Botany Policy

A Planning Document for Protecting Sensitive Plant Species on SPI Land

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SIERRA PACIFIC RESEARCH & MONITORING

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Contents

Document Summary

This document describes the Sierra Pacific Industries Botany Policy, the timeline by which it will be implemented, plant survey procedures, and plant protection measures for timber operations that involve plant species on the Botany Policy Plant List. It also contains contact information and appendixes describing third-party consultants, specific methodologies used to formulate the Botany Policy, and the Botany Plant List itself. Sierra Pacific has developed this document after consultation with the California Department of Fish and Game (DFG). SPI intends to use this Planning Document to guide timber harvesting plan preparation and implementation on SPI lands.

Policy Objective

The objective of the SPI Botany Policy is the development of a scientifically based, consistent, straightforward plan that guides how sensitive plants will be addressed in timber harvesting plans (THPs) and other documents related to timber operations. The Botany Policy has been developed by SPI as a programmatic, landscape-scale approach to protecting botanical resources on private timberlands managed by SPI. Specifically, the Policy aims to:

- Identify and discuss potential impacts of the timber operations proposed in each SPI timber harvesting plan upon those plants included in the Botany Policy Plant List, presented in Appendix D. For purposes of this document, the plants listed in the Botany Policy Plant List are considered sensitive to timber harvesting operations on SPI's land. Specifically, the plants on the Botany Policy Plant List are those species, subspecies, or varieties of native plant that (1) are or may be present within portions of Sierra Pacific's ownership and (2) are listed as endangered or threatened under the federal or state Endangered Species Acts or are unlisted but for which SPI timber

harvest operations have the potential to result in significant adverse environmental impacts.[1]

- Ensure, when appropriate, the inclusion of feasible measures to protect sensitive plant populations or sensitive plant habitat so as to avoid or mitigate significant adverse impacts on the environment.

- Phase the application of protection measures for botanical resources into SPI's timber harvesting plans filed after December 31, 2001. The phased approach to applying protection measures will provide incrementally increased plant protection during each phase while accomplishing the following goals: (1) provide adequate protection currently, as needed, with respect to any plants for which harm would result in a significant adverse impact upon the environment, (2) permit SPI staff to develop and increase expertise in recognizing sensitive plants and sensitive plant habitat over time through continuing botanical education and training, and (3) identify plants that (a) were thought to be sensitive but are not, or (b) were thought not sensitive but in fact are sensitive, or are likely to become so.

- Improve understanding of the life history, ecology, and response of sensitive plants to timber operations through scientifically based observation, monitoring, and experimentation.

- Include flexibility to permit appropriate modifications to parts of the Policy. This encompasses lists of plants that will be addressed, specific plant protection measures, survey methodologies, and survey review procedures, and so forth.

- Serve as a model for a productive relationship between SPI and DFG in the development of landscape-scale programmatic approaches to biological resource protection.

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[1] Nothing herein, however is intended to imply that SPI concurs with this view or that, as a matter of law, plants meeting the Section 15380 guidelines are legally entitled to threatened or endangered status under any state of federal law.

Introduction

The California Department of Fish and Game (DFG) and Sierra Pacific Industries (SPI) met on June 8, August 29, September 26, and October 17, 2001, to discuss how certain plants could be adequately addressed and protected during the company's timber harvesting activities and other forestry operations on its privately owned lands.

Both parties believe that adequate plant protection can be accomplished by developing a policy to be implemented in three phases over a three-year period that integrates protection measures for certain plants (see Botany Policy Plant Species and the Botany Policy Plant List on page 6) into SPI's timber harvesting plan (THP) preparation and review procedures. The SPI Botany Policy is intended to assist SPI and relevant state agencies in complying with the California Environmental Quality Act (CEQA) disclosure, analysis, and mitigation requirements as they apply to SPI's timber harvesting plans. SPI will establish a scientifically based, straightforward procedure for identifying and assessing populations of plant species and their habitats on its lands. SPI's intention is that the application of the measures described in this document will help SPI to avoid or mitigate significant environmental impacts on those plant populations that could otherwise result from SPI's timber operations.

SPI will not undertake significant deviations from any of the objectives, protection measures, or procedures described in this document without first providing notice to DFG.

The measures set forth in this document are based on the best available scientific information and as designed will satisfy the objectives of this document. However, additional information about these species could improve the efficiency and focus of management measures, and therefore SPI will continue to collect additional information, including basic information concerning the biology of these species, their habitats, existing populations, and responses to different silvicultural treatments. Further, SPI will collect and catalog data on these plant species to add to the pool of knowledge concerning their life requirements. Although SPI is ultimately responsible for the content of its Botany Policy, it will work cooperatively with DFG to develop

and refine mutually agreed-upon scientifically based standards for monitoring and evaluation.

