



Planning and Resource Management for Our Communities and the Environment

28 June 2002

Scott E. Shewbridge, Ph.D., P.E., G.E.
Senior Engineer - Hydroelectric
Eldorado Irrigation District
2890 Mosquito Road
Placerville, California 95667

Richard Floch
Richard Floch and Associates
P.O. Box P.O. Box 285
Rescue, California 95672

Subject: **Preliminary Draft**
Technical Memorandum Number 10 –2002 Valley Elderberry Longhorn Beetle Survey

Dear Dr. Shewbridge and Mr. Floch:

As part of the relicensing of the El Dorado Irrigation District's (EID) El Dorado Hydroelectric Project (FERC Project No. 184), a survey for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB) was conducted along the EID penstock, El Dorado Powerhouse, and along the maintenance road to the powerhouse. The VELB was federally listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This beetle is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). The beetle's range extends throughout California's Central Valley and associated foothills, with an upper elevation range of approximately 3,000 feet. The purpose of this survey was to determine if any VELB or VELB habitat was present within or adjacent to the project facilities within the species known range, and to determine if project activities could result in the displacement or disturbance of VELB or its habitat.

EIP Associates
Roy Leidy, CFS No. 1730
Russell Kobayashi, RPF No. 2725
Mark Genaris

Should you have any questions or wish to discuss this report please contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Roy Leidy'.

Roy Leidy
Principal
Director, Fisheries and Aquatic Sciences

Attachments

EL DORADO IRRIGATION DISTRICT FEDERAL ENERGY REGULATORY COMMISSION PROJECT NUMBER 184

2002 VALLEY ELDERBERRY LONGHORN BEETLE SURVEY

Introduction

As part of the relicensing of the El Dorado Project, a survey for valley elderberry longhorn beetles (*Desmocerus californicus dimorphus*; VELB) was conducted along sections of the EID penstock, El Dorado Powerhouse, and along the maintenance road to the powerhouse. These facilities are located on the southern slopes above the South Fork American River near Pollock Pines, California.

The VELB was federally listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This beetle is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). The beetle's range extends throughout California's Central Valley and associated foothills, with an upper elevation range of approximately 3,000 feet.

The VELB is a wood-boring beetle that is completely dependent upon the elderberry plant (*Sambucus* spp.) for food and to complete its life cycle. Adult beetles feed on the foliage and perhaps the flowers of the host plant. The female beetles will lay their eggs in crevices in the bark or in the crotch of the branches and stems of the elderberry plant. The eggs are about 2.5-3.0 millimeters (mm) long, reddish brown, and shaped like an elongated football with longitudinal ridges. After eclosing, the first instar larval form of the beetle begins to bore into the stem of the plant where it feeds and matures for 1 or 2 years. The beetles tunnel through the spongy pith of large stems and in the trunk and roots of the elderberry plant, creating galleries that become filled with frass and shredded wood. After pupation, the adult beetles emerge from the elderberry plant, leaving circular or oval exit holes 7-10 mm in diameter. Emergence occurs from late March through June, corresponding to the flowering of the elderberry plant.

The VELB adults are about two centimeters (3/4 inch) long and have bright red color on their wings. Females are slightly larger than the males. The name "longhorn" refers to its prominent, segmented antennae, typical of the family Cerambycidae. The '*dimorphus*' in its name refers to the differences in appearance between the males and females. The forewings, or elytra, of the females are always dark metallic green with flame trimmings. The male's elytra can be similar to those of the female or be red and black with dark green spots. Subspecies are separated on the basis of distribution and the color pattern of the males.

PURPOSE

The purpose of this survey was to determine if any VELB or VELB habitat was present within or adjacent to the project facilities within the elevation range of the species, and to determine if project activities could result in the displacement or disturbance of VELB or its habitat. Activities that have the potential to threaten the beetle and its habitat include brush clearing around the penstock, powerhouse, and road maintenance activities including road grading, road clearing, and the maintenance of culverts and other drainage structures associated with the road.

