

**Wisconsin Statewide
Karner Blue Butterfly
Habitat Conservation Plan**

Updated for Application to Renew
Federal Fish and Wildlife Permit TE010064-5

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Chapter 1. Introduction

This chapter explains the need for updated and streamlining the Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan (HCP) and the improvements that distinguish this updated HCP from the original HCP.

☞ Overview

- ♦ Relationship of Updated HCP to Original HCP
- ♦ Reasons for Updating the Original HCP and HCP User's Guide
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A. Overview

Relationship of Updated HCP to Original HCP: This updated HCP is being submitted in 2009 with an application to the US. Fish and Wildlife Service (FWS) to renew the incidental take permit that has been in place since September 27, 1999. The HCP was updated to comprehensively incorporate numerous adaptive management and streamlining improvements that have been realized through experience, new data and research.

This HCP updates Chapter 2 of the original Karner Blue Butterfly Habitat Conservation Plan and Environmental Impact Statement (EIS) (March 2000) (WDNR 2000); Chapter 2 described the original HCP. This updated version of the HCP is a stand alone document and not part to a combined HCP/EIS as was the original HCP. Thus, this updated HCP replaces the original HCP and does not include the associated National Environmental Policy Act (NEPA) document. NEPA requirements for the updated HCP are being met through the development of an environmental assessment (EA) related to the FWS's issuance of an Endangered Species Act, as amended in 1973, (ESA) section 10 (a)(1)(B) incidental take permit for implementation of the HCP. The original HCP/EIS still functions as a reference document for the updated HCP as it provides background information on all the HCP features and includes greater detail on the rationale and vision of the HCP Partners in designing this unique program during the period of 1994-1999.

The original HCP was developed from 1994-1999. *The HCP was written with 10 years in mind and based on less knowledge than is available in 2009.* It was anticipated that the Kbb might be recovered within 10 years or be well on its way to recovery in that time frame. Due to the greater threats to the Kbb, particularly in the states east of Michigan, the prospect and timeframe of

range-wide recovery is much less certain in 2009 than it appeared to be in 1999. Therefore, this HCP reflects longer term planning.

The original 1999 HCP (WDNR 2000) included numerous conservation and operational strategies, many of which were considered unique at the time along with extensive discussion of the intentions and objectives for those strategies. The original HCP predated the FWS's addendum to the HCP Handbook also known as 5-point policy guidance (USFWS, 2000) (**USFWS 2000**) and the Final Karner Blue Butterfly Recovery Plan (USFWS 2003). Areas of the FWS's addendum to the HCP Handbook that were particularly helpful to updating the HCP related to setting biological goals, adaptive management and monitoring.

Reasons for Updating the Original HCP and HCP's User Guide: There was a need to consolidate the conservation measures found in the original HCP for easy access by partners to make accessing information for various HCP activities (e.g., land management activities, amendments and training) less cumbersome and confusing. The original HCP included conservation measures and direct instructions embedded in the body of the HCP, some of which were also duplicated in a few soup-to-nuts guidelines found in Appendix F of that HCP, e.g. Wildlife Management Guidelines for the Karner Blue Butterfly and Forest Management Guidelines. How well and to what degree these adopted methods would work for such a diverse and changing group of HCP Partners was somewhat unknown without actual experience implementing the conservation plan. With the Kbb waiting for partners' beneficial disturbance the plan was to move forward with implementing the HCP with its original set of conservation measures and a strong commitment to an active adaptive management approach which embraces continuous improvement.

As the original HCP was being implemented conservation measures were refined; separate stand-alone guidelines and protocols were developed, often leaving direct instructions in the body of the HCP obsolete. It was very cumbersome to amend guidelines and protocols woven throughout the body of the HCP. Therefore, in this updated version of the HCP, the direct instructions and detailed conservation measures have been removed from the text of the document, making this HCP more general, informative and to the point. The body of the updated HCP provides information HCP partners need to know to assist them in implementing their HCP commitments. All conservation measures and specific HCP implementation instructions have been consolidated for easy access and are now contained in the updated HCP User's Guide (*Refer to Appendix E and the HCP webpage, <http://dnr.wi.gov/forestry/karner/hcp-userguide.htm>*). The User's Guide is a compilation of all of the HCP's management and monitoring guidelines and protocols, the procedures the Wisconsin DNR (DNR) and IOC use in administering the HCP, and operating procedures for Partners.

Voluntary (unregulated) Landowner Category Update: The Voluntary (unregulated) Landowner Category is one of the most innovative and unique strategies of the HCP. . As part of their commitment to the HCP, partners pledged to encourage Karner blue conservation on private lands in the Karner blue range, including voluntary, non-partner participants, which they do via numerous education and outreach activities. The automatic permit coverage for the incidental take of Karner blues by landowners in the Voluntary Group, and partner outreach/education

campaign form the backbone of the voluntary participation strategy. The strategy is based on the expectation that many small landowners will contribute willingly to conservation programs when they are able to do so voluntarily, without legal requirements or mandates. The success of this innovative approach was assessed 3 years into implementation of the original HCP. The DNR's 3-Year Report to the Service on the effectiveness of outreach, education, and voluntary participation in the original HCP (WDNR 2003) highlights many activities conducted by private landowner to further the conservation of the Karner blue.

The voluntary participation strategy has proven to be a huge success. The approach has done more than expand the Karner blue range, it has helped to break down fears and misconceptions about endangered species law while building trust between private landowners and government agencies. Generally, Wisconsin landowners are no longer apprehensive about regulatory implications when they hear the name Karner blue. In fact, many landowners now embrace the idea of Karner blue conservation and are eager to find ways they can encourage Karner blue populations on their land.

While it is difficult to quantify the overall impact of the voluntary participation strategy, it is easy to recognize the products of this pressure-free inclusion campaign and the general awareness it has brought to the state. Partners have carried their stewardship message to millions of people, many of whom have gone on to pursue conservation and outreach efforts of their own. The evidence is all around us, from the freshly planted lupine patch in a Waupaca county backyard to the annual Karner Blue Butterfly Festival in Black River Falls. Karner blue conservation has turned into a Wisconsin phenomenon.

In addition, the HCP's Voluntary (unregulated) Landowner Category has extended partnerships between private landowners and various Federal land conservation programs including the FWS's Partners for Fish and Wildlife Program, the Natural Resource Conservation Service's Wildlife Habitat Improvement Program (WHIP) and the Farm Services Agency's State Acres for Wildlife Enhancement (SAFE) programs. The Voluntary (unregulated) Landowner Category continues to be a conservation strategy in the updated HCP (*Refer to Chapter 5*).

The Role of Karner Blue Recovery in the Updated HCP. One of the most significant realignments of conservation focus in this HCP is the voluntary assistance of HCP Partners in the Kbb recovery program. Based on the HCP Partners' assessment of the first ten years of implementing the HCP and the potential for an unanticipated long-term extension of the HCP program, they realized that to successfully conclude their conservation program, they must engage in recovery efforts for the species. This was not the philosophy in 1999 when several partners did not desire to assist with recovery of the butterfly but would help conserve the species.

The DNR is involved in the Karner Blue Butterfly Recovery Program by virtue of its agency mission. Therefore, the DNR's HCP commitments include assisting the FWS in recovery of the Kbb.

Managers of DNR properties, including those designated for recovery, receive their incidental take authority through the same Section 10(a) (1) (B) incidental take permit as the other partners.

Therefore, the DNR must implement the HCP and follow much the same conservation measures and reporting procedures as all partners. The additional recovery role of DNR includes taking measures to “feature and enhance” Kbb habitat on DNR recovery properties and to implement, in some cases, enhanced conservation and habitat restoration practices that go above and beyond managing with consideration for the Kbb. Inversely, the unique role of other HCP Partners is to provide voluntary support to the DNR and to the recovery properties where their help will further the DNR’s efforts to achieve recovery goals. (*Refer to Chapter 6 for more detailed information regarding Karner blue recovery.*).

B. Adaptive Management in Action

When the FWS issued an incidental take permit in 1999 for implementation of the HCP, the DNR, 25 HCP Partners and the FWS started off with caution; aware that there were uncertainties about the species and the range, and cognizant that when more experience was gained about how the monitoring system would work and what it would teach them that they would have to (want to) make adjustments. That time came in 2003. Improvements to the following systems were the result:

Monitoring Strategy Revisited: The effectiveness and self-monitoring strategies were re-evaluated. Originally these monitoring strategies implemented by the HCP partners provided valuable and important information on the Karner blue and its distribution. However, partners realized they were not as efficient, useful or biologically insightful as was needed. They needed to adapt. To that end in 2003 the HCP Partners’ Implementation Oversight Committee (IOC) established a Monitoring Improvement Team (MIT) to assess the monitoring program and as a result, many improvements to the monitoring program were identified and implemented.

Guidelines and Protocols Validated and Reorganized: The HCP guidelines and protocols were revised (where needed) and reorganized. The IOC sponsored an effort to validate existing conservation measures and reorganize management guidelines. This effort was initiated by the Guideline-Repacking-Improvement-Team (GRIT) and resulted in the “HCP User’s Guide” discussed above in this chapter.

With the realization that the HCP would be needed beyond 10 years, many other strategies, systems and procedures were developed. New partner inclusion processes for Limited Partners and new Full Partners were developed to engage 11 new county and township roadway managers as Limited Partners and 3 new Full Partners. As construction projects were being planned, a construction guideline and associated protocols evolved; and new protocols were developed for vibratory cable plowing and emergency situations. Also, administrative and operating procedures were needed to better document and direct future IOC and DNR program staff. Efforts are planned to continue developing better procedures and training materials. The DNR’s Karner Blue HCP webpage (<http://dnr.wi.gov/forestry/karner/>) and the User’s Guide will play a large role in institutionalizing and deploying HCP guidance and direction for as long as the HCP is needed.

The Karner Blue High Potential Range (HPR) gets a scientific adjustment. The Kbb HPR and the recovery areas were greatly enhanced as the result of a Kbb probability model made

possible with several years of Partner data.

In collaboration with the DNR's Division of Forestry, a Karner blue butterfly probability model was developed by the *Forest Landscape Ecology Lab, Department of Forest Ecology and Management at the University of Wisconsin-Madison (Sickley and Mladenoff 2007)*. This model utilized several years of Partners' Kbb habitat and Kbb presence and absence data that was not previously available.

In the original HCP the Kbb recovery areas were included in areas called Significant Population Areas (SPAs), which were included within larger Areas of Conservation Emphasis (ACEs). The SPAs and ACEs were replaced with Biological Recovery Zones (BRZs), which were derived from the Kbb probability model in combination with Kbb locations on recovery properties. BRZs are Kbb population based, more scientific and benefit from a great deal more Kbb data than was available when the ACEs and SPAs were mapped. (*Refer to Chapter 6 and Figure 6.10 Karner Blue Butterfly Biological Recovery Zones on p. 51*). A full report on the probability model and the current HPR and BRZ maps are available on the DNR's HCP Webpage (<http://dnr.wi.gov/forestry/karner/>)(*Refer to Chapter 2 of this HCP for more detailed information on the Kbb HPR*).

Adaptive management shifts into high gear –The HCP's Five-Point Plan. Following the efforts noted above, the HCP Partners soon realized that a significant amount of new information had been accumulated that could be used to evaluate the effectiveness of the HCP more broadly. The Partners soon realized that the HCP's adaptive management strategy, while excellent in concept was a passive system not directly engaged to make improvements in the HCP. It would need to become an active system employed as the foundation of the monitoring improvement process (and all HCP processes). Armed with a raft of new data, the HCP Partners adopted the 5-Point Plan for Continuous Improvement in 1996. The 5-Point Plan provides a broad framework and structured set of benchmarks or themes for setting goals for adaptive management. Significant efforts to improve the HCP have been guided by the HCP's 5- Point Plan (*Refer to appendix C*).

The Five Points of the Plan include:

1. **FOCUS** HCP implementation on recovery areas. Focus on what really matters; the biological needs of the Kbb. De-emphasize that which does not contribute to recovery.
2. **STREAMLINE** processes. Eliminate non-value added activities.
3. **IMPROVE PROTOCOLS AND GUIDELINES**, i.e. monitoring and management protocols and guidelines.
4. **RECOVER** the Kbb in Wisconsin (DNR actively involved and other Partners in a voluntary support role)
5. **EXTEND** the **TERM** of the permit: Develop 10-Year ITP RENEWAL proposal. Evaluate progress and move forward. If the HCP is necessary after 2019, this can be repeated.

The Five-Point Plan was adopted by the HCP Partners in 2006, not only as an approach to jumpstart needed improvements, but as a guide for continuous improvement into the future.

C. HCP Improvements: Revisions and Clarifications

Numerous clarifications, revisions and a few amendments have been made to the updated HCP as more was learned through experience implementing the original HCP. Numerous other activities and protocols that were not envisioned at the onset were developed and added, e.g. vibratory cable plowing protocol. Listed are most of the significant and necessary improvements in the updated HCP made from about 2004 to 2009:

Revisions

- **No Surprises -- Changed Circumstances:** Wildfires and Gypsy moth infestation were removed from changed circumstances. Wildfires were removed because, from experience, wildfires provided (unplanned) beneficial habitat disturbance and Gypsy moth infestation did not apply for a number of reasons including the lack of appropriate conservation measures in the HCP and the likelihood that partners would not engage in Gypsy moth control activities. In addition, because the Gypsy Moth Program is funded by the U.S. Forest Service, a more appropriate review of this program is through the ESA section 7 consultation process.
- **Certificate of Inclusion authorization** has been stepped down from the FWS to DNR via an amendment to the DNR's incidental take permit (ITP) TE010064-5.
- **New Partners** have been added (14) as sub-permittee in the ITP.
- **"Lands Included"** – Partners redefined their "lands included" in the HCP in their Species and Habitat Conservation Plans (SHCAs) to reflect changes in the adjusted Kbb HPR.
- **New partner recruitment:** The broad ITP/Implementing Agreement (IA)/HCP requirement to actively recruit (into the HCP) all the entities listed in the original HCP's Appendix D has been discontinued. While partners are still committed to broad outreach and education, direct, active recruitment efforts are best conducted in Biological Recovery Zones (BRZs) where they may benefit recovery of the Kbb.
- **DNR's Landowner Contact and Assistance Program** commitment is withdrawn due to the loss of funding. This need is being filled through external collaboration.
- **Kbb High Potential Range (HPR):** The Kbb HPR was adjusted using a Kbb Probability Model.
- **Kbb recovery focus:** SPAs & ACEs in the original HCP were changed to Biological Recovery Zones (BRZs); outreach & education and new partner recruitment will be focused in BRZs.
- **Inclusion/Deletion of Element Occurrences (EOs):** New Kbb EOs has been added to the DNR's Natural Heritage Inventory Database and a number have been removed, resulting in changes to the Kbb High Potential Range.
- **Monitoring Changes:**
 - Streamlined monitoring: The approach to monitoring was changed to focus surveying efforts where Kbb's are, or are likely to be, in order to apply conservation measures. The large effectiveness monitoring program, which included monitoring in locations where Kbb occurrences were unlikely and where no management actions were planned, was discontinued.

- Cause-Effect (C-E) Monitoring: The C-E monitoring for shifting mosaic activities was discontinued.
- Compliance Audits: Compliance audits have evolved over time with experience. Audits once focused primarily on understanding where to find conservation measures and on documentation of management actions conducted in occupied Kbb habitat; today there is a greater emphasis on assuring that Kbb conservation measures are applied correctly and consistently.
- **All conservation measures** were (and continue to be) evaluated and updated as appropriate.
- **Measuring and reporting incidental take** has evolved. Take = take of occupied lupine habitat. Other adjacent habitat components such as nectar areas are not included in the measure of take. However, these areas are included in the compensatory mitigation formula for permanent take.
- **The Partner Inclusion Application process** (for new Full and Limited Partners) was developed, which includes a new partner orientation program.
 - The Limited (Local) Partner designation evolved from the concept in the original HCP of a simple partner group for entities that only apply “Best Management Practices”, e.g. mowing roadside rights-of-way.
 - The Species and Habitat Conservation Agreement (SHCA) templates for Full Partners and Limited Partners were updated.
- **County Forest Long Term Habitat Plans** are no longer mandatory for those who originally committed to them. County forest partners will do these conservation efforts regardless.
- **The Articles of Partnership (AOP)** were updated in 2009. The original AOP’s goals were focused on drafting an acceptable HCP and receiving an incidental take permit, which were accomplished. New goals were developed to reflect the ongoing conservation program.
- **HCP Annual Report** – miscellaneous updates were made that reflected changes in definitions, nomenclature and clarifications, e.g. what constitutes take, change from SPA to BRZ, etc.
- **Land Transfers** – The necessity to report land transfers within 45 days that take place in a BRZ was eliminated. Instead, direct recruitment of conservation assistance from landowners in BRZs where assistance is needed to achieve recovery goals will occur.
- **Timber harvest** over snow covered frozen ground measure to minimize take was deleted. What is important is to avoid impact to lupine areas whenever harvest occurs.

Clarifications

- **Permanent take vs. short term (temporary) take:** Permanent take is defined in the HCP as an activity that precludes Kbb occupation for at least 5 years. Many construction projects may destroy habitat, but it will be replaced within 5 years. This temporary loss of habitat is only short-term take by definition. Mitigation requirements are detailed in the construction guidance.
- **No Net Loss of Habitat (NNLOH)** – measuring the primary goal of the HCP: This has been an elusive metric for nearly a decade. In 2009 the HCP Partners got a handle on this and metrics are being incorporated in the annual reporting and compliance audit processes beginning with reporting year 2010.

- **One-time-permittees** can receive incidental take authority via the FWS's incidental take permit issued to the DNR for implementation of the HCP, but are technically not HCP Partners; they do not provide ongoing beneficial disturbance or participate in any way as a Partner.
- **Automatic permit coverage – Voluntary (unregulated) Landowner Category:** Automatic permit coverage for take of the Kbb is provided to landowners in the Voluntary Group via the FWS's incidental take permit issued to the DNR for implementation of the HCP; the coverage remains active only as long as the ITP is in effect.
- **Commercial Forestry:** Initially, the DNR distinguished the difference between commercial and non-commercial forestry by ownership size (1000 acres). The HCP did not intend to require landowners that had land in excess of 1000 acres but were not managing the land primarily for the production of forest products (e.g., educational camps, Boy Scout or Girl Scout camps, recreational land) to obtain a certificate of inclusion. This group is included in the Voluntary Landowner category.
- **The voluntary category** is authorized to do permanent incidental take.