Background on SPI's Timber Harvest Operations

SPI harvests the majority of its timber from its conifer-producing lands that make biological, legal, and economic sense to harvest, and all logging is carried out in strict accordance with state forest practice regulations. However, some timber operations (including harvesting, road building, landing construction, and watercourse crossings) do occur in habitats that are not dominated by conifers. Timber operations will be conducted within the following habitat types and subject to the appropriate plant protection measures if they provide suitable habitat for and/or surveys indicate the presence of Botany Policy plant species: meadows, grasslands, chaparral and other shrub-dominated vegetation, oak woodlands, inland forests, both mesic and xeric, and coastal forests, including areas with ultramafic soils. On occasion, nonforested habitats such as *freshwater wetlands* and *rock outcrops* may occur within THP boundaries and may harbor Botany Policy plant species. SPI will generally avoid or limit timber harvesting operations in these habitat types. However, if operations are planned in these habitats, appropriate plant protection measures will be implemented. Following are detailed descriptions of such habitats.

Freshwater Wetlands

Freshwater wetlands, defined using the United States Army Corps of Engineers (*Federal Register* 1982) and the United States Environmental Protection Agency (*Federal Register* 1980) joint definition:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and the normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (Corps Regulation 33 CFR 328.3 and EPA Regulations 40 CFR 230.3)

Diagnostic environmental characteristics include vegetation (macrophytes) that are typically adapted for life in saturated soil conditions, soils present are classified as hydric, and the area is inundated either permanently or periodically or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

Rock Outcrops

Rock outcrops, defined as distinct, exposed bedrock of obvious size that are either ultramafic (peridotite, serpentinized peridotite, and serpentinite), granitic, volcanic, or limestone.

Description of Botany Policy

SPI has developed its Botany Policy in conjunction with Dr. Dean W. Taylor, an independent botanical consultant and research associate with the University of California and Jepson Herbaria in Berkeley, California, and with the California Department of Fish and Game.

The Botany Policy will (1) incorporate discussion, analysis, and feasible plant protection measures into timber harvesting plans for the Botany Policy plant species listed in Appendix D over approximately three years, beginning immediately for those species most susceptible to direct effects resulting from timber operations; (2) collect more information about certain species where information is more limited and for which further assessment will be beneficial; (3) specify plant survey methods, reporting procedures, and evaluation procedures; and (4) describe the botany training program for SPI foresters and other staff. The primary elements of the Botany Policy are: (1) list of Botany Policy plant species that warrant special treatment or further investigation of their status; (2) Botany Policy plant species stratified by known risk into five groups (high, medium, low, watch list, and narrow distribution); (3) feasible plant protection for each of the three phases of the Policy, which are described in detail below; (4) a timeline for implementing plant protection measures; (5) plant survey evaluation

procedures; and (6) forester botanical education. SPI intends that the protections offered (if completely implemented) will prevent a significant adverse impact to the environment in all phases of the Policy.

Botany Policy Plant Species and the Botany Policy Plant List

The Botany Policy Plant List (see Appendix D), was compiled by SPI with the assistance of Dr. Dean Taylor and DFG. Plants on the list were drawn from state and federal lists of endangered, threatened, and rare species, the U.S. Forest Service list of sensitive species, the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, 6th ed. (Sacramento: California Native Plant Society, 2001), and the California Natural Diversity Database Special Vascular Plants, Bryophytes, and Lichens List (July 2001).

SPI assumes that this list is a starting point that will be revised periodically. As further plant survey data become available, species may be added or dropped from the list as appropriate or moved from one group to another as appropriate. Modifications to the list may be proposed in writing by either SPI or DFG at any time. The proposals will include the basis for the suggested change. SPI will not alter its list without first consulting with DFG and without first giving notice to DFG.

Groups

Each species in the Botany Policy Plant List was assigned a risk-based priority rating. This rating system assigned highest priority to species with ecological requirements suggesting occurrence in potential timber harvesting areas and having life-history traits, abundance, or limited distribution that would suggest potential vulnerability to timber harvesting operations. Species were then assigned to groups according to these ratings: Group 1 comprises plants at highest risk, Group 2 comprises plants at moderate risk, Group 3 comprises plants at low risk, Group 4 comprises plants on a watch list, and Group 5 comprises plants at risk because they have very narrow known geographic

distributions. Plant protection measures for each species will be implemented in each phase according to the group to which the species is assigned. Appendix A details how these groups were stratified. As drafted, the current assignments are made to ensure that the measures set forth in this Botany Policy will avoid or mitigate any potentially significant environmental adverse impact to Botany Policy Plant List plants. SPI will make future changes to Groups in consultation with DFG to ensure with reasonable certainty that at no phase will there be a significant likelihood of causing a significant adverse impact to plant species as a result of timber harvesting operations.

