-colonize the site. Cut vegetation within an occupied Karner blue butterfly site that may contain eggs would be left unless the cut vegetation is collected and placed in another suitable habitat site.	√	

Karner Blue Butterfly Conservation Measures	Occupied Habitat	Unoccupied Habitat
When conducting prescribed burns in occupied Karner blue butterfly sites, divide sites into at least 3 burn units based on numbers of butterflies and habitat conditions, and burn no more than 1/3 of a site in any one year. Keep unburned occupied patches within ¼ mile of burned occupied sites to aid re-colonization. Use an approximate four-year burning frequency. Treatment will be conducted first on the most degraded 1/3 of a site. This approach will reduce take of Karner blue butterfly and facilitate re-colonization of recently treated portions. Use patchy burns in occupied sites. Design burn areas with irregular shapes and small-scale unburned vegetation-skips. Create fire lines between areas to be burned and unburned to protect against wildfire or other chance events. When possible, use artificial or existing natural breaks such as roads. If mineral fuel breaks are required, minimize soil disturbance by using rotovated or disced breaks, or mowed fuel breaks.	√	
A combination of manual or mechanical tree/shrub removal, herbiciding, and/or seeding/planting may occur following a prescribed burn on 1/3 of an occupied Karner blue butterfly site, as long as all treatments occur within the burned unit, during the same year that the area was burned, and abide by the conservation measures listed in this table. This approach will reduce take of Karner blue butterfly and allow restoration goals for occupied habitat to be achieved more efficiently and effectively.	√	
Make fire breaks to ensure wildfires do not impact Karner blue butterfly metapopulation areas.	√	√
Site scarification is prohibited within occupied Karner blue butterfly sites between March 15 and August 15 and will occur on a four-year frequency. Expose mineral soil to aid seeding of native nectar plants. Leave 25 to 50 percent of an occupied site undisturbed. Protect concentrations of wild lupine or other nectar plants.	√	
Propagate wild lupine, nectar plants, and savanna plant species by using seeds with a locally-based genotype when possible. If collected from an occupied Karner blue butterfly site, limit the collection to no more than 25 percent of available seeds and collect after July 1.	√	√
Signs will be installed within savanna creation and Karner blue butterfly opening restoration areas explaining the benefits of restoring native plant communities and requesting recreationists to stay on designated roads and trails. If damage from recreational use within treated areas is noted, public access to managed savannas and openings would be blocked via a variety of methods such as: road closures, barricades, forest service gates, woven-wire fencing, wind-rowed slash, rocks, stumps, barrier posts, cross bucks, woodland strips, or brush piles. Passage for wildlife will be provided regardless of the method used. If closures are needed, a Forest Supervisor's closure order would be written to facilitate enforcement of this protection measure.	√	√
Avoid spreading seeds of weedy exotic plants via equipment. Monitor for invasion of aggressive exotic plants and remove them.	√	√
Activities will be scheduled and completed when they are least likely to impact any life stage of the butterfly.	√	
Watershed management activities that are incompatible with Karner blue butterfly will be excluded.	√	

Monitoring and Evaluation		
Karner Blue Butterfly Conservation Measures	Occupied Habitat	Unoccupied Habitat
Monitoring for Karner blue butterfly and habitat including: - Annual sampling of metapopulation areas during the first or second flight period to determine population size. Preference should be given to the second flight period because this is when the greatest number of butterflies would be present. - Determining and tracking the amount and condition of habitat maintained and restored annually. - Identifying threats and disturbance factors affecting metapopulation areas and habitat a minimum of every three years. - Assessing the connectivity of subpopulations every three years to confirm that subpopulations remain connected.	√	
Implement recovery measures: inventories, management plans, information and education, restoration, and studies as appropriate.	√	

## 2. Indiana Bat (IB)

The following conservation measures are designed for the protection, restoration, and maintenance of Indiana bat as they apply to potential and occupied habitat. They will be implemented where Indiana bats are documented or found within the Project Area. These are from the Biological Opinion on the Programmatic Biological Assessment for the Huron-Manistee National Forests Land and Resource Management Plan (USDI Fish and Wildlife Service 2006), the Programmatic Biological Assessment for the Huron-Manistee National Forest (USDA Forest Service 2006a), and the Forest Plan for the Huron-Manistee National Forests (USDA Forest Service 2006b).

