CALIFORNIA
NATIVE PLANT SOCIETY
2707 K Street, Suite 1, Sacramento, CA 95816-5130 (916) 447.2677 www.cnps.org

Protecting
California's native
flora since 1965

August 22, 2024

United States Department of the Interior
Bureau of Indian Affairs, Pacific Regional Office
Attn: Chad Broussard
2800 Cottage Way Room W-2820
Sacramento, Ca 95825

*Submitted via email to: chad.broussard@bia.gov*

**Re: California Native Plant Society Comments on Scotts Valley Casino and Tribal Housing Project**

Dear Mr. Broussard:

Thank you for the opportunity to comment on the Scotts Valley Casino and Tribal Housing Project. The following comments are submitted on behalf of the California Native Plant Society (CNPS), a non-profit environmental organization with over 13,000 members in 36 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plants and their natural habitats, today and into the future, through science, education, stewardship, gardening, and advocacy. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices.

Based on our analysis, the Biological Assessment for this project is likely insufficient to establish baseline conditions on the project site and disclose the potential impacts of the proposed development. The desktop review to determine special status species with the potential to occur on the project site did not identify several plants considered to be rare in California, including species listed under the California and Federal Endangered Species Acts. The description of the biological surveys in the EA or Biological Assessment is insufficient to show that these efforts would be comprehensive enough to produce an accurate account of the biological resources present on the project site. Additionally, recent botanical surveys were not timed to effectively document several summer and fall blooming special status species with the potential to occur on the site, including two taxa listed as federally endangered. Additional botanical surveys should be conducted and be included in a supplemental or revised EA.

According to the Council on Environmental Quality (CEQ) regulations 40 C.F.R. §§ 1500

et seq, the lead agency shall consider state or local policies designed for the protection of the environment. Under the California Environmental Quality Act (CEQA), plant species listed as rank 1 or 2 under the CNPS Rare Plant Inventory (RPI), in addition to taxa listed under the California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA) should be evaluated for impacts, and list 3 and 4 species should be considered in analysis of impacts if they meet the criteria the rarity criteria laid out in CEQA § 15380. In addition to the USGS Quad occupied by the proposed project, the desktop review should include all surrounding quads to develop a list of special status species with the potential to be impacted by the project. Our review of the CNPS RPI[1] shows 68 rare taxa with the potential to occur on the project site. Of these, 45 require analysis of impacts under CEQA, three of which are rare or threatened under CESA, and five are listed as endangered under ESA.

While multiple surveys of the site are referenced in the Biological Assessment, the documents do not provide an adequate description of what the focus of the surveys were, the hours spent by surveyors, or the qualifications of the surveyors. Citations are provided for these surveys, but detailed descriptions of the surveys should be included in the Biological Assessment, and these documents do not appear to be readily available for review. The California Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities[2] (Protocols) recommend additional surveys when existing botanical field surveys are not current or did not occur at the appropriate time of year. These Protocols suggest that habitats that are characterized by annual and/or short-lived perennial plants may require multiple annual surveys to establish baseline conditions. Habitats characterized by long-lived perennial plants must be documented by surveys within the past five years to ensure that the current baseline conditions on the site are well characterized.

Given that the habitat in the project area is made up of many annual species, three of which are federally listed, there is a possibility that federally listed species that were not identifiable during the 2024 surveys may be present on the project site. We recommend additional surveys following CDFW Protocols be conducted to document all taxa with the potential to occur. This is especially important for summer and fall blooming species that may not have been identifiable during the previous 2024 surveys. CDFW Protocols also recommend that reference sites be used to confirm that target species would be identifiable during surveys. This is especially important for annual species that may not be present in years with low precipitation or other environmental constraints. The survey report should also include a description of the hours spent, survey methods, qualifications of surveyors, reference site checks, climatic conditions, how climatic conditions may have affected survey results, and the potential for negative surveys, as outlined in the CDFW Protocols.

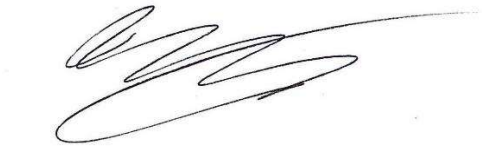
In conclusion, we respectfully ask that you consider requiring additional surveys following

[1] https://rareplants.cnps.org/Search/result?frm=T&sl=1&quad=3812222:3812212:3812213:3812223:3812233:3812231:3812221:3812211:3812232:&elev=:m:o

[2] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

CDFW protocols. Thank you for your consideration of these comments, and please feel free to contact me if you have any questions.

