

DECISION MEMO  
KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT  
USDA Forest Service, Region 9, Huron-Manistee National Forests  
Baldwin/White Cloud Ranger Districts  
Oceana County  
(T13N, R17W; T13N R16W; T13N, R15W)

**I. DECISION TO BE IMPLEMENTED**

**Description of Decision**

My decision is to restore 431 acres of occupied Karner blue butterfly habitat within 72 openings/savannas on the Baldwin/White Cloud Ranger District. The National Forest System lands affected by my decision are located on the Baldwin/White Cloud Ranger District of the Huron-Manistee National Forests in: Section 36 of Grant Township (T13N, R17W), Sections 11, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, and 34 of Otto Township (T13N, R16W), and Sections 7, 8, 9, 17, 18, 19 and 30 of Greenwood Township (T13N, R15W), Oceana County, Michigan (see Appendix A Project Maps). Restoration of Karner blue butterfly habitat will be achieved by reducing tree/shrub density (to an average of <15% canopy cover) and reducing the cover of undesired vegetation less than 2 meters in height (to an average of <25%) by removing individual herbaceous or woody plants using hand tools. See Appendix B Project List for locations and acres proposed for treatment. Reducing overstory and understory cover will promote the growth of wild lupine – the host plant for the Karner blue butterfly, other nectar plants such as black-eyed Susan and horsemint, and native grasses such as big blue stem, little blue stem, and Indian grass. Additional treatments are proposed to achieve the desired coverages of native grasses and flowering plants:

- Seeding/planting using hand tools to establish 5-15% cover of wild lupine and other Karner blue butterfly nectar plants.
- Seeding/planting using hand tools to establish >60% presence of desired savanna plant species and <5% presence of non-native invasive species.

Management activities will be prohibited within the 72 openings/savannas between March 15 and August 15 to protect the Karner blue butterfly. My decision includes implementation of the conservation measures listed in Appendix C Conservation Measures List.

**Purpose of Decision**

Openings, prairies, savannas, and barrens have declined on the Huron-Manistee National Forests over the past century due to extensive reforestation, fire control efforts, and the process of natural succession. Species dependent on these habitat types include the federally endangered Karner blue butterfly, numerous Regional Forester's Sensitive Species such as red-headed woodpecker, whip-poor-will, eastern box turtle, dusted skipper, frosted elfin, hill-prairie spittlebug, prairie smoke, and Hill's thistle, and game species such as wild turkey, ruffed grouse, American woodcock, and white-tailed deer. Many of these species have experienced a decline in habitat quality and quantity, and subsequently population numbers. In particular, there has been a reduction in the number, distribution, and size of Karner blue butterfly populations on the Forests; current populations are generally small and isolated.

To prevent the Karner blue butterfly from disappearing from our local landscape, the Huron-Manistee National Forest's Plan (Forest Plan) calls for the restoration and maintenance of savannas and barrens (page II-6). In addition, a conservation strategy for the Karner blue butterfly is provided by the U.S. Fish and Wildlife Service's Karner Blue Butterfly Recovery Plan and the Draft Karner Blue Butterfly Habitat Management Strategy for the Huron-Manistee National Forests, which provide management and

monitoring measures to meet recovery goals for viable populations. The Forest Plan incorporates the recovery goals by directing the restoration and maintenance of 20,300 acres of savannas/barrens within designated Karner blue butterfly population management areas and essential Karner blue butterfly habitat (page II-32).

This project will restore 431 acres of occupied Karner blue butterfly habitat, increasing habitat quantity and quality, and subsequently population numbers, of this federally endangered species, as well as numerous Regional Forester's Sensitive Species and game species associated with openings, prairies, savannas, and barrens. Thus, the Proposed Action contributes toward meeting the goals of the Forest Plan and the Recovery Plans.

This decision is intended to respond to the objectives of Management Areas 4.4 and 6.1 by creating/maintaining openings, prairies, and barrens, following the Karner blue butterfly management strategy, and protecting Threatened, Endangered, and Sensitive species and their habitats on the Huron-Manistee National Forests.

## **II. REASONS FOR CATEGORICALLY EXCLUDING THE DECISION**

Decisions may be categorically excluded from documentation in an environmental impact statement or environmental assessment when:

1. They are within one of the categories identified by the U.S. Department of Agriculture in 7 CFR Part 1b.3 or;
2. They are within one of the categories identified in 36 CFR 220.6(d) or (e) and;
3. There are no extraordinary circumstances related to the proposed action.

I have concluded that this decision would appropriately be categorically excluded from documentation in an environmental impact statement or environmental assessment as it is a routine activity within a category of exclusion and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative effect on the quality of the human environment. My conclusion is based on information presented in this document and the entirety of the Record.

### **A. Category of Exclusion**

This project is within Category 6 of 36 CFR 220.6(e)

“Timber stand and/or wildlife improvement activities which do not include the use of herbicides or do not require more than one mile of low standard road construction.”

### **B. Relationship to Extraordinary Circumstances**

1. Threatened and Endangered Species or Their Critical Habitat –

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. In accordance with Section 71 of this Act, a list of the listed and proposed, threatened, or endangered species that may be present in the project area indicated that suitable habitat for Karner blue butterfly occurs within all 72 openings/savannas proposed for treatment. There are documented occurrences for Karner blue butterfly within all 72 treatment sites. As required by this Act, potential effects of this decision

on listed species have been analyzed and documented in the project's Biological Assessment/Biological Evaluation. Endangered Species Act Section 7 Consultation was completed for the proposed project on January 5, 2009.

It was determined that this decision “**may affect, but it not likely to adversely affect**” the Karner blue butterfly.

2. Floodplains, Wetlands, or Municipal Watersheds –

Floodplains: Executive Order 11988 is to avoid adverse impacts associated with the occupancy and modification of floodplains. Floodplains are defined by this order as, “. . . the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent [100-year recurrence] or greater chance of flooding in any one year.”

The project is not located in or near floodplains. This has been validated by map and site-review (Record: Project Review). This decision would not affect floodplains.

Wetlands: Executive Order 11990 is to avoid adverse impacts associated with destruction or modification of wetlands. Wetlands are defined by this order as, “. . . areas inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.”

Three wetland complexes are within the project area (Record: Project Review). This has been validated by map and site-review. The nature and scale of the proposed activities would not have subsurface effects to the identified wetlands. To further ensure that wetland-related impacts are minimized, the State of Michigan's Best Management Practices and the Standards and Guidelines for Watershed Management described in the Forest Plan (pages II-17 – II-22) will be incorporated into the project design and implementation. Similar wildlife habitat improvement projects in this area were determined to have no significant wetland-related impacts (Record: Project Review), therefore, implementation of this project would not impact wetlands.

Municipal Watersheds: Municipal watersheds are managed under multiple use prescriptions in land and resource management plans.

There are no municipal watersheds on the Forest. This decision will not affect municipal watersheds.