Indiana Bat Conservation Measures	Potential and Occupied Habitat
2600-I-C-1(a-b) (guidelines) 1 Snags, den trees, mast trees and down wood: a Provide snags, den trees, mast trees and down wood to meet requirements of indicator species and to maintain viable vertebrate populations. Table II-12 (HMNF LRMP) displays numbers of snags, den trees, mast trees and down wood as per acre minimums and minimum size objectives. Size objectives are minimums, and the largest diameter trees practical should be used. These do not apply to management areas 5.1, 8.2, 8.4 and 9.1. b In regeneration harvests, leave den and mast trees in clumps, if available.	√
2600-II-A (guideline) Federally-listed Endangered, Threatened and proposed species management will take precedent over old growth goals, objectives and Standards and Guidelines.	√

	Potential and Occupied Habitat
<p><b>Indiana Bat Conservation Measures</b></p> <p>2600-II-C-1(a-e) (guidelines)  Indiana Bat (applies in all Management Areas within designated Indiana bat habitat except 5.1, 8.2, and 9.1, unless otherwise noted).</p> <p>1. Appropriate protection measures for site-specific projects will be developed during Biological Evaluations. Exceptions to the project-specific measures include:</p> <ol style="list-style-type: none"> <li>Allow initial thinning treatments in fully- or over-stocked red pine plantations.</li> <li>Allow salvage harvest of small areas, less than 5 acres, of red pine.</li> <li>Allow removal of trees that pose a safety hazard in recreation, trails, special use, administrative sites and road rights-of-way that are not presently being used by Indiana bats. If a bat is present, consultation will occur with the U.S. Fish and Wildlife Service.</li> <li>Allow removal of trees less than six inches diameter at breast height.</li> <li>Allow removal of trees in areas surveyed for bats with USFWS approved survey techniques where no bats or suitable habitat were found.</li> </ol>	√
<p>2600-II-C-2(a-h) (guidelines)</p> <p>Where vegetation management occurs, an average of nine high quality summer roost trees—snags or live trees greater than nine inches diameter at breast height, per acre will be maintained within the treated acres. Leave trees 16 inches diameter at breast height or greater, where available. If not available, leave trees 9 to 16 inches diameter at breast height. If necessary, leave trees 3 to 9 inches diameter at breast height. When selecting roost trees, emphasize the applicable selection criteria below:</p> <ol style="list-style-type: none"> <li>As many standing snags greater than three inches diameter at breast height as practical within regeneration and timber management units. Retain live trees around larger snags to provide protection from wind throw; give preference to retaining oaks and hickories; if individual trees are a health or safety concern, consider grouping them or protect zones around them. <ol style="list-style-type: none"> <li>Give preference to larger snags; retain all snags greater than 16 inches diameter at breast height.</li> <li>Snags should be retained regardless of species.</li> <li>Ensure that care is taken during site preparation, seeding, etc., to avoid damage or loss of retained snags.</li> </ol> </li> <li>Standing live trees greater than three inches diameter at breast height, with greater than 25 percent exfoliating bark, regardless of species.</li> <li>Hollow, den and cavity trees greater than nine inches diameter at breast height as practical, regardless of species.</li> <li>Shagbark and bitternut hickories, regardless of size, and regardless of whether dead or alive, if available.</li> <li>When few snags are available or cannot be left, leave at least nine of the largest live trees on site, preferably greater than 26 inches diameter at breast height, in the Class I Category—oaks and hickories; other desirable species include eastern cottonwood, green and white ash and American and slippery elm.</li> <li>Leave seed trees uncut in seed-tree harvest areas, particularly in areas of oaks and hickories. Retain the largest trees as seed trees in order to ensure a component of large, over-mature trees.</li> <li>In individual and group selection harvests: <ol style="list-style-type: none"> <li>Ensure that a component of large, over-mature trees remains to provide suitable roosting habitat – retaining at least three live trees per acre greater than 20 inches diameter at breast height.</li> <li>If there are no trees greater than 20 inches diameter at breast height, retain 16 of the largest available trees per acre.</li> <li>When available, trees left should be Class I type trees—oaks and hickories; other desirable species include eastern cottonwood, green and white ash and American and slippery elm.</li> </ol> </li> <li>Regeneration units will be designed with irregular borders to provide edges for solar exposure of roost sites, interspersions of roosting and foraging habitat and travel corridors.</li> </ol>	√