Sincerely,



Nick Jensen, PhD
Conservation Program Director
California Native Plant Society
njensen@cnps.org

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

## Search Results

**68** matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3812222:3812212:3812213:3812223:3812233:3812231:3812221:3812211:3812232**]

| ▲ SCIENTIFIC NAME | COMMON NAME | FAMILY | LIFEFORM | BLOOMING PERIOD | FED LIST | STATE LIST | GLOBAL RANK | STATE RANK | CA RARE PLANT RANK | CA ENDEMIC | DATE ADDED | PHOTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Agrostis hendersonii* | Henderson's bent grass | Poaceae | annual herb | Apr-Jun | None | None | G2Q | S2 | 3.2 | | 1974-01-01 |  ©2005 Steve Matson |
| *Allium peninsulare* var. *franciscanum* | Franciscan onion | Alliaceae | perennial bulbiferous herb | (Apr)May-Jun | None | None | G4G5T2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2019 Aaron Arthur |
| *Amorpha californica* var. *napensis* | Napa false indigo | Fabaceae | perennial deciduous shrub | Apr-Jul | None | None | G4T2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2016 John Doyen |
| *Arabis modesta* | modest rockcress | Brassicaceae | perennial herb | Mar-Jul | None | None | G3 | S3 | 4.3 | | 1974-01-01 |  ©2014 Scot Loring |
| *Astragalus tener* var. *tener* | alkali milk-vetch | Fabaceae | annual herb | Mar-Jun | None | None | G2T1 | S1 | 1B.2 | Yes | 1994-01-01 | No Photo Available |
| *Atriplex coronata* var. *coronata* | crownscale | Chenopodiaceae | annual herb | Mar-Oct | None | None | G4T3 | S3 | 4.2 | Yes | 1994-01-01 |  © 1994 Robert E. Preston, Ph.D. |
| *Atriplex persistens* | vernal pool smallscale | Chenopodiaceae | annual herb | Jun-Oct | None | None | G2 | S2 | 1B.2 | Yes | 2001-01-01 | No Photo Available |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Balsamorhiza macrolepis* | big-scale balsamroot | Asteraceae | perennial herb | Mar-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  ©1998 Dean Wm. Taylor |
| *Blepharizonia plumosa* | big tarplant | Asteraceae | annual herb | Jul-Oct | None | None | G1G2 | S1S2 | 1B.1 | Yes | 1994-01-01 | No Photo Available |
| *Brodiaea leptandra* | narrow-anthered brodiaea | Themidaceae | perennial bulbiferous herb | May-Jul | None | None | G3? | S3? | 1B.2 | Yes | 2001-01-01 |  © 2018 Zoya Akulova |
| *Calandrinia breweri* | Brewer's calandrinia | Montiaceae | annual herb | (Jan)Mar-Jun | None | None | G4 | S4 | 4.2 | | 1994-01-01 | No Photo Available |
| *Calochortus pulchellus* | Mt. Diablo fairy-lantern | Liliaceae | perennial bulbiferous herb | Apr-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Carex lyngbyei* | Lyngbye's sedge | Cyperaceae | perennial rhizomatous herb | Apr-Aug | None | None | G5 | S3 | 2B.2 | | 2001-01-01 |  ©2017 Steve Matson |
| *Castilleja affinis* var. *neglecta* | Tiburon paintbrush | Orobanchaceae | perennial herb (hemiparasitic) | Apr-Jun | FE | CT | G4G5T1T2 | S1S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Castilleja ambigua* var. *ambigua* | johnny-nip | Orobanchaceae | annual herb (hemiparasitic) | Mar-Aug | None | None | G5T4 | S3S4 | 4.2 | | 2009-02-04 |  ©2011 Dylan Neubauer |
| *Ceanothus purpureus* | holly-leaved ceanothus | Rhamnaceae | perennial evergreen shrub | Feb-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2012 Jake Ruygt |
| *Centromadia parryi* ssp. *congdonii* | Congdon's tarplant | Asteraceae | annual herb | (Apr)May-Oct(Nov) | None | None | G3T2 | S2 | 1B.1 | Yes | 1994-01-01 | No Photo Available |
| *Centromadia parryi* ssp. *parryi* | pappose tarplant | Asteraceae | annual herb | May-Nov | None | None | G3T2 | S2 | 1B.2 | Yes | 2004-01-01 |  © 2016 John Doyen |
| *Centromadia parryi* ssp. *rudis* | Parry's rough tarplant | Asteraceae | annual herb | May-Oct | None | None | G3T3 | S3 | 4.2 | Yes | 2007-05-22 |  © 2019 John Doyen |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Chloropyron molle* ssp. *molle* | soft salty bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | Jun-Nov | FE | CR | G2T1 | S1 | 1B.2 | Yes | 1974-01-01 |  © 2014 John Doyen |