3. Congressionally Designated Areas –

Wilderness:

This decision does not affect Wilderness. The project is not in or near Wilderness. Wilderness is identified on the Forest as Management Area 5.1 (Plan, pp. III-5.1-1-6). The Forests' only Wilderness, Nordhouse Dunes, is 45 miles northwest of the closest project location. This decision, with impacts limited to the immediate area of activity, will not affect the Wilderness Area.

Wild and Scenic Rivers:

There are four candidate Wild and Scenic River Study Areas identified on the Forest (Plan, pp. III-9.2-1-4). The closest Wild and Scenic River Study Area, the White River, specifically the South Branch of the White River, is 0.1 miles east of the closest project location. This decision, with impacts limited to the immediate area of activity, will not affect Wild and Scenic River Study Areas. To further ensure that impacts to Wild and Scenic River Study Areas are minimized, the Standards and Guidelines described in the Forest Plan (pages III-9.2-3-4) will be implemented during project activities.

Four Wild and Scenic Rivers are identified on the Forest as Management Area 8.1 (Plan, pp. III-8.1-4). The closest Wild and Scenic River, the Pere Marquette National Scenic River, is 30 miles north of the closest project location. This decision, with impacts limited to the immediate area of activity, will not affect Wild and Scenic Rivers. To further ensure that impacts to Wild and Scenic Rivers are minimized, the Standards and Guidelines for Watershed Management and Wild and Scenic Rivers described in the Forest Plan (pages II-17 – II-22, and III-8.1-4) will be implemented during project activities.

National Recreation Areas and Wild and Scenic Rivers:

There are no National Recreation Areas on the Forest. This decision will not affect National Recreation Areas.

4. Inventoried Roadless Areas –

There are no inventoried roadless areas (RARE II or Forest Plan identified) in the Forest. This decision will not affect inventoried roadless areas.

5. Research Natural Areas –

There are two Research Natural Areas in the Manistee National Forest (Plan, pp. III-8.2-1-6). The closest Research Natural Area, Newaygo Prairies Research Natural Area, is 25 miles east of the closest project location. There are 18 Candidate Research Natural Areas in the Manistee National Forest (Plan, pp. III-9.1-1-4). The closest Candidate Research Natural Area, North Branch White River, is 0.2 miles west of the closest project location. This decision, with impacts limited to the immediate area of activity, will not affect Research Natural Areas or Candidate Research Natural Areas.

6. American Indian and Alaska Native Religious or Cultural Sites –

Additionally, the Federal government has trust responsibilities to Tribes under a government-to-government relationship to ensure that the Tribes reserved rights are protected. Consultation with tribes helps ensure that these trust responsibilities are met. The Forest consulted with potentially affected tribes (Record: Scoping List). The intent of this consultation has been to remain informed about Tribal concerns.

7. Archaeological Sites, or Historic Properties or Areas –

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register. Section 106 of the National Historic

Preservation Act also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The Archaeological Resources Protection Act covers the discovery and protection of historic properties (prehistoric and historic) that are excavated or discovered in federal lands. It affords lawful protection of archaeological resources and sites that are on public and Indian lands. The Native American Graves Protection and Repatriation Act is applicable to the discovery and protection of Native American human remains and objects that are excavated or discovered in federal lands. It encourages avoidance of archaeological sites that contain burials or portions of sites that contain graves through “in situ” preservation, but may encompass other actions to preserve these remains and items.

This decision complies with the cited Acts. There are six cultural resources which may be affected by the project. Protective measures consist of: avoiding the use of shovels or other hand tools for ground disturbing reseeding and replanting within site boundaries; no hand tools or hand extraction (pulling out) of shrub rootballs within site boundaries; no removal of existing fruit trees within site boundaries. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the Area of Potential Effect, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts. Implementation of the conservation measures noted in the attached Conservation Measure List will further minimize the potential for adverse effects to heritage resources (Record: Project Review).

8. No other extraordinary circumstances related to the project were identified (Record: Project Review).

### **III. PUBLIC INVOLVEMENT**

Public involvement included listing in the Forest’s Schedule of Proposed Actions since December, 2008, and a direct mailing to interested and affected parties on December 2, 2008.

The following tribal governments have been contacted for their input: Grand Traverse Band of Ottawa & Chippewa Indians, Burt Lake Band of Ottawa & Chippewa Indians, Little Traverse Bay Band of Odawa Indians, Little River Band of Ottawa Indians, Inter-Tribal Council of MI Inc., Nottawaseppi Huron Band of Potawatomi Indians, Saginaw Chippewa Tribe of Michigan, Grand River Band of Ottawa Indians, GL Indian Fish & Wildlife Commission, and Little River Band of Odawa Planning Department (Record: Scoping List).

The following state and local governments have been contacted for their input: SE Michigan Council of Government, Grant Township, Oceana County, Michigan, Otto Township, Oceana County, Michigan, and Greenwood Township, Oceana County, Michigan (Record: Scoping List).

The following agencies have been contacted for their input: U.S. Fish and Wildlife Service and Michigan Natural Features Inventory (Record: Scoping List).

Property owners potentially affected by this decision have been contacted for their input (Record: Scoping List).

The following potentially interested groups were sent letters requesting their input: University of Pittsburg School of Law Environmental Law Clinic, Hydrolake Leasing and Service, NW Wilderness Recovery, MI Association of Timbermen, Cycle Conservation Club of Michigan, Mid-Union Sled Haulers, National Wild Turkey Federation, Heartwood, Pacific Legal Foundation, Sierra Club of

Michigan, Ruffed Grouse Society, The Nature Conservancy, MUCC, We Love Smoke Society, BlueRibbon Coalition, Pine River Association, Trail Riders Snowmobile Club, Irons Area Tourist Association, 2-Trackers 4-Wheel Drive Club, Great Lake 4-Wheel Drive Association, and Sylvan Acres Association (Record: Scoping List).

Eight comments were received related to this decision (Record: Project File) including:

