

## **11.14 Iowa Hill Valley Elderberry Longhorn Beetle Study Plan**

### **11.14.1 Pertinent Issue Questions**

This study addresses the following terrestrial resource questions for the proposed Iowa Hill Pumped Storage Development Project, as identified by the Upper American River Project (UARP) Relicensing Terrestrial Resources Technical Working Group (TWG) and as adapted from previously approved UARP studies:

- What is the distribution of elderberry (*Sambucus spp.*) within the area to be affected by the proposed Iowa Hill Development?
- To what extent will the valley elderberry longhorn beetle (VELB) be affected by development and operation of the proposed Project?

### **11.14.2 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. Project construction and operation could affect any elderberry plants in the project area that support VELB. VELB are obligate-users of elderberry (*Sambucus spp.*) plants during their larval stage. The beetle's use of elderberry 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. 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.

### **11.14.3 Study Objectives**

The objectives of the VELB study are: 1) to determine the distribution of elderberry plants within the Project 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.

### **11.14.4 Study Area and Sampling Sites**

The VELB Study Area includes: 1) the entire footprint of the proposed Iowa Hill pump storage facility and intake structure and the area within 100-feet (i.e., per USFWS Protocols for buffer zones) of this footprint; and 2) a 100-foot wide corridor on each side of the proposed transmission line right-of-way centerline. Note: the entire Project Area lies at or below the 3,000-foot upper elevation limit for the VELB as identified by the USFWS survey protocol.

### **11.14.5 Information Needed From Other Studies**

The locations of elderberry plants will be determined in-part by observations made by botanical field crews while performing surveys for special status plants, noxious weeds, and wetlands.

### **11.14.6 Study Methods and Schedule**

Ground surveys for elderberry plants will be performed by field crews during the spring/summer 2004 flowering season for the species. Plants will be located by surveyors on foot 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. For each elderberry location a qualitative assessment will be made of potential threats to the plant, distinguishing between Project- and non-Project influences. All elderberry plants with stems greater than 1.0-inch diameter will be inspected for use by VELB according to the USFWS protocols. 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.

#### 11.14.7 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.

#### 11.14.8 Study Output

Study results will be presented to the Terrestrial Resources Technical Working Group (TWG) during early summer. Ultimately, the results of the study will be incorporated into Exhibit E of the Licensee's application to FERC for a new license for the UARP. The output will likely include 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.

#### 11.14.9 Technical Working Group Endorsement

This study plan was approved by the Terrestrial TWG via emails and faxes from the following entities: USFS (03/19/04), USFWS (03/19/04), CDFG (03/15/04) and SMUD. There have been no comments received from any Participant that they could not "live with" the study plan.

The study plan was approved by the Plenary Group on April 7, 2004 without modification. There was no one present at the meeting who objected to the study plan going forward for implementation.

#### 11.14.10 Literature Cited

SMUD (Sacramento Municipal Utility District). 2003. Iowa Hill Pumped Storage Development Project Initial Information Package, revision 1. Sacramento, CA.

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.