

6.11 Valley Elderberry Longhorn Beetle Study Plan

6.11.1 Pertinent Issue Questions

The valley elderberry longhorn beetle (VELB) study addresses Terrestrial Resource Issue Question:

32. What is the distribution of the valley elderberry longhorn beetle (VELB), what are the known factors (limiting and beneficial) affecting the VELB, and how are these factors influenced by Project operations?

6.11.2 Background

The VELB, a federally listed threatened species, ranged historically throughout the Central Valley, extending up river canyons in the Sierra Nevada foothills to an elevation of about 3,000 feet. VELB are obligate-users of elderberry (*Sambucus mexicana*) plants during their larval stage. Project construction (e.g., new developments), operation (e.g., altered flows), maintenance (e.g., road repair, transmission line maintenance), and associated activities (e.g., recreation) could have direct or indirect effects on elderberries that support VELB. The beetle's use of elderberries is not readily apparent; often the only exterior evidence is an exit hole created by the larvae just prior to pupation. The life cycle takes one or two years to complete with most of that time spent as larvae living within the stems of the plant. Adults generally emerge from late March through June, and adults are short-lived. Flow releases, facility operation/maintenance activities, and vegetation management programs have the potential to affect elderberry plants if present. The U.S. Fish and Wildlife Service (USFWS) has issued specific conservation guidelines for the VELB that include survey protocols and measures for avoiding, protecting, restoring, and monitoring impacted VELB habitat (USFWS 1999). These guidelines apply to elderberry plants with one or more stems measuring 1.0-inch or greater in diameter at ground level that may be directly or indirectly impacted by the construction or operation of a project. All elderberry plants with stems that meet the 1.0-inch-diameter threshold on, or adjacent to, a project site must be thoroughly searched for beetle exit holes and the number of stems tallied by diameter size class for determination of compensation ratios. Elderberry plants lacking stems 1.0-inch or greater in diameter at ground level are considered unsuitable for use by VELB and are not protected under the guidelines. Surveys are valid for a period of two years.

6.11.3 Study Objectives

The objectives of the VELB study are: 1) to determine the distribution of elderberry plants within the study area; 2) to assess the potential for the Project to affect these plants; and 3) apply USFWS protection and/or compensation protocols (USFWS 1999) where direct or indirect adverse impacts to elderberry plants may occur as a result of Project construction, operation, or maintenance.

6.11.4 Study Area and Sampling Sites

The VELB Study Area includes all areas where the Licensee has legal access (e.g., ownership/easement rights, public lands) on or adjacent to (i.e., within 100 feet as per USFWS Protocols for buffer zones) of Project features below 3,000-foot elevation that may be directly or indirectly affected by Project construction (e.g., facility development or expansion, road construction), operation (e.g., recreational developments), and maintenance (e.g., vegetation clearing). These Project features are shown in the table below. Stream reaches below Project facilities are not included in the study area because elderberry plants growing along foothill streams generally occur above the high water mark unlike willow and cottonwood (Personal Communication, R. Arnold, Entomologist, April 19, 2002). As a result, elderberry plants are not likely to occur in stream fluctuation zones and will not be affected by Project operations. However, it is understood that additional study areas (e.g., the developed and dispersed recreation areas being identified by the Recreation TWG and the Project roads being identified through the Project Sources of Sediment Study in coordination with the Recreation and Aquatic TWGs) will be added to this study area where appropriate.

<i>Project Feature</i>	<i>Approx. Elevations (feet)</i>
Jaybird Powerhouse and Switchyard	3,000
Union Valley-Camino T/L (areas below 3,000 ft. elev. from Jaybird Switchyard to Camino Switchyard)	1,800-3,000
Jaybird-White Rock T/L (from Jaybird Switchyard to White Rock Switchyard)	993-3,000
Camino Reservoir and Dam	2,915 –2,918
Camino Penstock (0.3 mile from Camino Tunnel to Camino Powerhouse)	1,950-2,800
Brush Creek Reservoir and Dam	2,915-2,923
Camino Powerhouse and Switchyard	1,950
Camino-Lake T/L right-of-way (from Camino Switchyard to Folsom Junction)	400-1,950
Camino-White Rock T/L (from Camino Switchyard to White Rock Switchyard)	993-1,950
Slab Creek Reservoir and Dam	1,850-1,870
Slab Creek Powerhouse and Switchyard	1620
White Rock Penstock (from White Rock Tunnel to White Rock Powerhouse)	993
White Rock Powerhouse and Switchyard	993
White Rock-Orangevale T/L (from White Rock Switchyard to Folsom Junction)	400-993
White Rock-Hedge T/L (from White Rock Switchyard to Folsom Junction)	400-993
Slab Creek 12 kV Tap Line (from Slab Creek PH to PG&E's 12 kV dist. line)	1,620-1,650
Slab Creek Reservoir Boat Launch (south side of reservoir near dam)	1,850

6.11.5 Information Needed From Other Studies

The locations of elderberry plants will be determined in-part by observations made by botanical field crews while performing rare plant surveys, riparian inventories, and invasive weed surveys. The location of recreation activities that may affect elderberries will be derived from the various recreation studies. Effects of transmission line right-of-way management and other land management activities on elderberries will be determined from the Project Lands Management Studies.