- ❖ Three supporting the Proposed Action from adjacent landowners Frank Andersen and Tom Nyman, and Randy Showalter, a Regional Wildlife Biologist with The National Wild Turkey Federation.
- ❖ One opposing clear-cutting red pine plantations to create openings from Tony Furlich, a forester with Hydrolake Inc. Because this activity is not proposed, Mr. Furlich neither supports or opposes the Proposed Action.
- ❖ One asking to be contacted if any Native American human remains or burial objects are discovered during project implementation from Winnay Wemigwase, the Director of Archives/Records and Cultural Preservation at the Little Traverse Bay Band of Odawa Indians.
- ❖ One opposing the use of tax payer money to manage for Endangered species given the current recession from Carl Spangler.
- ❖ One opposing the Proposed Action because the exact locations of the openings/savannas to be restored could not be released in accordance with the Endangered Species Act from Patrick Brower. Mr. Brower also is opposed to any road closures associated with management for the Karner blue butterfly.
- ❖ One opposing the Proposed Action from David Miehle because:
  - A Categorical Exclusion should not be used to cover the 20,300 acres of savanna/barrens restoration directed under the Forest Plan, and this project would set a precedent for the implementation of the entire 20,300 acre goal of the Forest Plan.
  - The exact locations of the openings/savannas to be restored were not identified.
  - There was no cost analysis for the labor intensive hand planting and removal of vegetation.
  - There was no mention of direct and cumulative effects on recreation and transportation in the 431 acre and 20,300 acre project areas.
  - An adequate response to the project can not be made without information on the USFWS and the USFS plans and strategy for the recovery of the Karner blue butterfly.
  - The Proposed Action is at odds with timber stand improvement and reforestation projects in the 431 acre and 20,300 acre project areas.
  - There was no cost analysis for the labor intensive manual treatments included in timber stand improvement and reforestation projects located in the 431 acre and 20,300 acre project areas, and therefore, no evaluation of the cost effectiveness of USFS treatments in the project areas with respect to USFS goals.
  - Wild lupine planting may have already taken place in the proposed treatment areas prior to the scoping letter.
  - The Proposed Action is an example of USFS mismanagement of the National Forests singlemindedly for ecosystem management and habitat preservation to the detriment of multiple-use sustained-yield ideals and the taxpayers' treasury.

Specific responses to these comments can be found in the Project File. No changes in the Proposed Action were made in response to the comments received during the scoping period.

#### **IV. Findings under NFMA and Other Laws and Regulations**

My decision would comply with all applicable laws and regulations. I have summarized some pertinent ones below.

Forest Plan Consistency (National Forest Management Act) – This Act requires the development of long-range land and resource management plans (Plans). The Huron-Manistee Land and Resource Management Plan was approved in 2006. The Forest Plan provides guidance for all natural resource management activities. The Act requires all projects and activities be consistent with the Plan. The Plan has been reviewed in consideration of this project. This decision is responsive to guiding direction contained in the Plan. This decision is consistent with the standards and guidelines contained in the Plan (Record: Project Review).

Endangered Species Act – See Item 1 under **Relationship to Extraordinary Circumstances**. (Record: Project Biological Evaluation/Assessment)

Sensitive Species (Forest Service Manual 2670) – This Manual direction requires analysis of potential impacts to sensitive species, those species for which the Regional Forester has identified population viability is a concern. In December, 2006 the Regional Forester approved an updated sensitive species list. Potential effects of this decision on sensitive species have been analyzed and documented in a Biological Evaluation/Assessment. This decision “may impact individuals, but is not likely to cause a trend to federal listing or loss of viability” for 10 animal species and 1 plant species, will have a “beneficial impact” on 16 plant species, and will have “no impact” on 3 plant species (Record: Project Biological Evaluation/Assessment).

Clean Water Act – This Act is to restore and maintain the integrity of waters. The Forest Service complies with this Act through the use of Best Management Practices. This decision incorporates Best Management Practices to ensure protection of soil and water resources (Record: Project Review). Additionally, the decision, with impacts limited to the immediate area of the activity, will not impair water resources.

Wetlands (Executive Order 11990) – See Item 2 under **Relationship to Extraordinary Circumstances**.

Floodplains (Executive Order 11988) – See Item 2 under **Relationship to Extraordinary Circumstances**.

Federal Cave Resources Protection Act – This Act is to secure, protect, preserve, and maintain significant caves, to the extent practical. Site features and field review substantiate that no caves are in the area (Record: Project Review). No known cave resources will be affected by this decision. Subsequently identified caves will be protected.

National Historic Preservation Act – See Item 7 under **Relationship to Extraordinary Circumstances**.

Archaeological Resources Protection Act – See Item 7 under **Relationship to Extraordinary Circumstances**.

Native American Graves Protection and Repatriation Act – See Item 6 under **Relationship to Extraordinary Circumstances**.

Wild and Scenic Rivers Act – See Item 3 under **Relationship to Extraordinary Circumstances**.

Environmental Justice (Executive Order 12898) – This Order requires consideration of whether projects would disproportionately impact minority or low-income populations. This decision complies with this Act. Public involvement occurred for this project, the results of which I have considered in this decision-making. Public involvement did not identify any adversely impacted local minority or low-income populations. This decision is not expected to adversely impact minority or low-income populations.

National Environmental Policy Act – This Act requires public involvement and consideration of potential environmental effects. The entirety of documentation for this decision supports compliance with this Act.

## **V. CONTACT PERSON**

Further information about this decision can be obtained from Heather L. Keough during normal office hours (weekdays, 8:00 a.m. to 4:30 p.m.) at the Baldwin District office (Address: 650 N. Michigan, Baldwin Michigan; Phone: voice (231) 745-4631 ex. 3111, TDD (231) 745-8297 (hearing impaired); Fax: (231) 745-2345; e-mail: [hkeough@fs.fed.us](mailto:hkeough@fs.fed.us)).

## **VI. ADMINISTRATIVE REVIEW, COMMENT AND APPEAL**

Judge James K. Singleton, Federal District Judge for the Eastern District of California issued an order on July 2, 2005, in the case of *Earth Island Institute vs. Ruthenbeck*, CIVF-03-6386 JKS. In this ruling, Judge Singleton struck down the provisions of Title 36, Code of Federal Regulations (CFR) Part 215 that excluded categorical exclusions (CE) from notice, comment and appeal. On September 16, 2005, the United States District Court for the Eastern District of California issued an order clarifying its July 2, 2005 ruling. The order applies to all decisions based on a CE in the categories identified by the court that were signed after July 7, 2005 nationwide.

As a result of this court order, the Huron-Manistee National Forests provided interested publics with an opportunity to comment on the Karner Blue Butterfly Habitat Restoration Project. A legal notice was posted in the Lake County Star, newspaper of record, and in the Oceana's Herald-Journal on December 11, 2008, and letters were sent to individuals and organizations who have expressed interest in receiving mailings about projects on the Huron-Manistee National Forests.

This decision is subject to administrative review (appeal) pursuant to 36 CFR 215.11 (meeting the intent of *Earth Island Institute v. Ruthenbeck*, CIV F-03-6386 JKS), by those who supplied comments or otherwise expressed interest in this proposal before the close of the 30-day comment period. Written notice of appeal of this decision must be fully consistent with 36 CFR 215.14 "Content of an appeal."

