

**Karner Blue Butterfly HCP
Monitoring Protocol
Lupine Survey for Limited Partners**

	Title: Wild Lupine Survey Method on Road Rights-Of-Way (ROW) for Limited (Local) Partners	
	Date: September 16, 2009	Revision: 02

I. Scope and Applicability

The following protocol is intended to determine the viable presence or absence of wild lupine (*Lupinus perennis*), the only known host plant of the Karner blue butterfly (*Lycaeides melissa samuelis*) larvae on road rights-of-way managed by HCP Limited Partners' on land included under the federal Incidental Take Permit TE 010064-5.

The following protocol is taken from the original issue from 02-25-2004, with only minor changes, which do not alter the survey methodology. The most up to date revision can always be found in the Habitat Conservation Plan User's Guide on the DNR webpage (<http://dnr.wi.gov/forestry/karner/hcp-userguide.htm>).

Purpose: To find and map the location of wild lupine (*Lupinus perennis*) patches to identify the potential location of the Karner blue butterfly (*Lycaeides melissa samuelis*) in order to apply appropriate conservation measures.

Forms: There are no specific forms for this survey method; however the use of existing, current road maps is a most useful format for documenting lupine.

II. Protocol

Where to Survey

A site is eligible for sampling presence of habitat if it meets the following criteria:

1. The site is within the High Potential Range (HPR) of the Karner blue butterfly (see Karner Blue HPR map <http://dnr.wi.gov/forestry/karner/pdf/rangemap.pdf>).
2. The site is on lands included by an HCP partner in their Species and Habitat Conservation Agreement.

When to Survey

It is recommended that surveys for wild lupine plants be conducted when the plants are flowering in your area (approximately May-June) as their distinctive flowers make them easy to identify at this time. When wild lupine is not flowering, surveys can be performed by looking for the plant's distinctive foliage (leaves) and seedpods in areas that are not overgrown by trees and shrubs. The "green up" period for wild lupine is

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approximately mid-April through the end of July. Surveying for wild lupine is not recommended after July 31st.

How to Survey

At a reasonable speed to observe and identify wild lupine in the flowering or non-flowering phase (whichever applies), drive all roads under your management responsibility with a vehicle that has a mileage meter that measures miles in 1/10th mile increments. Drive more open and semi-shaded areas of your roadways more slowly or walk select portions that are likely to contain lupine to insure identification of wild lupine areas. This may be necessary when lupine is not in bloom. Lupine grows well in partially shaded roadside areas as well as open areas. Observe where you find lupine plants. Determine the beginning and endpoints of a lupine area by the mileage meter readings that correspond to points on the map.

Mapping of lupine patches

On a map, which clearly identifies roads you manage (and if possible, shows township, range and section lines), and shows sufficient distance scales, mark ROW areas containing wild lupine with a blue highlighter (marker) that corresponds to your observations above.

Alternate method

Use a Geographic Positioning System (GPS) unit to mark coordinates relating to the beginning and endpoints of ROW areas containing wild lupine. Transfer this information onto a map.

Wild lupine identification

Information and photographic cards (called "Wild Cards") that can help you identify wild lupine can be obtained free of charge from the Wisconsin DNR's Karner Blue HCP Coordinator by calling (608) 261-6451.

III. Definitions

- High Potential Range: The high potential range is the region of the state containing all documented occurrences of the Karner blue butterfly, and extending 5 miles beyond documented Kbb occurrences to include areas with similar habitat, soils, and climate where the Karner blue butterfly is most likely to occur based on the Kbb probability model developed in 2006-2007. (See Karner Blue HPR map <http://dnr.wi.gov/forestry/karner/pdf/rangemap.pdf>).

IV. Referenced Documents

- Karner Blue Habitat Conservation Plan User's Guide (<http://dnr.wi.gov/forestry/karner/hcp-userguide.htm>)