

SUPPLEMENTAL INFORMATION #1

For Planning Commission Agenda of:
March 18, 2021

☒	Consent Agenda Item	
☐	Continued Hearing Item	No. E-8
☐	Public Hearing Item	
☐	Department Report	
☐	Old Business	

Re: Maple Creek Ranch Corp Conditional Use Permit and Zoning Clearance Certificate

Record Number: PLN-12154 and 15197

Assessor Parcel Number: 313-145-006

Maple Creek Road, Korbek, CA

Attached for the Planning Commission's record and review is an additional email received from Greg O'Connell, California Department of Fish and Wildlife. This email continues the conversation that staff and CDFW were engaged in regarding CDFW's CEQA comments and the assertion that the botanical study was inadequate. The CEQA comments and email correspondence is found in Attachment 5 of the staff report.

In addition to this email is a web page from the California Native Plant Society regarding Siskiyou checkerbloom, which CDFW states would not be likely to be blooming in July when the first botanical survey was conducted. Please note that the CNPS states that the blooming period is from May to August. Staff has also attached the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations referenced in CDFW's CEQA comments.

Staff does not suggest any changes or amendments to the proposed mitigation measure as requested by CDFW in the email. The botanist that has actually been on-site and conducted the survey is of the opinion that any Siskiyou checkerbloom and any other species of concern would have been identifiable during the July survey, with the exception of Howell's montia for which a further study has been recommended as a mitigation measure. Therefore, staff does not believe the additional mitigation language proposed by CDFW is necessary. Further, the measure as suggested by CDFW staff could be construed as deferred mitigation.

While not particularly relevant to the Planning Commission's determination of whether the botanical survey is adequate for the purposes of CEQA, the Planning Commission should understand that Planning staff reached out to CDFW through the agency referral process in June of 2020 and received no response or request for additional survey information.

From: O'connell, Gregory@Wildlife
To: [Johnson, Cliff](#)
Cc: [Ford, John](#); Sanville, Cheri@Wildlife; Bauer, Scott@Wildlife; Babcock, Curt@Wildlife; Olson, Jennifer@Wildlife; [Kyle Wear](#)
Subject: RE: CEQA-2021-0027_MapleCreekRanchCannabis_ISMND_LTR_20210228_FINAL.pdf
Date: Monday, March 15, 2021 10:27:20 AM
Attachments: [CEQA-2021-0027_MapleCreekRanchCannabis_ISMND_LTR_20210228_FINAL.pdf](#)

Hi Cliff,

I see the [Maple Creek Ranch cannabis project](#) is on the Planning Commission [agenda](#) this Thursday. I got a chance to speak with Kyle Wear (added to email as cc) about his botanical survey report for the this project. It appears there was a misunderstanding with his interpretation of [CDFW's botanical survey protocol](#). Although he did attempt to identify all plant species encountered during his July and August 2019 site visits, the timing of these visits is not adequate to document floristic diversity throughout the growing season. Kyle and I have spoken about this previously and he has made changes to is procedure since.

For the reasons described in CDFW's botanical survey protocol, CDFW's Project comment letter (attached), and further explained in my March 4 email further below, floristic surveys are needed to determine presence of special status plant species and sensitive natural communities. I would much rather see complete biological surveys and impact analyses prior to completion of CEQA, but at a minimum it's appropriate to expand Mitigation Measure BIO-5 to include early and mid-season surveys of the project area and consult with CDFW if special status plants or sensitive natural communities may be impacted.

I understand the Planning Commission is sensitive to receiving new information close to the hearing date. Although this is not new information, my suggested modification of BIO-5 differs from what is currently in the County staff report. We could schedule a call to discuss this prior to the Planning Commission hearing, and/or I could attend the hearing to explain my recommendations. Please let me know if you have a preference.

Lastly, I recognize the County's tremendously workload and need to bring projects to decision as soon as possible. I'm open to additional follow-up discussions on how the County and CDFW can communicate effectively and accomplish shared goals, particularly for projects with site-specific CEQA documents.

Thanks,

Greg O'Connell
Environmental Scientist
Coastal Conservation Planning
California Department of Fish and Wildlife
619 Second Street
Eureka, CA 95501
Gregory.OConnell@Wildlife.ca.gov



*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)



[Export to Excel](#)

Sidalcea malviflora ssp. *patula*

Common Name: Siskiyou checkerbloom

Family: Malvaceae

Synonyms:

Element Code: PDMAL110F9

Full Name: *Sidalcea malviflora* (DC.) A. Gray ssp. *patula* C.L. Hitchc.

USDA PLANTS Symbol: SIMAP



2005 Dean Wm. Taylor

Biology

Lifeform: perennial rhizomatous herb

Blooming Period: (Apr)May-Aug

Habitat: often roadcuts.