An appeal submitted to the Appeal Deciding Officer becomes a part of the appeal record. It is the appellant's responsibility to provide sufficient project or activity-specific evidence and rationale, focusing on the decision, to demonstrate why the Responsible Official's decision should be reversed. The appeal must be filed in writing with the Responsible Official and at a minimum, must include the following:

1. State the document is an appeal filed pursuant to 36 CFR215;
2. List the name and address of the appellant and, if possible, a telephone number. When multiple names are listed, identify the lead appellant. Signature or other verification of authorship must be provided upon request (a scanned signature for electronic mail may be filed with the appeal);

3. Identify the decision document by title and subject, date of the decision, and name and title of the Responsible Official;
4. Identify the specific change(s) in the decision that the appellant seeks and rationale for those changes or portion of the decision to which the appellant objects and an explanation for the disagreement;
5. State how the Responsible Official's decision fails to consider comments previously provided, either before or during the comment period specified in 215.6 and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

A written notice of appeal must be submitted within 45 calendar days after the Legal Notice is published in the **Lake County Star**; Baldwin, Michigan; however, when the 45-day filing period ends on a Saturday, Sunday, or Federal holiday, then filing time is extended to the end of the next Federal working day. The date of the publication of the Legal Notice is the only means for calculating the date by which appeals must be submitted. The Notice of Appeal must be sent to:

Attn: Appeal Deciding Officer, USDA, Forest Service, Gaslight Building, Suite 700, 626 East Wisconsin Avenue, Milwaukee, WI 53202. The Notice of Appeal may also be faxed to: 414-944-3963, Attn: Appeals Deciding Officer, USDA, Forest Service, Eastern Regional Office. Those wishing to submit appeals by email may do so to: [appeals-eastern-regionaloffice@fs.fed.us](mailto:appeals-eastern-regionaloffice@fs.fed.us).

Acceptable formats for electronic comments are text or html email, Adobe portable document format, and formats viewable in Microsoft Office applications. Hand-delivered appeals may be submitted at the above address between 7:30 and 4:00 pm CT Monday through Friday, except on Federal holidays. Appeals must meet the content requirements of 36 CFR 215.14 and will only be accepted from those who have standing to appeal as outlined at 36 CFR 215.13.

The publication of the legal notice of the decision in the newspaper of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on dates or time frame information provided from any other source.

When there is a question about timely filing of an appeal, timeliness shall be determined by:

1. The date of the postmark, e-mail, fax or other means of filing an appeal and any attachments; or
2. The time and date imprint at the correct Appeal Deciding Officer's office on a hand delivered appeal and any attachments;
3. When an appeal is electronically mailed, the appellant should normally receive an automated electronic acknowledgement from the agency as confirmation of receipt. If the appellant does not receive an automated acknowledgment of receipt of the appeal, it is the appellant's responsibility to ensure timely receipt by other means.

For further information on this decision, contact Les Russell, District Ranger or Diane Walker, Assistant Ranger at 231-745-4631.

## **VII. IMPLEMENTATION DATE**

This decision may be implemented 15 business days after disposition of the appeal, or 5 business days from the close of the appeal period if no appeal is filed.

**VIII. SIGNATURE AND DATE**

/s/ Leslie E. Russell  
LESLIE E. RUSSELL  
Baldwin and White Cloud District Ranger  
Responsible Official

2/13/09  
Date

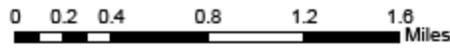
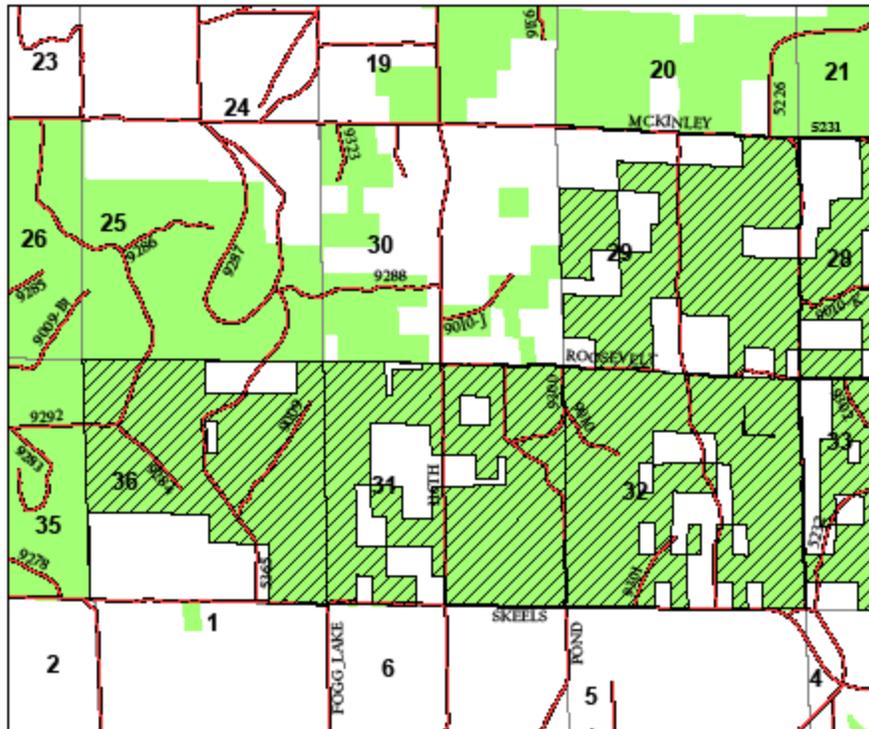
USDA is an equal opportunity provider and employer.

## **Appendix A**

### **Karner Blue Butterfly Habitat Restoration Project Maps**

The Baldwin/White Cloud Karner Blue Butterfly Habitat Restoration Project would restore and maintain up to 431 acres of occupied Karner blue butterfly habitat within Section 3 of Grant Township (T13N, R17W), Sections 11, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, and 34 of Otto Township (T13N, R16W), and Sections 7, 8, 9, 17, 18, 19 and 30 of Greenwood Township (T13N, R15W), Oceana County, Michigan. The following maps show the locations of the management activities.

# KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT

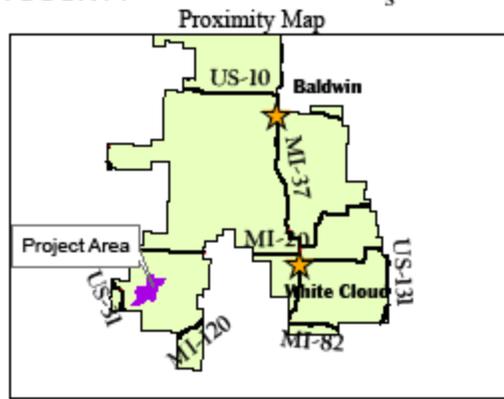


T13N, R17W, GRANT TOWNSHIP  
T13N, R16W, OTTO TOWNSHIP  
OCEANA COUNTY

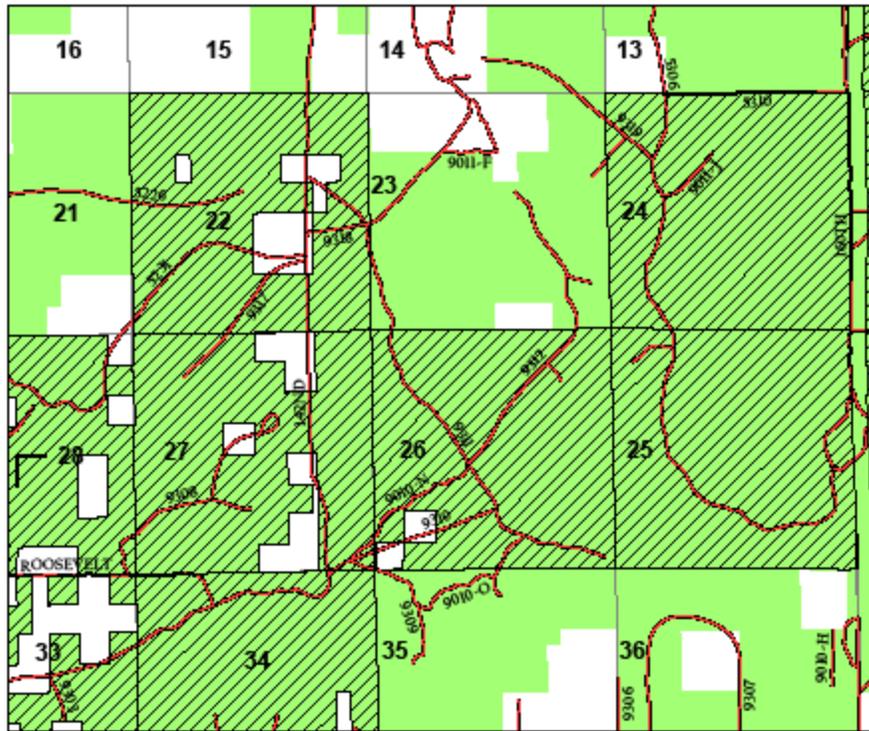


- Project Area
- National Forest System Lands

\*The Forest Service uses the most current and complete data available. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Provisions of other data should be consulted regarding the accuracy and scale of their data.\* For more information contact: GIS Coordinator, Huron-Manistee NFP, 1755 S. Mitchell Street, Cadillac, MI 49601, (231)775-2421



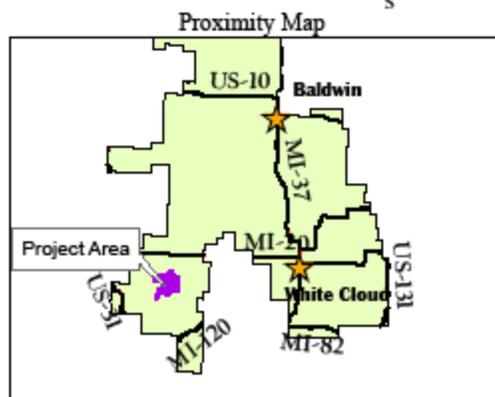
# KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT



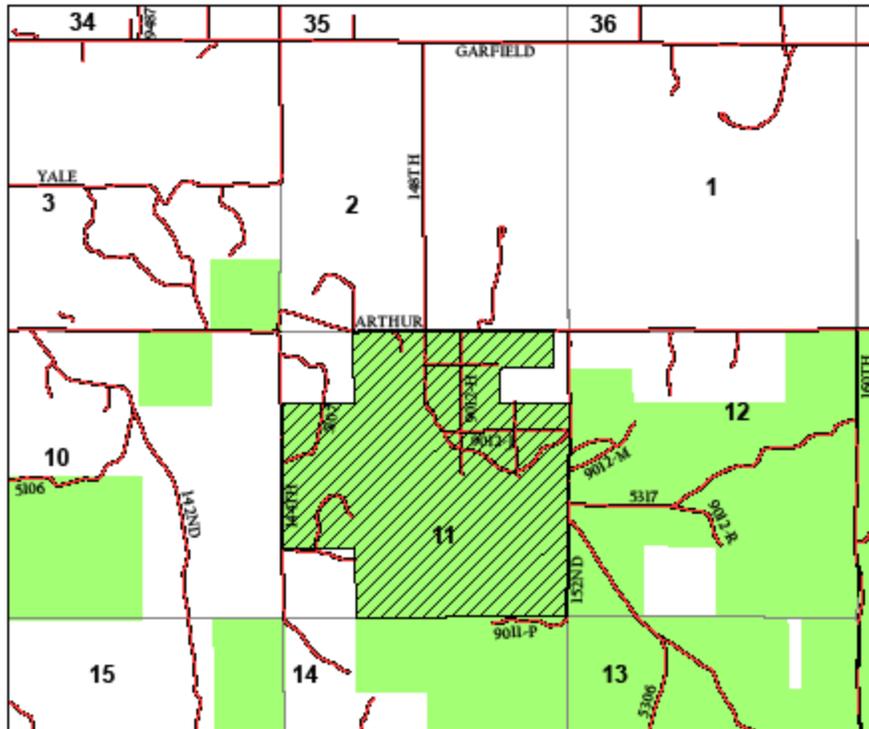
T13N, R16W, OTTO TOWNSHIP  
OCEANA COUNTY

- Project Area
- National Forest System Lands

\*The Forest Service uses the most current and complete data available. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Provisions of other data should be consulted regarding the accuracy and scale of their data.\* For more information contact: GIS Coordinator, Huron-Manistee NFP, 1755 S. Mitchell Street, Cadillac, MI 49601, (231)775-2421



# KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT



0 0.15 0.3 0.6 0.9 1.2  
Miles

T13N, R16W, OTTO TOWNSHIP  
OCEANA COUNTY

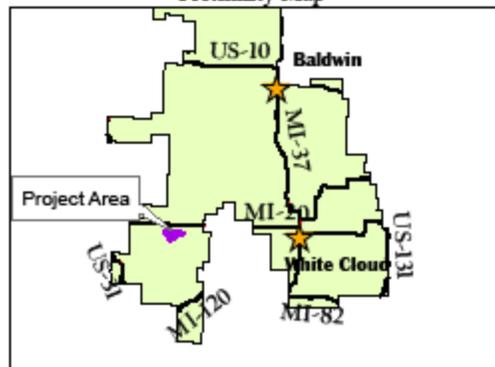


- Project Area
- National Forest System Lands

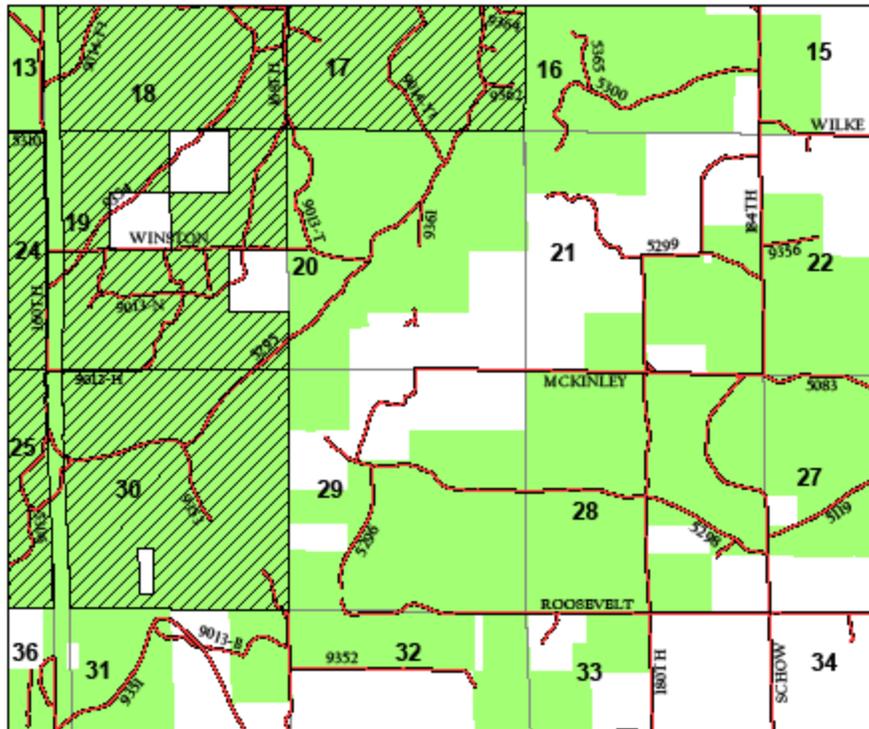
\*The Forest Service uses the most current and complete data available. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Provisions of other data should be consulted regarding the accuracy and scale of their data.\* For more information contact: GIS Coordinator, Huron-Manistee NFP, 1755 S. Mitchell Street, Cadillac, MI 49601, (231)775-2421



Proximity Map



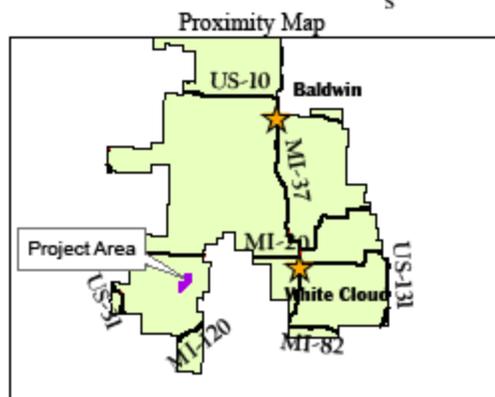
# KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT



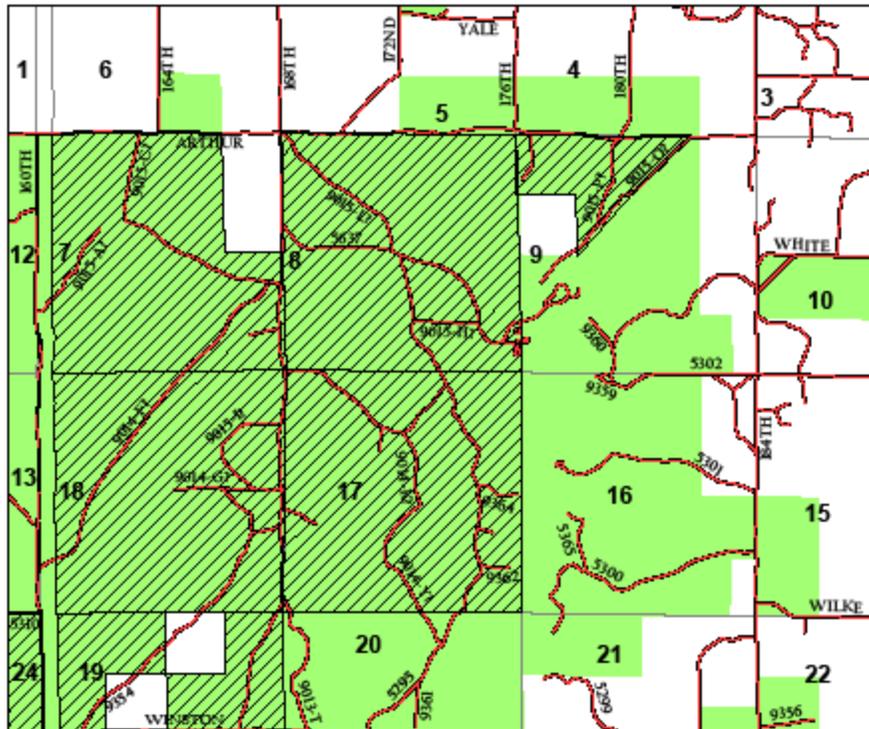
T13N, R15W, GREENWOOD TOWNSHIP  
OCEANA COUNTY

- Project Area
- National Forest System Lands

\*The Forest Service uses the most current and complete data available. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccuracies or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Provisions of other data should be consulted regarding the accuracy and scale of their data.\* For more information contact: GIS Coordinator, Huron-Manistee NFP, 1755 S. Mitchell Street, Cadillac, MI 49601, (231)775-2421



# KARNER BLUE BUTTERFLY HABITAT RESTORATION PROJECT



T13N, R15W, GREENWOOD TOWNSHIP  
OCEANA COUNTY

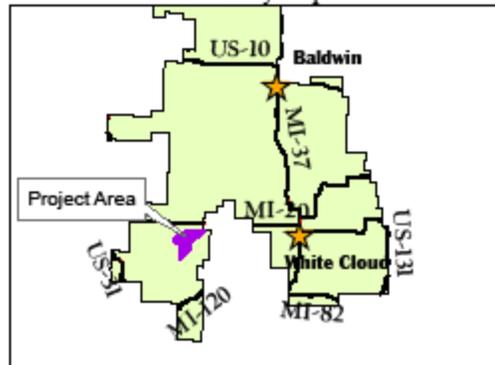


- Project Area
- National Forest System Lands

\*The Forest Service uses the most current and complete data available. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Provisions of other data should be consulted regarding the accuracy and scale of their data.\* For more information contact: GIS Coordinator, Innon-Mountain NFP, 1755 S. Mitchell Street, Cadillac, MI 49601, (231)775-2421



Proximity Map



**Appendix B**

**Karner Blue Butterfly Habitat Restoration Project Locations And Acres Proposed For Treatment**

<b>County</b>	<b>Township</b>	<b>Section</b>	<b>Township</b>	<b>Range</b>	<b>Total Acres</b>	<b># of Sites</b>	<b>Size Range of Sites in Acres</b>
Oceana	Grant	36	13N	17W	3	1	3
Oceana	Otto	11	13N	16W	1	1	1
Oceana	Otto	22	13N	16W	11	1	11
Oceana	Otto	24	13N	16W	3	1	3
Oceana	Otto	25	13N	16W	29	5	3 to 8
Oceana	Otto	26	13N	16W	45	12	0.03 to 12
Oceana	Otto	27	13N	16W	53	4	2 to 14
Oceana	Otto	28	13N	16W	6	1	6
Oceana	Otto	29	13N	16W	6	2	3
Oceana	Otto	31	13N	16W	13	5	1 to 5
Oceana	Otto	32	13N	16W	93	18	0.3 to 14
Oceana	Otto	33	13N	16W	0.3	1	0.3
Oceana	Otto	34	13N	16W	2	1	2
Oceana	Greenwood	7	13N	15W	15	2	7 to 8
Oceana	Greenwood	8	13N	15W	34	5	1 to 9
Oceana	Greenwood	9	13N	15W	5	2	2 to 3
Oceana	Greenwood	17	13N	15W	37	3	3 to 24
Oceana	Greenwood	18	13N	15W	8	1	8
Oceana	Greenwood	19	13N	15W	17	2	5 to 12
Oceana	Greenwood	30	13N	15W	50	4	5 to 22

## Appendix C

### Karner Blue Butterfly Habitat Restoration Project Conservation Measures List

#### Cultural Resources

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

- ❖ Known heritage resource sites will be protected. A buffer of 20 meters (66 feet) will be established around sites identified during the survey period. 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 undertaken.

