

Draft Guidelines for Habitat Assessments and Surveys for Behren's Silverspot Butterfly (*Speyeria zerene behrensii*)

OVERVIEW

The purpose of this document is to provide guidelines for assessing the potential for proposed projects to impact Behren's silverspot butterfly (*Speyeria zerene behrensii*) (BSSB). The BSSB is listed as endangered under the Endangered Species Act of 1973, as amended; see USFWS (2003) for more information on this subspecies. The range of the BSSB in Mendocino County is currently considered to be within one mile of marine waters from Laguna Point in McKerricher State Park north of Fort Bragg, south to the Sonoma County border. In Sonoma County, the range continues south to the Russian River mouth, and also includes all areas within one mile of marine waters. In the Point Arena area of Mendocino County the range extends further inland because the mostly non-forested coastal slope extends further inland (Figure 1). Within the range, habitats considered potentially suitable for BSSB can be variously described as grasslands, coastal prairie, coastal scrub, openings in coastal coniferous forest, and sand dunes. Uniform coniferous forest or dense brushfields are not considered suitable habitat for BSSB. At this time no standardized report format is recommended for reporting the results of botanical surveys, habitat assessments, or butterfly surveys.

HABITAT ASSESSMENTS

Habitat assessments involve three components; a thorough survey for the larval host plant *Viola adunca* (also known as early blue violet, western dog violet, or hookspur violet), a detailed description of the vegetation on site, and a general description of habitat or vegetation types within 0.5 km of the site.

During a typical year, a single *Viola adunca* survey should be conducted by a qualified botanist between 21 April and 14 June. These expected flowering dates are subject to change depending on weather conditions for the year *Viola adunca* surveys are to be conducted. All areas within 100 meters of proposed activities that may alter vegetation, disturb the ground, or alter hydrologic patterns must be thoroughly searched for *Viola adunca*. Any *Viola adunca* located should be counted and mapped, and the overall condition (flowering, senescent, etc.) should be noted. Evidence of any invertebrate foraging on *Viola adunca* foliage should be noted. When numerous *Viola adunca* are present, polygons containing *Viola adunca* should be mapped, rather than individual plants, and polygons should be labeled with an estimate of *Viola adunca* plants contained within (e.g., 0-50 plants, 51-100 plants, 101-500 plants, and >500 plants). Botanical survey results must contain an explicit statement that *Viola adunca* were specifically looked for, and if not found that they are absent from the site.

When describing the habitat or vegetation within 100 meters and 0.5 km of the proposed project, categorize habitat or vegetation types based on either Holland (1986) or CNDDDB/CNPS (Sawyer and Keeler-Wolf 1995; CDFG 2003). When describing

vegetation within 100 meters of the project, note the presence of any other species of *Viola*, as well as potential nectar source plants such as thistle spp. (*Cirsium* spp.), yellow bush lupine (*Lupinus arboreus*), and gumplant (*Grindelia stricta*). Presence of pine (*Pinus* spp.) or other trees that might provide shelter or roosting sites should also be noted. The description of the vegetation at the site should also include the dominant plant species present, level of past disturbance, and the presence of invasive plants. If available, photographs of the vegetation at the site should be included in survey results. Other information that should be included in survey reports include the names and qualifications of botanist conducting the surveys, the date(s) any surveys were conducted, methods, and level of effort.

When providing a general description of the area with 0.5 km of the project, include an aerial photograph, if available, and provide a map of the habitat or vegetation types present in that area. Both suitable and unsuitable (e.g., developed, redwood forest) habitat or vegetation types should be displayed. Current land use (e.g., residential, livestock grazing, etc) should be noted. If known, the distance and direction to any historical or recent BSSB sites should be included. Any other landscape-level information that may have an effect on the potential for BSSB to occur there should also be included. Other general information that should be included in any BSSB habitat assessment includes a map and description of the proposed project, and a large scale map showing the location of the project area.

If *Viola adunca* are absent from the project site and all areas within 300 feet of the project, the site can be considered to not be suitable BSSB habitat. In this case, the negative survey results should be considered valid for 5 years. If *Viola adunca* are located, all the above information should be submitted to the Arcata Fish and Wildlife Office (AFWO) for a determination on habitat suitability. In the event that *Viola adunca* are located, but the overall site is determined to be unsuitable for BSSB, those negative results should also be considered valid for a period of 5 years.

BUTTERFLY SURVEYS

If the AFWO determines that the site may contain suitable BSSB habitat, then butterfly surveys shall be conducted within 100 meters of the project by a qualified surveyor. BSSB surveys shall only be conducted from 20 July to 10 September. Three (3) complete surveys shall be conducted during a single season, each survey shall be separated by at least 6 days. At least two of the survey shall be conducted during the estimated peak flight period of 5 August to 25 August.

For butterfly surveys to be considered valid, they should only be conducted during acceptable environmental conditions. Average wind speed must be <10 mph. Temperature must be at least 60 degrees F. Each survey must be conducted between 1000 and 1600 hours. Presence of fog or precipitation renders conditions unsuitable for BSSB surveys. Percent cloud cover should be recorded. The time and environmental conditions at the start and end of each survey or transect should be recorded.

For each butterfly survey, report the date, observer name and qualifications, environmental conditions, the survey method employed, and level of effort. The width of areas covered on transects should relate to vegetation height and density. The exact numbers and locations of any BSSBs observed shall be submitted to AFWO. If BSSB are detected, note the activities or behaviors observed, such as foraging on particular nectar plants, direction of any movements, interactions with other species, etc. In the event that BSSB are detected on the first or second survey, the remaining surveys may not be necessary; contact AFWO for specific guidance. Other pertinent information should also be provided such as presence of other butterfly species.

Negative BSSB surveys should be considered valid for a maximum period of 5 years, positive survey results are considered valid indefinitely. No egg, larval or adult butterfly specimens that are potentially or known to be BSSB shall be captured, handled, or collected without a valid 10(a)(1)(A) permit issued by the U.S. Fish and Wildlife Service, along with any other permits and authorizations as appropriate. Due to potential threats posed by illegal butterfly collecting, positive butterfly survey results should be provided only to individuals and organizations with a bona fide need for that information.

OBSERVER QUALIFICATIONS

The qualifications of botanists or butterfly surveyors should be submitted to AFWO for approval prior to any surveys. Failure to obtain pre-approval may result in rejection of habitat assessments or butterfly survey results.

LITERATURE CITED

California Department of Fish and Game. 2003. The Vegetation Classification and Mapping Program: List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database, September 2003 Edition.

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