- Coastal bluff scrub
- Coastal prairie
- North Coast coniferous forest

Rarity Status

California Rare Plant Rank: 1B.2

Rare or endangered in California and elsewhere

2: Fairly endangered in California

Federal Listing Status:

Not Listed

State Listing Status:

Not Listed

State Rank: S2

S2: Imperiled.

Global Rank: G5T2

T2: Imperiled. **G5:** (species) Secure, considering populations outside California.

Occurrence Data from CDFW California Natural Diversity Database

Total # of Known Element Occurrences: 53

Element Occurrence Ranks:

A	B	C	D	X	U
10	20	8	0	0	15

Population Status:

Historic >20 yrs	Recent <=20 yrs
13	40

Presence:

Present Extant	Possibly Extirpated	Presumed Extirpated
53	0	0

Notes

Threatened by road widening and non-native plants. Possibly threatened by logging, grazing, and trampling.

To submit rare plant observation data, use the [CNDDB field survey form](#). Please see also the CNPS [Rare Plant Data](#) page.

Date Added: 1994-01-01

Last Update: 2018-07-23

Location

Elevation: 15 - 880 meters

California Endemic: no

Other States: Oregon

California Counties and Islands: *name (code)*

Del Norte (DNT), Humboldt (HUM), Mendocino (MEN)

Quads: *name (DWR code) USGS code*

Albion (553A) 3912327, Bridgeville (635A) 4012347, Redcrest (635B) 4012348, Myers Flat (635D) 4012337, Scotia (636A) 4012441, Taylor Peak (636B) 4012442, Capetown (637A) 4012443, Petrolia (637D) 4012433, Board Camp Mtn. (652B) 4012366, Iaqua Buttes (653B) 4012368, Owl Creek (653C) 4012358, Yager Junction (653D) 4012357, Fields Landing (654B) 4012462, Fortuna (654C) 4012452, Hydesville (654D) 4012451, Ferndale (655D) 4012453, Denny (669B) 4012384, Grouse Mtn. (670C) 4012376, Korbel (671C) 4012378, Maple Creek (671D) 4012377, Arcata North (672A) 4012481, Eureka (672C)(*) 4012472, Bald Hills (688B) 4112328, Orick



(706D) 4112431, Smith River (740B) 4112482, Crescent City (740C) 4112472

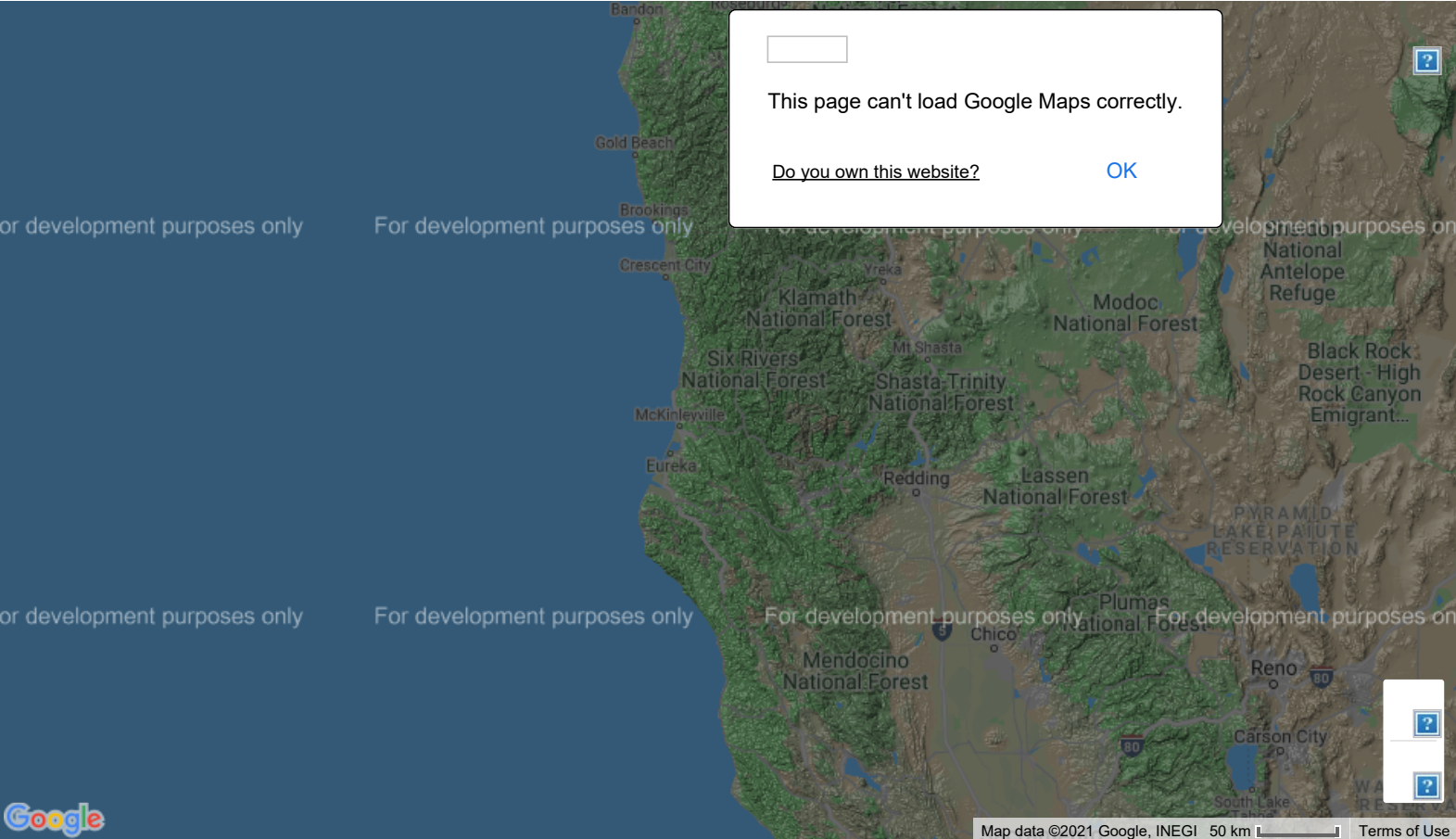
Notes:

- Definitions of codes preceding a county and/or quad:
- * Presumed extirpated
 - ? Uncertain about distribution or identity
 - ?* Uncertain about distribution, but presumed extirpated if once present
 - (?) Occurrence confirmed, but possibly extirpated

Species may be present in other areas where conditions are favorable. This data should NOT be substituted for pre-project review or for on-site surveys.

 Presumed Extant  Presumed Extirpated or Unknown

[Printable version of this map](#) Counties Quads



Links to Leading Resources of Taxon Information

- [USDA PLANTS](#)
- [Calflora](#)
- [Consortium of California Herbaria](#)
- [CalPhotos](#)
- [California Department of Fish and Wildlife: CNDDB Quick Viewer](#)

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 16 March 2021].

Search the Inventory

- Simple Search
- Advanced Search
- Glossary

Information

- About the Inventory
- About the Rare Plant Program
- CNPS Home Page

Contributors

- The Calflora Database
- The California Lichen Society
- California Natural Diversity Database

Questions and Comments

rareplants@cnps.org

[About CNPS](#)

[Join CNPS](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

© Copyright 2010-2018 California Native Plant Society. All rights reserved.

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*

TABLE OF CONTENTS

1. INTRODUCTION AND PURPOSE	1
2. BOTANICAL FIELD SURVEYS	4
3. REPORTING AND DATA COLLECTION	7
4. BOTANICAL FIELD SURVEYOR QUALIFICATIONS	11
5. SUGGESTED REFERENCES.....	11

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 wetlands² or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants.³

* 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

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 CNDDB⁹ and BIOS¹⁰ 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 CNDDDB QuickView Tool¹² which allows the user to generate lists of CNDDDB-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

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/CNDDDB/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

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 datum¹⁶ 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 CNDDDB. 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 CNDDDB 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 datum¹⁹ 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 Form²⁰ 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

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

¹⁸ Available at: <https://www.wildlife.ca.gov/Data/CNDDDB/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 Relevé 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 permit²² 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 Herbaria²³ 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 Standards²⁴ 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 CNDDDB 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 CNDDDB.

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 CNDDDB, 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.

5. SUGGESTED REFERENCES

Bonham, C.D. 1988. Measurements for terrestrial vegetation. John Wiley and Sons, Inc., New York, NY.

California Native Plant Society, Rare Plant Program. Most recent version. Inventory of rare and endangered plants (online edition). California Native Plant Society. Sacramento, CA. Available at: <http://www.rareplants.cnps.org/>.

California Native Plant Society. Most recent version. A manual of California vegetation. California Native Plant Society. Sacramento, CA. Available at: <http://www.cnps.org/cnps/vegetation/manual.php>.

California Department of Fish and Wildlife, California Natural Diversity Database. Most recent version. Special vascular plants, bryophytes and lichens list. Updated quarterly. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>.

Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. Measuring and monitoring plant populations. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management. Denver, Colorado. Available at: <https://www.ntc.blm.gov/krc/uploads/265/technical%20reference.pdf>.

- Jepson Flora Project (eds.) Most recent version. Jepson eFlora. Available at:
<http://ucjeps.berkeley.edu/eflora/>.
- Leppig, G. and J.W. White. 2006. Conservation of peripheral plant populations in California. *Madroño*. 53:264-274.
- Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc. New York, NY.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.
- Van der Maarel, E. 2005. Vegetation Ecology. Blackwell Science Ltd. Malden, MA.

This document is available online at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>