#### Threatened, Endangered, and Sensitive Species

The following measures apply to Treatment Units where threatened or endangered species could occur:

#### Karner Blue Butterfly

The following conservation measures are designed for the protection, restoration, and maintenance of the Karner blue butterfly as they apply to occupied and unoccupied habitat. 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), the Final Recovery Plan for the Karner blue butterfly (*Lycaeides melissa samuelis*) (USDI Fish and Wildlife Service 2003), 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.	√	√
Maintenance and use of existing roads and trails will be managed in a manner to protect or maintain occupied habitat and areas with wild lupine. Where this is not feasible and damage is occurring, trails and roads will be relocated or decommissioned.	√	√
Prohibit ORV use with woodland strips or brush piles along trails and roads.	√	
Direct camping to areas outside occupied habitat. Where posted, camping will be prohibited in occupied sites.	√	

Post signs along roads and trails within or adjacent to Karner blue butterfly habitat requesting recreationists to stay on designated roads and trails. If damage from human use is noted within Karner blue butterfly habitat, implement signs and road closures, barricades, or otherwise block public access using a variety of methods such as forest service gates, woven-wire fencing, wind-road slash, rocks, stumps, barrier posts, or cross bucks. Passage for wildlife will be provided regardless of the method used. If closers are needed, a Forest Supervisor's closure order would be written to facilitate enforcement of this protection measure.	√	√
Development		
Oil and gas development will contain a "no surface occupancy" stipulation and will exclude road building.	√	
Habitat Management and Protection		
Conduct annual surveys of proposed treatment units to determine presence/absence of the Karner blue butterfly. These will serve as pre-activity surveys. If the species is found, the Huron-Manistee National Forests will follow the conservation measures for occupied habitat.	√	√
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.	√	√
Monitor activities at the project level.	√	√
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.	√	√
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).	√	√
The 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.	√	

Cutting of trees is prohibited between March 15 and August 15 in occupied sites. Allow cutting of trees that pose a safety hazard.	√	
Cutting trees with non-mechanized equipment such as chainsaws is preferred in occupied sites. Other mechanized tree cutting equipment may be allowed by exception. If possible, mechanical and hand pruning of shrubs and tress should be done under frozen ground conditions.	√	
Pile slash not to exceed 20 percent of an occupied site, burning slash piles during the winter and avoiding piling slash in areas containing concentrations of wild lupine.	√	
Locate logging roads, skid trails, and log yards to avoid or minimize impact to occupied sites. Where possible, place landings ≥ 200 m from historically or recently occupied sites.	√	
Mowing and/or brush hogging activities are prohibited between March 15 and August 15 and on a four-year frequency in occupied sites. If possible, mow after August 31 under frozen ground conditions with the mower blade set at 6-8 inches above the ground.	√	
When mowing in occupied sites, divide areas into at least 2 units, each of which supports lupine and nectar sources. At least one unit will remain untreated each season unless there is colonization source within ¼ mile that has the capability to re-colonize the area. Leave cut vegetation on site that may contain eggs, unless the cut vegetation is collected and placed in another suitable habitat site.	√	
When conducting prescribed burns in occupied sites, divide sites into at least three burn units based on numbers of butterflies and burn no more than 1/3 of a site in any one year. If there are less than 10 individual butterflies during the first flight survey, then the entire site can be burned. Create firelines between areas to burned and unburned to protect against wildfire or other chance events. When possible, minimize soil disturbance when constructing firelines by using rotovated or disced breaks.	√	
Keep unburned occupied patches within ¼ mile (0.5 km) of burned occupied sites to aid re-colonization.	√	
Use patchy burns in occupied sites. Design burn areas with irregular shapes and small-scale unburned vegetation-skips.	√	
In occupied sites, use an approximate four-year burning frequency.	√	
Site scarification is prohibited within occupied sites between March 15 and August 15 and 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 the site, limit the collection to no more than 25 percent of available seeds and collect after July 1.	√	√
Apply treatments to no more than 1/3 of any particular occupied habitat patch within a calendar year. Treatment will be conducted first on the most degraded third of a patch. This approach will reduce take of Karner blue butterfly and facilitate re-colonization of recently treated portions.	√	

Treatment of more than 1/3 of any particular occupied habitat patch within a calendar year may be conducted when: <ul style="list-style-type: none"> <li>• Treatment of a larger area is necessary to prevent the spread of invasive species and disease outbreaks which threaten the viability of Karner blue butterfly.</li> <li>• A large viable Karner blue butterfly metapopulation is identified, expanding the focus for treatment from the level of individual habitat patches to the level of the metapopulation complex as a whole.</li> <li>• An occupied habitat patch is less than 1 hectare. A patch this size may be treated in its entirety within a single calendar year if a suitably connected source population exists within 1 kilometer.</li> <li>• Experimental management techniques require testing.</li> </ul>	√	
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.	√	
<b>Monitoring and Evaluation</b>		
Monitoring for Karner blue butterfly and habitat including: <ul style="list-style-type: none"> <li>- Annual sampling each of the Brohman Metapopulation Area 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.</li> <li>- Determining and tracking the amount and condition of habitat maintained and restored annually.</li> <li>- Identifying threats and disturbance factors affecting the Brohman Metapopulation Area and habitat a minimum of every three years.</li> <li>- Assessing the connectivity of subpopulations every three years to confirm that subpopulations remain connected.</li> </ul>	√	
Implement recovery measures: inventories, management plans, information and education, restoration, and studies as appropriate.	√	

#### Other Conservation Measures

- ❖ Implement the conservation measures for species viability for the duster skipper, eastern box turtle, red-headed woodpecker, whip-poor-will, northern goshawk, red-shouldered hawk, wood turtle, and Blanding’s turtle outlined in the Programmatic Biological Evaluation for the Huron-Manistee National Forest (USDA Forest Service 2005) on sites with documented occurrences of these RFSS. These protection measures should also be implemented if these RFSS are found during project activities.
- ❖ 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), and the Conservation Assessment for Red-Shouldered Hawk (*Buteo lineatus*) (USDA Forest Service 2002a) on sites with documented occurrences of northern goshawk or red-shouldered hawk. These protection measures should also be implemented if these species are found during the field survey for the Hayes Road Project Area or during project activities.