6.11.6 Study Methods and Schedule

Ground surveys for elderberry plants will be performed by field crews during the spring/summer 2002 flowering season for the species. Plants will be located by surveyors on foot, in cars, and by boat, as appropriate to the terrain and within reasonable limits of safety. The locations of all elderberry plants observed will be recorded using Global Positioning System (GPS) units where satellite reception is adequate, or plotted on aerial photos or field maps where reception is inadequate (e.g., deep canyons). For each elderberry location a qualitative assessment will be made of potential threats to the plant, distinguishing between Project- and non-Project influences.

This plan assumes that elderberries identified during this effort will be inspected for use by VELB prior to undertaking any Project-related actions (i.e., a "Project" as described in USFWS protocols) that may adversely affect the plant. As a result, inspections for the beetle and its exit holes will not be conducted during this initial survey effort. If, following analysis of the data (see Analysis section), a determination is made that ongoing Project operations and maintenance are likely to affect elderberries, or when a new Project-related action is proposed that may affect these plants, full USFWS protocols will be implemented. These protocols include: 1) a thorough inspection of the affected plants for beetle exit holes; 2) a complete count (tallied by diameter size class; Table 1 in USFWS protocols) of all stems one inch or greater in diameter at ground level on affected plants; and 3) noting if a plant lies in a riparian or non-riparian area. These data are used to determine the type and extent of compensation required including avoidance, protection, transplanting, and replacement planting of elderberry seedlings/cuttings and associated native riparian trees/shrubs.

6.11.7 Analysis

Data collected in the study and proposed plans for Project-related construction, operation and maintenance will be used to determine the potential for direct or indirect impacts on elderberry plants located during field surveys. As stated above, USFWS protocols for VELB inspections and protection/compensation measures will be implemented for all plants determined to be adversely affected by the Project.

6.11.8 Study Output

Study results will be presented to the Terrestrial Resources Technical Working Group (TWG) and Plenary Group toward the end of 2002. However, the ultimate study output will be a written report that includes the issues addressed, objectives, study area, methods, analysis, results (elderberry locations to be plotted on a GIS-layer for overlay on the UARP vegetation map), discussion, and conclusions. The reports will be prepared in a format that allows the information to be inserted directly into the Licensee-prepared Draft Environmental Assessment that will be submitted to FERC with the Licensee's application for a new license.

6.11.9 Preliminary Estimated Study Cost

SMUD's consultant estimates that this study will cost \$29,000 ± 20 percent.

6.11.10 TWG and Plenary Group Endorsement

Terrestrial TWG representatives from the following agencies/organizations approved this study plan on December 21, 2001: California Department of Fish and Game, Eldorado National Forest, California Sport Fishing Alliance, and SMUD. The Plenary Group approved this study plan on February 6, 2002. The participants at the meeting who said they could "live with" the study plan were California Department of Fish and Game, California Native Plant Society, California Outdoors, California Sportsfishing Protection Alliance, El Dorado County, El Dorado County Citizens for Water, Friends of El Dorado County, National Parks Service, Placer County Water Agency, Sacramento Municipal Utility District, State Water Resources Control Board, Taxpayers of El Dorado County, U.S. Bureau of Land Management and Eldorado National Forest. None of the participants at the meeting said they could not "live with" the study plan though PG&E abstained since this study plan does not apply to the Chili Bar Project.

This study plan was directed back to the TWG for re-evaluation in light of the inclusion of Chili Bar in other studies. At the April 16, 2002 meeting, the Terrestrial TWG determined that the VELB study plan was not a flow-related study, and was referred back to the Plenary Group for approval. On May 1, 2002 the following participants gave Plenary Group approval to the plan: USFS, BLM, USFWS, Taxpayers of El Dorado County, Friends of El Dorado County, Camp Lotus, El Dorado County Water Agency, El Dorado County, Placer County Water Agency, California Department of Fish and Game, California State Water Resources Control Board, Pacific Gas and Electric and Friends of the River. None of the participants at the meeting said they could not "live with" this study plan.

6.11.11 Literature Cited

SMUD (Sacramento Municipal Utility District). 2001. Initial Information Package for Relicensing of the Upper American River Project (FERC Project No. 2101). Sacramento. July 2001.

USFWS (U.S. Department of the Interior, Fish and Wildlife Service). 1999. Conservation guidelines for the valley elderberry longhorn beetle. U.S. Department of the Interior, Fish and Wildlife Service. Sacramento. July 9, 1999. 13 pp.