Other Improvements: New Additions, Deletions and Changes

- **A Comprehensive HCP User's Guide** was developed as a web-based repository for all management and monitoring guidelines and protocols, and all administrative and operational procedures. HCP conservation measures, survey protocols and forms are now in the Users Guide on the DNR's HCP webpage (<http://dnr.wi.gov/forestry/karner/hcp-userguide.htm>) to help assist partners with high staff turnover rates to orient new staff to the HCP.
- **Construction Guideline (New):** At the onset, no partners had construction projects planned that would impact Kbb. In time this changed, so guidelines were developed. This guidance is being implemented provisionally as experience is gained using them. The guidance includes these features:
 - Habitat Restoration Protocol
 - Egg Salvage Protocol
 - Temporary Work Space – A mechanism to cover take of Kbb in temporary work space has been developed that does not require amending SHCAs.
 - A mitigation planning tool, and
 - Provisions for implementing minor and routine maintenance activities.
- **Emergence Model** A Kbb emergence model was developed to predict the onset and the peak of each flight.
- **An Emergency Guideline** was developed to provide guidance and contingencies in the event of serious emergencies that preclude management with consideration by definition.
- **A Communication Plan** has been developed and has since been improved consistent with the HCP's 5-Point Plan.
- **Recovery actions have been integrated into the HCP**, e.g. management protocols for the DNR (a recovery partner) include conservation measures to “feature and enhancement” the Kbb; these measure require a higher level of restoration (seed mix) and post-restoration management to be used on recovery properties.
- **Recovery Program Report in HCP Annual Reports:** In as much as the DNR's recovery properties receive their incidental take authority through the HCP, information from recovery

properties will be included in the HCP's annual report. This will not replace the DNR's Bureau of Endangered Resources Section 6 Kbb Recovery Report to the FWS.

Chapter 2. The Karner Blue Butterfly in Wisconsin

This part of the HCP includes information about the Karner blue butterfly and its location in Wisconsin. It is divided into the following sections:

- ☞ Importance of Conservation Measures to Karner Blue Butterflies in Wisconsin
- ☞ Elements of Karner Blue Butterfly Ecology
- ☞ Distribution and Abundance: Potential Karner Blue Butterfly Habitat
- ☞ Distribution and Abundance: Karner Blue Butterfly

A. Importance of Conservation Measures to Karner Blue Butterflies in Wisconsin

The disappearance and fragmentation of the pine and oak savanna habitats, through a variety of causes, has been a major contributor to the range-wide decline of the Karner blue butterfly (USFWS 1992a, 1992b; and works cited therein). In addition, natural plant succession in these habitats has eliminated Karner blue butterflies from some areas.

In locations other than Wisconsin and Michigan, the abundance of Karner blue butterflies has declined significantly. Karner blue butterflies have been extirpated from Iowa, Ohio, Ontario, Maine, Massachusetts, New Jersey, New Hampshire and Pennsylvania, appear to be extirpated in Illinois, and persist in only remnant populations in Minnesota, Indiana and New York (Iftner, *et al.* 1992; Baker 1994; Packer 1994; USFWS 2003). Karner blue butterfly reintroductions are ongoing in Ohio, New Hampshire and southeast Michigan. Population augmentations are being done in Indiana and New York. Due to the lack of viable populations of the butterfly in several states and the relative abundance of this species' populations in Wisconsin and Michigan, Wisconsin plays an important role in protecting Karner blue butterflies.

B. Elements of Karner Blue Butterfly Ecology

The Karner blue butterfly depends on the leaves of the wild lupine (*Lupinus perennis*) in its larval phase. The wild lupine in turn depends on periodic disturbance to allow it to succeed in the face of competing vegetation. This dynamic represents a unique paradox in endangered species protection and habitat conservation. ([Refer to Appendix A for detailed biological information on the Karner blue butterfly and its habitat](#)).

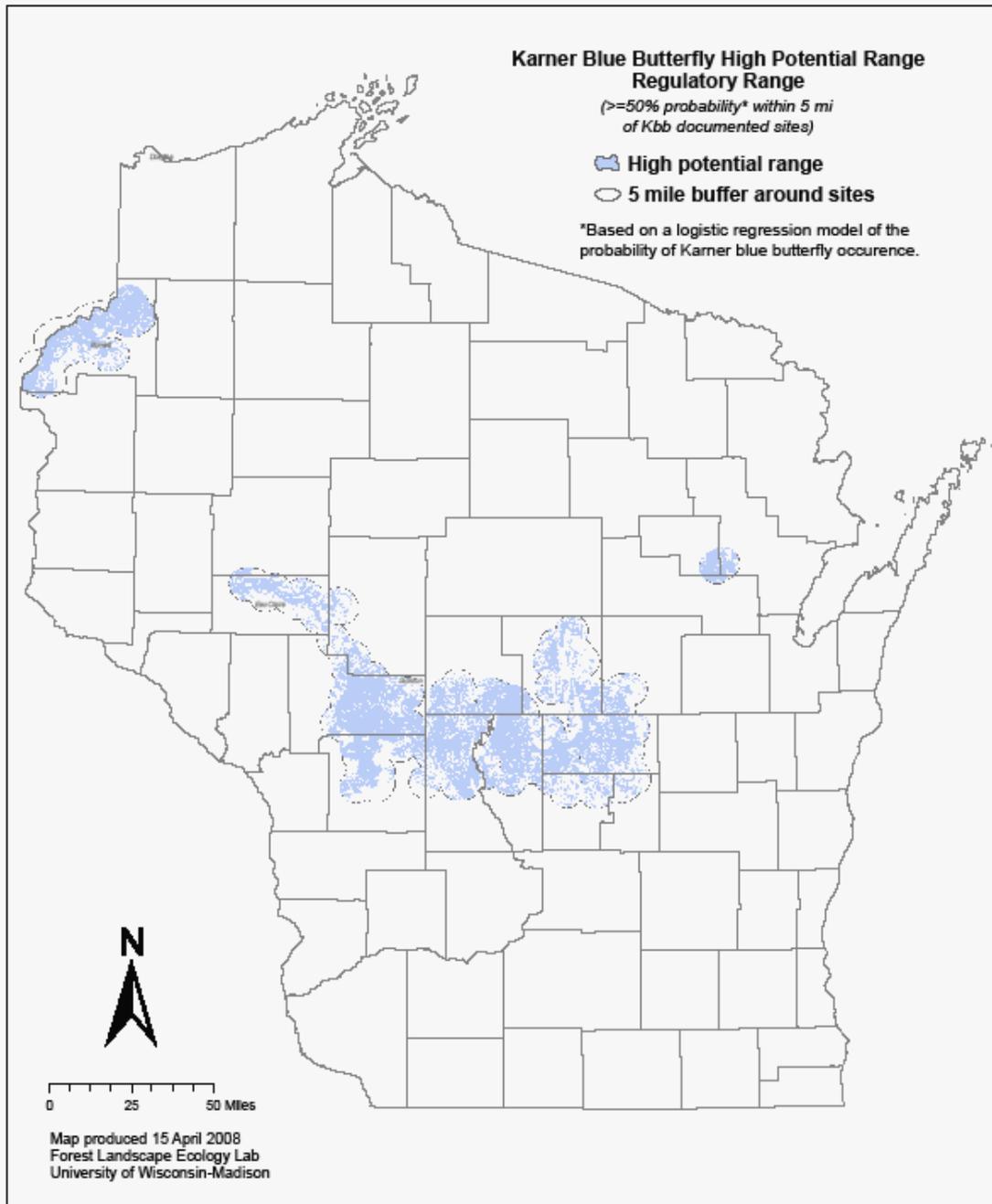
C. Distribution and Abundance: Potential Karner Blue Butterfly Habitat

This section briefly describes the distribution and abundance of known and potential Karner blue butterfly habitat. Potential habitat is defined as habitat that will meet certain biotic and abiotic conditions to support wild lupine at any point in time. Known habitat is defined as those surveyed areas where wild lupine has been found and which can support Karner blue butterflies. Known-occupied habitat is an area that currently supports Karner blue butterflies in association with wild lupine.

To assist the HCP partners in predicting where potential Karner blue butterfly habitat may occur throughout the state, Geographic Information System (GIS) technology was used to develop a

series of progressively more informed maps from 1995 through 2009. In February 2007 the HCP Partners adopted a new Karner Blue Butterfly High Potential Range (HPR) (*See Figure 2.10. below*) based on a probability model developed by the Forest Landscape Ecology Lab at the Department of Forest Ecology and Management at the University of Wisconsin-Madison. The most current HPR map can be found on the Karner Blue HCP Webpage: <http://dnr.wi.gov/forestry/karner/>

Figure 2.10. Karner Blue Butterfly High Potential Range



D. Distribution and Abundance: Karner Blue Butterfly

Prior to 1990, information on the current status of the Karner blue butterfly in Wisconsin was lacking. Only 36 historical occurrences were known from the state (e.g., there was a 1921 record from Menominee County; in the 1960s, Karner blue butterflies were reported from Burnett County in northwestern Wisconsin [Royer 1962, Shapiro 1969]).

Today, Karner blue butterfly populations in Wisconsin are concentrated across the central counties and in the far northwest on sandy soil areas of Burnett County (Table 2.10, page 47).

Wisconsin supports the largest and most widespread Karner blue populations worldwide. As of 2009, at least 305 Karner blue butterfly element occurrences in the DNR's Natural Heritage Inventory (NHI) database were believed to be extant (T. Hyde, Bureau of Endangered Resources, pers. comm.). An "element occurrence" is a discrete record of Karner blue butterfly occupation as tracked by the NHI; some occurrences may be combined into single populations or metapopulations pending further research on Karner blue butterfly dispersal and behavior. These 305 element occurrences are grouped into about fifteen large population areas. Based on NHI data, most of these larger populations are found on sizable contiguous acreages in central Wisconsin and are concentrated in five general regions of the state:

West-Central Wisconsin (southern portion)

(Including Jackson County and Black River State Forests and Fort McCoy Military Reservation)

West-Central Wisconsin (northern portion)

(Including Eau Claire and Clark County forests)

Central Wisconsin

(Including Necedah National Wildlife Refuge, Sandhill State Wildlife Area, Volk Field Air National Guard Hardwood Air to Surface Gunnery Range, and throughout the northern half of Adams County on private lands)

East-Central Wisconsin

(Including Hartman Creek State Park and Emmons Creek State Fishery Area and scattered across the largely agricultural landscape on several smaller public and private properties)

Northwest Wisconsin

(Including Crex Meadows State Wildlife Area, Fish Lake State Wildlife Area, Governor Knowles State Forest and Burnett County Forest)

Table 2.10. Wisconsin Counties with Known Karner Blue Butterfly Occurrences (Based on NHI Data through 2007)

Burnett	Monroe	Waushara
Eau Claire	Wood	Waupaca
Clark	Juneau	Marquette
Jackson	Adams	**Chippewa
Menominee	Portage	**Barron
**Oconto	**Dunn	**Polk
*Sauk	*Kenosha	Shawano
Green Lake	**Outagamie	

* Records in these counties have not been verified and likely do not exist.

** NHI records in these counties were investigated in 2007 and it was found that Kbb likely never occurred at these sites.

Chapter 3. Land Conservation Strategies

This part of the HCP identifies acreages and land management measures contributed by the HCP Partners to benefit the Karner blue butterfly while maintaining a variety of land uses, including social and economic uses. This part is divided into the following five sections:

- ☞ Measuring Conservation in this HCP
- ☞ Acreages Included in the HCP and Categories of Management
- ☞ Partner Groups
- ☞ Broad Conservation Strategies
- ☞ Land Management Activities

Direct land management efforts represent a significant portion of the Wisconsin Karner blue butterfly habitat conservation efforts. These conservation efforts routinely enhance habitat and are not applied to management just on occupied habitat. Additional activities will also be necessary for the success of the HCP. For example, many Partners will help maintain a broad state wide distribution of Karner blue butterflies through public outreach and education efforts, which encourage participation in butterfly conservation.

Part A. Measuring Conservation in this HCP

Insect conservation efforts are based on different premises than traditional vertebrate conservation efforts. The Karner blue butterfly, like most insect species, has adapted to survive by producing relatively large numbers of eggs and large populations, with short life spans of individual animals and frequent generation turnovers. Most of the Karner blue butterfly's life is spent in the egg and larval stages. Natural mortality rates during these immature life stages are much greater than mortality rates observed for vertebrate animals. The survival strategy of the Karner blue butterfly relies on the success of overall populations rather than individual animals. To accommodate this strategy, a focus on habitat conservation and the success of populations -- rather than individuals -- is key to butterfly preservation (Scott 1986). Accordingly, the emphasis of this HCP moves away from the traditional measuring of the take of individual specimens of a listed species and toward managing for conservation of habitat and large populations.

Short-term Take. The long-term viability of Karner blue butterfly populations depends on habitat disturbance. Without periodic disturbance, natural woody succession shades out wild lupine and nectar plants and can passively eliminate Karner blue butterfly populations. Management of early successional habitat and creation of new habitat to replace habitat lost to natural succession is therefore necessary. This reality underscores the need for managing landscapes for a dynamic, shifting mosaic of populations. Fortunately, *many* land management activities, such as those used in forest management and utility right-of-way maintenance, provide such disturbances.

In situations like this, take is best measured in the context of the overall balance of habitat loss to habitat gain; and temporary population declines to enduring population viability. It is not possible, in a defensible manner, to accurately express the take of individual Karner blue butterflies resulting from land management activities. Locations and numbers of individuals, particularly in the larval and egg stages, are usually unknown. Furthermore, similar activities can

produce variable mortality rates. Although management activities may result in some mortality, the absence of short-term disturbance would result in greater long-term losses.

Definition: Short-term take is an impact to occupied Karner blue butterfly habitat resulting from land management or land use activities, which results in habitat disturbance that renews declining habitat and/or restores habitat to replace habitat lost to succession or as a result of a land use activity. Short-term take is conducted following approved conservation measures in the HCP in a manner to avoid and/or minimize harm to the KBB (e.g. through appropriate timing of activities, selective routing and siting of projects, etc.) and maintain, enhance, and/or restore KBB habitat.

Such short-term impacts allow Kbb survival and/or the restoration and reoccupation of the site within five years. Activities or projects that may fall within the definition of short-term take include, but are not limited to:

- mowing of roadside rights-of-way
- repairing roadside ditches to restore proper drainage
- roadside ROW improvements
- brush removal along utility corridors
- forest management practices
- conservation management, e.g. mowing and brushing for wildlife management, herbicide applications, prescribed burning, etc.
- pipeline and road construction, electrical and cable installations, and other construction and development projects that DO NOT cover or replace the habitat in a permanent manner (see definition of permanent take) and allow for habitat restoration and Kbb re-occupation within 5 years.

Permanent Take. Consequently, a more meaningful conservation measure is the *impact to habitat that precludes Karner blue butterfly occupation in the foreseeable future*. Examples of permanent take include paving or flooding existing occupied habitat. Activities are anticipated by some Partners (e.g. utility construction, flowage construction, road development, etc.) that could result in permanent take of occupied Karner blue butterfly habitat. If a Partner decides to move forward with any of these activities in the High Potential Range, surveys in the affected areas will occur prior to the activity. If the potentially affected areas are found to be occupied, the occupied area will be avoided to the greatest extent practicable. If the occupied areas cannot be avoided and permanent take is anticipated, a mitigation plan, which must be approved by the DNR and the USFWS, will be developed. Mitigation will be encouraged to take place on recovery properties where long term Karner blue management is committed. ***Mitigation is required for all permanent take.*** Partners are encouraged to begin coordinating with the DNR and the USFWS as early as possible and prior to the permanent take to insure plans meet with agency approval. In cases where executed plans do not meet with the approval of the DNR and USFWS, remediation work by the Partner will be required.

Definition: Permanent take is an impact to Karner blue butterfly habitat, through land management or land use activities, that precludes Karner blue butterfly occupation. Such long-term impact involves taking that does not allow for the restoration and reoccupation of the site for a minimum of five years. Activities or projects that may fall within the definition of permanent take include, but are not limited to:

- construction of roadways and parking lots;
- construction of buildings or structures and associated facilities;
- other construction or development projects that cover or replace the habitat in a permanent manner (at least 5 years), such as an airport or a flowage; and
- residential housing developments. [Note: This category does not include a permanent or second home and associated structures that are owned or built by the owner for his or her own use. This provision applies only to those housing developments approved after the date of permit issuance.]

One-time Permittee. Permanent take by certain categories of non-partner landowners will be accounted for through the one-time permittee provision in the landowner participation plan outlined in Chapter 5 of the HCP (see pages 45-46).

Part B. Acreages Included in the HCP and Categories of Management

Table 3.11 (20-22) identifies total partner acreage included in the HCP. This acreage is a subset of the total acreage Partners own and manage (**821,963** of 2.03 million acres). To be listed in Table 3.11, the acres needed to be: (1) capable of supporting the Karner blue butterfly now or in the future (i.e., within High Potential Range and on appropriate sandy soils) and (2) chosen by the individual Partners for inclusion under the permit.

Appendix A of each individual partner’s conservation agreement identifies the “lands included” by acreage and location that are subject to pre-management surveys and approved conservation measures identified in the HCP and/or the Partner’s conservation agreement. The “lands included” are those lands in the High Potential Range, most of which are capable of supporting the Karner blue butterfly, primarily because they contain sandy soils. Partners will add acreage to this category if found to be occupied or have the high potential to become occupied. Partners can receive permit coverage for acreage added to this category through a “land transfer” process, as defined by the DNR. Maps of included acreage will be updated by the Partners as needed.

The ITP will cover all partner-owned and managed lands in the state (a total of greater than 2 million acres), as well as all acreage included in the private and public voluntary status under the Landowner Inclusion Strategy (see Chapter 5 of the HCP for details of the landowner participation plan, pages 43-49).

Partners intend to manage the acreage identified for inclusion in the HCP with some level of positive consideration for the Karner blue butterfly. Management levels to benefit the Karner blue butterfly will vary across partner activities and economic goals. There are two distinct levels of focus:

- ☞ management *with consideration* for the Karner blue butterfly and its habitat, and
- ☞ management *to feature and enhance* the Karner blue butterfly and its habitat.

(Refer to Table 3.12 on page 22 for examples of activities for these two management categories.)

