**BOARD OF FORESTRY AND FIRE PROTECTION**

**RPF GUIDANCE REGARDING BOTANCIAL SURVEYS**

**INVOLVING PLANT SPECIES OF CONSEQUENTIAL STATUS**

**UNDER THE FOREST PRACTICE ACT AND CEQA**

**Introduction**

Underlying the Forest Practice Act is a general commitment to avoiding or lessening adverse impacts of timber harvesting on the environment and to implementing the Act consistent with other environmental laws, such as the California Environmental Quality Act (CEQA).[[1]](#footnote-2) As a certified regulatory program under PRC § 21080.5, Timber Harvesting Plans (THP) and other Plans[[2]](#footnote-3) prepared pursuant to the Forest Practice Act are the equivalent to an Environmental Impact Report (EIR) required under CEQA. A key element in departmental review of Plans involves providing CAL FIRE (as lead agency), as well as CDFW (as a trustee agency) and other review team agencies, sufficient information to determine whether potential significant adverse impacts of timber operations on botanical resources are appropriately identified and mitigated.[[3]](#footnote-4) However, existing CAL FIRE and CDFW guidance documents regarding the necessity for and scope of botanical surveys to facilitate Plan review are dated and, in some instances, provide conflicting standards and expectations. To facilitate timely approval of Plans, the guidance below is directed toward Registered Professional Foresters (RPFs) to provide additional clarity about what information CAL FIRE and the review team agencies may require to properly evaluate impact of timber operations on botanical resources. The guidance is not mandatory nor intended to have regulatory effect. The guidance is intended to supplement related guidance issued by CAL FIRE and CDFW, but prevails in areas of conflict, consistent with the Board’s authority to approve Plans on appeal.

**Scoping**

Scoping is the critical first step in determining the need for and scope of a botanical survey. Proper scoping provides critical information regarding known occurrences of and potential habitat for plant species in the Plan area, thereby indicating the full measure of plant species of consequential status under CEQA[[4]](#footnote-5) that may be significantly impacted under the Plan. The scoping process, including identifying the need for any subsequent botanical survey, should be completed prior to Plan review. In some instances, depending on project design and mitigation, it may be acceptable to defer completion of a survey until after Plan submittal but prior to commencement of timber operations.

An RPF must first determine an appropriate geographic region for scoping. Appropriate boundaries for the assessment area will vary depending on the resources at issue and should be established consistent with the requirements of Technical Rule Addendum #2. Although the USGS 7.5’ quadrangle represents a common unit of measurement and mapping for botanical resources, there is not a universally appropriate scoping area.[[5]](#footnote-6) The RPF must exercise professional judgment to identify a sufficiently large geographic area to appropriately identify species that could be significantly impacted directly or indirectly by timber operations. In identifying this area, RPFs are encouraged to utilize all available information about particular botanical resources of concern occurring, or for which appropriate habitat exists, in the Plan area, which may influence the RPF’s decision making in setting appropriate geographic boundaries for the scoping process. For instance, if the Plan area footprint contains atypical soil types or geologic substrates that are more likely to support populations of plant species of consequential status, adjacent 7.5 minute quads should be included to allow comparison to habitats with a similar substrate. Specific uncommon substrates include, but are not limited to, serpentine/ultramafic soils and outcrops, gabbro soils, Ione soils, soils with a restrictive layer that results in vernal wetlands, limestone outcrops, and granite outcrops.