| *Cicuta maculata* var. *bolanderi* | Bolander's water-hemlock | Apiaceae | perennial herb | Jul-Sep | None | None | G5T4T5 | S2? | 2B.1 | | 1974-01-01 |  © 2007 Doreen L Smith |
| *Cirsium hydrophilum* var. *hydrophilum* | Suisun thistle | Asteraceae | perennial herb | Jun-Sep | FE | None | G2T1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Clarkia gracilis* ssp. *tracyi* | Tracy's clarkia | Onagraceae | annual herb | Apr-Jul | None | None | G5T3 | S3 | 4.2 | Yes | 2001-01-01 | No Photo Available |
| *Dirca occidentalis* | western leatherwood | Thymelaeaceae | perennial deciduous shrub | Jan-Mar(Apr) | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2017 Steve Matson |
| *Downingia pusilla* | dwarf downingia | Campanulaceae | annual herb | Mar-May | None | None | GU | S2 | 2B.2 | | 1980-01-01 |  © 2013 Aaron Arthur |
| *Eleocharis parvula* | small spikerush | Cyperaceae | perennial herb | (Apr)Jun-Aug(Sep) | None | None | G5 | S3 | 4.3 | | 1980-01-01 |  ©2018 Ron Vanderhoff |
| *Erigeron biolettii* | streamside daisy | Asteraceae | perennial herb | Jun-Oct | None | None | G3? | S3? | 3 | Yes | 1994-01-01 |  ©2015 Doug Wirtz |
| *Erigeron greenei* | Greene's narrow-leaved daisy | Asteraceae | perennial herb | May-Sep | None | None | G2? | S2? | 1B.2 | Yes | 1994-01-01 | No Photo Available |
| *Eriogonum truncatum* | Mt. Diablo buckwheat | Polygonaceae | annual herb | Apr-Sep(Nov-Dec) | None | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Eryngium jepsonii* | Jepson's coyote-thistle | Apiaceae | perennial herb | Apr-Aug | None | None | G2 | S2 | 1B.2 | Yes | 2016-09-13 | No Photo Available |
| *Erythronium helenae* | St. Helena fawn lily | Liliaceae | perennial bulbiferous herb | Mar-May | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 | No Photo Available |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Extriplex joaquinana* | San Joaquin spearscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1988-01-01 | No Photo Available |
| *Fritillaria liliacea* | fragrant fritillary | Liliaceae | perennial bulbiferous herb | Feb-Apr | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2004 Carol W. Witham |
| *Harmonia nutans* | nodding harmonia | Asteraceae | annual herb | Mar-May | None | None | G3 | S3 | 4.3 | Yes | 1984-01-01 |  © 2008 Neal Kramer |
| *Helianthella castanea* | Diablo helianthella | Asteraceae | perennial herb | Mar-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2013 Christopher Bronny |
| *Hesperevax caulescens* | hogwallow starfish | Asteraceae | annual herb | Mar-Jun | None | None | G3 | S3 | 4.2 | Yes | 2001-01-01 |  © 2017 John Doyen |
| *Hesperolinon bicarpellatum* | two-carpellate western flax | Linaceae | annual herb | (Apr)May-Jul | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2016 John Doyen |
| *Hesperolinon breweri* | Brewer's western flax | Linaceae | annual herb | May-Jul | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2014 Neal Kramer |
| *Iris longipetala* | coast iris | Iridaceae | perennial rhizomatous herb | Mar-May(Jun) | None | None | G3 | S3 | 4.2 | Yes | 2006-10-12 |  © 2014 Aaron Schusteff |
| *Isocoma arguta* | Carquinez goldenbush | Asteraceae | perennial shrub | Aug-Dec | None | None | G1 | S1 | 1B.1 | Yes | 1994-01-01 | No Photo Available |
| *Lasthenia conjugens* | Contra Costa goldfields | Asteraceae | annual herb | Mar-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2013 Neal Kramer |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| *Lasthenia ferrisiae* | Ferris' goldfields | Asteraceae | annual herb | Feb-May | None | None | G3 | S3 | 4.2 | Yes | 2001-01-01  © 2009 Zoya Akulova |
| *Lathyrus jepsonii* var. *jepsonii* | Delta tule pea | Fabaceae | perennial herb | May-Jul(Aug-Sep) | None | None | G5T2 | S2 | 1B.2 | Yes | 1974-01-01  © 2003 Mark Fogiel |
| *Legenere limosa* | legenere | Campanulaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.1 | Yes | 1974-01-01  ©2000 John Game |