Management with Consideration for the Karner Blue Butterfly and its Habitat. This management category represents lands owned or managed by Partners on which consideration for the Karner blue butterfly and its habitat will be incorporated into routine land management

activities. Acreage in this category may include an entire, dynamic landscape with only portions occupied by the Karner blue butterfly at any given time. Although consideration measures will vary according to the land, activity and Partner, the long-term biological goal of this management focus is for butterfly habitat gains to equal or exceed losses occurring through natural succession or otherwise. (*Refer to the HCP goal of No Net Loss of Habitat in Chapter 4 of the HCP.*)

Land management activities for HCP acres in this category will primarily reflect the individual land management goals of the Partner, e.g. maintaining access to utility rights-of-way to restore power after a storm, to harvest timber, to maintain roadside rights-of-way for safe use of roads, etc. However, the land manager will apply management for these objectives in ways that are considerate of the Karner blue butterfly and its habitat needs, i.e. the HCP management guidelines and protocols. The first step of consideration for the butterfly is to determine if Karner blue butterflies are present or absence on or near areas of planned activity. If an area is occupied, the Partner will follow the conservation measures outlined in the applicable HCP management protocols in the HCP User's Guide. Conservation measures are designed to minimize impacts to Karner blues while providing necessary and beneficial disturbance to encourage habitat viability.

Management to Feature and Enhance the Karner Blue Butterfly and its Habitat. This management category represents lands that are owned or managed by Partners on which one of the primary management goals is to feature Karner blue butterfly habitat or the broader barrens community that includes it. This may be accomplished through habitat management, enhancement, or restoration activities that promote wild blue lupine, nectar plants, microhabitat, or habitat heterogeneity for the Karner blue butterfly. As with the management with consideration level, these lands are managed with the biological goal and expectation that Karner blue habitat gains will equal or exceed losses. Additional measures are taken, however, to promote viable Karner blue butterfly populations despite potential economic costs.

Managing with consideration and managing to feature and enhance share in common the same management protocols. The greatest distinction is in the level of conservation in each focus. The most significant difference is seen in the options for habitat restoration described below. (*Refer to "Habitat Restoration Protocol" in the HCP User's Guide in Appendix E.*)

Types of Karner Blue Butterfly Habitat Restoration

- **Habitat Replacement** *if Managing with Consideration*

Habitat Replacement restorations are conducted in response to construction, maintenance, management and repair activities and are meant to replace habitat lost as a result of these activities. These restorations are designed to provide the basic components (lupine and nectar plant requirements) of suitable Kbb habitat; and are **not** necessarily intended to restore optimal quality barrens flora.

- **Habitat Restoration** *if Managing to Feature and Enhance*

In restorations intended to feature and enhance Kbb's, the creation of quality barrens and prairie habitat is also considered. Restorations of this type not only benefit Kbb's, but also a broad range of associated barrens species. This type of restoration, like habitat replacement, is expected to meet basic lupine and nectar plant requirements for the Kbb.

However, planting a diverse seed mix is strongly encouraged to provide as much benefit as possible to other barrens species.

Table 3.11. Partner Acres in the HPR Included in the HCP and Subject to Monitoring, Management and Reporting

Full Partners	Acreages Included in HCP		
	Mgmt. with Consideration	Mgmt. to Feature, Protect, & Enhance	Total
Forest Industry			
New Page Wisconsin System Inc	1,115		1,115
Plum Creek Timber Company	53,900		53,900
Johnson Timber Corporation - Futurewood	70		70
Wausau Paper Corp.	875		875
Wisconsin River Power Company	5,159		5,159
County Forests			
Burnett County	107,744		107,744
Clark County	134,638		134,638
Eau Claire County	27,270	730	28,000
Jackson County	28,900	6,100	35,000
Juneau County	18,911		18,911
Monroe County	6,844		6,844
Washburn County	295		295
Wood County	38,049		38,049
Wisconsin State Agencies			
Department of Natural Resources	48,994	17,347	66,341
Department of Transportation	8,052		8,052

Table continues on next page.

Table 3.11. Partner Acres in the HPR Included in the HCP and Subject to Monitoring, Management and Reporting, Continued

Full Partners	Acreages Included in HCP		
	Mgmt. with Consideration	Mgmt. to Feature, Protect, & Enhance	Total
Utility Managers			
Adams Columbia Electric Cooperative	1,951		1,951
Alliant Energy – WP&L	275,635		275,635
American Transmission Company, LLC	5,117		5,117
ANR Pipeline – TransCanada Corporation	764		764
Enbridge Energy Company, Inc.	353		353
Northwestern Wisconsin Electric Company	1,500		1,500
Oakdale Electric Cooperative	6,196		6,196
Polk-Burnett Electric Cooperative	1,889		1,889
Wisconsin Gas Company - WeEnergy	889		889
Wisconsin Public Service Corporation	4,724		4,724
Xcel Energy, Inc.	5,980	20	6,000
Limited (Local) Partners			
Adams County Highway Department	2,000		2,000
Adams, Town of (Adams County Wisconsin)	550		550
Burnett County Highway Department	856		856
Eau Claire County Highway Department	3,568		3,568
Foster, Town of (Clark County Wisconsin)	10		10
Juneau County Highway Department	852		852
Lincoln, Town of (Burnett County Wisconsin)	245		245
Millston, Town of (Jackson County Wisconsin)	480		480
Quincy, Town of (Adams County Wisconsin)	21		21
Swiss, Town of (Burnett County Wisconsin)	688		688
Waupaca County Highway Department	2,682		2,682
TOTAL ACRES INCLUDED IN HCP			821,963
Other Partners	Acreages Not Applicable		

The figures shown in Table 3.11 (above) reflect partner lands known to be suitable to support Karner blue butterfly populations. Additional acreages owned by individual Partners may become included in the HCP at a later date, if information supports the suitability of those lands

to maintain Karner blue butterflies.

Table 3.12. Examples of Activities Included in Each Management Category (Note: Specific options may not be employed by all partners.)

Management with Consideration for the Karner Blue Butterfly and its Habitat	Management to Protect or Enhance the Karner Blue Butterfly and its Habitat
Biological Goal: Habitat gains equal or exceed losses and continue to provide habitat	Biological Goal: Habitat gains equal or exceed losses and continue providing habitat, but also extra steps to promote/maintain higher Karner populations, sacrificing some economic return
➤ Pre-management presence/absence surveys	➤ Pre-management presence/absence surveys
➤ Training of staff for Karner blue butterfly and lupine presence/absence	➤ Habitat assessment and suitability studies
➤ Alter timing of disturbance (mowing, harvest, herbicide applications, etc.)	➤ Monitor effects of management on Karner blue butterfly and associated habitat
➤ Limit or cease application of some pesticides	➤ Manage for habitat heterogeneity
➤ Managing forest types to maintain short lived, intolerant species; i.e. jack pine vs. red pine or white pine	➤ Stock timber stands less densely
➤ Maintain pine forest types with seed bed preparation, commercial harvest and natural regeneration from on site seed sources	➤ Create and maintain dispersal corridors to promote subpopulation connection
➤ Leave a scattered distribution of large diameter oak or long lived conifers to provide scattered shade across Karner blue butterfly habitats	➤ Participate in research projects related to population viability, habitat quality
➤ Incorporate forest stand inventory attributes to indicate lupine and/or Karner blue butterfly occurrence which will assist GIS planning and shifting mosaic scheduling	➤ Barrens restoration or conversion work (from forest)
➤ Avoid building new access roads or recreational trails through high Karner blue butterfly occupied habitat	➤ Planting lupine, nectar plants in new openings if necessary
➤ Continue updating lupine occurrence map for partner lands. Refine association between Forest Habitat Type Classification System and wild lupine occurrence	➤ Create or maintain long-term barrens habitat
➤ Use patch scarification rather than furrowing when establishing jack pine plantations	➤ Participate in Karner Blue Butterfly Recovery Plan

Recovery-related Acreage. One of the Partners, the DNR, will be involved in federal recovery efforts for the Karner blue butterfly. In this instance, partner acreages committed to federal recovery may be the same as those intended for Management to Feature and Enhance the Karner blue butterfly or its habitat. See Chapter 6 of the HCP (pages 52-53) for more information on federal recovery efforts in Wisconsin.

Part C. Partner Groups

For planning and evaluation purposes, the HCP Partners are grouped into six categories based on the similarities in history and long-term management goals. The transportation group is further divided into two strata based on level of participation and involvement. These six groups are briefly discussed below and include:

Full Partner Groups

- ☞ Forest Industry
- ☞ County Forests
- ☞ State (DNR) Lands
- ☞ Utilities
- ☞ Transportation (WDOT)
- ☞ Other Partners

Limited (Local) Partner Group

- ☞ Transportation (county highway departments and townships)

Forest Industry. Members of this partner group manage land for forest products. Most of these Partners have manufacturing facilities in the state, which require a continuous source of wood fiber. Lands owned and managed by these companies provide a portion of this raw material.

County Forests. The County Forest program began in 1927 following passage of the County Forest Crop Law which authorized counties to create county forests. Under the current County Forest Law, 28 counties own approximately 2.25 million acres. Eight of these counties are HCP Partners.

County forests serve multiple purposes. Timber production, public recreation, wildlife and water quality protection all co-exist through mixed use management. The Karner blue butterfly occupies some county forest lands, giving continued opportunities to affirm the wildlife protection aspect of multiple-use.

State (DNR) Lands. Wisconsin recognized the need many years ago to protect, manage and provide for public use of its natural resources. Since 1876, Wisconsin has been acquiring land to meet state conservation and recreation goals. As of March 31, 2009, holdings amounted to more than 1.6 million acres. Properties owned by the State of Wisconsin carry many designations, including Wildlife Management Areas, Fisheries Management Areas, State Forests, State Recreation Areas, Wild Rivers and River ways, State Parks, State Trails and State Natural Areas. The DNR continues to acquire, manage and conserve land according to statutory mandates and legislative programs.

Twenty-two of the properties owned or managed by the DNR are occupied by Karner blue butterflies. These butterfly populations occupy a total of approximately 1,200 acres of lupine habitat. Although five other DNR properties are believed to have the potential to support Karner blue butterfly populations, they are not known to be occupied.

The DNR intends to manage in excess of 66,000 acres of sandy soils either with consideration for or to feature the Karner blue butterfly and has included these lands in the HCP. The Karner blue butterfly is one of many considerations that must be integrated into the management of state lands. The success of these management efforts is measured in the ability of future generations to enjoy the same quality of environmental and recreational opportunities available today.

Utilities. This partner group manages easements for the construction and maintenance of: (1) overhead electrical transmission lines, and (2) underground electrical, gas and oil lines. Some of the transmission line corridors or rights-of-way (ROWs) have been in place since the early 1900s. Over the years, ROWs have been managed to reduce the growth of woody vegetation. For both overhead and underground lines, a clear ROW provides line access and reduces the likelihood of woody growth disrupting the line. In a few cases, the Partner owns the ROW for its utility line, but ROWs are predominantly easements from private landowners. These private landowners may have management issues separate from the utility company.

Transportation. The transportation group participates on two different levels:

- ☞ Full Partner (Wisconsin Department of Transportation)
- ☞ Limited (or Local) Partners (county highway departments and townships)

As one of the original Partners that developed and guided the implementation of the HCP, the Wisconsin Department of Transportation (DOT) is a Full Partner in the HCP. DOT is responsible for providing quality facilities and services for a variety of modes of transportation. Wisconsin's major investment is in the State Trunk Highway System, which began in 1918. Today, this system encompasses 130,000 acres of right-of-way (ROW). Depending on the type of road, remaining roadsides in ROW corridors range from twenty feet wide or less along the older highways to over 100 feet wide along some sections of interstate highways and other freeways. Medians provide additional vegetation, with widths generally varying between 40 and 60 feet wide.

State highway roadsides protect the highway facility by providing proper drainage and safe areas for errant or disabled vehicles. Roadsides sometimes accommodate utilities such as overhead or underground communication and power lines. Rest areas, waysides, scenic overlooks, historical markers and similar tourist amenities are also considered part of the highway roadside.

Limited (Local) Partners. In the HCP, the DNR and FWS committed to develop a standard process and concise and applicable conservation measures to ease evaluation of applications and issuance of Certificates of Inclusion (CI) for local governmental bodies engaged in road ROW/corridor maintenance. For the purposes of inclusion in the HCP, this type of entity is referred to as a “Limited Partner”. Limited Partners can be generally characterized as performing a limited suite of management activities typically resulting in short term take and subsequently, favorable habitat conditions. Conservation measures

for their activities mostly fit into predefined best management practices. Limited Partners most often will have limited resources to apply to KBB conservation efforts. Therefore, Limited Partners will have abbreviated surveying and monitoring responsibilities, are not required to participate as full members on the HCP Team, nor are they required to subscribe to the Articles of Partnership or have a formal partner vote.

Other Partners. The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is also a Full Partner. They do not own or manage land and thus has a special role in the HCP. The DATCP's Bureau of Agrichemical Management pesticide and compliance programs carry out activities designed to protect endangered species from pesticide harm. These programs design, review and enforce pesticide use and labeling including the provisions of enforceable EPA Bulletins for pesticide labels. DATCP develops and provides pesticide protection guidelines for the KBB HCP, and responds to inquiries and complaints related to product use and misuse. The DATCP plays a key role in the landowner inclusion strategy discussed in Chapter 6 of the HCP (page 50).

Part D. Broad Conservation Strategies

The HCP Partners have worked on the land, managing the natural resources for many years. Respective land management goals have been shaped by certain values, as well as available amenities and commodities. Partners have developed strategies to allow for these benefits while integrating considerations for Karner blue butterfly habitat conservation. Such strategies have evolved from the observation and study of past management that was seemingly beneficial to the Karner blue butterfly.

Partners identified the following broad strategies as possible options for conserving and fostering the Karner blue butterfly:

- ☞ Management for long-term habitat,
- ☞ Management for a shifting mosaic of habitat,
- ☞ Management for dispersal corridors, and
- ☞ Compensatory mitigation strategies.

Each of these strategies is discussed below. Partners have chosen to apply one, several, or all of these strategies to their respective lands.

Management for Long-Term Habitat. For Partners who have so chosen, some lands will be designated for the long-term maintenance of Karner blue butterfly habitat. In this context, long-term is defined as a period extending beyond the successional timeframe in which a site provides suitable Karner blue habitat following disturbance. The most common long-term habitat strategy will be barrens community restoration and management (as on several DNR properties). Areas not qualifying as barrens community, such as lupine habitat along road and utility corridors, may also be managed on a long-term basis through periodic mowing. Ongoing disturbance maintains an early successional community and is most often accomplished through fire or mowing rotation intervals of three to ten years, although evidence suggests longer rotations (e.g., 20-50

years) may provide excellent Karner blue butterfly habitat in many cases (e.g., in areas with very poor soils or areas affected by oak wilt). While mortalities within the local Karner blue butterfly population may occur in recently burned or mowed areas, reoccupation from surviving patches or adjoining populations may occur within one or two Karner blue butterfly generations.

Management for a Shifting Mosaic of Habitat. Forestry partners consider management opportunities to promote a shifting mosaic that will maintain Karner blue butterfly habitat in a diverse patchwork of forested stands in a slowly changing distribution over time across the larger landscape. Forest management with consideration for the Kbb is planned at the landscape level, but applied at the forest stand level to create or enhance habitat occupied by the Kbb. "Shifting mosaic" is a conservation strategy developed for application on any forest lands that are occupied by Kbb. The strategy is designed to provide a continued availability of Kbb habitat across the landscape by using a preplanned rotational harvesting pattern. As forest stands occupied by Kbb grow and mature they eventually shade out Kbb habitat. Local Kbb populations are normally extirpated through the process of natural succession unless other suitable habitat is available.

Under the shifting mosaic strategy, large blocks of forest surrounding an occupied Kbb site are divided into a series of smaller cutting units. Harvesting dates for these cutting units are staggered so that the Kbb population always has a recently cutover area within dispersal distance. The units are clear-cut, removing all overstory vegetation. This allows dormant lupine and nectar plants, if present in the soil seed bank, to regenerate and create habitat suitable for Kbb occupation. When a currently occupied site phases out of suitable habitat due to natural succession, the Kbb population can shift to another suitable site created through the shifting mosaic strategy. Management activities are likely to cause some incidental take of Kbb, but the renewed habitat that may result will more than offset the losses.

Likewise, the planned location of more permanent type openings such as log landings can be strategically incorporated into timber harvests to provide increased habitat potential. Based on the observations and experiences of land managers, such landings have provided excellent habitat patches that are occupied by the Karner blue butterflies. Linking landings with roads or trails, which can be designed into a timber sale or management activity, will provide potential corridors of habitat and a dispersal network for the Karner blue butterfly.

This is a long term strategy that can maintain and expand Kbb populations on a forest landscape indefinitely. It provides long term financial returns for the landowner while conserving Kbb habitat and populations. This provides a considerable incentive for private and industrial forest landowners to participate in Kbb conservation activities.

Management for Dispersal Corridors (including non-landowning Partners). For Partners who have chosen, some lands will aid in providing corridors or areas for Karner

blue butterfly dispersal. These lands may be managed under terms of written easements rather than fee title ownership, as with many utility company rights-of-way. In these areas, Partners will carefully plan the timing of management practices such as mowing, cutting and chemical applications to promote healthy Karner blue butterfly habitat and populations. Where known Karner blue butterfly populations exist, Partners who are land managers (and not the landowner) would work closely with individual landowners, as appropriate, to promote and protect habitat in these areas.

Compensatory Mitigation Strategies. For Partners whose proposed activity results in permanent take of occupied Karner blue butterfly habitat, a mitigation plan designed to compensate for the habitat loss and adverse impacts to butterfly, is required. The mitigation plan will be consistent with the HCP Construction Guideline and applicable protocols (*refer to the HCP User's Guide in Appendix E.*). Mitigation can include habitat restoration and creation, and/or land acquisition for Karner blue butterfly habitat restoration and creation. Activities could range from sowing or planting of wild lupine and nectar plants to land banking of restored and occupied butterfly habitat. Other mitigation measures approved by the DNR and USFWS may be considered as well, such as long term habitat management. Mitigation plans must be approved by the DNR and the USFWS.

Part E. Land Management Activities

Partner groups often have similar long-term management goals. Many of the activities employed to achieve these goals could have an impact on the Karner blue butterfly or its habitat. Although specific application of land management activities may differ between Partners, there are commonalities in their relationship to the Karner blue butterfly. Each of the activities is discussed briefly below. These include:

- ☞ Forest management,
- ☞ Barrens, prairie and savanna management,
- ☞ Recreational management,
- ☞ Transportation management, and
- ☞ Utility ROW management.