Upon establishing the appropriate geographic area for scoping, the RPF must again exercise prudent professional judgement with respect to the depth of research necessary to identify all plant species of consequential status and suitable habitat that may be significantly impacted by the timber operations. RPFs should rely on a broad spectrum of informational sources. In addition to state and federal agency lists for rare, endangered, or threatened species, examples of appropriate informational resources include, but are not limited to, the California Natural Diversity Database (CNDDB), BIOS, information provided by contacts at state and federal agencies, the Environmental Conservation Online System (ECOS), prior botanical surveys, Natural Community Conservation Plans or Habitat Conservation Plans, California Native Plant Society (CNPS) inventories, CNDDB’s Special Vascular Plants, Bryophytes, and Lichens List, California Consortium of Herbaria, Calflora, environmental review documents for projects in the vicinity, and reports, studies, and similar documents prepared by academic institutions or professional organization.[[6]](#footnote-7)

For purposes of Plan review, as well as potential subsequent appeal, it is in the RPF’s interest to identify a comprehensive list of potential plant species followed by a clearly documented process of elimination, as opposed to omitting potentially relevant plant species at the outset which may result in review team agencies seeking additional information during Plan review. Detailed information as to why each species was eliminated, along with any relevant data or site-specific information, is likely to facilitate agency review and expedite overall Plan review processes. If an RPF lacks information to decisively eliminate a potential plant species from consideration, the prudent course of action is to include it. The RPF should substantiate the elimination of a species from the scoping list by providing a description of why suitable habitat for that species is lacking.

The primary purpose of the scoping process is the identification of plant species of consequential status under CEQA, which will need to be directly addressed in the Plan. For instance, CEQA Guideline §15065 mandates a finding of potential significant environmental impact where substantial evidence indicates the project has the potential to, among other things, “cause a fish or wildlife population to drop below self-sustaining levels … [or] substantially reduce the number or restrict the range of an endangered, rare or threatened species.”

Thus, plant species of consequential status generally include rare, threatened, or endangered species. The consequence imposed by CEQA for these types of plant species potentially occurring within the Plan area is that the Plan must adequately investigate and discuss the impacts of timber operations on those plant species, including determining the actual significance of the impacts, evaluating the feasibility of alternatives, and identifying and proposing minimization or avoidance measures.

Guideline §15380(b) defines what constitutes a rare or endangered species for purposes of CEQA review, including Guideline §15065.[[7]](#footnote-8) Pursuant to Guideline § 15380(c), species formally listed as rare, threatened, or endangered under the state or federal Endangered Species Acts are presumed to satisfy this definition. However, Guideline §15380(d) adds that nonlisted species “shall nevertheless be considered to be endangered, rare or threatened, if the species can be shown to meet the criteria” in the guideline’s definition.

That formally listed and candidate plant species under the ESA or CESA qualify for consequential status makes sense given the rigorous and transparent public process by which such designations are evaluated and adopted. The public can have confidence in the propriety of these classifications as the basis for more detailed CEQA review. For the same reason, plant species formally designated as rare or endangered under the California Native Plant Protection Act (CNPPA) or identified for conservation pursuant to a CDFW agreement under the Natural Community Conservation Planning Act (NCCPA) also reasonably qualify as plant species of consequential status.

Less clear for RPF’s, however, is how to proceed with nonlisted plant species that *might* qualify for consequential status under Guideline §15380(d) as species “that may be shown” to meet the definitions of rare or endangered species. CDFW, CNPS, and other entities have relied on Guideline §15380(d) to informally designate nonlisted plant species as being “special status” plant species for purposes of the CEQA review process. For instance, the California Rare Plant Rankings, as managed by CNPS, represent a nongovernmental assessment of plant species rarity. The rankings are the result of a collaborative evaluation process involving a number of knowledgeable botanical professionals, but the ranking process itself lacks transparency and opportunity for meaningful public participation. CDFW informally relies on the California Rare Plant Rankings as prima facie justification for requesting floristic botanical surveys to document nonlisted plant occurrences.[[8]](#footnote-9)

Informal and nongovernmental plant species rarity rating structures raise legitimate concerns about the extent to which such rankings are properly relied upon as a basis for compelling Plan applicants to engage botanical surveys. The Board recognizes the position previously advanced by CAL FIRE and the regulated public that if a plant species objectively satisfies the criteria for legally protected status as rare, threatened, or endangered under statutory schemes like the ESA, CESA, or the CNPPA, then entities charged with their protection would presumably undertake the process to have these species formally listed.