| *Leptosiphon aureus* | bristly leptosiphon | Polemoniaceae | annual herb | Apr-Jul | None | None | G4? | S4? | 4.2 | Yes | 1994-01-01  © 2007 Len Blumin |
| *Leptosiphon jepsonii* | Jepson's leptosiphon | Polemoniaceae | annual herb | Mar-May | None | None | G2G3 | S2S3 | 1B.2 | Yes | 2001-01-01  © 2012 Aaron Arthur |
| *Lessingia hololeuca* | woolly-headed lessingia | Asteraceae | annual herb | Jun-Oct | None | None | G2G3 | S2S3 | 3 | Yes | 1994-01-01  © 2015 Aaron Schusteff |
| *Lilaeopsis masonii* | Mason's lilaeopsis | Apiaceae | perennial rhizomatous herb | Apr-Nov | None | CR | G2 | S2 | 1B.1 | Yes | 1974-01-01 No Photo Available |
| *Lilium rubescens* | redwood lily | Liliaceae | perennial bulbiferous herb | (Mar)Apr-Aug(Sep) | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01  Gerald and Buff Corsi © 2022 California Academy of Sciences |
| *Limosella australis* | Delta mudwort | Scrophulariaceae | perennial stoloniferous herb | May-Aug | None | None | G5 | S2 | 2B.1 | | 1994-01-01  © 2020 Richard Sage |
| *Lomatium repostum* | Napa lomatium | Apiaceae | perennial herb | Mar-Jun | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 No Photo Available |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Monardella antonina* ssp. *antonina* | San Antonio Hills monardella | Lamiaceae | perennial rhizomatous herb | Jun-Aug | None | None | G4T1T3Q | S1S3 | 3 | Yes | 1980-01-01 | No Photo Available |
| *Monardella viridis* | green monardella | Lamiaceae | perennial rhizomatous herb | Jun-Sep | None | None | G3 | S3 | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Navarretia leucocephala* ssp. *bakeri* | Baker's navarretia | Polemoniaceae | annual herb | Apr-Jul | None | None | G4T2 | S2 | 1B.1 | Yes | 1994-01-01 |  © 2018 Barry Rice |
| *Polygonum marinense* | Marin knotweed | Polygonaceae | annual herb | (Apr)May-Aug(Oct) | None | None | G2Q | S2 | 3.1 | Yes | 1974-01-01 | No Photo Available |
| *Puccinellia simplex* | California alkali grass | Poaceae | annual herb | Mar-May | None | None | G2 | S2 | 1B.2 | | 2015-10-15 |  © 2017 Chris Winchell |
| *Ranunculus lobbii* | Lobb's aquatic buttercup | Ranunculaceae | annual herb (aquatic) | Feb-May | None | None | G4 | S3 | 4.2 | | 1974-01-01 | No Photo Available |
| *Rhynchospora californica* | California beaked-rush | Cyperaceae | perennial rhizomatous herb | May-Jul | None | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2004 Steve Matson |
| *Senecio aphanactis* | chaparral ragwort | Asteraceae | annual herb | Jan-Apr(May) | None | None | G3 | S2 | 2B.2 | | 1994-01-01 | No Photo Available |
| *Sidalcea hickmanii* ssp. *napensis* | Napa checkerbloom | Malvaceae | perennial herb | Apr-Jun | None | None | G2T1 | S1 | 1B.1 | Yes | 2009-04-02 | No Photo Available |
| *Spergularia macrotheca* var. *longistyla* | long-styled sand-spurrey | Caryophyllaceae | perennial herb | Feb-May | None | None | G5T2 | S2 | 1B.2 | Yes | 2017-06-16 | No Photo Available |
| *Stuckenia filiformis* ssp. *alpina* | northern slender pondweed | Potamogetonaceae | perennial rhizomatous herb (aquatic) | May-Jul | None | None | G5T5 | S2S3 | 2B.2 | | 1994-01-01 |  Dana York (2016) |
| *Symphyotrichum lentum* | Suisun Marsh aster | Asteraceae | perennial rhizomatous herb | (Apr)May-Nov | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Trichostema ruygtii* | Napa bluecurls | Lamiaceae | annual herb | Jun-Oct | None | None | G1G2 | S2 | 1B.2 | Yes | 2007-01-03 | No Photo Available |
| *Trifolium amoenum* | two-fork clover | Fabaceae | annual herb | Apr-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trifolium hydrophilum* | saline clover | Fabaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2005 Dean Wm Taylor |
| *Triteleia lugens* | dark-mouthed triteleia | Themidaceae | perennial bulbiferous herb | Apr-Jun | None | None | G4? | S4? | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Viburnum ellipticum* | oval-leaved viburnum | Viburnaceae | perennial deciduous shrub | May-Jun | None | None | G4G5 | S3 | 2B.3 | | 1974-01-01 |  © 2006 Tom Engstrom |