The HCP Partnership developed a number of modifications to conventional land management practices intended to benefit the Karner blue butterfly. The resulting management guidelines and protocols were based upon the best scientific and applied knowledge available. From 2000-2007 the Partners refined the management guidelines and conservation measures based on accrued knowledge from several years experience implementing the HCP. This resulted in the "HCP User's Guide". New knowledge acquired through continued management experience, monitoring and research will be used in the HCP's adaptive management process.

As it pertains to the Partners, the ITP provides for the incidental take of the Karner blue butterfly, if the activity resulting in the take is conducted consistent with conservation measures, guidelines, or protocols included in the applicable conservation agreement, the DNR's Implementing Agreement with the USFWS, or is consistent with the HCP. Most

Partners have agreed to follow the guidelines included in the HCP User's Guide (*See Appendix E of the HCP*). Some Partners have outlined specific and unique conservation measures in their conservation agreements, and will do a mix of what is in the HCP User's Guide and their own approach. All commitments, however, are clearly stated in the partners' individual conservation agreements, especially if they intend to manage differently than what is outlined in the HCP.

Because of the dynamic and evolving nature of the conservation effort -- with the often-changing science and conclusions based on partner experience and research -- it is anticipated that protocols and guidelines developed and included in the HCP and individual conservation agreements may need modification. New guidelines, protocols, or conservation measures may also be developed during the permit period. New or modified guidelines, protocols, or conservation measures will need approval by the DNR and the USFWS before being implemented.

1) Forest Management

A number of partner groups will be involved in forest management activities. These include the forest products industry, county forests, some utilities and the DNR. Forest management includes a variety of activities, such as:

- a) Timber harvesting,
- b) Stand improvement,
- c) Forest road construction and openings management, and
- d) Forest regeneration, including site preparation and maintenance.

Prior to performing any forestry activities in the High Potential Range, Partners will conduct pre-management surveys to determine Karner blue butterfly presence or absence. Where Karner blue butterflies are present, all forestry Partners will follow the "Forestry Management Guideline" and applicable management protocols in the "HCP User's Guide" (*see Appendix E of the HCP*) (*Refer to the DNR's HCP webpage for most current revision*) unless otherwise agreed to in their individual conservation agreements.

Consistent with the coverage and protections afforded Partners in the ITP and their individual conservation agreements for acts of contractors, conservation strategies -- when applicable -- will routinely be included in timber sale contracts. If employees harvest or manage timber, they will be directed to apply appropriate conservation measures.

Where forest road construction may result in permanent take, the Partner will follow the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*).

Emergency situations arise such as forest fire suppression activities and wind damage that pose threats to public safety and impair road infrastructure that require immediate management action. In such cases Partners will follow the HCP's "Emergency Guideline". (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage*

for the most current revisions.) Where pre-planning and pre-management surveys are not possible and the emergency situation creates the need for immediate salvage cutting of damaged timber from windstorms, forest fires, flooding or insect and disease epidemics the Emergency Guideline will be followed and impact to known or suspected Kbb habitat will be avoided to the greatest extent practicable. Where salvage harvest is not an urgent matter, follow the HCP's Timber Harvest Protocol.

2) Barrens, Prairie and Savanna Management

Several Partners identified restoration or maintenance of native barrens habitat as an important land management goal. In this context, barrens includes the range of possibilities from nearly treeless sand prairie to oak/pine savanna to shadier oak/pine woodland -- all on dry, sandy soils. For some lands, the goal may be specifically to optimize Karner blue butterfly populations. For other lands, the goal may be to manage for a larger barrens ecosystem.

Barrens management tools include prescribed fire, mechanical management (such as timber cutting, tree-girdling and brush-hogging), selective herbicide treatment, native plant propagation, or grazing. The design and implementation of a management regime must be tailored to a given site, taking into account site size, context within the landscape, available equipment and personnel, naturally occurring defoliation by insects or disease, weather and a variety of other factors.

Many plants and animals native to disturbance-adapted communities, like barrens, depend on the ability to either survive the disturbance at some level or to recolonize from nearby undisturbed areas. Many sites are so dry that they require only very infrequent disturbance. Prior to performing any of these disturbance activities in the High Potential Range, Partners, such as the DNR, that have chosen this management goal will conduct pre-management surveys to determine the presence and location of occupied Karner blue butterfly habitat. Partners will use the HCP's "Conservation Management Guideline" and applicable management protocols to apply these various tools. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

3) Recreational Management

Many of the HCP Partners manage lands used by the public for recreation. Management of these recreational activities can be broken into three categories: (a) intensive development and maintenance, (b) less intensive development and maintenance and (c) public use.

Intensive Development and Maintenance (construction). Intensive construction includes such activities as building development, creation of flowages and laying of pavement or gravel for roads, parking lots, etc. Prior to development of recreational facilities in the High Potential Range, Partners will conduct a pre-management survey to determine if the site is occupied. If development of the facility may result in permanent take: (1) alternatives or other measures to avoid impacts to the occupied habitat will be

considered, and (2) if a permanent take can not be avoided, the Partner will inform the DNR and the USFWS and prepare a mitigation plan for their approval. Partners will follow the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Less Intensive Development and Maintenance. Less intensive activities include development and maintenance of campgrounds, picnic areas, boat access, trails and similar facilities. A variety of maintenance activities, ranging from mowing picnic areas to spreading fresh gravel on hiking trails occur on some partners' lands. These activities will generally occur in already unoccupied and developed areas. Trails bordered by lupine and/or nectar plants can serve as Karner blue butterfly habitat and dispersal corridors. Maintenance of these trails (e.g., carefully timed brushing or mowing) can enhance population dynamics across landscapes and promote population connectivity and colonization of new openings. Bridle trails are not recommended in quality native habitats, due to many potential problems, including erosion and introduction of aggressive competing plants through manure. Prior to development or maintenance of recreational facilities in the High Potential Range, Partners will conduct a pre-management survey to determine if the site is occupied by Karner blue butterflies. Where Karner blue butterflies are present, Partner will follow the HCP's "Recreation Management Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Public Use. A variety of public uses, ranging from hiking and bird watching to mountain biking and hunting, occur on some partner lands. Human traffic through occupied areas may result in some incidental take through inadvertent trampling. Heavy traffic through occupied habitat will be avoided through trail design and property management to avoid any serious impacts to Karner blue butterfly populations. Partners will take reasonable action to discourage or prohibit use of Kbb occupied habitat.

All management should be applied in a manner that does not specifically identify the habitat as Karner blue butterfly occupied habitat, unless it will serve as an educational component and the intent is to identify the area to provide education and the promotion of conservation efforts, while taking reasonable precautions to protect the habitat area.

4) Transportation Management

The Wisconsin DOT and eleven Limited Partners (either county highway departments or townships) are involved in transportation management.

Road Development. Prior to road construction in the High Potential Range, pre-management surveys will be conducted to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Road Maintenance. Similar to the development of ROWs, the maintenance of ROWs may require minor disturbance of existing Karner blue butterfly or lupine habitat. DOT will conduct pre-management surveys in the High Potential Range to determine if Kbb are present; where Kbb occur these disturbances will be consistent with the HCP's "Corridor Management Guideline" and applicable management protocols found in the HCP User's Guide unless otherwise provided for in their individual conservation agreement.

County highway departments and townships (Limited Partners) will, at a minimum re-survey their ROW's for lupine habitat annually, consistent with the "Wild Lupine Survey Method on Road Rights-Of-Way (ROW) for Limited (Local) Partners"; and where lupine occurs on ROW's, management will follow the HCP's "Limited Partner Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*).

Emergencies resulting from storm damage and road flooding sometimes occur. In these cases, Partners will follow the HCP's "Emergency Guideline" to the greatest extent practicable. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*).

5) Utility ROW Management

The majority of ROWs included in the HCP are not partner owned, but are managed under easement. Management, therefore, may be subject to landowner approval. Utility ROW management maintains an open canopy through mowing and removal of woody vegetation. Disturbance caused by utility line construction may enhance the habitat for lupine and benefit the Karner blue butterfly in the long-term.

Construction of Overhead Transmission Lines. Utility transmission line construction is considered less detrimental to Karner blue butterfly habitat (in that there is minimal disturbance of the soil), when compared to pipeline construction activities. In new construction, an effort will be made to route around any Karner blue butterflies and lupine habitat areas.

Prior to starting construction activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*).

Construction of New Pipelines and Underground Transmission Lines. Pipeline and underground transmission line corridor construction sites are usually less than 100 feet wide and remain in a state of partial or complete defoliation for only a short period of time (3-4 months, on average).

Prior to starting construction activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Maintenance and Repair of Overhead Transmission Lines. It may be necessary to disturb existing Karner blue butterfly or lupine habitat to facilitate line maintenance. These minor disturbances may enhance the growth of lupine and nectar plants and may indirectly benefit the Karner blue butterfly population.

Prior to beginning maintenance and repair activities in the High Potential Range, utility Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Corridor Management Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Maintenance and Repair of Pipelines and Underground Transmission Lines. Pipeline and underground transmission line repair and maintenance activities in Karner blue butterfly habitat will follow procedures in the "Construction Guidelines" (*see HCP User's Guide in Appendix E*).

Prior to beginning maintenance and repair activities in the High Potential Range, Partners will perform pre-management surveys to determine if Karner blue butterflies are present. When surveys indicate that a Karner blue butterfly population occurs along or immediately adjacent to a right-of-way, Partners will follow the HCP's "Corridor Management Guideline" and applicable protocols for brush removal for clearance and access. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*); repairs will be consistent with the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

6) Special Emergency Circumstances.

Emergency operations may apply to any partner group. Emergencies related to storms and certain excavation damage to utilities occasionally result in power line tangling, leaking pipelines, downed trees blocking roads, flooding, wild fires. In these cases, Partners will follow the HCP's "Emergency Guideline" to the greatest extent practicable. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage for the most current revisions.*)

Chapter 4. Adaptive Management and Monitoring

This part of the HCP discusses the use of adaptive management by the HCP partners. It is divided into three main sections:

- ☞ Adaptive Management and Monitoring Strategies
- ☞ Monitoring and Surveying Procedures
- ☞ Research

Part A. Adaptive Management and Monitoring Strategies

Adaptive management can be defined as a formal, structured approach to dealing with uncertainty in natural resources management, using the experience of management and the results of research as an on-going feedback loop for continuous improvement.

Adaptive approaches to management recognize that the answers to all management questions are not known and that the information necessary to formulate answers is often unavailable. Adaptive management also includes, by definition, a commitment to change management practices when determined appropriate.

The adaptive management strategy will focus on achieving two primary HCP monitoring goals: (1) to assess the effects of management activities on the Karner blue butterfly and its habitat and adjust conservation measures to better conserve the Kbb where data and research support the change; (2) to assess new biological, economic and policy information and adjust operational parameters, programmatic and administrative procedures. The first goal is traditional; the 2nd goal reflects the reality of 21st century economics and that circumstances will continue to change over time as new biological information is identified.

Part B. Monitoring and Surveying Procedures

(For detailed guidelines and protocols refer to appendix E of the HCP or for the most current version, the DNR's HCP webpage)

HCP monitoring is divided into three types:

- Compliance Monitoring
- Effects monitoring
- Effectiveness monitoring

Integrating the monitoring program into the adaptive management strategy is crucial in order to guide any necessary changes in management.

1. Compliance Monitoring

Compliance monitoring verifies that the DNR and all other partners are carrying out the terms of the HCP, the permit, the IA (for DNR) and individual conservation agreements (for all other partners).

Auditing partner performance and verifying conservation agreement compliance is a large part of the compliance monitoring program. Audits of HCP partners are individual, on-site evaluations of various aspects of partner performance under their conservation agreements. These audits are intended to provide information to the USFWS, the DNR, the HCP partnership and the general public to give assurance with respect to DNR and partner performance under the permit.

File and field audits are conducted to verify partner compliance with their conservation agreements. Compliance auditing is required because the DNR must have a procedure to gather the evidence to show that the HCP is being implemented as written and that the DNR is in compliance with the Implementing Agreement. In addition, summaries of auditing results over time may provide useful insights for adaptive management.

Compliance audits are not a regulatory witch-hunt, but a one-on-one spontaneous training/learning opportunity; continuous quality improvement. Partners have overwhelmingly demonstrated they want to do the right thing. The assumption is that partners are doing what they believe to be correct; the best they can do with what they understand, have been previously trained or how they interpret or understand the HCP. The purpose of these audits is to identify where a partner does not appear to understand how to implement the HCP or interpret and apply their conservation commitments, and then for the auditor to provide continuing education and training to the partner and/or partner's staff attending the audit.

Primary objective of audits

The auditor's primary objective is to make observations of performance characteristics to determine if the partner understands how to correctly implement the HCP. This includes conservation commitments in either the Implementing Agreement for DNR land managers or Species and Habitat Conservation Agreements (SHCA) for all other HCP partners. By complying with the conditions of the SHCA (or IA for DNR), the partner is also complying with the HCP and ITP.

Secondary objective

The secondary objective is to assess mistakes and misinterpretations of HCP required performance for trends in poor performance. The auditor will provide training if necessary. If the problem is the fault of the HCP, e.g. unclear protocol or direction, the auditor will improve the system at fault. If there should be serious infractions, corrective action may be required.

The auditing procedures and processes referred to in this section are the responsibility of both the FWS and the DNR; however the DNR has the lead role in implementing the audit process. The procedures and processes in this section are a DNR and partner process, intended to monitor partner performance for the purposes already described and are separate from USFWS actions that may be taken relative to regulatory oversight in administration and enforcement of the permit pursuant to the federal ESA. *For a detailed description of the administrative procedure for audits,*

refer to Appendix E of the HCP. The most current version of audit procedures and past audit summary reports can be viewed on the DNR's HCP webpage.

2. Effects Monitoring

Effects monitoring evaluates the extent of the impacts on the Karner blue butterfly from the permitted activities.

- Short-term, minor impacts: A periodic measurement of incidental take measured in acres of Kbb occupied lupine habitat impacted will be derived from pre-management surveys and reported on annual reports. These impacts are related to routine management activities, which provide beneficial disturbance and/or very minor impacts to the local Kbb population. (Short-term take is further described in Chapter 3).
- Major impacts including permanent take: Permanent take is most often related to a construction activity. Post-construction monitoring is used in conjunction with habitat restoration following construction projects. The objective is to assess the status of the restoration to determine if the restoration objectives in the approved mitigation plan are being met. Habitat restorations can be related to compensatory mitigation plans required for permanent take or habitat replacement plans required by major construction projects where habitat is replaced following the construction activity. If appropriate and desired, this monitoring procedure can also be used for other restoration or habitat creation such as on a recovery property or other habitat project designed by Partners to feature the Karner blue butterfly.

This assessment of successful mitigation for construction activities will follow a similar evaluation as assessing the effects of management activities in C-E monitoring below. The criteria will be habitat based and correspond to the goals and objectives of each restoration plan.

- Cause and Effect monitoring: The objective here is to assess whether or not and to what degree HCP management activities provide benefits to Kbb habitat and ultimately to Kbb. Current management guidelines, protocols and conservation measures approved for use in the HCP are considered effective. New management methods or modified approaches may require testing and experience to assure the desired benefits to Kbb. Existing conservation measures may need evaluation and adjustments.

The biological conditions resulting from habitat disturbing land management activities will be assessed as needed or desired through Cause and Effect (C-E) surveys, which will directly translate into an active adaptive management process and improvements in management guidelines and conservation measures in management protocols.

Cause-Effect monitoring currently employs the Cause & Effect (C-E) Monitoring Protocol (Level 1 survey). This protocol is somewhat similar to a normal Level 1

survey, except that a more comprehensive habitat/vegetation assessment is required (not optional) for C-E surveys and they are performed both prior to and after the management activity being studied and in both first and second Kbb flight periods to assess nectar plant availability in both periods.

3. **Effectiveness Monitoring**

Effectiveness monitoring determines whether the effectiveness of the operating conservation program of the HCP is achieving the intended biological goals and objectives of the HCP. Effectiveness monitoring is broad in nature; designed to evaluate progress toward the intended primary biological HCP goal of No Net Loss of Habitat. Evaluating the operating conservation program and its progress toward the HCP intended biological goal will necessarily be assessed by a number of methods.

- **HCP's Primary Biological Goal**

No Net Loss of Habitat - Monitoring the HCP's biological goal. The objective of this monitoring is to evaluate progress toward the primary goal of the HCP and the overall effectiveness of the HCP program at providing benefit to the Kbb. Data are collected from a variety of sources most of which are supplied by partners in annual reports.

Biological Goal of the HCP: There will be **No Net Loss of Habitat (NNLOH)** as a result of partner activities in the KBB High Potential Range (HPR). This will be assessed as follows:

Expected Outcome #1: Permanent take and short-term take both of which may result in destruction or complete removal of habitat (related to construction) will be more than offset by successful habitat mitigation and habitat replacement (respectively).

Method of Measuring Outcome: Construction project plans (for major projects) and annual reports (for minor projects) will reflect habitat lost vs. habitat restored or replaced. Post-construction mitigation assessment reports will include the assessment of the success measures in the approved HCP's Construction Guideline as a means of gauging the success of the mitigation plan.

Expected Outcome #2: Partners will conduct activities consistent with approved and proven conservation measures in order to avoid and minimize take of the Karner blue butterfly to the greatest extent practicable.

Method of Measuring Outcome: HCP Compliance Audits (compliance monitoring) will include an assessment of the conservation measures used by partners on a subset of activities conducted in occupied Karner blue butterfly habitat and be summarized in Compliance Audit Summary Reports.

Expected Outcome #3: Partners will seek out opportunities to create and manage a shifting mosaic of habitat for Kbb.

Method of Measuring Outcome: A system that will analyze (at a minimum) (1) average harvest, (2) allowable cut, and (3) age class distribution from 1-15 years (*system to be developed*) will guide Partners in guiding partners in managing to provide for a shifting mosaic.