Nonetheless, as a legal matter, whether a nonlisted plant species meets the criteria of Guideline §15380(d) is an evidentiary matter that can be determined by reference to factual data, as well as by expert opinion supported by facts. As such, it is a matter to be determined based on substantial evidence for CEQA purposes.[[9]](#footnote-10) Accordingly, an RPF may exercise some professional discretion in determining the level of appropriate investigation and discussion in the Plan for nonlisted plants informally designated as “special status” plant species. To the extent CDFW makes pre-consultation resources available, an RPF may find it useful to inquire about nonlisted species of concern to the CDFW early in the Plan preparation process. Considerations that may be relevant to an RPF’s determination of whether and the extent to which nonlisted plant species should be addressed in the Plan include, but are not limited to, a limited number of reported populations, limited population size, high phylogenetic isolation of the species, and Plan areas which contain large populations of the species or are at the geographic limits of the species. Such considerations may serve to preserve the genetic diversity of species, making it more likely that they will survive changes in the environment. In anticipation of requests for additional information during plan review from CAL FIRE, CDFW, or other members of the review team, the RPF may wish to preemptively address the basis for the RPF’s determination regarding these nonlisted plant species in the Plan.[[10]](#footnote-11)

The ultimate goal of the scoping process is to identify plant species of consequential status known to occur in the Plan area, as well as plant species of consequential status which may be likely to exist in the Plan area. Once the RPF has compiled this data through scoping, the RPF may need to take additional steps to assess the actual or potential presence of those species in the Plan area and whether timber operations will have significant impact on those species that must be mitigated.

**Botanical Survey**

A botanical survey can provide greater certainty as to the actual presence and precise location of plant species of consequential status within the Plan area. Whether a botanical survey is necessary, and in what form, may be determined by the RPF based on the circumstances of the individual Plan.

The critical question for an RPF to consider is whether the Plan provides CAL FIRE and the review team with sufficient information to properly evaluate the significance of timber operation impacts on plant species of consequential status. The Plan “must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.”[[11]](#footnote-12)

However, court cases addressing the need for detailed surveys have made also made clear that “[u]nder CEQA, an agency is not required to conduct all possible tests or exhaust all research methodologies to evaluate impacts. Simply because an additional test may be helpful does not mean an agency must complete the test to comply with the requirements of CEQA.”[[12]](#footnote-13)

In some instances, the RPF may have sufficient information from the scoping process to properly avoid or eliminate the potential for impact for plant species of consequential status without the need for a botanical survey. For instance, the RPF may be able to exclude or minimize certain elements of timber operations from identified habitat types. Similarly, existing requirements of the Forest Practice Rules, such as those governing Watercourse and Lake Protection Zones (WLPZ) or Special Treatment Areas, may adequately address impacts to plant species of consequential status that occur exclusively in riparian habitat or within areas identified for special treatment. Likewise, the RPF may be able to propose, or agree to, as a condition of Plan approval to accept certain requirements designed to ensure avoidance of environmental impacts, such as on-site training for field personnel and pre-arranged mitigation measures to be implemented if a plant species of consequential status is later discovered in the area.

Also, prior botanical surveys may be sufficiently recent and comprehensive to support the RPF’s determination that it is unnecessary to repeat survey efforts. However, additional factors should be considered when determining whether a new survey is necessary. Relevant circumstances include whether new plants of “consequential status” are identified in the updated scoping and whether the previous surveys would have adequately addressed those species, the amount of time since the last survey, how much of the Plan area is covered by prior surveys, whether surveys were performed at appropriate times of year to identify the plant species, whether the survey area has habitat commonly susceptible to year-to-year fluctuations, or whether the survey area has encountered recent, significant intervening environmental conditions such as wildfire, drought, flooding, or climate change.

Where the scoping process does not result in adequate information to inform questions of actual presence of habitat for or occurrences of plant species of consequential status or preemptive mitigation measures for potential presence of those habitat and species, then a botanical survey will be appropriate to ensure that CAL FIRE, as well as the review team agencies, have sufficient information to determine whether sufficient efforts have been undertaken to identify and mitigate environmental impact upon plant species in connection with Plan approval.

