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27 June 2015

Dunslee Way, LLC
777 North First Street, 5th Floor
San Jose, CA 95112

Attn: Mary Gourlay

RE: APN 022-451-01 at Scotts Valley Drive & Dunslee Way in Scotts Valley, CA
Presence-Absence Survey Report for the Endangered Mount Hermon June Beetle

Dear Ms. Gourlay:

This letter reports on the findings of my presence-absence survey for the endangered Mount Hermon June beetle (MHJB) at the above-noted property located in Scotts Valley, CA. No individuals of the MHJB were observed during a three-night survey at the above-noted property. The remainder of this letter provides pertinent background information on the MHJB and describes my survey methods, findings, and conclusions, plus recommendations for project planning.

Background Information.

This beetle is known scientifically as *Polyphylla barbata* (Coleoptera: Scarabaeidae) and was described in 1938 from specimens collected on Mount Hermon in Santa Cruz County. Of the approximate 30 species of *Polyphylla* that occur in North America, the MHJB has one of the most restricted geographic ranges. It is found in association with Zayante sandy soils in the Felton-Scotts Valley-Mt. Hermon-Ben Lomond area of Santa Cruz County, CA. More recently, it has also been found at Bonny Doon and some other outlying areas from this core area of Zayante sandhills. Due to the beetle's limited geographic range and the historical and anticipated loss of habitat within its limited range, the U.S. Fish & Wildlife Service (USFWS) recognized the MHJB as an endangered species in 1997, pursuant to provisions of the federal Endangered Species Act of 1973 (FESA).

The Zayante sandhills support several indigenous plant communities that are preferred by the MHJB, including Silverleaf Manzanita Chaparral with Ponderosa pine, Sand Chaparral, mixed Silverleaf Manzanita Chaparral, Ponderosa pine forest, dense sand parkland and open sand parkland. These plant communities often intergrade to become a mosaic mixture of Ponderosa pine, chaparral, and sparsely-vegetated areas of grasses, forbs and subshrubs.

In most years, adults of the MHJB are active on warm evenings from about mid-May through mid-August. Males fly each evening for approximately one hour after dusk in search of

females that are flightless and remain at mouths of their earthen burrows. Observations of flying males suggest that most flight activity occurs within a few feet above ground.

Although specific life history information for the MHJB is unknown, information from closely related species suggests that most of the beetle's life cycle is spent as a larva or grub that lives below ground and is a root feeder, presumably on one or more of the plants that are indigenous to the sand parkland vegetation. Larval development is believed to require at least one year, and perhaps as long as two or three years.

Site Description.

Although the entire property measures 16.4 acres, I understand that your proposed project will be limited to only 2.5 acres that are immediately adjacent to Scotts Valley Drive. Although this portion of the property is undeveloped, it has been heavily disturbed by prior land uses.

Resident vegetation in the portion of the site where your project is proposed consists primarily of ruderal grassland/scrub. Vegetation endemic to the Zayante sandhills was not apparent during my site visits. Rather, a variety of non-native grasses and forbs, French broom and Pampas grass characterize this portion of the site, along with scattered, native Coyote bushes. An intermittent drainage runs along the northern border and is characterized by coyote brush scrub and willows. Mixed evergreen forest characterizes the rear, less disturbed portion of the site, which lies outside of your proposed development area.

Bowman and Estrada (1980) identified two soils at this property, Zayante coarse sands and Nisene-Aptos complex. Although the portion of the site where the proposed project would occur is mapped as Zayante sand, prior land uses have substantially altered the native soil profile. These land use activities included the removal of top soil and importing of non-native soils and base rock fill. Partially exposed asphalt and gravel now cover some portions of the proposed project area at this property.

Survey Methods.

The USFWS considers three nights of surveys, conducted throughout the MHJB's summer activity period, necessary to demonstrate absence of the beetle at a particular location. Males of MHJB are attracted to black lights, so black light traps operated between about 8:30 and 10:30 pm is the standard procedure used to determine presence or absence of MHJB at new survey locations. A three-night survey at the property was performed on the evenings of May 30, June 8 and 25, 2015.

Five battery-operated, black light traps were placed in different portions of the property. Three traps were placed within the 2.5-acre portion planned for future development, while two traps were placed immediately west of the development area where site conditions are less disturbed. All traps were placed at ground level in an effort to attract any MHJBs that were on-

site, but to minimize the broadcast of light that could have attracted beetles from adjacent parcels. All traps were operated from about 8:15 to 10:45 pm.

On the same evenings, two additional traps were placed at the peak of Mount Hermon. Because this is a known location for the MHJB, it was used as a control to demonstrate that the endangered beetle was active on each of the survey nights.

Survey Results.

No adults of the endangered Mount Hermon June beetle were trapped at your project site during the three survey nights. In contrast, on the same evenings, 48 MHJBs were observed in two control traps at the peak of Mount Hermon. These survey findings indicate that the MHJB does not occur at this property.

Evening temperatures during my survey periods ranged from 58°F to 66°F. These temperatures are well within the range that MHJB is known to be active.

Conclusions and Recommendations for Project Planning.

Because the endangered MHJB does not occur at this property, a permit for incidental take of the beetle should not be required by the USFWS to comply with the FESA. I suggest that you check with Ms. Lena Chang of the Ventura office of USFWS to confirm this. She can be reached at (805) 644-1766 extension 302.

Reference Cited.

Bowman, R.H. and D.C. Estrada. 1980. Soil Survey of Santa Cruz County, California. US Dept. of Agriculture, Soil Conservation Service. 148 pp. & maps.

If you have any questions about my survey or need further assistance, please contact me.

Sincerely,



Richard A. Arnold, Ph.D.
President

Cc: Corbett W. Wright