	Potential and Occupied Habitat
<b>Indiana Bat Conservation Measures</b>	
2600-II-C-3(a) (standards) Prohibit removal of standing dead trees for firewood between May 1 and August 31. The Forest will annually update the firewood cutting maps to identify areas that are off limits. a. Within the five-mile radius around Tippy Dam– Tippy Management Zone, firewood permits will be prohibited.	√
2600-II-C-4 (guideline) Generally, prescribed burns are prohibited within designated Indiana bat habitat between May 1 and August 31 (applies in all management areas).	√
2600-II-C-5 (guideline) Prescribed burns and vegetation management in the five-mile radius around Tippy Dam–Tippy Management Zone, are to be conducted, as feasible and prudent, outside the spring staging period from May 1 to June 15, and the fall swarming period from September 1 to October 20.	√
2600-II-C-6 (guideline) In optimal summer maternity habitat, conduct vegetation management and prescribed fire, as feasible and prudent, outside summer maternity period from May 1 to August 31.	√
2600-II-C-7(a-b) (standards) In optimal summer maternity habitat, individual projects may proceed during the summer maternity period if surveyed for Indiana bats, according to protocols established by the USFWS Service, prior to project implementation. a. If a reproductive female Indiana bat is found, postpone project activities that may affect Indiana bats until outside of the summer maternity period. b. If no Indiana bats or only male bats or non-reproductive female bats are found, the project may proceed using the established conservation measures and operating procedures committed to in the biological assessment. Mist netting results are valid for a three-year period only. If a project has not been completed within this time frame, a new survey will be required.	√
2600-II-C-8 (standard) Protection zones will be established around maternity colonies where discovered.	√
2600-II-C-9(a-c) (standards) Upland water sources will be provided for the Indiana bat by: a. Developing water holes in wildlife openings along the forest edge. b. Utilize maintenance level 1 and decommissioned roads to provide upland water sources, where feasible. c. Designing road construction and reconstruction projects to include small waterholes adjacent to the road, where feasible.	√

### Regional Forester's Sensitive Species (RFSS)

#### Wildlife

1. Implement the Standards and Guidelines described in the Forest Plan (USDA Forest Service 2006b) within the Project Area.
2. Prior to implementation, consult with District Wildlife Biologist to determine current or known occurrences of RFSS within the Project Area and the applicable conservation measures associated with the species identified.
3. Implement the conservation measures for species viability for Blanding's turtle, cerulean warbler, duster skipper, eastern box turtle, northern goshawk, red-headed woodpecker,

- red-shouldered hawk, whip-poor-will, and wood turtle outlined in the Programmatic Biological Evaluation for the Huron-Manistee National Forest (USDA Forest Service 2005) on sites where these RFSS are documented or found. The conservation measures outlined for the dusted skipper also will be implemented where hill-prairie spittlebug and frosted elfin are documented or found. The conservation measures outlined for the cerulean warbler also will be implemented where Louisiana waterthrush and prothonotary warbler are documented or found.
4. Implement the conservation measures described in *The Northern Goshawk (Accipiter gentilis atricapillus) in the Western Great Lakes Region: A Technical Conservation Assessment* (Roberson et al. 2003), the *Draft Western Great Lakes Northern Goshawk (Accipiter gentilis atricapillus) Conservation Assessment* (USDA Forest Service 2007c), *Management Recommendations for the Northern Goshawk on the Huron-Manistee National Forests* (USDA Forest Service 1993), and the *Conservation Assessment for Red-Shouldered Hawk (Buteo lineatus)* (USDA Forest Service 2002a) on sites where northern goshawk or red-shouldered hawk are documented or found.
  5. Implement the conservation measures described in the *Bald Eagle Management Plan for the Huron-Manistee National Forests* (USDA Forest Service 2006c), and the *Northern States Bald Eagle Recovery Plan* (USDI Fish and Wildlife Service 1983) on sites where bald eagle are documented or found.
  6. Implement the conservation measures outlined for the cerulean warbler in the *Conservation Assessment for Cerulean Warbler (Dendroica cerulea)* (USDA Forest Service 2003c) on sites where cerulean warbler, Louisiana waterthrush and prothonotary warbler are documented or found.
  7. Implement the conservation measures described in the *R9 Species Conservation Assessment for Wood Turtle – Glyptemys insculpta* (USDA Forest Service 2004b) and the *Conservation Assessment for Blanding’s Turtle (Emydoidea blandingii)* (USDA Forest Service 2002b) on sites where wood turtle and Blanding’s turtle are documented or found.
  8. Flag or mark the locations of nests, roosts, perches, burrows, or dens of rare or sensitive wildlife species, and carefully perform management activities to avoid physical injury to such structures and less mobile wildlife. If an RFSS reptile is found, inform District Biologist, and move the individual(s) to a nearby safe area.
  9. If nesting activities are noted from any RFSS species, inform the District Biologist so that appropriate protection can be administered.
  10. If any other federally-listed Endangered or Threatened species or Regional Forester’s Sensitive Species are found during project implementation, the project would stop until the District Wildlife Biologist is informed and adequate protection measures applied to avoid potential impacts.

Botany

11. Prior to implementation, consult with District Botanist to determine current or known occurrences of RFSS within the Project Area and the applicable conservation measures associated with the species identified.
12. If any other federally-listed Endangered or Threatened species or Regional Forester's Sensitive Species are found during project implementation, the project would stop until the District Botanist is informed and adequate protection measures applied to avoid potential impacts.
13. RFSS species Alleghany plum and Hill's thistle will be avoided during fire line construction, brush pile burning, and prescribed burning (except in the case of wildfire treatment emergency).
14. RFSS Alleghany plum and Hill's thistle will be protected during harvest procedures.