Upon determining that a botanical survey is necessary, it becomes necessary to determine how comprehensive of a survey should be conducted. A floristic survey involves identifying every plant taxon to the taxonomic level necessary to determine its rarity and listing status.[[13]](#footnote-14) Such a survey is often favored by agencies on the Plan review team because it is comprehensive and will invariably satisfy CEQA requirements. But, floristic surveys can be costly and time consuming, and, as previously noted, may exceed what CEQA actually requires for Plan approval.

Under some circumstances a focused survey may provide sufficient information to allow CAL FIRE and the review team to assess identification and mitigation of significant impacts on plant species of consequential status. Focused surveys have a more tactical approach, such as being limited to a targeted list of plant species of consequential status or to habitats in the plan area that could potentially support plant species of consequential status.

Regardless of whether a floristic or focused survey is performed, the RPF should exercise appropriate care to ensure the integrity of the survey. For instance, the survey should be performed by someone with appropriate botanical education and experience. Nothing prevents an RPF from performing a botanical survey, though RPFs must remain cognizant of their professional obligations under PRC § 752(b) to perform only those services for which they have expertise and should engage the service of a botanist or other qualified expert where the RPF is unable to demonstrate the requisite level of expertise. Appropriate qualifications generally include knowledge of plant taxonomy, familiarity with plants and habitats in the region, experience with generally accepted survey and mapping standards, and knowledge of state and federal laws pertaining to plant and habitat protection.

Additionally, surveys should be methodical and systematic to ensure that results are thorough and complete for areas where impacts are likely to occur from timber operations. For instance, it is important that the survey results reflect a seasonally appropriate site visits and discuss how the methodology substantiates findings of impact. The survey results should also include information regarding plant species of consequential status location, distribution, population size, and relevant site-specific characteristics.

Finally, in terms of timing, botanical surveys are most helpful if submitted at the time of Plan review.[[14]](#footnote-15) This provides maximum opportunity for CAL FIRE and the review team to fully evaluate environmental impacts, their levels of significance, and proposed mitigation measures. Where this is not feasible, the survey must be completed prior to commencement of timber operations. Under these circumstances RPFs are also encouraged to ensure that, in addition to CAL FIRE, review team agencies are also notified of completion of the survey. This can be accomplished formally by filing the completed survey as a minor deviation to the approved Plan.

**Appendix A: Description of Botanical Scoping References**

**Biogeographic Information and Observation System (BIOS)**: CDFW’s GIS interface for various environmental databases including CNDDB, Vegetation Community Mapping (incomplete), critical habitat for federally endangered species, and terrestrial significant habitats (meadows, emergent wetlands, ponds, riparian habitat). The BIOS viewer does not include information on plants with a CRPR of 3 or 4. Plant occurrence location data is available at the population level. (with some older records the location information is less fine-grained.) Some datasets on this tool are free, while access to others require a CNDDB subscription. <https://wildlife.ca.gov/Data/BIOS>

**California Native Plant Society (CNPS) inventories**: This website shares information on populations of plants tracked by CNPS, a nonprofit organization focused on preserving native plant diversity in California. Allows generation of scoping lists for plants based on California Rare Plant Rank (CRPR), federal protected status, or state protected status on a 1-quad or 9-quad level. Contains information on potential habitat (using the Holland and Sawyer 1986 habitat classification), number of existing populations, and bloom period. All plants with a CRPR can be viewed using map tools. Plant occurrence location data is available at the 7.5 minute quad resolution. This tool is free. <http://www.rareplants.cnps.org/>