Showing 1 to 68 of 68 entries

**Suggested Citation:**

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# Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities

STATE OF CALIFORNIA
CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF FISH AND WILDLIFE

DATE: March 20, 2018*

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## 1. INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as sensitive natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to botanical field surveys and assessments of special status plants and sensitive natural communities so that reliable information is produced and the potential for locating special status plants and sensitive natural communities is maximized. These protocols may also help those who prepare and review environmental documents determine when botanical field surveys are needed, how botanical field surveys may be conducted, what information to include in a botanical survey report, and what qualifications to consider for botanical field surveyors. These protocols are meant to help people meet California Environmental Quality Act (CEQA)[1] requirements for adequate disclosure of potential impacts to plants and sensitive natural communities. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands[2] or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants.[3]

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* Minor editorial revisions were made to this document on February 3, 2021

1 Available at: https://files.resources.ca.gov/ceqa/

2 Available at: https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/techbio/

3 U.S. Fish and Wildlife Service Survey Guidelines: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

## Department of Fish and Wildlife Trustee and Responsible Agency Mission

The mission of the California Department of Fish and Wildlife (CDFW) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish & G. Code, § 1802). CDFW, as trustee agency under CEQA Guidelines section 15386, provides expertise in reviewing and commenting on environmental documents and provides protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) and Native Plant Protection Act (NPPA) provide additional protections for such species, including take prohibitions (Fish & G. Code, § 2050 *et seq.*; Fish & G. Code, § 1908). As a responsible agency, CDFW has the authority to issue permits for the take of species listed under CESA and NPPA if the take is incidental to an otherwise lawful activity; CDFW has determined that the impacts of the take have been minimized and fully mitigated; and the take would not jeopardize the continued existence of the species (Fish & G. Code, § 2081, subd. (b); Cal. Code Regs., tit. 14 § 786.9, subd. (b)). Botanical field surveys are one of the preliminary steps to detect special status plant species and sensitive natural communities that may be impacted by a project.

## Definitions

Botanical field surveys provide information used to determine the potential environmental effects of proposed projects on special status plants and sensitive natural communities as required by law (e.g., CEQA, CESA, and federal Endangered Species Act (ESA)).

***Special status plants***, for the purposes of this document, include all plants that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the ESA or candidates for possible future listing as threatened or endangered under the ESA (50 C.F.R., § 17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish & G. Code, § 2050 et seq.).[4] In CESA, “endangered species” means a native species or subspecies of plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code, § 2062). “Threatened species” means a native species or subspecies of plant that,

[4] Refer to current online published lists available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline

although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). "Candidate species" means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).

- Listed as rare under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish & G. Code, § 1901).
- Meet the definition of endangered, rare, or threatened species under CEQA Guidelines section 15380, subdivisions (b) and (d), which may include:
    - Plants tracked by the California Natural Diversity Database (CNDDB) as California Rare Plant Rank (CRPR) 1 or 2;[5] and
    - Plants that may warrant consideration on the basis of declining trends, recent taxonomic information, or other factors. This includes plants tracked by the CNDDB as CRPR 3 or 4.[6]
- Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include plants that are at the outer limits of their known geographic range or plants occurring on an atypical soil type.