Plant Protection Measures

Plant protection measures (PPMs) will be applied in three distinct phases to Botany Policy plant species according to their assigned risk (high, medium, low, watch list, or narrow distribution) and based on a timeline specified in this agreement and described below. Specifically, timber harvesting plans will incorporate PPMs that specify protection for these plant species based on the phase a THP was filed within: PPMs for Phase 1 timber harvesting plans specify how potentially significant impacts will be analyzed and avoided/minimized for Group 1 and Group 5 species and how Group 4 plants will be treated; PPMs for Phase 2 timber harvesting plans will add to Phase 1 PPMs, specifying how adverse impacts will be avoided or minimized for Group 2 species; and PPMs for Phase 3 timber harvesting plans will add to Phase 2 and 3 PPMs by specifying how adverse impacts will be avoided/reduced for Group 3 species. When Phase 3 begins, protection measures will be in place for species in all five groups on the Botany Policy Plant List.

Plant protection measures are in the process of being drafted and are subject to revision by SPI in consultation with DFG. Proposals for protection measures or revising plant protection measures will be documented in writing and will include the basis for the proposed measure or revision.

Timeline and Phases

The Botany Policy will be implemented in three phases over a three-year period beginning December 1, 2001. In each phase, plant protection measures will be applied to the appropriate Botany Policy Plant Species according to the risk group to which they were assigned. Each phase of the Botany Policy is described below.

Phase 1 Plant Protection Measures: December 1, 2001, to December 31, 2002

Phase 1 is a transition period during which SPI applies plant protection measures to Group 1 (high risk) species affected by timber harvesting plans filed before December 31, 2002, and works with DFG to develop appropriate protection measures for Groups 2 and 3 (medium- and low-risk) species.

THPs filed during Phase 1 will be harvested under the Phase 1 plant protection measures and will not be subject to Phase 2 or Phase 3 plant protection measures regardless of when the THP is approved or when operations commence. However, if Phase 1 THPs are amended during Phase 2 or Phase 3 to include additional acreage and/or additional ground disturbance (e.g., additional roads, landing, skid trail construction, etc.), the appropriate PPMs (Phase 2 or 3, depending on the date the amendment is submitted) will apply to the areas subject to such amendment. During these phases, SPI will address any site-specific impacts that arise during and after THP preparation, review and approval.

Protecting Populations of Group 1 and 5 Species

Each timber harvesting plan will address all Group 1 and Group 5 plants that either occur within or (based on distribution and habitat information) may potentially occur within the plan boundary. For each THP filed during Phase 1, foresters will take the following actions (see fig. 1):

