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November 19, 2020

Mr. Adam Kirchner
Wild Coast Farms
2198 Los Osos Valley Road
Los Osos, California 93402

Subject: Supplemental Biological Resources Information for the Wild Coast Farms Cannabis Cultivation Project at 2198 Los Osos Valley Road, Los Osos, San Luis Obispo County, California

Dear Mr. Kirchner:

At your request, Kevin Merk Associates, LLC (KMA) is providing supplemental information as it relates to special status native bumble bees that could potentially occur on or near the project site. The following information is intended to supplement our 2019 Biological Resources Assessment (BRA) prepared for the project, and is being provided to assist the County of San Luis Obispo with their environmental review of the project.

Regulatory Background and Species Accounts

In late 2018, a petition to list four species of bumble bee as endangered was received by the California Fish and Game Commission, and the California Department of Fish and Wildlife (CDFW) was tasked with evaluating available scientific information to determine if listing was warranted. The four bumble bee species are as follows: Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*). Through the CDFW's Evaluation Report completed in April 2019, it was determined that based on information in the petition, the four species are warranted for listing as endangered under the California Endangered Species Act (CESA). The Fish and Game Commission accepted the petition for consideration at their June 2019 meeting, and the CDFW is now completing additional analysis to determine if the species will meet the listing criteria. During the approximately one-year review period, the four bumble bee species are identified as candidate species as defined by Section 2068 of the Fish and Game Code, and thereby are afforded all legal protections under CESA consistent with listing as endangered. The CDFW's final evaluation report is anticipated to be available in late-December 2020, and then the Fish and Game Commission will make their final ruling.

Although no records of these four species were identified in the vicinity of the project area during our query of the California Natural Diversity Database (CNDDDB) conducted as part of our BRA analysis, two of these species, the Crotch bumble bee and western bumble bee, historically occurred in the San Luis Obispo County area. Given the four species are candidates for listing as endangered under CESA, we are providing further analysis as to the potential for these species to occur onsite and an assessment whether they could be adversely affected by project activities.

The Crotch bumble bee occurs primarily in California, and historically was common throughout grasslands and shrublands in southern and central California especially hot and dry areas. Its distribution was centered in the Central Valley, and it declined significantly due to habitat loss and degradation from extensive agriculture. Urbanization, an increase in toxins, disease, competition and climate change also contributed to declines throughout its range. They are generalist foragers and have been observed visiting a variety of flowering plants. The Crotch bumble bee has a short tongue, and forages on open flowers with short corollas, such as plants in the families Fabaceae, Lamiaceae, and Asclepiadaceae. Food plants include milkweed, lupine, phacelia, sage, clarkia, poppy, and buckwheat. They gather pollen from a wide variety of flowering plants, and are important pollinators of many agricultural crops. They are active above ground from late-February to late-October, with activity peaking in spring and summer. They become inactive in winter using underground nests or in soft, disturbed soil or leaf litter. San Luis Obispo County is considered to be within the current geographic range of the species.

Franklin's bumble bee has a highly restricted range in the northwest corner of California extending into southern Oregon. No records were identified of any occurrences of this species in the region in which the project is located. As such, it is not expected to occur on the project site or be affected by project-related activities.

Suckley cuckoo bumble bee historically was known to occur from the Pacific Coast east to Nebraska and from New Mexico north to Alaska. It is generally absent from the Great Basin. It has a restricted range in California, limited to only a few records in the Klamath Mountain region in the northern part of the state. It is a parasitic bee and reproduces by overtaking the nests of western bumble bees. As such, population declines for this species are directly tied to those of the western bumble bee. Given its historically restricted range to northwestern California and no records of it occurring in the vicinity of the project area, this species is not expected to occur on the project site or be affected by project activities.

The western bumble bee was historically known to occur from British Columbia to central California, east to South Dakota, and south to Arizona and New Mexico. It has experienced significant decline throughout its range, particularly along the edges of the species' range. Maps provided in the CDFW Evaluation Report show the western bumble bee's historic southwestern limits were generally in the south Central Coast region. Because the site is near the limits of the species range, it may have historically been rare in this area even before it experienced range-wide decline. In California, it is now mostly restricted to high meadows of the Sierra Nevada Mountain Range and northern coastal grasslands. The CNDDDB reported only historic observation records in the San Luis Obispo area and none were identified from Estero Bay and the project vicinity. The current range of the species is not considered to include areas southwest of Lake Tahoe. The western bumble bee occurs in areas with abundant floral resources that are in bloom during their flight period (i.e., spring, summer and fall). They are generalist foragers that do not depend on specific host plants. In addition to native plants, they are found on agricultural crops such as tomatoes, peppers, cranberries, alfalfa, avocado, apples, cherries, blackberries, and blueberries. They have nests underground in cavities or burrows. Colonies contain one queen, female workers, larvae, and during the appropriate season, male and female reproductive members. Only females survive the winter and establish new colonies the following spring. While little is known about the overwintering sites, it is expected that they occur in friable soils or under plant (shrub) litter or debris.