- ❖ Implement the conservation measures described in the Conservation Assessment for Blanding's Turtle (*Emydoidea blandingii*) (USDA Forest Service 2002b) on sites with documented occurrences of Blanding's turtle. These protection measures should also be implemented if this species is found during project activities.
- ❖ Implement the conservation measures described in the R9 Species Conservation Assessment for Wood Turtle (*Glyptemys insculpta*) (USDA Forest Service 2004b) on sites with documented occurrences of wood turtle. These protection measures should also be implemented if this species is found during project activities.
- ❖ Implement the Standards and Guidelines for Watershed Management described in the Forest Plan (USDA Forest Service 2006b: pages II-17 – II-22) on sites with documented occurrences of wood turtle or Blanding's turtle. These protection measures should also be implemented if these RFSS are found during project activities.
- ❖ Flag or mark the locations of nests, roosts, 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.
- ❖ If nesting activities are noted from any RFSS species, inform the District Biologist so that appropriate protection can be administered.
- ❖ Any RFSS individuals located during 2009 botanical survey will be noted with a GPS location, and a map of the location will be provided to all personnel conducting work in that specific location. In addition, a physical marker will be placed alongside the RFSS plant so that field workers can avoid trampling RFSS species or piling any brush or trimmed plant material on the plant.
- ❖ All field workers doing tree/shrub trimming prior to the 2009 botanical surveys will be given training in the appearance of Alleghany plum to minimize the potential for inadvertent cutting of Alleghany plum.
- ❖ No planting of additional native plant seeds or plugs would occur within a meter of any detected RFSS plant.
- ❖ All equipment and work boots moving into treatment sites must be brushed clean of mud and any other plant debris for each persons entry into the site to avoid the transfer of non-native invasive plant materials (seeds and vegetative parts) into the occupied Karner blue butterfly locations.
- ❖ If other endangered, threatened, or sensitive species are found during project implementation, the project would stop until the District Wildlife Biologist or Botanist is informed and adequate protection measures applied to avoid potential impacts.

## References

- Cooper, J.L. 1999a. Special animal abstract for *Accipiter gentilis* (northern goshawk). Michigan Natural Features Inventory, Lansing, MI. 3 pp.
- Cooper, J.L. 1999b. Special animal abstract for *Buteo lineatus* (red-shouldered hawk). Michigan Natural Features Inventory, Lansing, MI. 3 pp.
- Henne, C. 2009. Botanical Regional Forester Sensitive Species (RFSS) Descriptions. White Paper. Filed at the Baldwin Ranger District, Cadillac/Manistee Ranger District, and on the J drive at the Cadillac Supervisor's Office.
- Hyde, D.A. 1999. Special animal abstract for *Terrapene c. carolina* (eastern box turtle). Michigan Natural Features Inventory, Lansing, MI. 3 pp.

- Lee, Y. 1999a. Special animal abstract for *Glyptemys insculpta* (wood turtle). Michigan Natural Features Inventory, Lansing, MI. 3 pp.
- Lee, Y. 1999b. Special animal abstract for *Emys blandingii* (Blanding's turtle). Michigan Natural Features Inventory, Lansing, MI. 3 pp.
- Michigan Natural Features Inventory. 2009. Rare Species Explorer (Web Application). Available online at <http://web4.msue.msu.edu/mnfi/explorer>
- NatureServe. 2001-2009. An Online Encyclopedia of Life, Version 1.3, Version 1.6 (<http://www.natureserve.org/>). Association for Biodiversity Information: Arlington, VA.
- Rabe, M.L. 2001. Special animal abstract for *Lycaeides melissa samuelis* (Karner blue). Michigan Natural Features Inventory. Lansing, Michigan.
- Roberson, A.M., D.E. Andersen, and P.L. Kennedy. 2003. The Northern Goshawk (*Accipiter gentilis atricapillus*) in the Western Great Lakes Region: A Technical Conservation Assessment. Minnesota Cooperative Research Unit, University of Minnesota, St. Paul, MN. 91 pp.
- USDA Forest Service. 1993. Management Recommendations for the Northern Goshawk on the Huron-Manistee National Forests. Cadillac, Michigan.
- USDA Forest Service. 2002a. Conservation Assessment for Red-Shouldered Hawk (*Buteo lineatus*). U.S.D.A. Forest Service, Eastern Region. Milwaukee, WI. pp 95.
- USDA Forest Service. 2002b. Conservation Assessment for Blanding's Turtle (*Emydoidea blandingii*). U.S.D.A. Forest Service, Eastern Region. Milwaukee, WI. 23 pp.
- USDA Forest Service. 2004a. Draft Karner Blue Butterfly (*Lycaeides melissa samuelis*) Habitat Management Strategy for the Huron-Manistee National Forests. U.S.D.A. Forest Service, Eastern Region, Huron-Manistee National Forests, Baldwin/White Cloud Ranger District, Baldwin, MI.
- USDA Forest Service. 2004b. R9 Species Conservation Assessment for Wood Turtle – *Glyptemys insculpta*. U.S.D.A. Forest Service, Eastern Region. Milwaukee, WI. pp39.
- USDA Forest Service. 2005. Programmatic Biological Evaluation for the Huron-Manistee National Forests Land and Resource Management Plan. U.S.D.A. Forest Service, Eastern Region. Milwaukee, WI. 488 pp.
- USDA Forest Service. 2006a. Programmatic Biological Assessment for the Huron-Manistee National Forests Land and Resource Management Plan. U.S.D.A. Forest Service, Eastern Region. Milwaukee, WI. 149 pp.
- USDA Forest Service. 2006b. Land and Resource Management Plan; Huron-Manistee National Forests (as amended). U.S.D.A. Forest Service, Eastern Region, Milwaukee, WI.
- USDA Forest Service. 2008a. Endangered, Threatened, and Sensitive (ETS) Data Base for the Manistee National Forest. U.S.D.A. Forest Service, Baldwin/White Cloud Ranger Station. Baldwin, MI.
- USDA Forest Service. 2008b. NRIS Fauna database. Huron-Manistee National Forests. Cadillac, MI.

USDA Forest Service. 2008c. NRIS TESP and NNIS database. Huron-Manistee National Forests. Cadillac, MI.

USDI Fish and Wildlife Service. 2003. Final Recovery Plan for the Karner blue butterfly (*Lycaeides melissa samuelis*). U.S. Fish and Wildlife Service, Midwest Region. Fort Snelling, Minnesota. 273 pp.

USDI Fish and Wildlife Service. 2006. Biological Opinion on the Programmatic Biological Assessment for the Huron-Manistee National Forests Land and Resource Management Plan. U.S. Fish and Wildlife Service, Midwest Region. East Lansing, MI. 260 pp.