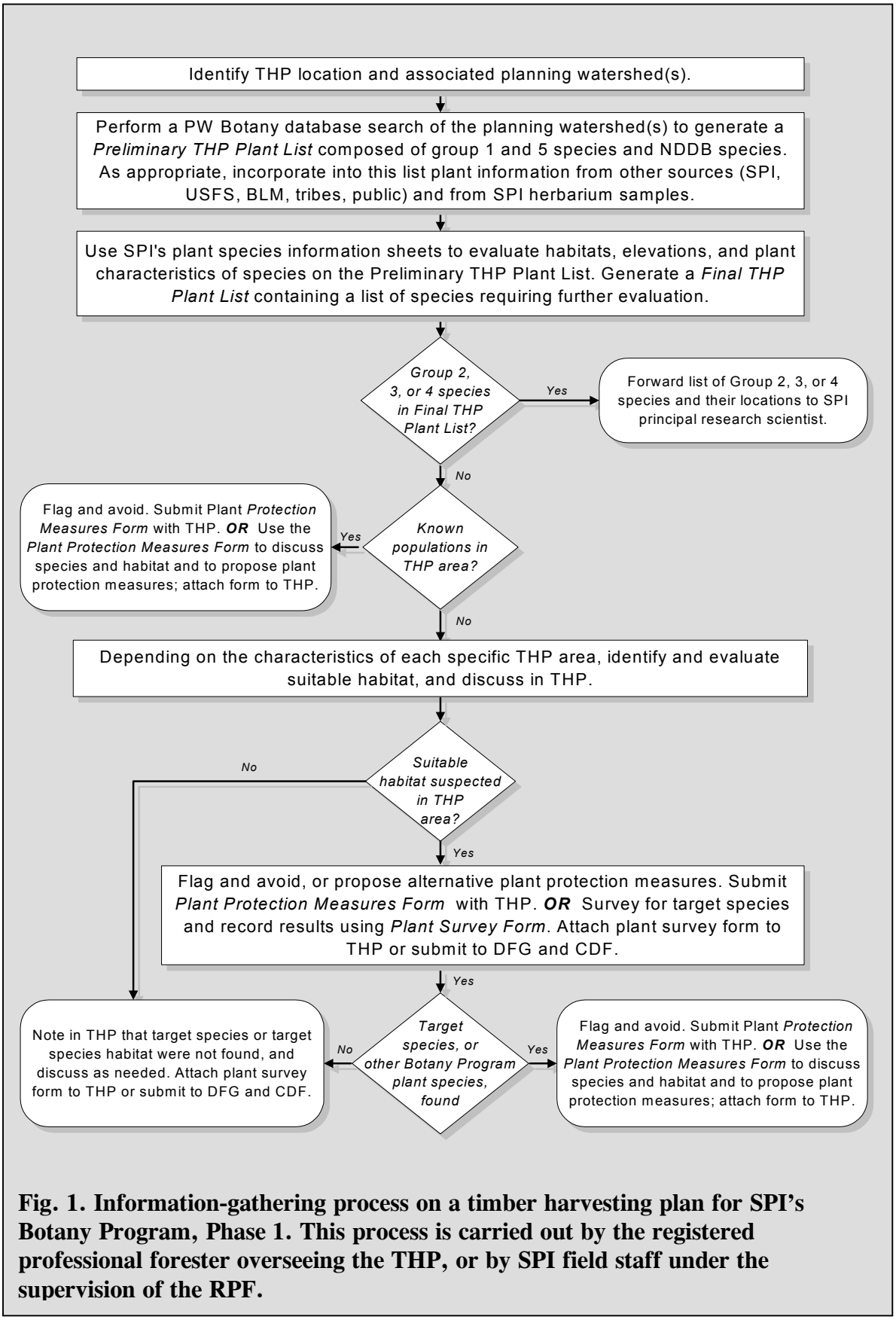


Fig. 1. Information-gathering process on a timber harvesting plan for SPI's Botany Program, Phase 1. This process is carried out by the registered professional forester overseeing the THP, or by SPI field staff under the supervision of the RPF.

(1) *Identify and evaluate known occurrences of Group 1 and Group 5 species*. The forester will describe the location and extent of these plants within or adjacent to the THP area. The timber operations proposed for these locations will be described, and the potential impacts of the operations will be analyzed. Where potentially significant effects are identified, the forester will include protection measures in the THP that are designed to avoid or minimize these impacts. The standard protection measure used to avoid impacts to a given occurrence of a sensitive plant will be to flag and avoid core populations. Alternative protection measures may be proposed and justified by the registered professional forester preparing the timber harvesting plan. These protection measures might include, where feasible, avoiding operations within the areas occupied by the populations, timing restrictions on operations, equipment exclusion or limitation zones, and alternative silvicultural prescriptions. Monitoring conducted during or after the harvest could serve to determine the efficacy of the protection measures implemented.

(2) Evaluate known or potential habitat for Group 1 and Group 5 species, discuss the likely effects of the proposed operations, and apply appropriate plant protection measures in THP. The forester will describe the habitats present within the THP area and will evaluate whether suitable habitat for any Group 1 or Group 5 plants occurs. If suitable habitat does occur in areas planned for operations, the forester will describe and evaluate the potential effects of the specific timber operations proposed for those areas. The forester will (1) avoid or minimize impacts to those habitats by flagging and avoiding core populations, or by employing previously approved PPMs, or (2) conduct field surveys for populations of Group 1 or Group 5 species in potential suitable habitat within the THP boundary by applying the survey methodology specified in this document. If Group 1 or Group 5 plants are detected during these surveys, the forester will flag and avoid core populations, implement approved PPMs, or propose alternative measures designed to avoid or minimize adverse impacts to these occurrences. If Group 2 or Group 3 plants are detected within a THP boundary during these surveys, the occurrences will be included in the survey report. Potential impacts to these occurrences will be analyzed, and where potentially significant impacts are identified,

measures to avoid or minimize impacts to those occurrences will be included in the THP.

If no suitable habitat for Group 1 or Group 5 plants occurs within the THP boundary, or if focused surveys do not detect any occurrences of Group 1 or Group 5 plants, that THP will not be bound by Phase 1 plant protection measures for that species. In the few cases where unforeseen logistical constraints make surveys impractical (such as timber operations following a bug or disease outbreak or wildfire), surveys may be omitted. This will be determined on a case-by-case basis and if surveys are omitted, DFG will be notified in writing.

Species in Group 5 are plant species with narrow geographic distributions. SPI will survey for a Group 5 species if a THP project area (1) contains potentially suitable habitat for the plant, and (2) occurs within a certain distance of a known occurrence. This area will be defined for each plant species by SPI after consultation with DFG. The area may be modified by SPI after consultation with DFG as new information becomes available. If occurrences of Group 5 plants are detected within a THP area, they will be avoided *or* alternative measures to minimize impacts to the plant will be proposed by the forester and included in the THP.

Developing Plant Protection Measures for Group 2 and 3 Species

Concurrent with implementing plant protection measures for Group 1 plants during Phase 1, SPI will also work with DFG to develop appropriate and standardized plant protection measures for Group 2 and Group 3 plant species. Prior to the implementation of standardized measures, appropriate mitigation will be developed on a case-by-case basis.

As additional data becomes available for Group 2 and 3 species, SPI will incorporate scientific studies into the plant protection measures for these species whenever feasible. For instance, if sufficient populations of a plant species are found within the boundaries of a timber harvesting plan, it may be feasible to apply different silvicultural treatments to some of the occurrences and to quantitatively or qualitatively

monitor the response of the plants. In such a case, SPI would design the experiment after consultation with DFG in such a way that potential impacts of the experiment (and of the project itself) upon the plant of concern would not be significant.

SPI and DFG collaborate on such experiments and have agreed that flexibility in applying silvicultural treatments will be required to make such experiments successful.