- **Annual Report.** Annual reports provide data that can be considered in monitoring an adaptive management effort. The information contained in annual reports is consistent with the annual reporting condition required in the permit, the HCP, the IA and individual conservation agreements. Annual reports contain a variety of data, which can be used in all 3 types of monitoring. In addition, should information for further clarification be deemed necessary to implement an adaptive management approach, the DNR has authority through partners' conservation agreements to request other information as needed. At a minimum, annual reports will include the following elements:

1. An estimate of the annual incidental take (characterized as acres of Kbb occupied habitat) that occurred as a result of short-term and permanent take.
2. A summary of activities conducted by partners in occupied Kbb habitat including number of acres affected.
3. Any additional information determined necessary to assess the HCP's biological goal of NNLOH.
4. Results of lupine and Karner blue butterfly monitoring efforts including a summary of the data and updated maps as available.
5. A summary of official HCP monitoring training sessions including the dates and locations; and a list of the names, addresses and phone numbers of people who are certified to conduct Karner blue butterfly surveys.
6. New information that has been gained through scientific study or other assessment of management efforts that either (1) supports continued management, or (2) indicates a need to change management protocols.
7. A discussion of the adaptive management effort, including any management changes that have been made in response to new information.
8. A summary and discussion of the outreach and education that has occurred, including the approximate number of people reached through all means.
9. Total acres of partners lands included in the HCP that occur in the High Potential Range of the Karner blue butterfly.
10. The types and number of amendments (that do not involve Service approval) made to the Partners' SHCA's upon approval of the permittee.
11. A summary report of Partners' compliance audits.
12. The running total cumulative number of voucher specimens taken by date, gender and location of capture; mounted for educational purposes or sent to the Milwaukee Public Museum or other approved depository (along with label information), and current specimens under possession and control of the DNR including location stored and person responsible for safety and maintenance of those specimens All specimens

remain the property of the United States Government and must clearly be identified as such (refer to permit condition pertaining to collection of voucher specimens)

13. An updated list of DNR property managers and their contact information.

14. An updated list of HCP Partners including the original date of inclusion in the HCP, also reflecting transfers and name changes, along with the primary HCP implementation representatives to the DNR and their contact information.

15. And other information that the Service requests pertinent to tracking and understanding activities under the HCP.

Annual Reports are submitted to the DNR by each HCP partner and all affected DNR properties or area offices by March 1st each year.

Five-year Program Reviews. In order to facilitate a big picture analysis of the direction of this conservation program, the DNR will do a broader mid-permit assessment in 5-year intervals, e.g. 2014 and 2019. If course corrections are indicated, these can be evaluated during 2019; leading up to a potential permit renewal in 2020.

Part C. Research

Acquiring new knowledge through research can be a part of or inform an active adaptive management process, and result in improvements in HCP implementation efficiencies and effectiveness, and improvements in management guidelines and conservation measures. Research results will be routinely shared with all HCP partners.

1. Recent research

- “Detecting the Presence of Wild Lupine Utilizing Large-Scale Remote Sensing Multi-spectrum Satellite Imagery”, Keith Rice and Jacob Hofman (UW Stevens Point), Wayne Hall (WDNR). Detecting wild lupine was proven feasible; however achieving high levels of lupine location accuracy in areas of low density of lupine may not be obtainable with this current technology.
- Kbb probability model: “Development of a Karner Blue Butterfly Probability Map for Use with the Habitat Conservation Plan”, Theodore A. Sickley and David J. Mladenoff (University of Wisconsin-Madison) (2007). The development of this model generated a large number of maps representing Kbb probability in Wisconsin. The research significantly narrowed the spatial focus of where Kbb are most likely to be found. Additionally, it led to defining biology-based recovery zones that replaced older less science based recovery areas.
- Kbb Emergence model: A degree-day emergence was developed by the Forest and Landscape Ecology Lab, Dept. of Forest and Wildlife Ecology at the University of Wisconsin-Madison with several cooperators. The model is currently being used to predict the onset and peak of each Kbb flight period. While this has proven to be a great improvement over the look-and-see method, additional work is planned.

- *(For more information about the model, refer to the Karner Blue Butterfly Emergence Model User's Guide in Appendix E).*

2. Pending research

- Continue research on the Kbb emergence model to refine and validate the model; and to better understand application of the model under broadly varying predictability related to year-to-year climate variation and within year climate swings.
- Continue to refine the Kbb probability model and Kbb High Potential Range as new Kbb presence and absence data are reported.

3. Objectives for Future Research

Additional research will be explored for a variety of reasons. In the adaptive management context in which the Wisconsin Karner Blue Butterfly HCP will be implemented, research will meet the following objectives:

- To obtain information needed to assess and improve effectiveness of conservation strategies.
- To obtain information needed to improve efficiencies and cost effectiveness of management activities, thereby reducing the costs of conservation and increasing participation.
- To obtain information needed to identify additional, viable management options to improve conservation effectiveness and cost effectiveness.

4. Research Program

Observation and analyses of monitoring data by professionals at DNR and among partners will fuel the adaptive management process. The HCP is fortunate to be the benefactor of research already being pursued or planned by other parties. Other research that may be beneficial will be pursued as its priority becomes more important and as funding becomes available. The HCP partnership will not take the lead on research that does not benefit HCP implementation efforts. Where HCP partners' research responsibilities may be complementary to the FWS's federal recovery responsibilities, the initiation and pursuit of research may depend on federal financial support or research cooperation.

5. Coordination of Research Proposals

Partners who wish to engage in research that may result in take of the Karner blue butterfly and which is not specifically described in the HCP will coordinate with the DNR and the FWS to obtain approval and authorization in advance of the research activity. *(Refer to Appendix E and the HCP Webpage (most current) for research proposal procedures).*

Chapter 5. Participation Strategy and Outreach and Education

This part of the HCP discusses the Wisconsin Karner Blue Butterfly HCP partners' plans for involving additional landowners and land users in statewide conservation efforts. It is broken into three sections:

- ☞ An introduction and summary
- ☞ A description of a the non-partner participation plan
- ☞ An outreach, education and assistance strategy

It is believed that by involving additional participants in HCP implementation, the likelihood of successful conservation is greatly increased.

A. Introduction and Summary

This innovative approach to endangered resources conservation was designed to move the regulated community beyond compliance and into efforts to proactively apply conservation measures on the land while engaging in their land management activities. Congress, in establishing the incidental take permit (ITP) provision of the ESA expressed the hope that it would encourage creative partnerships between the public and private sectors and among governmental agencies in the interest of species and habitat conservation and provide a framework to permit cooperation between the public and private sectors. Those goals are achieved by this HCP that arose out of and was developed through a solid and diverse grassroots effort in Wisconsin.

The Karner blue butterfly is dependent on periodic disturbance regimes or management programs designed to assure that the habitat is not lost because of the natural succession of competing vegetation. Therefore, this conservation plan is designed to encourage disturbance activities to the habitat rather than prohibit them. To accomplish a disturbance and management regime statewide, this strategy has been developed with the design to include all Wisconsin landowners and land users that might affect the species, regardless of land size and use. The HCP creates a broad statewide partnership in conservation while realizing the limitation on resources to accomplish its objectives. The strategy seeks to incorporate conservation into everyday land management and on-going work. The HCP is built upon the extensive land ownership and a conservation commitment of the 37 partners identified in this HCP, but seeks to go beyond those partners to include the assistance and participation of other landowners, nonprofit groups, environmental and industrial organizations and a variety of governmental units.

This HCP, with its biological approach, focuses its efforts on geographic areas and activities, which provides the highest potential to sustain or enhance Karner blue butterfly habitat. The strategy seeks to reach all landowners and land users, but will vary in approach and process. The HCP's inclusion strategy includes:

1. A concept of non-voluntary participants that must formally apply for and receive a Certificate of Inclusion from the DNR because of the value their land and activities provide to conservation of the species; and

2. A provision for voluntary participants that receive ITP coverage, without further process, so as to encourage land management activities that may benefit the species; and
3. An extensive public outreach and education plan to reach all landowners and land users, and others, to describe the effort and encourage their cooperation and participation in this conservation effort; including a strong focus on landowners in recovery areas (called Biological Recovery Zones or BRZs); and
4. A recovery component that includes a direct role in recovery by the DNR, and a support role by all Partners who may have an opportunity to provide assistance in a variety of ways, e.g. direct outreach and education to landowners in recovery areas, financial or on the ground support for recovery monitoring, among other needs designated by the DNR's Wisconsin Recovery Working Group, Local Recovery Teams and recovery properties. (*Refer to Chapter 6. Recovery for more information*)

As applied to participation, this approach is designed to provide incentives for conservation through cooperative partnerships. It includes a notification system designed to inform landowners and land users, where possible and feasible, of the opportunities presented under this HCP. Finally, this plan has a geographical focus on the areas that have the highest potential to support the species and its habitat. (*See Figure 6.10, Karner Blue Butterfly Biological Recovery Zones on p. 53*). By this plan, the partnership intends to achieve the endangered species conservation goals while protecting the economic interests of non-federal landowners through this increasing partnership statewide.

B. Participation by Non-partners (New Partner Inclusion)

Recognizing a need for greater involvement in the HCP process, the partners developed a participation plan for non-partners. Details of this participation plan are outlined in this section. A flow chart for determining options for ITP coverage is included in Appendix D.

The participation plan addresses only *occupied* lands; those lands on which the Karner blue butterfly is present in any of its life forms. Non-partner efforts are intended to focus primarily on *voluntary, cooperative* efforts and participation. Nevertheless, requisite participation based upon scientific considerations and the biological needs of the species is also a component of the plan. Inclusion in this HCP will provide the landowner or user with authorization (incidental take permit coverage) to incidentally take Karner blue butterflies while conducting lawful land management or land use activities. *Intentionally taking* Karner blue butterflies, regardless of location or activity, is still *prohibited* unless specifically authorized by the USFWS.

Non-partner participants are divided into two groups:

- ☞ **Non voluntary-** non-partner landowners and land users that are required to obtain a Certificate of Inclusion (See pages 43-46). Landowners and land users in this category are within the High Potential Range, own or manage lands, and are engaging in activities that would take Karner blue butterflies should they be present.
- ☞ **Voluntary- non vs. partner** landowners and land users that are *not* required to obtain a Certificate of Inclusion (See pages 46-49 Landowners and land users in this category will be covered in the HCP and ITP without further application or inclusion processes.

Non-voluntary Category (Certificates of Inclusion required)

Non-partner landowners and land users engaged in activities and in locations that may significantly affect the Karner blue butterfly are required to obtain a "Certificate of Inclusion" from the DNR, either as a single project applicant or as a partner. Through application to and review by the DNR, these landowners and land users may ultimately be covered under the ITP. Landowners or land users who do not meet the criteria to be included in the "Voluntary Category" are required to apply to the DNR, if they: (1) own land or engage in activities within the High Potential Range, and (2) are involved in the following activities or activities resulting in permanent take:

- ☞ Right-of-way or corridor development and maintenance, or
- ☞ Commercial forestry, or
- ☞ Permanent take,

The ROW or corridor development and maintenance category includes all landowners, land users and other agencies or entities engaged in road or highway, railroad, utility, communication, power and pipeline development or maintenance . Participation from this group is required because the development of roadways or other corridor facilities may involve permanent take. Moreover, the maintenance regimes associated with right-of-way or corridor management provide the opportunity to encourage the continuation of Karner blue butterfly habitat and provide important dispersal corridors for the butterfly.

Participation by commercial forest owners is required because of the known Karner blue butterfly occurrences on such land, the flexibility these landowners and managers may have in management and the benefits that may accrue to Karner blue butterflies through implementation of on-going forest management activities. Forest owners in this category must own in excess of 1,000 acres of forest land in Wisconsin. Forest owners who own 1,000 acres or less and those with greater than 1000 acres of land where the land is not primarily managed for the purpose of forestry (e.g. managed for recreation, as camps or lake associations) are considered "voluntary" participants and are not required to obtain a Certificate of Inclusion for coverage under the ITP (See pages 50-53). "Forest land" can include land in the Forest Crop, Woodland Tax, or Managed Forest Law classifications under the Wisconsin Tax Assessment Classification system for real

property, as well as land that is designated as "Industrial Forest" by the DNR under its forest tax law programs.

Permanent take is an impact to Karner blue butterfly habitat through land management or land use activities, which precludes Karner blue butterfly occupation. Such long-term impact involves taking that does not allow for the restoration and reoccupation of the site for a minimum of five years. Activities or projects that may fall within the definition of permanent take include, but are not limited to:

- ☞ construction of roadways and parking lots;
- ☞ construction of buildings or structures and associated facilities;
- ☞ other construction or development projects that cover or replace the habitat in a permanent manner (at least 5 years), such as an airport or a flowage; and
- ☞ residential housing developments subject to subdivision plat (ch. 236, *Wis. Stats.*), certified survey (ch. 236, *Wis. Stats.*), or condominium (ch. 703, *Wis. Stats.*) approvals. [**Note:** This category does not include a permanent or second home and associated structures that are owned or built by the owner for his or her own use; landowners in this category are considered part of the voluntary category (see below). This provision applies only to those housing developments approved after September 27, 1999, the date of issuance of the first ITP for implementation of the HCP permit issuance.]

Landowners and land users not meeting the criteria for inclusion in the voluntary category that are involved in activities that result in permanent take of the Karner blue butterfly will be required to provide compensatory mitigation in a manner acceptable to the DNR and the USFWS. Mitigation may take the form of land, activities or monetary compensation. Mitigation in the form of land compensation may occur either on land owned or managed by the applicant, or on those of another. In-kind services or monetary compensation in the form of annual payments during the life of the ITP may also be used as mitigation to defray the implementation costs associated with mitigation.

Current HCP Partners who hold a Certificate of Inclusion are authorized to do incidental take in the course of their land management activities. However, authorization for permanent take is only issued upon approval of a mitigation plan consistent with the HCP Construction Guideline.

For those non-partners who do not manage land and only seek authority for permanent take for a single project, a "one-time permit" inclusion can be provided. For non-partners who also manage land, ongoing conservation efforts such as those provided by HCP Partners may lessen the fees imposed on an applicant. (*Refer to the New Partner Inclusion Procedure in the HCP User's Guide in Appendix E.*) If ongoing management requires periodic disturbance resulting in take, these entities will be encouraged to become a HCP partner.

The Application process for coverage under the ITP for those in the Non-Voluntary category is described in the "Inclusion Procedure" in Appendix E and in the HCP User's Guide (*Refer to DNR's Karner Blue HCP webpage for most current version .*).

The requirements to request approval for permanent take can be found in the HCP's "Construction Guideline" and applicable protocols. (*Refer to Appendix E or the HCP User's Guide on the DNR's HCP webpage.*)

Voluntary Participation (Automatic Inclusion)

The voluntary non-partner participation category includes those landowners, land users, or activities that either (1) do not meet the criteria requiring a Certificate of Inclusion, i.e. those in the non-voluntary category who are involved in ROW or corridor development and management, commercial forestry or some types of permanent take for commercial or residential development (*see non-voluntary participation p. 46-47*), or (2) are listed as an exception to the requirement. Participation in the conservation effort by this group is voluntary; such an approach to endangered and threatened species conservation has historically been successful in Wisconsin. Activities that result in incidental take, including permanent take engaged in by landowners and managers in this category will be automatically covered by the ITP without further approval or process whether the Karner blue butterfly is incidentally taken or not. The exceptions are described below and include:

- ☞ Non-commercial Forestry Landowners
- ☞ Agricultural Community
- ☞ Non-subdivision Residential Development

Non-commercial Forestry Landowners (Voluntary Category). Non-commercial forestry landowners in this HCP are defined as landowners with 1000 acres or less, or those with greater than 1000 acres of land where the land is not primarily managed for the purpose of forestry (e.g. managed for recreation, as camps or lake associations).

Many of the forest land owners in the state; private and corporate have entered their land under the DNR's forest tax law management programs (Forest Crop, Woodland Tax, Managed Forest Land programs). These forest management programs distinguish commercial forestry as greater than 1000 acres, and non-commercial forestry as 1000 acres or less.

Agricultural Community (Voluntary Category). The inclusion of the agricultural community in the voluntary non-partner participation category is based on the experience and knowledge of Karner blue butterfly habitat requirements and the location of historic Karner blue butterfly element occurrences. Most agricultural operations do not appear to support habitat for the Karner blue butterfly or present a threat to the continued existence or recovery of the Karner blue butterfly in Wisconsin. For the purpose of this strategy and exception "Agricultural lands, activities or use", shall have a similar meaning as that provided in s. 91.01(1), *Wis. Stats.*, which describes agricultural use to mean:

... beekeeping, commercial feedlots; dairying; egg production; floriculture; fish or fur farming; forest (except "commercial forest" as defined above) and game

management; grazing; livestock raising; orchards; plant greenhouses and nurseries; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least 35 acres of which is enrolled in the conservation reserve program under 16 USC 3831 to 3836; participating in the milk production termination program under 7 USC 1446(d); and vegetable raising.

Although agricultural agencies at the federal, state and county levels will be involved in this program, the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) will be the principal partner, through a memorandum of understanding with the DNR, orchestrating the efforts of the agricultural community. The DATCP has committed to working on request with the various growers organizations, as well as the owners and users of agricultural land, to assist in outreach, education and assistance related to pesticide use and informs the pesticide user community that issuance of a permit by the FWS for implementation of the HCP does not authorize an intentional take of the Karner blue butterfly. The DATCP will make follow-up contacts with agricultural landowners and other pesticide users to assure legal pesticide use. The DATCP, with input from agricultural businesses and growers groups, has produced recommendations for protecting Karner blue butterflies from pesticide injury on agricultural lands. These recommendations are part of the educational materials the DATCP is providing these groups to distribute to their members and clients. Where the DATCP works with individuals to develop a management plan, plans and affected sites will be periodically examined for workability and habitat health or butterfly occupancy.

Non-subdivision Residential Development (Voluntary Category). Another activity exempted from the requirement of obtaining a Certificate of Inclusion is small scale residential development. Landowners or persons building a permanent or seasonal home with associated structures, such as a garage or driveway, are not considered a threat to the continued existence of the Karner blue butterfly or its recovery.

Voluntary participation in conservation efforts, however, will be encouraged through outreach, education and assistance. Through this strategy, the partnership is confident that it will gain the cooperation of many non-partner landowners.

C. Outreach, Education and Assistance

The Outreach, Education and Assistance strategy is key to the effectiveness of the voluntary, non-partner segment of this conservation effort. As part of a non-regulatory approach, statewide public outreach, education and assistance programs will be conducted to foster partnerships and encourage conservation efforts on a voluntary basis. The Partners intend this outreach and education program to be user-friendly and non-threatening. In order to encourage cooperation in this conservation strategy, landowners and land users in the voluntary participation category must be given assurances that engaging in conservation efforts will not be disadvantageous. It is essential that landowners and land users be guaranteed that participation in conservation efforts will

not result in restrictions due to the presence of the Karner blue butterfly. Therefore, persons in this category have assurances within the ITP for a period through (and beyond its duration, if the ITP is renewed) that there will be no restrictions on incidental take including permanent take nor on the use of the land with regard to the Karner blue butterfly. Otherwise, a landowner may be reluctant to engage in conservation efforts.