***Sensitive natural communities*** are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat. CDFW's *List of California Terrestrial Natural Communities*[7] is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort. See the Vegetation

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5 See CNDDB's Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 1 or 2: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

6 CRPR 3 plants (plants about which more information is needed) and CRPR 4 plants (plants of limited distribution) may warrant consideration under CEQA Guidelines section 15380. Impacts to CRPR 3 plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity. Data on CRPR 3 and 4 plants should be submitted to CNDDB. Such data aids in determining and revising the CRPR of plants. See CNDDB's Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 3 or 4: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

7 Available at: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#natural communities lists

Classification and Mapping Program (VegCAMP) website for additional information on natural communities and vegetation classification.[8]

## 2. BOTANICAL FIELD SURVEYS

Evaluate the need for botanical field surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs in an area that may be directly or indirectly affected by a project (project area), and it is unknown whether or not special status plants or sensitive natural communities occur in the project area;
- Special status plants or sensitive natural communities have historically been identified in a project area; or
- Special status plants or sensitive natural communities occur in areas with similar physical and biological properties as a project area.

### Survey Objectives

Conduct botanical field surveys in a manner which maximizes the likelihood of locating special status plants and sensitive natural communities that may be present. Botanical field surveys should be floristic in nature, meaning that every plant taxon that occurs in the project area is identified to the taxonomic level necessary to determine rarity and listing status. “Focused surveys” that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.

For each botanical field survey conducted, include a list of all plants and natural communities detected in the project area. More than one field visit is usually necessary to adequately capture the floristic diversity of a project area. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the special status plants and sensitive natural communities in the project area is also useful to assess the significance of a particular plant population or natural community.

### Survey Preparation

Before botanical field surveys are conducted, the botanical field surveyors should compile relevant botanical information in the general project area to provide a regional context. Consult the CNDDB[9] and BIOS[10] for known occurrences of special status plants and sensitive natural communities in the project area prior to botanical field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties (e.g., soils) of the project area

[8] Available at: https://www.wildlife.ca.gov/Data/VegCAMP
[9] Available at: https://www.wildlife.ca.gov/Data/CNDDB
[10] Available at: https://www.wildlife.ca.gov/Data/BIOS

and surrounding ecoregion.[11] Then, develop a list of special status plants and sensitive natural communities with the potential to occur within the vegetation and habitat types identified. The list of special status plants with the potential to occur in the project area can be created with the help of the CNDDB QuickView Tool[12] which allows the user to generate lists of CNDDB-tracked elements that occur within a particular U.S. Geological Survey 7.5' topographic quad, surrounding quads, and counties within California. Resulting lists should only be used as a tool to facilitate the use of reference sites, with the understanding that special status plants and sensitive natural communities in a project area may not be limited to those on the list. Botanical field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on a list. Include in the botanical survey report the list of potential special status plants and sensitive natural communities that was created, and the list of references used to compile the background botanical information for the project area.

### Survey Extent

Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts.

### Field Survey Method

Conduct botanical field surveys using systematic field techniques in all habitats of the project area to ensure thorough coverage. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct botanical field surveys by traversing the entire project area to ensure thorough coverage, documenting all plant taxa observed. Parallel survey transects may be necessary to ensure thorough survey coverage in some habitats. The level of effort should be sufficient to provide comprehensive reporting. Additional time should be allocated for plant identification in the field.

### Timing and Number of Visits

Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area. This usually involves multiple visits to the project area (e.g., in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine

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[11] Ecological Subregions of the United States, available at: http://www.fs.fed.us/land/pubs/ecoregions/toc.html

[12] Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. When creating a list of special status plants with the potential to occur in a project area, special care should be taken to search all quads with similar geology, habitats, and vegetation to those found in the project area.

if special status plants are present.[13] The timing and number of visits necessary to determine if special status plants are present is determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which botanical field surveys are conducted.

### Reference Sites

When special status plants are known to occur in the type(s) of habitat present in a project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those special status plants are identifiable at the times of year the botanical field surveys take place and to obtain a visual image of the special status plants, associated habitat, and associated natural communities.