Addressing Populations of Group 4 Species

Species in Group 4 are on a "watch list." In this phase, surveys will not be conducted specifically for Group 4 plants because the best available current information provides no indication that timber harvesting operations on SPI lands as currently carried out (including the immediate implementation of this plan) poses a threat of significant adverse impacts. However, foresters will disclose known occurrences of Group 4 plants, or occurrences that are detected during surveys for plants in other Groups, in survey reports, and in THPs. Foresters will evaluate potential site-specific project-related impacts to these occurrences and will either (1) propose feasible measures that will avoid or mitigate significant impacts to those occurrences or (2) develop a monitoring plan (in consultation with the SPI Research and Monitoring Manager and DFG staff) to observe the effects of the operations upon the occurrence(s). The Group 4 list will be reviewed periodically (including prior to the beginning of Phase 2 and Phase 3) and revised as necessary (after consultation with DFG).

DFG Protection Measure Assessments

SPI and DFG will develop a consulting relationship such that DFG will have reasonable access to timber harvesting plan areas to assure that Group 1 and 5 species are adequately protected and to assess the biological and ecological effects of the approved silvicultural treatments on Groups 2 and 3 species. In practical terms, it is expected that the DFG staff botanist (or other DFG monitoring staff) will contact the SPI forester in charge of the timber harvesting plan and/or the SPI principal research scientist to arrange a visit to the field location to view the area, collect data under an approved

methodology and with adequate hypothesis and analysis procedure, and discuss the results.

Phase 1 Summary

Phase 1 extends until December 31, 2002.

- Phase 1 timber harvesting plans include those accepted for filing on or before December 31, 2002.
- Plant Protection Measures for Phase 1 THPs include the following steps: (1) SPI foresters will discuss and evaluate each THP area for *known occurrences* of Group 1 and 5 species and based on their evaluation will apply appropriate plant protection measures to avoid or mitigate any potential impacts to these occurrences to insignificance; and (2) foresters will evaluate each THP area for *potential* or *known habitats* of Group 1 and 5 species, including wetlands, riparian sites, and rock outcrops, and either (a) propose measures in the THP that will avoid or minimize impacts to suitable habitats, or (b) conduct field surveys for Group 1 and 5 species in suitable habitat within the THP boundaries. If occurrences are detected, foresters will include feasible measures in the THP to avoid those occurrences or will propose alternative measures minimizing project-related impacts to those occurrences to the extent that potential impacts are not significant.
- SPI will work with DFG to develop PPMs for Groups 2 and 3.
- SPI will review species in Group 4 for each individual THP. If suitable habitat for Group 4 plants is present, the forester will either avoid or minimize impacts to that habitat or will conduct field surveys for that plant(s). If Group 4 plants are located within the THP area, the forester will include measures to avoid the occurrences or to minimize impacts to the occurrences such that the potential impacts are insignificant.
- Phase 1 plant protection measures are under review by SPI and DFG and are subject to revision by SPI.

Phase 2 Plant Protection Measures: January 2003 to December 2003

Phase 2 is a transition period in which plant protection measures are imposed for Groups 1, 2, and 5 species potentially affected by timber harvesting plans filed between January 1, 2003, and December 31, 2003, but that allows SPI, in consultation with DFG, additional time to develop appropriate protection measures for Group 3 species. THPs filed during Phase 2 but not approved or operated until later can still be harvested under the Phase 2 plant protection measures and will not be subject to Phase 3 plant protection measures. However, if Phase 2 THPs are amended during Phase 3 to include additional acreage and/or additional ground disturbance (e.g., additional roads, landings, skid trail construction, etc.), the Phase 3 PPMs will apply to the areas subject to such amendment. It is the understanding of the parties that SPI's Botany Policy contains adequate protections as set forth herein to prevent significant adverse effects to the environment at all phases. In the event that SPI's understanding changes (in consultation with DFG) then appropriate mitigation measures will always be implemented in each THP to prevent significant adverse impacts to the environment unless such impacts are appropriately disclosed in compliance with CEQA and permitted under all applicable state and federal laws.

Protecting Populations of Group 1 and 5 Species

As in Phase 1, Group 1 and 5 species within timber harvesting plan boundaries will be addressed in the THP. See Phase 1 for a description of plant protection measures for Group 1 plant species.

Protecting Populations of Group 2 Species

SPI will implement plant protection measures for Group 2 species that were developed in collaboration with DFG during Phase 1. These measures will be approved, in written form, before January 1, 2003. Plant protection measures for this group may be different than those for Group 1 species. When feasible (as described in Phase 1)

experiments may be implemented to determine how specific Group 2 plant species respond under different silvicultural treatments and timber operations. Information from such studies will be added to SPI's species database and DFG's plant management database. If potentially significant impacts to occurrences of Group 2 plants in THP areas cannot be mitigated during the course of experimental treatments, these experiments will not be conducted and the occurrences will be protected by avoiding the species, implementing approved PPMs, or otherwise minimizing project-related impacts.