The objectives of this effort will be to:

- ☞ Educate landowners, land users and others about the unique circumstances of Karner blue butterflies and landowners in Wisconsin;
- ☞ Identify those who would engage in conservation activities for the Karner blue butterfly, whether voluntary or non-voluntary;
- ☞ Offer the opportunity to become involved in this unique conservation effort to those who are willing; and
- ☞ Seek to develop cooperative conservation alliances as described elsewhere in this section.

New Partner Recruitment of Landowners and Land Managers in the Non-Voluntary Category. Those landowners or land users, who require permit coverage, are offered an opportunity to participate in this HCP (and associated ITP coverage) through a variety of processes and mechanisms consistent with the “HCP Communication Plan”. *(Refer to Appendix D.)*

Landowners and land users who may incidentally take Karner blue butterflies will be subject to a variety of methods of public outreach, education, or assistance. HCP Partners and collaborative groups, field foresters, property managers, county offices, trade associations, environmental land trusts and other organizations, as well as other state and federal agencies representing particular interests or activities are aware of the HCP and have and will continue to communicate informational materials prepared by the DNR and the HCP partners to those affected. The DNR and HCP Partners will be responsible for providing information on the Karner blue butterfly to landowners or land users within Biological Recovery Zones who are not associated with such interests or activities.

Permanent take. It would be impossible to comprehensively anticipate all those that may be involved in a permanent take of Karner blue butterflies in the future. The Karner Blue HCP has been the subject of widespread outreach and education since 1995. With this broad awareness, information regarding inclusion requirements is widely available from cooperating consulting and engineering firms and regulators (e.g. the DNR Bureau of Endangered Resources, the DNR Office of Energy and the USFWS) who are often approached by affected parties. This information can also be accessed via the DNR’s widely used HCP Webpage.

The outreach and education strategy has as its strongest geographic focus, those broadest biological population areas, which include Karner blue recovery properties at their core. These areas are called “Biological Recovery Zones” (BRZ) *(Refer to Figure 6.10 Karner Blue Butterfly Biological Recovery Zones on p.53)*. Outreach and education commitments

are not an annual, mandatory requirement of partnership. Not all partners will have the opportunity to provide outreach and education in BRZs. However, as goals in the BRZs are realized, the scope of voluntary efforts will extend to areas throughout Wisconsin.

Biological Recovery Zones (BRZ). As noted above, landowners and land users within BRZs will be subject to an outreach and education program designed to encourage conservation and provide information on plan requirements. Direct contacts will be made in BRZs where the recovery property can not achieve recovery goals within the property boundaries and seeks assistance from neighboring landowners. In addition to direct contacts, information will be distributed through the HCP webpage with the assistance of partners, participants and governmental agencies. Technical assistance, when available, will also be offered. The DNR, HCP Partners and other collaborators including the USFWS Partners for Fish and Wildlife Program will target areas with known occurrences or a high potential for continued populations for focused landowner contact and participation.

High Potential Range. The remainder of the Karner Blue Butterfly High Potential Range, which is outside of BRZs, as indicated in Figure 2.10 (page 12), covers a large area. Like the BRZ's, this category maintains a geographical focus, but of a lesser priority for outreach and education as there is less opportunity for long-term Kbb conservation outside the BRZs.

Landowners and land users within the High Potential Range, but outside of the BRZs will be subject to the outreach and education program designed to encourage conservation and provide information on plan requirements. Information will be distributed through the HCP webpage with the assistance of partners, participants and governmental agencies. Technical assistance, when available, will also be offered. Outreach and education will be primarily passive in this area.

Karner blue butterfly specimens as an educational resource. Up to a total of 20 voucher specimens (including both male and female adults) may be collected by the WDNR under the permit for outreach, education and training purposes. Specimens would include dead specimens found in the field, and adults taken after the peak of the second flight. Adults would only be collected from sites where removal would not jeopardize the health of the KBB population. Specimens would be identified as belonging to the U.S. Fish and Wildlife Service and be kept in secure locations.

Chapter 6. Recovery of the Karner Blue Butterfly in the Wisconsin Statewide HCP

This chapter provides a discussion of the federal Karner blue butterfly recovery effort, the HCP partner's recovery role and distinguishes the practical and implementation differences. It is divided into the following sections:

- ☞ An overview of the relationship of federal recovery embedded in this HCP
- ☞ A brief discussion of DNR's participation in the federal Karner blue butterfly recovery program
- ☞ A discussion of HCP Partners' role in recovery efforts

A. Recovery and HCP's

The Federal ESA requires the USFWS to develop recovery plans for species listed as endangered or threatened, unless the Secretary of the Interior finds that such a plan will not promote the species conservation. The goal of recovery planning is to establish recovery goals, guidelines and funding priorities for restoring imperiled populations to viable levels into the indefinite future. The goal of the Karner Blue Butterfly Recovery Plan (2003) (Recovery Plan) is to establish viable populations of the Karner blue butterfly across its U.S. range so that it may be reclassified as threatened and eventually delisted.

The ESA further provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such... Species. . . ." Habitat Conservation Plans (HCP's) under section 10(a)(1)(B) of the Act provide for partnerships with non-Federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery (USFWS July 2009).

B. Participation in the Federal Karner Blue Butterfly Recovery Program

HCP Partners Involved in Recovery. The DNR is currently the only HCP partner to have made a commitment to participate in Federal recovery efforts on lands they manage. Other partners are unable to commit for a variety of reasons including no land ownership, no Kbbs on their lands, long term financial implications, and legal obstacles to making a permanent commitment of lands for this purpose.

Table 6.10 (below) identifies specific DNR properties that will be involved in recovery efforts along with acreages both managed for and supporting the recovery effort. The acreage figures reflect the acreage of identified recovery sites that can potentially support the metapopulations on these properties. Additional sites and acreage may be added as needed to achieve population goals. The timetable for habitat restoration and the establishment of populations meeting the goal criteria will depend primarily on adequate funding and climatic conditions. A detailed listing by property of population goals is found in the Karner Blue Butterfly Recovery Plan (2003), Appendix B-12. Interested

parties should refer to Appendix B of that Plan (http://ecos.fws.gov/docs/recovery_plan/030919.pdf) for details and a map illustrating the location and recommended recovery goals for each recovery unit.

Table 6.10 DNR Lands and Acreages Managed for Recovery

Property	Acreages			
	Management to Feature and Enhance			Total
	Long-term Habitat	Shifting Mosaic	Corridors	
Black River State Forest (including Dike 17 WA and Bauer Brockway Barrens SNA)	200	2,000		2,200
Crex Meadows and Fish Lake Wildlife Areas	325	9,675		10,000
Meadow Valley (federal) and Sandhill Wildlife Areas	700	2,300		3,000
Greenwood Wildlife Area	53	1,384		1,437
White River Marsh Wildlife Area	45	3,955		4,000
Emmons Creek Fisheries Area	150	500	3	653
Hartman Creek State Park	13	50		63
Total	1,486	19,864	3	21,353

C. The Role of Karner Blue Butterfly Recovery in the HCP

This HCP is uniquely designed with a complex and sometimes confusing multi-faceted recovery role that overlaps HCP implementation with active participation in the Federal Recovery Plan by the DNR on a subset of properties; that is, the DNR is actively involved in achieving recovery goals and managing Kbb populations in perpetuity. The DNR is also a HCP Partner as the legal mechanism for incidental take authority for both recovery and non-recovery activities that result in incidental take. In turn for incidental take authority, DNR recovery properties follow much the same conservation measures and ITP reporting requirements as all other Partners. No other HCP Partner currently has

this dual role.

However, all HCP Partners, including the DNR voluntarily support the recovery effort through the HCP. While “achieving Kbb recovery” is not a written goal of the HCP, the HCP Partners realize the ultimate importance of Kbb recovery in Wisconsin and choose to support the recovery effort in voluntary ways that support those actively involved in the recovery effort. The Articles of Partnership (see Appendix C) describes the HCP Partners’ role, which includes, *“To assist in Karner blue butterfly recovery in Wisconsin. The HCP partners’ role in recovery can best be described as voluntary and a support role”,* and *“The Partnership in the implementation of the Conservation Plan has no direct responsibility to the Recovery Plan; however, an open and clear line of communication between the Karner Blue Recovery team and this Partnership will be maintained in a support role consistent with these Articles and for the exchange of technical information.”*.

Implementation of this HCP has already contributed to achieving several other Federal recovery goals identified in the Recovery Plan. These tasks include the development and distribution of educational and outreach materials, development of management guidelines (e.g., see Appendix E) and the collection of critical ecological data on the Karner blue butterfly and its habitat.

An important recovery support role for Partners will be to assist in recruiting landowner support for recovery:

- ☞ Direct personal contacts focused on lands in BRZ’s where recovery goals may not be met without the assistance of landowners outside recovery property boundaries. All landowners will be encouraged to participate in conservation/recovery efforts on a voluntary basis.

Participation by other public and private landowners is a welcome contribution to support designated recovery populations in particular, and statewide Karner populations in general. This participation and contribution is especially helpful in the Biological Recovery Zones (*See Figure 6.10 Karner Blue Butterfly Biological Recovery Zones on p. 53*) surrounding each recovery property. Biological Recovery Zones (BRZ’s) are areas including and around recovery properties (all) which constitute and/or support the same metapopulation as exists on and around the recovery property.

This can include areas of known or high probability habitat such as dispersal corridors, living corridors, open habitat and forested land that has suitable Kbb habitat and could likely contribute to the recovery of viable Kbb metapopulation associated with the recovery property.

Other support opportunities for HCP Partners include:

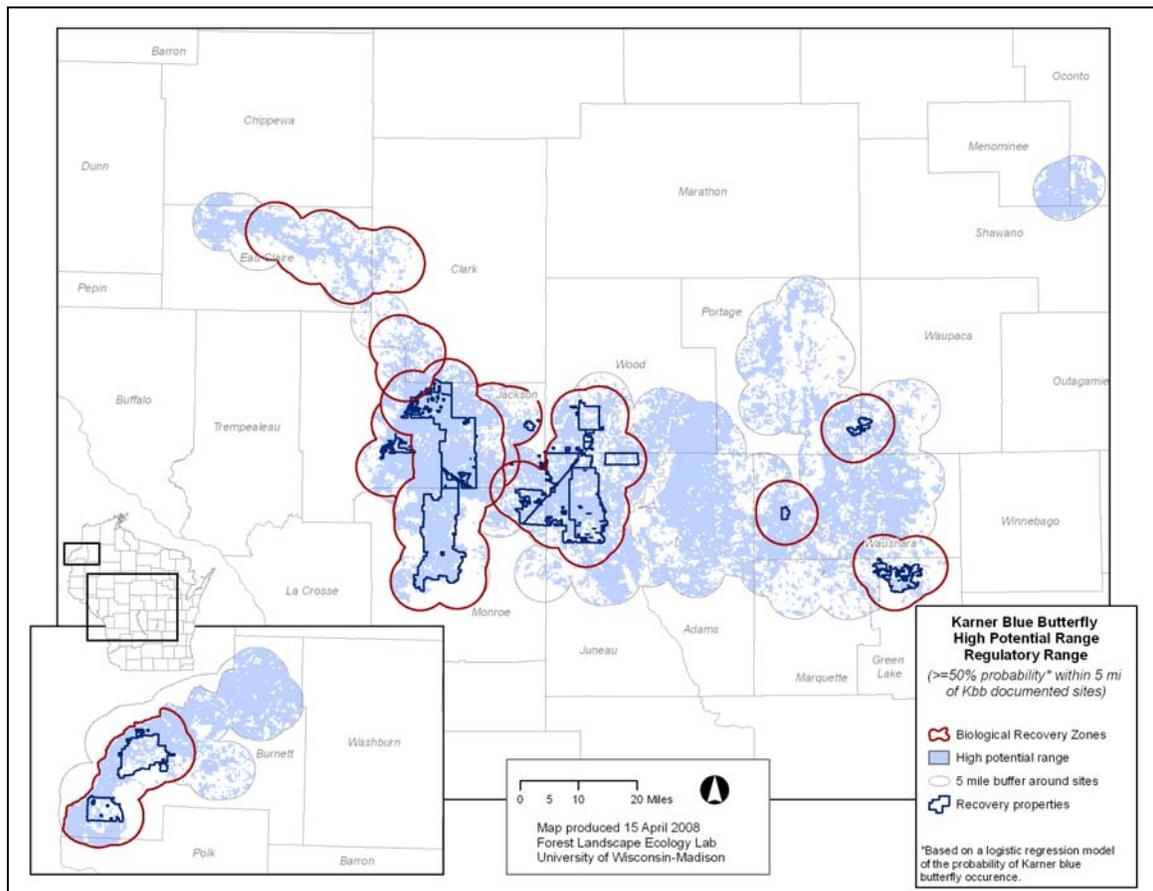
- ☞ Land acquisition or conservation easements for recovery or long term maintenance. Based on the availability of funds, the DNR or other partners will consider acquiring land from voluntary sellers in areas suitable for application of

management practices and recovery purposes.

☞ Land acquisition or conservation easements for conservation activities. The DNR and other partners may acquire land from voluntary sellers for conservation purposes, including the possibility of its use for a mitigation or mitigation banking strategy.

All HCP Partners may not have opportunities, landowner relationships or other connections, or economic resources to provide support, but many Partners may have an opportunity to provide assistance in a variety of ways, e.g. direct outreach and education to landowners in recovery areas, financial or on the ground support for recovery monitoring, among other needs identified by the DNR’s Wisconsin Recovery Working Group, Local Recovery Teams and DNR, Federal and private recovery property managers.

Figure 6.10. Karner Blue Butterfly Biological Recovery Zones



Chapter 7. HCP Funding

A. Funding Overview

The strength of this unique statewide conservation plan is the commitment of conservation measures on large tracts of public and private land (partner lands) throughout the State of Wisconsin. The HCP partners and other cooperators have committed to continue to work together in a grassroots cooperative plan designed to assure the future of the Karner blue butterfly through their collective conservation efforts conducted while continuing their normal management and land use activities.

The participation plan of the HCP brings together tremendous resources of support. This conservation effort, therefore, differs from other HCP's, as does the approach to funding. The strength behind the guarantee of funding is not to be found in the detail of dollars that might be located in an escrow account, but rather in the DNR's and the HCP Partners' commitments outlined in the Implementing Agreement and individual Partner's conservation agreements.

Therefore, in this plan, there will be a continuing effort through funding mechanisms and sources identified below and through joint partnering efforts:

- ☞ With the guidance of the IOC, the DNR will continue to establish funding mechanisms needed to support the implementation of the HCP;
- ☞ The DNR will continue to include in its annual budget requests, funds to fulfill its obligations under the HCP and the Implementing Agreement (Refer to Chapter 8 of the HCP for staffing and support details). However, the DNR can only obligate state funds for future activities to administer the ITP and implement the HCP, after they are appropriated by the state legislature;
- ☞ The USFWS will continue to seek adequate funding to fulfill its administration and assistance commitments and meet its statutory requirements (e.g., assist with permit monitoring and oversight issues and provide assistance on permit and HCP implementation issues). The USFWS further agrees to assist in identifying and pursuing funding for activities in the HCP that contribute to the recovery of the Karner blue butterfly;
- ☞ The partners will continue existing collaborative efforts and will develop further funding opportunities as needed.

This partnership approach has worked successfully over the last 10 years to provide funding to effectively implement the HCP. However, if at any time in the implementation and administration of the HCP funding appears to be unavailable to meet the commitments, the DNR will consult with the USFWS to determine whether the HCP or ITP needs amendment or modification.

B. HCP Organizational Structure

Implementation Needs. To anchor the HCP implementation infrastructure, DNR will continue to provide a full-time, permanent employee as the HCP Coordinator. This position will be stationed in the Division of Forestry and will be supported by segregated forestry funds.

There continue to be several unknowns around this HCP:

- ☞ The uncertainty of state and federal funding,
- ☞ The fact that the ultimate number of partners is unknown, and
- ☞ The magnitude of different activities.

As a result, the diverse financial needs of implementing the HCP continue to require that:

- ☞ A variety of funding sources be available and
- ☞ The management of these funds be flexible.

Administrative costs to administer the ITP, to implement the HCP and to operate the adaptive management system will continue to be largely be born by the DNR's Forestry Division: jointly funded and supported by:

- ☞ Forestry Division general purpose revenue (GPR) and segregated forestry funds;
- ☞ In-kind support from various DNR staff through cross program cooperation negotiated through the Department's work planning process;
- ☞ In-kind support from partners' staff participating on the IOC and its working subcommittees; and
- ☞ Non-refundable application and entry fees for future applicants requiring certificates of inclusion or partner status.

Partner Commitments. The main body providing partner support to the general implementation of the HCP will continue to be the partners' Implementation Oversight Committee (IOC). Operation of the IOC will be mostly self-funded with in-kind contributions of service and support of the IOC standing members. All partners are responsible to participate on the IOC during the course of the ITP. (*Refer to Chapter 8 for detailed information about the IOC.*)

Through individual conservation agreements, partners are committed to fund their management activities, which give consideration to, or enhance and favor the Karner blue butterfly and/or its habitat. Partners are likewise committed to fund required surveying and monitoring on lands they manage.

C. Implementation Process

Monitoring Impacts. Partners will continue to commit funds for biological monitoring needs, as outlined in Chapters 4 of the HCP. Recovery monitoring costs will be primarily born by the DNR. Funding sources include:

- ☞ DNR (will seek federal funding assistance);

- ☞ In-kind monitoring volunteered by partners and other cooperators; and
- ☞ Possibly a portion of inclusion fees and in-kind services from future applicants.

Each Partner will continue to support their required surveying and monitoring of lands entered into the management strategies under the conservation agreement. The funding to support pre-management surveying and monitoring related to partners' normal management activities is the responsibility of each partner. Each partner is obligated to perform this monitoring by their commitment in their conservation agreement. Verification that this obligation has been met will be part of the compliance auditing process.

Compliance Auditing. Compliance auditing (a.k.a. compliance monitoring) satisfies the USFWS' and the public's "need to know" that the parties involved are honoring their agreements. This form of monitoring will continue to primarily be the responsibility of the DNR.

Funding Commitments for the HCP's Conservation Program. Land management activities that result in the positive and necessary disturbances required for Karner blue butterflies to persist are inherent in each partner's normal land use activities. This is the very thing that has allowed the Karner blue butterfly's continued persistence on the Wisconsin landscape. A detailed description of funding commitments to perform existing normal work is irrelevant since these are the normal activities which would otherwise occur on the landscape. It is necessary and desirable that partners continue these activities when the ITP is renewed. For those situations where normal work will be modified, and the modifications result in additional costs, the partners are committing to funding additional in-kind effort as reflected in their conservation agreements.