**Calflora**: A nonprofit organization that provides a website with comprehensive information about plants that grow wild in California. It provides information on the distribution of plants throughout the state. Information is sourced from the California Consortium of Herbaria, CNPS inventories, iNaturalist, public agencies, non-profits, and direct reports to Calflora. Contains information on all plant species reported in an area regardless of status, as well as information on the potential habitat for those species (using the Munz community 1968 habitat classification), bloom period, local plant lists and maps of unusual soil substrate types. All plants that grow wild in California, including plants with a CRPR, can be viewed using map tools. Plant occurrence location data is provided at the population level although older occurrence data may be imprecise. This tool is free. <https://www.calflora.org/>

**California Consortium of Herbaria**: An organization that supports all herbaria in California by providing online access to information about plant collections. Information is sourced from California herbaria. Contains information about all plant species that have been collected by botanists throughout the state. Contains information on all plant species reported in an area regardless of status. All plants that grow wild in California, including plants with a CRPR, can be viewed using map tools. Plant occurrence location data is provided at the population level although older occurrence data may be imprecise. This tool is free. <https://ucjeps.berkeley.edu/consortium/>

**California Natural Diversity Database (CNDDB)**: CDFW’s inventory of the status and location of rare plants and animals in California. Information is sourced from CNDDB form submissions and information sharing agreements with other institutions. Contains information about all state-listed and federally-listed Threatened, Endangered, and Rare plants, as well as plant species with a California Rare Plant Rank (CRPR), Bureau of Land Management Sensitive plants, United States Forest Service Sensitive plants, and plants with a NatureServe rarity ranking of G3/S3 or lower. All plants with a CRPR are recorded in the database, but only plants with a state listing, federal listing, or CRPR of 1 or 2 are visible on the maps. Plant occurrence location data is provided at the population level although older occurrence data may be imprecise. This tool requires an annual subscription or the purchase of map overlays for each 7.5 minute quad. <https://wildlife.ca.gov/Data/CNDDB>

**CNDDB’s Special Vascular Plants, Bryophytes, and Lichens List**: A list of plants (and mosses and lichens) tracked by the CNDDB for CDFW. Contains information on the species tracked by CNDDB including whether plants are state-listed and federally-listed Threatened, Endangered, and Rare, plant species with a California Rare Plant Rank (CRPR), Bureau of Land Management Sensitive plants, United States Forest Service Sensitive plants, and plants with a NatureServe rarity ranking of G3/S3 or lower. There is no plant occurrence location data. This tool is free.

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>

**Environmental Conservation Online System (ECOS)**: A website tracking U.S. Fish and Wildlife Service Threatened and Endangered Species and their critical habitats. Allows generation of scoping lists based on county. Contains information about federally-listed and candidate species, their habitat, conservation plans, range, and relevant biological opinions. Plant occurrence location data is available at the 7.5 minute quad resolution. This tool is free. <https://ecos.fws.gov/ecp/>

**Habitat Conservation Plans (HCPs)**: These plans, adopted pursuant to the federal Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.), conserve the ecosystems upon which listed species depend. HCPs near Plan areas will have comprehensive scoping information about potential plant species of consequential status. Lands included in HCPs are frequently also included in NCCPs. These reports are publicly available.

**Natural Community Conservation Plans (NCCP)**: These agreements entered into pursuant to the Natural Community Conservation Planning Act (Fish and Game Code § 2800 et seq.) conserve the ecosystems upon which listed species depend as well as special natural communities. NCCPs near Plan areas will have comprehensive scoping information about potential plant species of consequential status. Lands included in NCCPs are frequently also included in HCPs. These reports are publicly available.

**United States Department of Agriculture Web Soil Survey**: This service maps soil types and characters throughout the US. It can be used to determine if soil substrates that support specific plant species of consequential status are present in the Plan area. This tool is free. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

**United States Geological Services National Geologic Map Database**: This service maps geologic features throughout the US. It can be used to determine if geologic substrates that support specific plant species of consequential status are present in the Plan area. This tool is free. <https://ngmdb.usgs.gov/Prodesc/proddesc_333.htm>