Developing Plant Protection Measures for Group 3 Species

SPI will continue work with DFG to develop appropriate and standardized plant protection measures for Group 3 plant species. Prior to the implementation of standardized measures in Phase 3, appropriate mitigation will be developed on a case-by-case basis.

Addressing Populations of Group 4 Species

SPI will continue to consult with DFG, as described in the earlier section on Phase 1, to develop plant protection measures for Group 4 species. Many plants included in this category are considered to be at lower risk from timber operations because they are generally susceptible only to indirect effects of timber harvest activity. If Group 4 plants are detected within a THP boundary during these surveys, the occurrences will be included in the survey report. Potential impacts to these occurrences will be analyzed, and where potentially significant impacts are identified, measures to avoid or minimize impacts to those occurrences will be included in the THP.

DFG Protection Measure Assessments

Plant protection measures developed in Phase 1 will continue in Phase 2. By this phase, it is hoped that SPI, in consultation with DFG, will have established a practical routine for post-THP plant species assessment. DFG will continue to be permitted reasonable access to visit known occurrences of Botany Policy Plant Species before, during, or after timber operations have been conducted.

Phase 2 Summary

Phase 2 extends from January 1, 2003, to December 31, 2003.

- Phase 2 timber harvesting plans include those filed between January 1, 2003, and December 31, 2003.
- Plant Protection Measures for Phase 2 include those listed in Phase 1 for Group 1 and 5 species along with those for Group 2 species currently being developed by SPI in consultation with DFG.

Phase 3 Plant Protection Measures: From January 2004

Phase 3 marks the end of the transition period. By this time, SPI in consultation with DFG will have plant protection measures in place for species in all three groups in the plant list that will be routinely applied to all THPs filed after December 31, 2003.

Protecting Populations of Group 1, 2, and 5 Species

As in Phases 1 and 2, Group 1, 2, and 5 species within timber harvesting plan boundaries will be addressed in the THP. See earlier sections on Phases 1 and 2 for a description of plant protection measures for Group 1, 2, and 5 plant species.

Protecting Populations of Group 3 Species

SPI will implement the plant protection measures for Group 3 species developed during Phases 1 and 2. SPI expects that as more data about these species are gathered, it will be able to better determine which require stringent plant protection measures and which might be dropped from the list or moved to Group 4. Timber harvesting plans will address the known occurrences of Group 3 plants and evaluate habitat suitability for these plants. Surveys may be necessary if substantial impacts are proposed in areas of suitable habitat. If occurrences of these taxa are identified and analysis indicates that significant impacts from the proposed operations are unlikely, it is hoped that plant protection measures for Group 3 species will stress scientific observation and

experimentation that will add to the knowledge base about these species. However, if additional information or results of experimentation indicates that these taxa are susceptible to impacts from certain timber operations, appropriate measures that ensure their protection will be developed by SPI after consultation with DFG.

Addressing Populations of Group 4 Species

Group 4 species will be treated as described in Phase 1 section, "Addressing Group 4 Species."

DFG Protection Measure Assessments

Those developed in Phases 1 and 2 will continue here. It is assumed a practical routine for post-THP plant species assessment will have been well established during the first two phases which will segue smoothly into this phase.

Phase 3 Summary

Phase 3 begins January 1, 2004, and continues indefinitely.

- Phase 3 timber harvesting plans include those filed after December 31, 2003.

Plant Survey Evaluation Procedures

Detailed below are guidelines for conducting botanical surveys, explanations of the methodologies SPI will use, and discussion of time frames within which survey review by DFG should be conducted.

SPI Guidelines for Botanical Surveys

For areas requiring field surveys for Botany Policy Plant Species, SPI proposes an approach generally patterned after the DFG "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities" (California Department of Fish and Game 2000).

1. *Surveys will be conducted at times when species can be identified.* Surveys will be conducted before timber operations begin and in the appropriate season for properly identifying species. Harvest units for some THPs with potential habitat of Botany Policy Plant Species might not be well delineated at the time of the botanical survey season. In such cases, a "vicinity survey" will be conducted in an area larger than the actual harvest units will be, and the final harvest unit boundaries will be determined at a later date.

2. *When feasible and appropriate, verify proper survey timing by visiting a location where the target species is known to exist.* If possible, the location should be at an elevation similar to that of the survey area and in a similar habitat type. This will allow the forester to determine if the species is in the appropriate state of flowering, fruiting, or vegetative growth such that its occurrence within the area to be surveyed could be recognized.

3. *Appropriate field references and materials will be used to ensure positive species identification.* References and materials, such as plant identification manuals, SPI plant sheets, hand lenses, and the like, will be used where appropriate for the site and species to be identified. For instance, if the species is to be identified by its flowering characteristics, a hand lens may be necessary to closely observe small flower parts. In some cases, material may need to be collected and a final determination may need to be made after reviewing the material under a microscope, comparing the material with previously identified herbarium specimens, and/or consulting with other individuals with appropriate expertise.