### Use of Existing Surveys

For some project areas, floristic inventories or botanical survey reports may already exist. Additional botanical field surveys may be necessary for one or more of the following reasons:

- Botanical field surveys are not current;[14]
- Botanical field surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g., vernal pool habitats or riverine systems);
- Botanical field surveys did not cover the entire project area;
- Botanical field surveys did not occur at the appropriate times of year;
- Botanical field surveys were not conducted for a sufficient number of years to detect plants that are not evident and identifiable every year (e.g., geophytes, annuals, and some short-lived plants);
- Botanical field surveys did not identify all plants in the project area to the taxonomic level necessary to determine rarity and listing status;
- Fire history, land use, or the physical or climatic conditions of the project area have changed since the last botanical field survey was conducted;
- Changes in vegetation or plant distribution have occurred since the last botanical field surveys were conducted, such as those related to habitat alteration, fluctuations in abundance, invasive species, seed bank dynamics, or other factors; or

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[13] U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

[14] Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components, may require multiple annual surveys to fully capture baseline conditions. In habitats dominated by long-lived perennial plants, such as forests, surveys that were not conducted within the previous five years may not adequately represent the current baseline conditions and should be re-conducted.

- Recent taxonomic studies, status reviews or other scientific information has resulted in a revised understanding of the special status plants with potential to occur in the project area.

### Negative Surveys

Adverse conditions from yearly weather patterns may prevent botanical field surveyors from determining the presence of, or accurately identifying, some special status plants in the project area. Disease, drought, predation, fire, herbivory, or other disturbance may also preclude the presence or identification of special status plants in any given year. Discuss all adverse conditions in the botanical survey report.[15]

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that the plant occurrence no longer exists at a location, particularly if adverse conditions are present. For example, botanical field surveys over a number of years may be necessary if the special status plant is an annual or short-lived plant having a persistent, long-lived seed bank and populations of the plant are known to not germinate every year. Visiting the project area in more than one year increases the likelihood of detecting special status plants, particularly if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may help ensure that the timing of botanical field surveys was appropriate.

## 3. REPORTING AND DATA COLLECTION

Adequate information about special status plants and sensitive natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants and sensitive natural communities and will guide the development of avoidance, minimization, and mitigation measures. The information necessary to assess impacts to special status plants and sensitive natural communities is described below. For comprehensive, systematic botanical field surveys where no special status plants or sensitive natural communities were found, reporting and data collection responsibilities for botanical field surveyor remain as described below, excluding specific occurrence information.

### Special Status Plant and Sensitive Natural Community Observations

Record the following information for locations of each special status plant and sensitive natural community detected during a botanical field survey of a project area.

- The specific geographic locations where the special status plants and sensitive natural communities were found. Preferably this will be done by use of global positioning system (GPS) and include the datum[16] in which the spatial data was

[15] U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

[16] NAD83, NAD27 or WGS84

collected and any uncertainty or error associated with the data. If GPS is not available, a detailed map (1:24,000 or larger) showing locations and boundaries of each special status plant population and sensitive natural community in relation to the project area is acceptable. Mark occurrences and boundaries as accurately as possible;

- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If a special status plant is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of each special status plant in each life stage such as seedling, vegetative, flowering, and fruiting;
- The density of special status plants, identifying areas of relatively high, medium and low density of each special status plant in the project area; and
- Digital images of special status plants and sensitive natural communities in the project area, with diagnostic features.

### Special Status Plant and Sensitive Natural Community Documentation

When a special status plant is located, data must be submitted to the CNDDB. Data may be submitted in a variety of formats depending on the amount and type of data that is collected.[17] The most common way to submit data is the Online CNDDB Field Survey Form,[18] or equivalent written report, accompanied by geographic locality information (GPS coordinates, GIS shapefiles, KML files, topographic map, etc.). Data submitted in digital form must include the datum[19] in which it was collected.

If a sensitive natural community is found in a project area, document it with a Combined Vegetation Rapid Assessment and Relevé Field Form[20] and submit the form to VegCAMP.[21]

### Voucher Collection

Voucher specimens provide verifiable documentation of special status plant presence and identification and a scientific record. This information is vital to conservation efforts and valuable for scientific research. Collection of voucher specimens should be

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17 See https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data for information on acceptable data submission formats.