METHODS

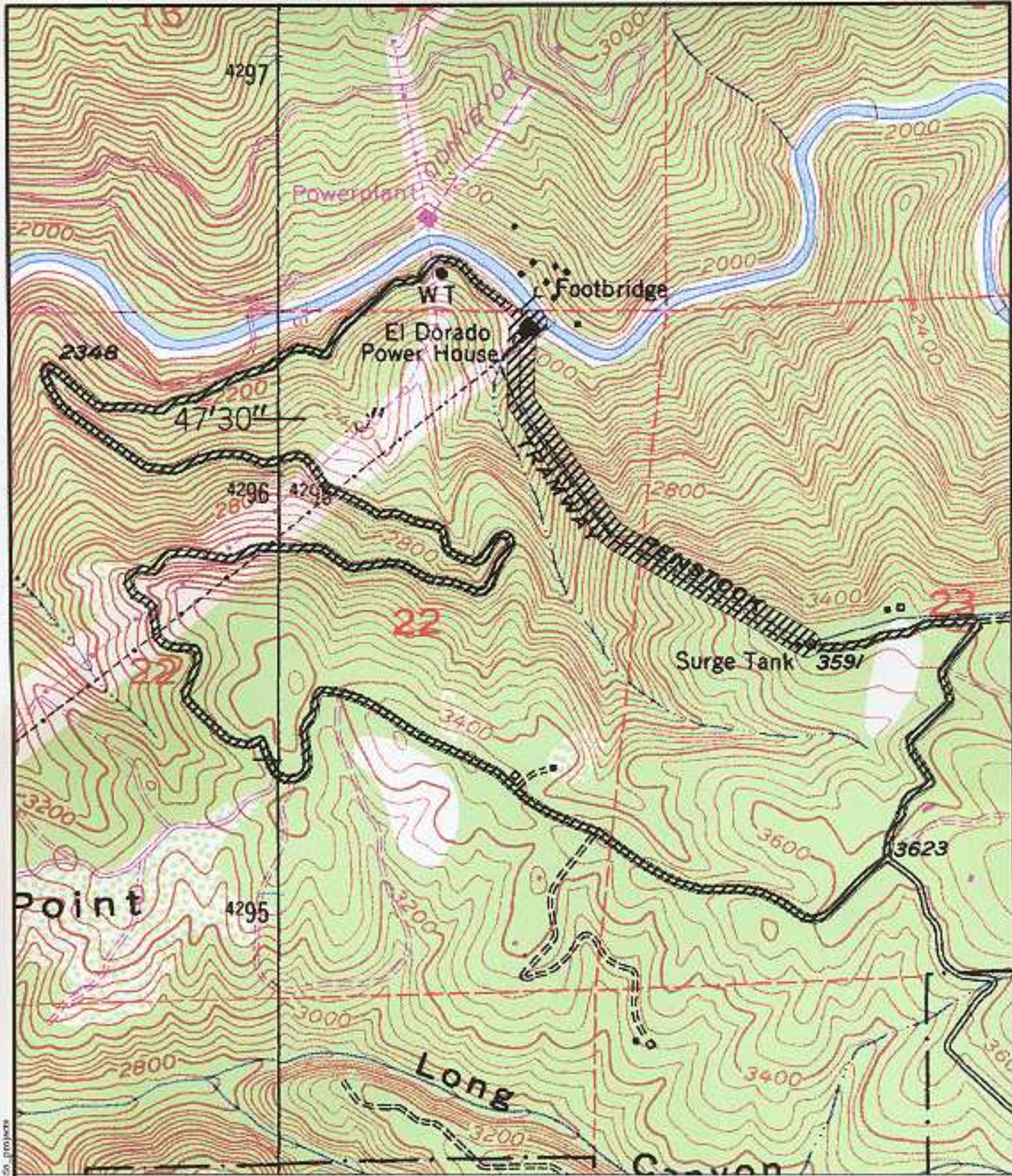
Since the VELB is completely dependent on the elderberry plant (*Sambucus* spp.) for its life cycle, the survey for potential habitat involved locating elderberry plants in the survey areas. The U.S. Fish and Wildlife Service (USFWS) recognizes that the upper elevation range of the VELB to be 3,000 feet. Surveys were conducted along the lower section of the penstock starting at the EID surge tank, at an elevation of approximately 5,560 ft. The distance from the EID surge tank, down to the powerhouse is approximately 3,440 feet, with an elevation drop of approximately 1,680 feet. The access road to the powerhouse was surveyed starting from the El Dorado Powerhouse, back up to the surge tank. Approximately 4 miles of the access road was surveyed from the powerhouse (Figure 1).

Biologists from EIP Associates walked along the access road from the powerhouse, looking for elderberry plants within 20 feet of the road grade. Sight distance was generally further than 20 feet, however, no elderberry plants were seen along the road at any distance. The road traverses the extremely steep slope from the Powerhouse, making several switchbacks along the way to the ridgetop. In several locations, the road cut reaches as high as 30 feet above the road grade, exposing shale, rocky outcrops. Immediately upslope and surrounding the powerhouse, the north-facing slopes of the American River Canyon support a mesic interior live oak forest. Species observed in this area included interior live oak (*Quercus wislizenii*), canyon live oak (*Quercus chrysolepis*), Pacific yew (*Taxus brevifolia*), and madrone (*Arbutus menziesii*). Mid-slope, above the oak forest, the vegetation changes, and is dominated by mature conifer stands, with minimal understory shrubs and trees. In some locations along the road, brush removal beneath the powerlines has created openings where manzanita (*Arctostaphylos patula*) and deer brush (*ceanothus* spp.) have established and now dominate. Near the ridgetop, the vegetation around the road is also dominated by manzanita and deer brush.

Along the penstock down to the powerhouse, two biologists walked down both sides of the penstock looking for elderberry plants. Recent brush clearing for maintenance had removed much of the manzanita within 50-75 feet of the penstock. Debris was lopped down to about 2 feet above the ground. Some large trees had been felled during the brush clearing, and entire logs remain perched on the hillside. Personal communications with EID personal confirmed that the maintenance activities had occurred about a year ago. No evidence of elderberry shrubs were found in the cleared area, nor would the elderberry be expected to occur given the dry and exposed conditions present on the slope.

RESULTS AND CONCLUSIONS

No VELBs or elderberry plants were located during this survey. A majority of the survey area was not suitable habitat for the plant. Elderberry plants are more common in the fertile, moist soils of riparian and valley habitats. The thick overstory canopy of Douglas fir (*pseudotsuga menziesii*) along the access road shades out understory species, and favors more shade tolerate plants and trees. It is unlikely that elderberry plants will establish in this understory because they prefer more open, sunny locations. The shrub-dominated habitat near the ridgetop is extremely dry, and the soils are very thin. It would be difficult for an elderberry plant to establish there because of these arid conditions. It is unlikely that project #184 activities will have any effect on the VELB or its habitat, since neither exist within or immediately adjacent to the project facilities.



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EIP
ASSOCIATES



300 0 300 Feet



Survey Area

Source: USGS 7.5 min quadrangle - Pollock Pines,
State Mtn: EIP Associates GIS Program, June
2002.

UTM N 12R 5m / 152500 6030M

Figure-1

Valley Elderberry
Longhorn Beetle
Survey Map

El Dorado Irrigation District
Project #184
El Dorado County, CA