Impact Analysis and Recommended Mitigation

The project site is located in the Los Osos Valley, west of the Los Osos Wastewater Treatment Facility. The study area developed for the project contains an existing residence and associated developed areas, and an agricultural field that has been in cultivation for many years. The project footprint is located entirely in the flat agricultural field that has been tilled, disked, mowed and planted with various crops. Most recently cover crops have been planted to increase soil fertility and drainage. The regular cycle of disturbance associated with the farming operations onsite would have removed any suitable nesting sites for bumble bee colonies, and would also remove suitable overwintering sites for the queens. Depending on the particular crop, pollen and nectar sources may be present on during the spring and summer flight period.

The proposed project would expand the Cannabis cultivation activities on the property and construct additional greenhouses and parking in areas already disturbed by ongoing farming and human presence. Existing activities on the site preclude the establishment of grassland habitat with the necessary floral resources that could support the key habitat requirements of these two native bumble bee species. Because the Crotch bumble bee and western bumble bee are known to have occurred historically in the general area, and given the extensive grassland and scrub habitats in the region, it is possible that individuals (particularly of the Crotch bumble bee, which is still known to occur in this area) could be present on the project site. They could occur in offsite habitats and fly over and potentially forage on or adjacent to the proposed project area. As stated above, the ongoing and historic surface disturbance from agricultural operations onsite would remove nesting and overwintering habitat of the western bumble bee and Crotch bumble bee from the proposed project area. Given the current land uses on the project site, it is unlikely that these two species could nest or overwinter in the proposed cultivation area, but fallow areas or the agricultural crop could potentially contain individuals foraging onsite at the time project activities commence. To ensure that project activities avoid impacts on the Crotch bumble bee and western bumble bee, the following measures are recommended:

Pre-construction surveys for Crotch bumble bee (CBB) and western bumble bee

(WBB). The following actions shall be undertaken to avoid and minimize potential impacts on CBB and WBB:

- a. Pre-construction Surveys - The applicant shall retain a County-qualified biologist to conduct pre-construction survey(s) for CBB/WBB within suitable habitat (i.e., grassland and scrub areas containing potential food resources and small mammal burrows) on the project site. The survey(s) can be conducted over an extended period of time to document and establish the presence of the bumble bees within the areas of disturbance.
- b. CBB/WBB Take Avoidance - If the survey(s) establish the presence of CBB or WBB within the areas of disturbance, the applicant shall retain the services of a qualified biologist to prepare a Biological Resources Management Plan (Management Plan) for the review and approval of the Planning Department, in consultation with CDFW. The Management Plan shall include at least the following:

- i. Avoidance measures to include a minimum 50-foot no-disturbance buffer from the documented location of CBB or WBB to avoid take and potentially significant impacts.
- ii. If suitable habitat is present and ground-disturbing activities will occur during the overwintering period (October through February), the applicant, in coordination with the Planning Department, shall consult with CDFW to identify specific measures to be undertaken to avoid take as defined by the California Endangered Species Act.
- iii. Take Authorization - If CBB or WBB are detected prior to, or during project implementation, the applicant shall consult with CDFW to obtain applicable take authorization if their locations cannot be avoided as described above.

References

- Frankie, G.W., R.W. Thorp, R.E. Coville, and B. Ertter. 2014. California Bees & Blooms: A Guide for Gardeners and Naturalists. Heyday Berkeley, California and California Native Plant Society, Sacramento, California.
- Koch, J., J. Strange and P. Williams. 2012. Bumble Bees of the Western United States. U.S. Department of Agriculture - Forest Service and the Pollinator Partnership. Washington, DC.
- California Department of Fish and Wildlife. 2019. Evaluation of the Petition from the Xerces Society, Defenders of Wildlife, and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act.
- Xerces Society for Invertebrate Conservation, Defenders of Wildlife and Center for Food Safety. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch bumble bee, Franklin's bumble bee, Suckley cuckoo bumble bee, and western bumble bee as Endangered under the California Endangered Species Act.



Thank you for the opportunity to provide environmental consulting services for this project. I trust the above information is sufficient for your reporting requirements at this time. If you have any questions regarding the above information, please contact me directly.

Sincerely,
Kevin Merk Associates, LLC

A handwritten signature in blue ink that reads "Kevin Merk". The signature is written in a cursive, flowing style.

Kevin B. Merk
Principal Biologist