Collection and Management of Funds, Fees and Fines. The state legislature approved a mechanism for the DNR to collect and manage funds from certain groups. HCP related funds deposited in this account will be approved for use by the IOC and the DNR.

Data Management and Analysis. The DNR will be responsible for coordinating and providing most data management and GIS activities. Funding will come from: DNR through work planning; commitments from some partners; outside sources; and may use a portion of inclusion fees from future applicants.

Research. Research priorities are identified in Chapter 4 of the HCP (pages 40-41). The HCP is fortunate to be the beneficiary of research already being pursued or planned by other parties. The DNR's Division of Forestry has invested a considerable amount of money for research.

Observation and analysis of monitoring data will continue to fuel the adaptive management process. Other research, which may be beneficial, will be pursued as its priority becomes more important and as funding becomes available. Commitments of large sums of funding for additional research are not being made. However, at the discretion of the IOC and the DNR, the partnership may make use of a portion of

inclusion fees from future applicants and in-kind services.

Some research is fundamental to the federal recovery process (Refer to the Karner Blue Butterfly Recovery Plan 2003) and may also benefit the HCP. The HCP Partnership will look to the USFWS and its recovery partners to help support research in this category.

Training. Training staff who are implementing the HCP may take a variety of forms, depending on the ultimate audience and demand. Funding for, or in-kind training services may be provided by one or more of the following:

- ☞ The DNR - Bureaus of Endangered Resources, the Division of Forestry and the HCP Coordinator;
- ☞ The DNR regional and area offices;
- ☞ The HCP Partners that have committed to internal and some external training in their conservation agreements;

The partners may also make use of a portion of inclusion fees from future applicants and in-kind services for training.

D. Additional Conservation Efforts

Outreach and Education. An important element of the HCP is the effort to spread broad awareness and understanding of the Karner blue butterfly and the opportunities to participate in this HCP. Coordination and basic outreach will be funded by the DNR.

Education may take a variety of forms, depending on the ultimate audience and demand. This will be provided by one or more of the following:

- ☞ The DNR Bureaus of Endangered Resources, the Division of Forestry and the HCP Coordinator;
- ☞ The DNR Regional and Area offices and Customer Service Centers;
- ☞ The DNR Bureau of Communication and Education;
- ☞ HCP Partners that have committed to outreach and education measures in their conservation agreements;
- ☞ The existing cooperative relationships with organizations like The Nature Conservancy, Wisconsin Woodland Owners Association, Audubon Society and Sierra Club; and
- ☞ The extended cooperative partnerships which will be developed with organizations such as UW-Extension, county land conservation agencies, tree farm families and others.

As with training, the partners may make use of a portion of inclusion fees from future applicants and in kind services for education and outreach.

Public Awareness. It is anticipated that there will continue to be a great deal of interest and inquiry around this HCP effort. Much of this could be academic or otherwise not directly related to recruiting additional conservation efforts. Funding for public awareness in the form of public relations will primarily be the responsibility of the DNR. Funding will continue to come primarily from the Division of Forestry Where the DNR

feels it is appropriate, the IOC will be consulted for advice or assistance.

Chapter 8. Implementation Organization

This part of the updated HCP describes the HCP partners' commitments to institutional arrangements for implementation of the HCP. It is divided into eight sections:

- ☞ DNR Organizational Structure for Implementation
- ☞ DNR-Partner Conservation Agreements
- ☞ Implementation Oversight Committee (IOC)
- ☞ Future Applications for Partner Status or Participation
- ☞ Permit Period
- ☞ Permit Amendments
- ☞ Permit Renewal
- ☞ USFWS "No Surprises" Policy

A. DNR Organizational Structure for Implementation

The lead programs for the HCP within the DNR will continue to be the Land Division's Bureau of Endangered Resources and the Division of Forestry. The focal position will be a full-time, permanent HCP Coordinator, stationed in the Bureau of Forestry, who will provide general project management and leadership within the DNR, coordination and facilitation for both the DNR and the Implementation Oversight Committee (IOC), planning, process design, development and training, as well as related duties. The DNR commits to provide a variety of other staff that will support the project as needed.

As the lead applicant for the Incidental Take Permit (ITP), the DNR will act as the permit administrator. In this capacity the DNR, among all other partners, will have the final authority and responsibility for decisions related to the ITP, although the agency will routinely seek advice from the partners and the Implementation Oversight Committee (IOC). In matters related to the implementation of the HCP, the DNR will share responsibility with the partners, most often through the IOC. This team, which represents the diverse interests of the partnership, is described below (pages 59-66). The IOC will operate within the Articles of Partnership (see Appendix C) and will act as an advisor to the DNR. However, as the permit holder, the DNR will be responsible for final decisions to assure the ITP is complied with and is not jeopardized.

Authority. The DNR has agreed to act as the lead applicant and permit administrator in accordance with any federal ITP issued. The DNR acts in this capacity under the authority of ss. 23.09 and 23.11, *Wis. Stats.*, regarding DNR's general powers; and 29.415, *Wis. Stats.*, the state endangered species law and s. 29.175, *Wis. Stats.*, regarding the protection and regulation of nongame species.

The DNR's implementation of the HCP is structured by an Implementing Agreement between the DNR and the USFWS. The agreement defines the roles and responsibilities of the DNR regarding implementation of the HCP and integration of other landowners or users, including the partners, with the DNR to obtain coverage under the ITP. The HCP and the Implementing Agreement are complementary to each other.

HCP partners, other than the DNR (lead applicant and co-partner), receive coverage under the ITP through their binding contracts with the DNR. These binding contracts, called Species and Habitat Conservation Agreements (conservation agreements), are supplementary to the Implementing Agreement. All are to be implemented and administered consistent with the HCP and the ITP. Any incidental take of Karner blue butterflies, then, must be consistent with the HCP, the conservation agreements or the Implementing Agreement, the ITP and other applicable federal and state laws.

The processes for addressing unforeseen or extraordinary circumstances, amending the HCP and ITP if necessary, reviewing implementation of the HCP and funding are discussed in this HCP and more briefly in the Implementing Agreement. A comprehensive definition of responsibilities for implementation of the conservation program is also included in the Implementing Agreement.

DNR Commitments. For the duration of the permit, the DNR, in addition to its conservation and recovery commitments under the HCP, will provide staff and fund one permanent, full-time employee to administer the ITP on behalf of the DNR and to coordinate implementation of the HCP. The coordinator will be responsible for both coordination of the DNR-owned lands' prescribed management activities with DNR property managers (and other conservation measures committed to by DNR in the implementation agreement) and the collective implementation of the HCP, including compliance audits of HCP partners.

The DNR's Division of Forestry will provide funding for the HCP Coordinator's salary and other expenses related to the position, including supplies, travel, information, communication and meeting expenses for HCP partner meetings. The DNR will share in some of the administrative and operational needs of the IOC and the partnership.

The DNR will provide or seek funding for DNR support services as needed to fulfill its obligations and commitments in implementing the HCP and administering the ITP.

Assurances. Public entities typically do not have complete control in decision making regarding the allocation and dedication of public monies. Through a variety of planning processes, however, they have an opportunity for justifying activities, such as those needed to implement the HCP. The first of those is the *Property Master Planning Process* as governed by Chapter NR 44, Wis. Adm. Code. This process provides for the logical and progressive planning of objectives and activities for management on state-owned, DNR-managed lands.

To the greatest extent possible, *work planning* also ensures the DNR will implement the HCP on DNR-managed lands. Work planning is an official operating procedure in the manual code (synonymous with standard operating procedures) that all DNR programs establish in conjunction with the state's biennial budget process. The development of *County Forest 10-Year Plans* supports the implementation of the HCP on County Forests much the same way as DNR master plans do on DNR lands.

B. DNR-Partner Species and Habitat Conservation Agreements (Conservation Agreements)

The Wisconsin Karner Blue Butterfly HCP partners are guided in their participation by binding Species and Habitat Conservation Agreements (conservation agreements). Templates of a conservation agreement for Full Partners and another for Limited Partners are included in Appendix D. These agreements have been entered into by and between each partner and the DNR. Once the Partner has an agreed upon conservation agreement, the DNR will issue the Partner a Certificate of Inclusion. The conservation agreements form the basis of the DNR's application for the statewide incidental take permit (ITP). With the ITP, the DNR will implement and oversee the statewide Karner blue butterfly conservation program, involving the partners and other landowners and users in the state.

Each conservation agreement is consistent with and tailored to the resources, capabilities and commitments of individual partners. Each partner's conservation agreement addresses and details:

- ☞ The lands and activities included in the conservation effort;
- ☞ The obligations of partners to modify land management or land use activities as a result of adaptive management; and
- ☞ The monitoring, reporting and auditing responsibilities the partners agree to conduct and be subject to during the length of the commitment;
- ☞ Any additional conservation efforts a partner intends to engage in;
- ☞ Public outreach and education activities partners agree to implement;
- ☞ The period for which it will bind the partner, as well as any renewal, modification and amendment opportunities under it;
- ☞ Data sharing of Natural Heritage Inventory data for Karner blue butterfly element occurrences.

The commitments of the partners are detailed in their individual conservation agreements. Most partners have agreed to follow the guidelines and protocols included in the HCP User's Guide in Appendix E. Others will do a mix of what is in the HCP and some specific conservation measures outlined in their individual conservation agreements. All commitments, however, are stated in the partners' conservation agreements, especially in cases where they have chosen to operate differently than what is outlined in the HCP.

Any incidental take of a state or federally-listed species other than the Karner blue butterfly requires a permit or approval, other than the ITP granted for this HCP, from the DNR and/or the USFWS.

Such a permit was issued by the DNR to the HCP Partners in 1999 that allows for the incidental take of a specific suite of state-only listed species that will likely benefit from the Kbb conservation measures in the HCP and are able to withstand the minimal amount of impact from land management activities.

Access to the lands and relevant records of each partner, for the purpose of implementing the conservation program and assuring compliance with the agreement, is described in

the conservation agreement. It is necessary for the DNR, and others including the USFWS, to access partner lands for the purposes of auditing and implementing the ITP.

The conservation agreements also include provisions to address the assignment of privileges and the transfer of lands, including the process to address proposed transfers. The transfer of lands or modification of obligations will be addressed by notice to the DNR.

Remedies Finally, the conservation agreements detail the remedies available in the event that a partner violates provisions of the agreement. A partner violating provisions of the conservation agreement may not only lose coverage under the ITP and be subject to prosecution by the USFWS if take is involved, but will also be subject to various civil remedies and damages the DNR may seek for contract breach. Decisions on when to seek such contract remedies by the DNR will involve the IOC. The final decision on conservation agreement enforcement will rest with the parties; therefore, a partner's violation of the conservation agreement will be the DNR's responsibility to enforce. The decision to seek enforcement for an unauthorized take under the ESA will be solely the decision of the USFWS.

The goal of this contractual relationship between the partners and the DNR is that of most service contracts. The parties want to continue their relationship in an amicable and reasonable manner to achieve the goal of the contractual agreement. In this case, both parties want to assure the conservation of the Karner blue butterfly, but be allowed to reasonably continue land management and use activities. With this species, both can be reached. Few contractual relationships flow without bumps in the road. Minor infractions could take place, but should not jeopardize the completion of the contract or achievement of the goals it was entered into to achieve. Therefore, levels of contract enforcement or administration are common. These may include:

- ☞ Notification to fully comply, pointing out an infraction not needing correction, with no further pecuniary remedies or loss of ITP coverage;
- ☞ Notification to comply and correction of an infraction within a certain period of time, with no further pecuniary remedies or loss of ITP coverage;
- ☞ Notification of an infraction and the seeking of pecuniary damages, but *no* loss of ITP coverage; or
- ☞ Notification of an infraction and the seeking of pecuniary damages *with* loss of ITP coverage.

These stages of contract administration cannot be well-defined. Sound judgment and understanding must be included in contract administration and is an obligation of both the DNR and the partners. Strict and unreasonable administration and enforcement on the part of either party might assure that the goals of the agreement cannot be reached. (*For specifics regarding remedies, see the conservation agreement (SHCA) templates in Appendix D.*)

This HCP partnership relies and must be based on an open and honest relationship that encourages on-going communication. Immediate notification to the DNR of any

violations of the conservation agreements, especially if they involve an unauthorized take of the Karner blue butterfly, is expected. Likewise, the reaction of the DNR to the information and notice should recognize this working partnership and the efforts to jointly conserve and protect the species. Responses should be molded to encourage the process to mitigate or address take in a reasonable and responsible manner through reasonable and realistic contract administration and remedy selection.

At any time that a partner engages in unauthorized take of Karner blue butterflies (i.e. take not covered by the ITP), the issue of ESA enforcement by the USFWS arises. This may result in civil or criminal penalties being assessed against the partners involved. The enforcement will be at the discretion of the USFWS.

Any contractual administration, as will be the case with the conservation agreements, must be flexible and have the latitude to address infractions or violations of agreements in a manner which includes the exercise of sound judgment, consideration of the resource, and furtherance of the conservation goals of the agreement. This conservation plan relies on continuing activity by the partners. Similarly, the continuation of activity by the partners may rely on their authorization under the ITP. Partners often depend on employees and agents, that they cannot constantly supervise, to conduct land management and use activities. Conservation measures in contracts and directions for conducting activities will, in large part, assure they conform to the ITP. Through the IOC and other partners and participants, a wide variety of views and experiences will be available to assure sound, reasonable and equitable administration and enforcement of the agreements, including any remedies that may be sought consistent with them.

C. Implementation Oversight Committee (IOC)

The Implementation Oversight Committee (IOC) is a subset of partners and non-partner cooperators, which primarily exists to represent the partners' interests during the permit period. Non-partner participation is encouraged to provide a broader perspective of shared goals for successful conservation of the Karner blue butterfly and its habitat. There are four levels of participation in which the IOC will act:

- 1) Advising the DNR,
- 2) Making decisions on behalf of the partners,
- 3) Actively planning and providing services, and
- 4) Making recommendations to the partnership and the DNR.

Each of these roles is briefly discussed below.

The IOC will act in an advisory capacity, to provide guidance to the "permit administrator" (DNR) in any and all matters pertaining to the HCP. The implementation activities which the IOC, in its advisory role, will review and offer recommendations to the DNR include the following:

- ☞ The approval of new partner applications (Note: ITP coverage for new partners requires issuance of a Certificate of Inclusion by the DNR);

- ☞ The withdrawal of partners from the HCP and termination of conservation agreements;
- ☞ The transference of incidental take authority by way of the transfer of land rights (as defined in the agreements);
- ☞ HCP review process and permit renewal;
- ☞ The approval of amendments and changes to the HCP;
- ☞ Disposition of funds common to the partnership [Note: This does not include funds and in-kind services belonging to an individual partner or the state.];
- ☞ Review of partner audit reports with non-compliances and consideration of remedies for non-compliant performance (agreement violations);
- ☞ Remedies for conservation agreement violations;
- ☞ Public relations and communications; and
- ☞ Adaptive management and research guidance.

The IOC will act as a decision maker on behalf of the partnership in some matters, including:

- ☞ IOC administrative issues, such as membership, IOC operating rules and processes;
- ☞ Establishment of IOC operating ground rules/rules of conduct;
- ☞ Composition and assignment of IOC subcommittee responsibilities and operations; and
- ☞ Creation of programs for annual HCP partnership meetings.

The IOC will play an active role in planning and providing services and products in some areas, by both working as a committee and through IOC working subcommittees. Some of these areas are:

- ☞ Developing funding strategies and coordinating and seeking funding;
- ☞ Providing guidance on outreach and education activities;
- ☞ Providing materials and guidance on public relations and communications issues and activities; and
- ☞ In conjunction with the HCP Coordinator, developing, planning and co-hosting periodic HCP partner meetings.

In matters of direct concern for all partners, the IOC will assess available information and make recommendations or offer alternatives to the partners regarding matters requiring a full partnership decision. In these cases, the Articles of Partnership will be followed for partner decision making and voting. Issues for entire partnership include:

- ☞ Issues governing changes to IOC decision making process and authority, and
- ☞ Amendments to the HCP including ESA listing status changes.

IOC Leadership and Partner Participation. The DNR performs two roles for the HCP: permit administrator and partner. As a partner, the DNR will be a permanent member of the IOC. The DNR HCP Coordinator will act as the DNR representative and facilitate IOC meetings.

Any qualifying Full partner may sit on the IOC. This includes new partners added during

the permit period. Limited partners are not expected to participate in HCP or IOC meetings, but are welcome to attend and fully participate, except in cases of voting. The IOC will be composed of one member from each type of partner. The current entity groups which will be represented are:

- ☞ Utility managers,
- ☞ Road rights-of-way managers,
- ☞ Forest industry,
- ☞ County forests,
- ☞ The DNR, and
- ☞ The DATCP.

Members may be added in the future as new entity groups join the HCP. Membership will rotate on a staggered basis among partners. Each partner should consider it a serious responsibility of membership in the HCP to contribute their time to serve at least one term on the IOC. Representation of their interests will depend on their participation.

A partner other than the DNR will chair the IOC. Elections will be held consistent with the IOC administrative procedures (*Refer to the IOC Administrative Procedure in Appendix E*) to determine the chair person. Several members of the IOC may be "sub-committee chairs" of specific areas or ad hoc teams. They will not be involved in the day-to-day operations of the HCP, but will serve an advisory function for major issues brought to them by the HCP Coordinator, the IOC, the Partners, the Wisconsin KBB Recovery Working Group or the USFWS. The sub-committees' role will mostly be to research issues (often outside the partnership), develop information on issues, communicate information to those concerned and lead discussions at IOC meetings.

IOC Representation by Non-Partners. Five non-partner participants will be encouraged to be formal members on the IOC in the same manner as they were during the HCP development process. These participants are the Wisconsin Audubon Council, the Sierra Club, the Wisconsin Paper Council, the Wisconsin Woodland Owners Association and The Nature Conservancy.

Consistent with the Articles of Partnership, if they choose to, these non-partner IOC members have the opportunity to participate in an advisory capacity; with their opinions being considered in consensual discussions and decision making. Non-partner members will not vote with partners on partner-only decisions. Non-partners will not be eligible to chair the IOC, as described elsewhere in this subsection.

Other non-partners are welcome to attend public-noticed IOC meetings as observers, but will only be allowed to passively participate, as IOC meetings are not public forums for general discussion, but working committee meetings. Where it would further the goals of the HCP and the IOC, other non-partners may be considered for formal membership, as approved by the IOC.

