

**APPENDIX IV.C-5**  
**Mattoni PVB Habitat Assessment**



February 27, 2006

Report prepared by Rudi Mattoni, PhD

Habitat Assessment

Palos Verdes Blue butterfly (*Glaucopsyche lygdamus palosverdesensis*)

Tract 63399

San Pedro vicinity

City of Los Angeles, California

### **Property description**

The area of the proposed development encompasses some 61 acres mostly covered with abandoned housing that formerly served as housing of U. S. Navy personnel. Within the property there are two open sites with natural habitat features. Figure 1 illustrates the location of these sites.

The first is a sub-triangular site of about 7 acres that forms the southwestern corner of the property bordering Western Avenue. The site includes a fairly native riparian corridor with dense mature willows that cover over one acre and form a barrier to the housing along its northern edge. The remainder is a weedy, partially tended, baseball field.

The second is mostly a steep slope covering approximately 4 acres along the northern border of the property. The site has the configuration of a long narrow strip about 100 feet wide and 1800 feet long. The strip extends in an irregular path from Western Avenue on the west in a trending southeastern direction to the point where the easternmost houses end and the property line veers south (figure 1). The northern border of the site is the Defense Fuel Supply Point (DFSP), which is referred to on your maps as "naval reservation." A fence separates the from DFSP. The south border is delimited by back yards of the abandoned homes.

### **Habitat value for the PVB (Palos Verdes Blue butterfly, *Glaucopsyche lygdamus palosverdesensis*)**

#### **1. SW corner**

The 7 acre SW corner ball field at its present state cannot support the butterfly even though foodplant of the PVB is present. The deerweed (*Lotus scoparius*) foodplant occurs as a cluster of about 50 small stressed seedlings. From appearances, the site is

regularly mowed for fire suppression. By remote chance, PVB might be observed as a very rare stray, but could not establish unless the weed control ceased and some active management be implemented. Site aspect could be favorable for the PVB because of its configuration as a basin protected by the dense riparian to the north and east, and the buildings to the south. However, in the present state the site cannot be considered habitat by any known metric concerning PVB requirements.

The parcel is completely isolated from PVB occupied habitat by a minimum distance of one half mile. The intervening land is hostile to adult PVB, and , although nothing is impossible, unlikely to support movement of the butterfly from its nearest known colony. The nearest known colony ("Barranca" on DFSP) is itself extremely low and likely to extirpate at any time.

## 2. North side slope

A very small portion of the 4 acre north slope supports 3 foodplant clusters of an estimated 50 mature deerweed individuals. In addition to another 50 or so scattered across the eastern most portion of the slope. Some of these plants are just starting to flower. Most appear stressed, that is with poor leaf development and a sparse open structure, that is not robust and full as the dozen healthy individuals present. The few that can be described as robust are also small, less than a 3 feet in circumference and height. On the adjacent DFSP robust deerweed exhibit twice to three times the biomass and are at least 4 x 4 feet. Across the DFSP there were at least several hundred of such robust individuals during 2004 and 2005, for comparison.

With the exception of the cluster indicated as "natural" in figure 1, the other clusters and scattered plants occur across highly disturbed areas. Much of the slope is clearly not natural, but the result of earlier grading, an evaluation supported by the several asphalt drainage swales. The latter are evident in the aerial images.

The southerly slope vegetation cover below the swale of the manufactured slope, about 700 feet long, is mostly iceplant with a few California sage and bush sunflower volunteers. A few deerweed seedlings are scattered on the slope. On the slope trending northwest and ending at Western Avenue, the lower portion is covered with an impenetrable cover of scrub acacia.

The one area that even suggests quality vegetation, and includes the densest deerweed cluster, is on the top of the slope where indicated on figure 1. The plant community includes stands of bush sunflower, corethrogyne, milkweed, California sage and Palmer's goldenbush with some iceplant. The other clusters are weak collections of mostly stressed deerweed.

## **Interpretation as PVB habitat**

The plant community now present is completely incapable of supporting a colony of the butterfly. Under the most optimistic circumstance, only an occasional wandering male might stray into the area, or even less likely, that a gravid female would stray in and lay eggs.

From the extensive work concerning the behavior and natural history of PVB at DFSP, it has been well established that the butterflies are restricted to a few patches of dense foodplant in more protected sites. They rarely wander far. Females especially remain close to a "home" area, making very short flights to deposit eggs on favorable large plants. Males can sense barriers (fences, plant community borders) and hostile territory from which they shy away and return to the suitable site from which they wander. Males fly orders of magnitude times farther than females.

Much of the DFSP has some deerweed cover. Yet the PVB has been found as established breeding colonies only on a few limited sites over the past dozen years of intense survey. Further, these colonies do not correlate with deerweed occurrence. There are dense stands of deerweed where the butterfly has never been seen, although, conversely, colonies only occur where dense foodplant stands are found. Dense robust foodplant clusters are a requirement for colony establishment, but deerweed density itself is not sufficient.

Thus, although scattered deerweed occurs along the fence line of the north border, PVB would not be expected with exception of a wandering male. The closest known colony is at the so called "barranca" site about 1000 feet to the southeast of the closest slope area of the project site. For further understanding, it will be noted that the "barranca" colony was established by release of captive bred PVB in 2001. A dense foodplant stand, varying between 50 to 100 very robust deerweed, has persisted here since surveys started, with a stray male or two seen each year prior to the introduction of over 100 PVB. Finally, after the initial apparent success, the population has trended to decline.

## **Mitigation**

Even though the likelihood of an PVB colony anywhere on the property is currently impossibly remote, the slope area could possibly be re-vegetated to provide some breeding sites. Given that a total of about 0.5 acre carries even stressed deerweed, a plan to landscape the whole 7 acre slope with a deerweed intense native coastal sage based plant community could easily be implemented. This would be equivalent to a 14:1 mitigation. Even though correlative data suggests such a community will likely not be sufficient for a PVB colony, other coastal sage species could thrive thus enriching the total natural ecosystem of the region.