4. *Surveys will generally be conducted using the Bureau of Land Management's "Intuitive Controlled" survey methodology,* the fourth of five levels of survey intensities developed by the BLM. The Intuitive Controlled approach calls for the forester (or other qualified surveyor) to conduct a survey of the THP area by walking through it and around its perimeters and closely examining portions where target species are especially likely to occur. If the surveyor determines that it is appropriate, the "complete" survey methodology may also be used.

5. *Surveys will be conducted as a focused activity*. Although foresters will generally be on the lookout for sensitive plants during all aspects of timber harvest preparation, botanical surveys will be conducted as a focused activity during which the forester's primary attention is directed toward detecting the occurrence of any sensitive plants potentially occurring in the proposed area of timber operations.

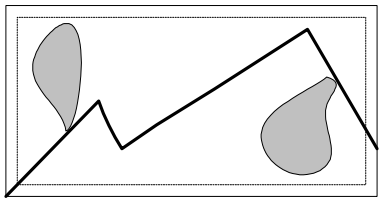
6. *Surveyors will record the following information for each survey: (1) date, time, and duration of survey; (2) personnel; (3) if applicable, location and date of visit to reference population(s); (4) methodology; (5) habitats surveyed; (6) size of any sensitive plant populations detected (both number of plants and physical extent of the occurrence); and (7) a list of plant taxa identified during the survey. Surveyors will also prepare a map showing survey route and location of any Botany Policy plant species observed.*

This information will be entered into SPI's Planning Watershed Botany Database (PWBotany) and pertinent portions will be submitted to the California Natural Diversity Database (NDDB). SPI will report the locations of identified populations of sensitive plant species to the NDDB on an annual basis using standard NDDB reporting forms or their equivalent. This information will also be submitted to DFG for review, as specified in "Deadlines for Submitting Survey Results and Receiving Responses" on page 20. These field survey procedures are not intended to supersede other specific measures developed by SPI or DFG to avoid significant adverse effects resulting from timber harvesting operations to other fish and wildlife resources.

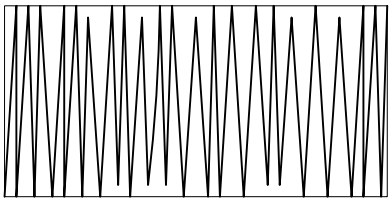
Field Survey Methodology

SPI will use two of BLM's five intensity levels of plant inventory (described in H-6840-1 Special Status Plant Management, BLM Manual Supplement, BLM, 1996). These include the *Intuitive Controlled* and *Complete* methods. SPI will generally use the Intuitive Controlled method but may use the Complete method if the surveyor deems it appropriate.

- *Intuitive Controlled.* The forester gives the area a closer look by walking through the project area and around the perimeter, and conducting a complete examination of a specific area. Most of the project area is examined.



- *Complete.* The forester walks throughout the project area until all of the area has been examined.



THP Survey Form

DFG and SPI have developed survey-reporting forms (included as Appendix C) that describe the potential habitat of the species, the habitat types surveyed, any sensitive plant populations detected, and a list of plant taxa identified during the survey. The forester will also attach a map to these forms showing his/her survey routes and the locations of any Botany Policy plant species found.

Deadlines for Submitting Survey Results and Receiving Responses

SPI and DFG recognize three possible scenarios under which plant survey results might be submitted. These include (1) the plant survey is conducted before the THP is filed; (2) the plant survey is conducted after the THP is filed but before it is approved by the California Department of Forestry and Fire Protection (CDF); and (3) the plant survey is conducted after the THP is submitted and approved. This section describes how plant surveys will be submitted under each scenario.

Survey Conducted before THP Is Filed

If surveys are conducted before THPs are filed, survey results will be included with the THP, even if no Botany Policy plant species were found.

Survey Conducted after the THP Is Filed But before THP Approval

For surveys conducted after THPs are filed, survey results will be submitted to CDF, as required by law for compliance, and to DFG as appropriate.

If submitted to DFG, the Department of Fish and Game upon receipt will attempt within seven business days to review the survey methodology, results, and (if Botany Policy plant species are located) proposed mitigation measures and submits a written or e-mailed response. If DFG does not submit a response during this time, SPI and CDF may assume that DFG has no comments on the survey and any proposed mitigation unless DFG notifies them to the contrary. Nothing herein will, however, prevent DFG from fully participating in the THP review process and from undertaking their statutorily defined role. The parties have a good faith understanding that DFG will make every effort to provide comments to SPI within seven business days of survey receipt.