The special advisory role of the USFWS in the HCP development process is encouraged to continue as an advisory member to the IOC. Direct participation by the USFWS in

IOC meetings is welcome, but not mandatory.

IOC Sub-committees. IOC sub-committees will provide focal points for and distribution of responsibility associated with preparation and leadership on key IOC issues. Sub-committees will primarily investigate action items between IOC meetings and develop recommended courses of action. All members of the IOC can serve as sub-committee chairs. IOC sub-committee chairs will interface with individuals and organizations outside the IOC to gather information essential to IOC matters and discussion (e.g., seeking opinions of other entity members or others regarding the appropriateness of a corrective action or remedy involving an agreement violation; investigating science-related issues with outside experts; or seeking financial accounting data or funding information from the funding sources, such as a foundation or the DNR). IOC sub-committee chairs will coordinate and/or present informational field trips or presentations, which enhance the knowledge of IOC members and participating guests.

Recommendations for IOC sub-committee areas include:

- ☞ Approval of new partners,
- ☞ Approval of modifications to the HCP,
- ☞ Disposition of funds,
- ☞ Auditing and non-compliance,
- ☞ Partner support of Kbb recovery,
- ☞ Public relations and communications, and
- ☞ Adaptive management and research guidance.

IOC Operating Procedures. All IOC meetings will be noticed as a public meeting. The IOC will operate in an environment respecting anti-trust policies (see HCP Partnership anti-trust statement in Appendix C), and the IOC and the HCP partners will continue to follow the Articles of Partnership. (*Refer to Appendix E, the administrative procedures in the HCP User's Guide for detailed IOC operating procedures and processes.*)

D. Future Applications for Partner Status or Participation

Application Processing. The participation plan discussed in Chapter 5 of the HCP provides that those landowners or users requiring permit coverage will be offered the opportunity to join this conservation effort either as a Full partner, a Limited (Local) partner or a one-time sub-permittee. A person or entity desiring to join as a Full partner must be willing to assume all obligations and duties of a partner, and will in turn, obtain the benefit of continued coverage and a voice in the continuing administration and implementation of the ITP. Limited partners (further described in Chapter 3 of the HCP) are county highway departments and townships that follow best management practices to perform a limited suite of road ROW maintenance activities. Limited partners have fewer obligations and responsibilities than full partners. The abbreviated nature of their participation is reflected in a simpler conservation agreement. One-time permittees requesting permit coverage for permanent take are required to agree to a compensatory mitigation plan. Under any category, the person or entity wishing to join the conservation program will seek to enter through an application and review process. (*The Application*

process for coverage under the ITP for those in the Non-Voluntary category is described in the “Inclusion Procedure” in Appendix E and in the HCP User’s Guide ; Refer to DNR’s Karner Blue HCP webpage for most current version .).

E. Incidental Take Permit Period

Based upon partner responses gathered at the 2008 annual Partner’s HCP Team meeting, the DNR is applying to renew the ITP for a 10-year extension with the opportunity to extend the period of coverage again if needed.

F. Incidental Take Permit and HCP Amendments

Amendments are anticipated to fall into two categories: major and minor. Major amendments will likely require amendment of the ITP and related documents as appropriate. Minor amendments to the HCP or ITP will be handled administratively and coordinated internally between the DNR and USFWS. With the adaptive management strategy being used, it is anticipated that ITP and major HCP amendments will be infrequent, if at all. HCP minor amendments will occur more often as new information informs changes to the HCP’s conservation program.

Major Amendments to the ITP and HCP. Major amendments to the ITP and HCP proposed by the DNR will be processed by the USFWS in accordance with the ESA and permit regulations of 50 CFR Parts 13 and 17. Amendments to the ITP are needed when the DNR wishes to significantly modify the conservation program as described in the HCP (i.e., if the net effect on the species involved and level of take are significantly different than that analyzed under the original HCP and USFWS decision documents). Examples of modifications that would require amending the ITP include, but are not limited to:

- ☞ The addition of federally-listed species to the permit that were not previously addressed in the HCP;
- ☞ Substantive reduction in the total acres that have been committed to the conservation program, if the reduction will significantly reduce the conservation effort to the extent its goals cannot be attained; and
- ☞ Adjusting any mitigation to address "unforeseen circumstances" (unless adjustment is minor; see discussion of "No Surprises rule" on pages 68-69).

Minor Amendments to the ITP and HCP. Minor changes or amendments to the ITP or HCP can be completed administratively without amending the permit. Minor amendments are those that do not substantially modify the conservation program in the HCP. To qualify as a minor change, the net effect of the proposed change on the species involved cannot be significantly different than that analyzed under the original HCP and USFWS decision documents. Examples of minor changes include, but are not limited to:

- ☞ New activities not covered in the original HCP
- ☞ New conservation and implementation strategies not considered in the original HCP program

- ☞ New guidelines, protocols or administrative procedures

Routine revisions and clarifications to operating and administrative procedures do not warrant a formal minor amendment, (*Refer to IA provision 11.6 (14) (a) and the Amendment Administrative Procedure in App/E*) examples include:

- ☞ Revisions and clarifications to survey and monitoring protocol,
- ☞ Changes in land ownership that do not otherwise alter the effectiveness of the HCP.
- ☞ Changes in the total acres that have been committed to in the conservation program that do not otherwise alter the effectiveness of the HCP, and

Detailed ITP/HCP amendment procedures can be found in the HCP administrative procedures. (*Refer to Amendment Procedures in appendix E and the HCP User's Guide.*)

The USFWS will retain its right to amend the permit for just cause at any time during the permit term, upon written finding of necessity.

G. Incidental Take Permit Renewal

At the end of the permit period, the DNR may choose to request a renewal or extension. The DNR will work with the USFWS and the HCP Partners to identify any information needed to extend the ITP. Any request for renewal or extension will be in writing and will comply with any applicable USFWS permit application guidelines.

H. USFWS Habitat Conservation Plan Assurances ("No Surprises" Rule)

The USFWS's final rule, entitled Habitat Conservation Plan Assurances ("No Surprises" Rule) dated February 23, 1998, (CFR 63(35):8859-8873) is intended to provide economic and regulatory certainty for non-federal property owners with approved and properly implemented HCPs in the event of "unforeseen circumstances." HCPs must provide provisions for addressing both "unforeseen" and "changed circumstances" not already addressed in the conservation plan. The provisions of the rule and their application to this HCP are discussed below.

Unforeseen Circumstances

Pursuant to the rule, *unforeseen circumstances* are changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by the plan developers at the time of the HCP's negotiation and development, and that result in a substantial and adverse change in the status of the covered species. Unforeseen circumstances, therefore, would include natural disasters of a scale or magnitude that would not be anticipated under normal circumstances. Events such as tornadoes or wildfires that might reasonably be anticipated to occur in Wisconsin would not meet this definition; however, events such as a wildfire of unanticipated size, an earthquake or other catastrophic event that would not normally occur in Wisconsin

would meet the definition of unforeseen circumstances.

Changed Circumstances and Conservation Measures to Address Them

Unforeseen circumstances should not be confused with *changed circumstances*. Changed circumstances are changes in circumstances affecting the Karner blue butterfly within the High Potential Range, the lands included in the HCP that are subject to Partners' conservation agreements and that can reasonably be anticipated. Changed circumstances not already covered in other sections of the HCP that may occur during the permit period will be addressed by the DNR, USFWS and affected partners in the manner presented in Table 8.10 (pages 70-71).

Changed Circumstances Not Provided for in the HCP. In the event of *changed circumstances* with no conservation measures provided for in the plan, the USFWS will not require any conservation or mitigation measures above and beyond what is provided for in the HCP (and associated agreements), without the consent of the permittee and affected partner(s), provided the HCP is being properly implemented. The USFWS will coordinate and work cooperatively with the DNR and affected partners to explore ways that the operating conservation program can address the impact.

Unforeseen Circumstances and Measures to Address Them

Pursuant to the Rule, should *unforeseen circumstances* occur the following steps will be taken:

1. The USFWS will demonstrate that unforeseen circumstances exist and determine whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the Karner blue butterfly.
2. If the USFWS determines that additional conservation and mitigation measures are necessary to respond to unforeseen circumstances, the USFWS will work cooperatively with the DNR and appropriate Partners on additional conservation measures or mitigation measures that may be taken to address the impacts however:
 - A. Requested modifications will be limited to the HCP's operating conservation program and maintain the original terms of the conservation plan to the maximum extent possible.
 - B. The USFWS will not ask for more lands, financial compensation, or additional restrictions on land use, or other natural resources otherwise available for development or use without the consent of the DNR, who in turn, will obtain consent from the HCP partners as appropriate.

Table 8.10 Changed Circumstances and Assessment and Management Adjustments to Address Them

Changed Circumstance	Assessment and Management Adjustments
Forest fires and other wildfires of anticipated degrees and fire suppression activities related to them	Prior to a management action on lands impacted by the changed circumstance, the land manager will assess any necessary changes in management that may be needed to further the conservation of the Kbb and incorporate those measures into the management plan (e.g., burn management on lands impacted by a forest fires or other wildfire may have to be adjusted (e.g., postponed). There are no specific reporting requirements above and beyond normal annual reporting.
Natural weather events such as tornadoes and flooding	Same procedures as for forest and other wildfires

Partner Assurances. The DNR and HCP partners acknowledge that the assurances provided by the Rule are extended to this HCP provided the permittee and partners are properly implementing the HCP, Implementing Agreement, associated conservation agreements and the ITP.

Processing Conservation Plan Changes as a Result of Unforeseen or Changed Circumstances. Changes to the conservation program will be processed as amendments to the ITP and/or HCP, as appropriate, with commensurate changes to partners' conservation agreements, as needed.

Relationship of Changed Circumstances to the HCP's Adaptive Management Strategy. In the event of changed circumstances that may be adequately addressed through the adaptive management strategy, the HCP Partnership will respond to those changed circumstances, as specified in and consistent with the HCP, Implementing Agreement and associated conservation agreements, during the life of the ITP.

The changed circumstances noted in Table 8.10 (page 70) will be addressed in the context of the adaptive management strategy outlined in this HCP.

Among other things, adaptive management is intended to detect changes in Karner blue butterfly populations and habitat over time. The process is designed for normal circumstances, to observe and analyze the results of management activities and

treatments. This is a relatively long-term view looking at cumulative effects. In contrast, changed circumstances are the result of a short-term or real-time event, the adverse effects of which may be realized simultaneous to the event. If the event negatively affected occupied habitat in a manner not reasonably expected under management and use of the land without the event, a process for appropriate and available corrective action will result as a normal application of the adaptive management process.

Chapter 9. Amendments for Future Species Listings

If a currently unlisted species is federally listed as endangered or threatened pursuant to the ESA after the ITP has been issued, and the partners desire incidental take coverage for that species, the DNR shall coordinate with the USFWS on a permit amendment to include the newly listed species.

This process shall entail the review of the HCP and conservation agreements to determine if the conservation measures identified in those documents are adequate for conservation of the newly listed species. If determined adequate by both parties, the DNR shall request an amendment to the ITP to include the newly listed species.

If conservation of the species is not adequately covered by the HCP and conservation agreements, the DNR shall submit a revised or supplementary HCP and supporting documentation including amended conservation agreements (as appropriate) with the request to amend the ITP. While DNR may negotiate an amendment to include other species, participation regarding additional species through this amendment provision is on a partner-by-partner basis, and would only bind a partner should they choose to amend their own conservation agreement. Any permit amendment for take of newly listed species would only cover those partners with conservation agreements that conserve the species. The USFWS is responsible for completing environmental compliance documents under NEPA (although the DNR may assist with this process) and for all internal compliance under section 7 of the ESA.

Chapter 10: List of Preparers

A. Major Contributors

Individuals who contributed significantly to the drafting and editing of the HCP and EIS documents and their qualifications are listed briefly in this section.

David R. Lentz received his B.S. in Natural Resource Management from the University of Wisconsin-Stevens Point in 1975. He has worked at the Wisconsin DNR since 1993, first as a Fisheries Biologist and since 1995 as the coordinator of the Karner Blue Butterfly HCP program. Dave has consulted and lectured nationally on HCP and team processes. Prior to 1993, Dave was in the private sector in industrial management for 12 years. He spent half of this time in the management and reclamation of open pit mining, and the other half in Total Quality Management in manufacturing, focusing on group facilitation and team dynamics.

Jim Christenson received his B.S. in Business Administration from the University of Wisconsin-Eau Claire in 1968, and his J.D. from the University of Wisconsin-Madison. Jim has almost 35 years of experience in public sector law, and, excepting one year as the Assistant District Attorney of Dane County, all of his service has been for the DNR. Jim has provided legal counsel and representation in all facets of natural resource and house counsel law, with an emphasis in areas of fish and wildlife, forestry, endangered resources, and land management.

Darrell Zastrow received his B.S. in Forest Management from the University of Wisconsin-Stevens Point in 1982. He completed the Program of Advanced Studies in Silviculture and was certified as a Silviculturist in 1993. Darrell has 25 years of experience with the DNR, with 10 of those as a field forester and 15 as a Forest Ecologist/Silviculturist, and is currently the Deputy Chief State Forester and Division of Forestry Deputy Administrator. In the field, he has assisted a wide variety of public, private, and tribal forest landowners in meeting their management goals and objectives. Most recently, his responsibilities focus on the development of statewide guidelines for integrating ecological considerations into the management of forest resources.

Cathy Bleser received her B.S. in Biology in 1984, and B.A. in Journalism in 1981, both from the University of Wisconsin-Madison. Cathy worked with the DNR's Bureau of Endangered Resources for over 10 years as the coordinator for rare butterfly and moth conservation. From 1990-1999 she coordinated the state's Karner blue butterfly survey, management, and protection programs. In addition to her state efforts, Cathy also served on the Karner Blue Butterfly Federal Recovery Team. Currently, Cathy serves as the Regional Ecologist for the DNR's South Central Region.

Gary Birch received his B.S. in Forestry from the University of Wisconsin-Madison in 1974. He has 24 years of experience as a biologist, five with the U.S. Forest Service and 15 with the DNR. He has extensive experience developing environmental impact statements and other environmental review documents. Gary is currently a biologist with

the Wisconsin DOT.

Catherine Carnes received her B.S. in Biology from the University of Wisconsin-Stevens Point in 1972, and her M.S. in Biology from Buffalo State College in 1981. Cathy is currently the USFWS Karner Blue Butterfly Recovery Coordinator, and has worked extensively on issues related to conservation and recovery of the species. She has been with the USFWS since 1987, and served as the USFWS Endangered Species Coordinator for Wisconsin for the past fourteen years. Prior to this, Cathy worked in the wetland regulatory program at the Army Corps of Engineers for four years. From 1975 to 1983, Cathy worked in limnological field and laboratory work at both UW-Madison and the Great Lakes Laboratory at Buffalo State College.

Lisa Mandell received her B.S. in Biology and Spanish from the College of William and Mary in 1979. She worked for the USFWS from 1980 to 2001, left Government service for a time, and returned to the agency in 2008. Lisa currently serves on the Region 3 Endangered Species staff and works on HCPs, Recovery Permits, and State Grants for the States of Iowa, Illinois, Indiana, Michigan, Minnesota, Missouri, Ohio and Wisconsin.

Bernadette Williams received her B.A. in Art History from the University of Pittsburgh in 1996, and her MFA in Art History from the University of Pittsburgh in 1999. Bernadette has over 7 years in outreach and education surrounding environmental issues, including leading the National Science Program at the Milwaukee Public Museum for 4 years, leading courses in entomology, biology and ecology for inner city schools in Milwaukee, 2 years assisting the development of Wisconsin's Invasive Species Best Management practices, and is one of the Invasive Species Coordinators for the Wisconsin Department of Natural Resources in addition to her position with the Karner Blue Butterfly program as a Special Assistant to the Karner Blue Butterfly Coordinator.

Quinn Williams received his B.A. in political science from the University of Wisconsin in 2002, and his Juris Doctorate from Marquette University Law School in 2006. Quinn interned in law school with the Wisconsin Department of Justice, the Wisconsin Department of Natural Resources Bureau of Legal Services, and with the United States Department of Agriculture Forest Service Office of General Counsel. Quinn has been the Division of Forestry's attorney with the Department of Natural Resources Bureau of Legal Services for the past 3½ years.

Ursula Petersen received her B.S. in Conservation of Natural Resources from the University of Michigan at Ann Arbor and her M.S. in Botany/Zoology from the University of Wisconsin-Madison. Ursula has participated and been employed in ecological education, species and habitat mapping and surveying, and behavioral ecology research. Since 1991, she has managed the DATCP's Endangered Species Program of protecting listed species and their habitats from pesticide injury.

Michael Luedeke received his B.S. in Mathematics from Xavier University in 1971, and his M.S. in Forest Management from the University of Wisconsin-Madison in 1977. As of 1990, he has served as the Burnett County Forest and Parks Administrator. Previously,

Mike worked in Burnett County as a DNR field forester for 10 years. Other experience includes three years as a forest analyst for the Northwest Regional Planning Commission and two years as a statistical assistant at the USDA Forest Products Lab. Currently, Mike is the DNR's Regional Forestry Leader in the Northern Region.

Fred Souba, Jr. received his B.S. in Forest Management and Administration from the University of Minnesota in 1973. From 1990 to 1998, Fred worked for Johnson Timber Corp. As Vice President, Fred was responsible for all aspects of manufacturing, wood procurement, and forest management on 20,000 acres. Prior to this, he served as Operations Manager for Nekoosa Papers, with responsibilities for nursery operations, woodland services, and forest management activities on 450,000 acres in Wisconsin and Michigan. Areas of expertise include forest operations, forest inventory design, forest management and planning, and GIS applications for forestry and wood procurement. Fred is currently employed by New Page Corp., Inc.

Pam Rasmussen received her B.B.A. in Biology and Business Administration from the University of Wisconsin-Eau Claire in 1987. She currently serves as the Analyst and Planning Coordinator of environmental affairs and lands for Northern States Power Company. Pam has eight years of experience in the environmental aspects of utility management. She has been involved in transmission line permitting and environmental review, statewide electric planning coordination, and hydropower plant licensing. Prior to this, Pam worked briefly as a Crew Leader for the Wisconsin Conservation Corps.

B. Other Contributors

A number of other participants in the Wisconsin Karner Blue Butterfly HCP process contributed to the development of the HCP and EIS documents by providing information, reviewing and editing portions of the document, contributing ideas in HCP meetings and discussions, and in other ways too numerous to list. These individuals are listed in this section.

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