1. See, e.g., 14 CCR §§ 896, 897. [↑](#footnote-ref-2)
2. As defined in 14 CCR § 895.1, “Plan” additionally includes Nonindustrial Timber Management Plans, Program Timber Management Plans, and Working Forest Management Plans. [↑](#footnote-ref-3)
3. 14 CCR §1034(w) requires a Plan to include “Information on the presence and protection of known habitat or individuals of any Listed Species and information on the presence and protection of non-listed Species which may be significantly impacted by the Timber Operation.” [↑](#footnote-ref-4)
4. This guidance avoids use of the commonly used phrase “special status plant species” because that phrase lacks legal definition. As a result, it is often used to refer to plants that do not necessarily enjoy protected legal status that warrants special consideration under CEQA. As described later in this memo, a “plant species of special consequence under CEQA” generally means a plant species for which CEQA mandates a finding of potential significant environmental impact, as described in Guideline §15065, thereby requiring heightened consideration of that plant species in the Plan to ensure CEQA compliance. [↑](#footnote-ref-5)
5. Although CDFW routinely prefers a 9-quad search for scoping, this does not represent a binding legal standard. Nonetheless, it may serve as an appropriate default standard for an RPF who lacks sufficient information to substantiate a smaller or larger assessment area. [↑](#footnote-ref-6)
6. See Appendix A for brief description of these informational resources. [↑](#footnote-ref-7)
7. “(b) A species of animal or plant is:

(1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

(2) "Rare" when either:

(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act. (14 CCR §15380(b).)” [↑](#footnote-ref-8)
8. The Board acknowledges that Section IV of the checklist form in CEQA Guideline Appendix G queries impacts for any species identified as “special status species … by the California Department of Fish and Game or U.S. Fish and Wildlife Service.” Setting aside any potential legal issues pertaining to identifying special status species outside of the agency’s rulemaking process, Guideline §15063(f) makes clear that the Appendix forms are “are only suggested, and public agencies are free to devise their own format for an initial study.” Accordingly, the Board does not view Appendix G as imposing an affirmative legal obligation to treat “special status species,” as informally designated by CDFW or USFWS, as mandating a finding of significant adverse environmental impact similar to formally listed rare, threatened, or endangered species. [↑](#footnote-ref-9)
9. Guideline §15384 defines substantial evidence as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” That guideline additionally specifies that substantial evidence includes “facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts“ and that “[a]rgument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence.” [↑](#footnote-ref-10)
10. PRC §21160 authorizes a state agency to request additional data or information that may be necessary to properly inform the state agency’s determinations as whether the proposed timber operations will have a significant adverse effect on that nonlisted plant species. 14 CCR §1037.5(g) provides the process for seeking such information and requires that the request include reasons supporting the request. Such a request may constitute substantial evidence in favor of the need for additional information for a particular plant species, which may be sufficient legal grounds to invalidate a Plan that fails to specifically address that species. (*Sierra Club v. State Board of Forestry and Fire Protection* (1994) 7 Cal.4th 1215.) [↑](#footnote-ref-11)
11. *Association of Irritated Residents v. County of Madera* (2003) 107 Cal. App. 4th 1383 ,1398. [↑](#footnote-ref-12)
12. *Save Panoche Valley v. San Benito County* (2013) 217 Cal. App. 4th 503, 524; *Association of Irritated Residents v. County of Madera* (2003) 107 Cal. App. 4th 1383, 1396. [↑](#footnote-ref-13)
13. This level of review is referred to as a “botanical inventory” by the United States Fish and Wildlife Service. [↑](#footnote-ref-14)
14. Although technically beyond the scope of this guidance document, the Board recognizes and wishes to publicly acknowledge that the scientific value of botanical surveys extends far beyond the Plan for which it is prepared. RPFs are therefore highly encouraged to submit survey results for inclusion in CNDDB so that the data may be relied upon for future Plans, as well as other non-forestry botanical projects. Concurrently, as the agency responsible for managing CNDDB, CDFW is encouraged to commit appropriate resources for maintenance and ongoing review of CNDDB data and to consider database improvements that address participation disincentives reported by the RPF community. [↑](#footnote-ref-15)