18 Available at: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data

19 NAD83, NAD27 or WGS84

20 Available at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit

21 Combined Vegetation Rapid Assessment and Releve Field Forms can be emailed to VegCAMP staff. Contact information available at: https://www.wildlife.ca.gov/Data/VegCAMP

conducted in a manner that is consistent with conservation ethics, and in accordance with applicable state and federal permit requirements (e.g., scientific, educational, or management permits pursuant to Fish & G. Code, § 2081, subd. (a)). Voucher collections of special status plants (or possible special status plants) should only be made when such actions would not jeopardize the continued existence of the population. A plant voucher collecting permit[22] is required from CDFW prior to the take or possession of a state-listed plant for voucher collection purposes, and the permittee must comply with all permit conditions.

Voucher specimens should be deposited in herbaria that are members of the Consortium of California Herbaria[23] no later than 120 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant collector names and permit numbers on specimen labels (if applicable).

## Botanical Survey Reports

Botanical survey reports provide an important record of botanical field survey results and project area conditions. Botanical survey reports containing the following information should be prepared whenever botanical field surveys take place, and should also be submitted with project environmental documents:

### *Project and location description*

- A description of the proposed project;
- A detailed map of the project area that identifies topographic and landscape features and includes a north arrow and bar scale;
- A vegetation map of the project area using Survey of California Vegetation Classification and Mapping Standards[24] at a thematic and spatial scale that allows the display of all sensitive natural communities;
- A soil map of the project area; and
- A written description of the biological setting, including all natural communities; geological and hydrological characteristics; and land use or management history.

### *Detailed description of survey methodology and results*

- Names and qualifications of botanical field surveyor(s);
- Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent;
- A discussion of the survey preparation methodology;
- A list of special status plants and sensitive natural communities with potential to

[22] Applications available at: https://www.wildlife.ca.gov/Conservation/Plants/Permits

[23] A list of Consortium of California Herbaria participants is available at: http://ucjeps.berkeley.edu/consortium/participants.html

[24] Available at: https://www.wildlife.ca.gov/data/vegcamp/publications-and-protocols

occur in the region;

- Description(s) of reference site(s), if visited, and the phenological development of special status plant(s) at those reference sites;
- A description and map of the area surveyed relative to the project area;
- A list of all plant taxa occurring in the project area, with all taxa identified to the taxonomic level necessary to determine whether or not they are a special status plant;
- Detailed data and maps for all special status plants and sensitive natural communities detected. Information specified above under the headings "Special Status Plant and Sensitive Natural Community Observations," and "Special Status Plant and Sensitive Natural Community Documentation," should be provided for the locations of each special status plant and sensitive natural community detected. Copies of all California Native Species Field Survey Forms and Combined Vegetation Rapid Assessment and Relevé Field Forms should be sent to the CNDDB and VegCAMP, respectively, and included in the project environmental document as an Appendix;[25]
- A discussion of the potential for a false negative botanical field survey;
- A discussion of how climatic conditions may have affected the botanical field survey results;
- A discussion of how the timing of botanical field surveys may affect the comprehensiveness of botanical field surveys;
- Any use of existing botanical field surveys and a discussion of their applicability to the project;
- The deposition locations of voucher specimens, if collected; and
- A list of references used, including persons contacted and herbaria visited.

***Assessment of potential project impacts***

- A discussion of the significance of special status plant populations in the project area considering nearby populations and total range and distribution;
- A discussion of the significance of sensitive natural communities in the project area considering nearby occurrences and natural community distribution;
- A discussion of project related direct, indirect, and cumulative impacts to special status plants and sensitive natural communities;
- A discussion of the degree and immediacy of all threats to special status plants and sensitive natural communities, including those from invasive species;
- A discussion of the degree of impact, if any, of the project on unoccupied,

[25] It is not necessary to submit entire environmental documents to the CNDDB.

potential habitat for special status plants; and

- Recommended measures to avoid, minimize, or mitigate impacts to special status plants and sensitive natural communities.

## 4. BOTANICAL FIELD SURVEYOR QUALIFICATIONS

Botanical field surveyors should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with plants of the region, including special status plants;
- Familiarity with natural communities of the region, including sensitive natural communities;
- Experience with the CNDDB, BIOS, and Survey of California Vegetation Classification and Mapping Standards;
- Experience conducting floristic botanical field surveys as described in this document, or experience conducting such botanical field surveys under the direction of an experienced botanical field surveyor;
- Familiarity with federal, state, and local statutes and regulations related to plants and plant collecting; and
- Experience analyzing the impacts of projects on native plant species and sensitive natural communities.

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