Survey Conducted after THP Approval

If the survey is conducted after a THP is approved by CDF—a situation that might occur if (1) the appropriate season for identifying a particular Botany Policy plant species does not occur before the THP must be submitted, or (2) there was nevertheless adequate information upon which CDF could base its finding of no significant impact, then the parties will have a good-faith understanding that to further the study of plant protection and mitigation, survey results will be submitted to both CDF, as required by law for compliance, and to DFG (staff botanist) only as appropriate. DFG, upon receipt, agrees, within seven business days, to make every effort to review the survey methodology and results in the context of the mitigations proposed in the approved THP and to submit a written or e-mailed response. If DFG does not submit a response during this time, SPI and CDF may assume that DFG has no comments on the survey and any proposed mitigation. SPI agrees that it will voluntarily withhold any timber operations until DFG has provided a response to the survey report or until the seven-day period has expired. If sensitive plants are detected during the survey and SPI proposes protection measures that vary from the measures specified in the approved THP, the proposed revisions shall be submitted to DFG and CDF for evaluation. If the protection measures in the approved THP included a performance standard (i.e., a defined level of protection), DFG and CDF will evaluate the revised measures to

determine whether they provide protection equivalent to or more effective than the standard[2]. If the agencies find that the proposed revised protection measures meet the performance standard of the approved protection measures, the revised measures will be considered minor deviations from the original plan. If DFG and CDF find that the proposed protection measures may not fully meet the performance standards contained in the approved THP (or if the original protection measures in the approved THP did not include a performance standard), the revision will be considered a substantial deviation from the original plan and will require the filing of a "major" amendment to the THP. The parties understand and agree that this paragraph constitutes a good-faith understanding, and that CDF, in no event, can approve a THP unless and until it has substantial evidence to support its CEQA analysis. Further, the parties understand that they cannot legislate new procedures or override existing legal mandates with an agreement.

Forester Botanical Education

The SPI Botany Policy includes a forester education component. Foresters must be able to properly identify listed and nonlisted plant species in the course of preparing a THP. In addition, they must be able to adequately discuss the effects of the THP on these plant species.

Forester Training: Foresters receive annual classroom training and refresher information on botanical terms, plant identification, law updates, and monitoring results. Field trips covering species in Group 1 and, when appropriate, Group 5 will be scheduled during the appropriate blooming or other identification times in spring 2002 so that each forester will have a known site to visit before conducting his or her own

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[2] 14 CCR sec. 15126.4(a)(1)(A) states that mitigation measures should be included in an approved EIR, rather than being "deferred until some future time." However, the section also indicates that mitigation "measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way."

survey. Additional trips will be scheduled in subsequent years to visit occurrences of Group 2, 3, and 4 plants. The DFG will be permitted to attend and participate in classroom and field training sessions. To date, SPI has conducted five classroom training sessions and eleven field sessions for its foresters. All foresters conducting independent surveys will have attended at least one SPI classroom training session. It is also SPI's intent that, whenever feasible, foresters conducting surveys for specific plants will have attended field trips to visit known sites of those plants.

Survey Equipment and Reference Materials: Each SPI district office has botany reference materials, including:

- Hand lenses
- A plant identification manual (e.g., *The Jepson Manual: Higher Plants of California*, edited by James C. Hickman 1993)
- Information sheets on each species with color pictures composed by independent botanical consultant Dr. Dean Taylor.
- Printed field guides appropriate to the district, such as the *Flora of Butte County*, *Illustrated Field Guide to Selected Rare Plants of Northern California*, Peterson field guide: *Pacific States Wildflowers*.

Additional Resources: Foresters also have access to the California Natural Diversity Database, which helps them locate known populations of Botany Policy plant species. A herbarium has been established at SPI's Anderson office to aid in species identification. A dissecting scope and mounting supplies are also available at the Anderson office. SPI also maintains working relationships with staff botanists with the U.S. Forest Service, the Bureau of Land Management, and the California Department of Fish and Game.

Dispute Resolution

When issues arise related to Policy implementation, and SPI and DFG are unable to agree on a matter arising under SPI's Botany Policy (for instance, disputes concerning whether an alternative mitigation proposed in a THP provides adequate protection for suitable sensitive plant habitat; disputes regarding the listing of a particular plant on the Botany Policy Plant List; questions concerning Botany Policy methods and procedures; or concerns over the adequacy of survey methodology or monitoring procedures), the decision-making process will revert to the California Department of Forestry and Fire Protection's guidelines for reviewing and approving timber harvesting plans. Hence, such conflicts regarding any particular THP will be resolved in the review team process. The goal would be, however, to avoid such a step and instead to resolve conflicts through continued discussion.

Although most of the plants on the Botany Policy Plant List are considered rare (based on current knowledge), SPI and DFG are aware that additional information about their life histories, reproductive patterns, and tolerance to the disturbances associated with timber operations could significantly change this view. It may be determined through surveys, monitoring, and/or experimentation that many of these plants are less rare than is currently understood or that they may not be adversely impacted by many timber operations. If DFG and SPI agree that specific plants are much more common or disturbance-tolerant than previously recognized, either (1) the plant protection measures for those plants will be relaxed accordingly, or (2) those plants will be removed from the Botany Policy Plant List. Such modifications to the protection measures or the plant list will be made by SPI only after consultation with DFG. This Policy is a voluntary act on the part of SPI and is not part of any regulatory scheme, and hence SPI reserves the right to make final decisions about its Botany Policy.

Amendments to the Botany Policy

SPI will periodically review the usefulness and success of the Botany Policy and will solicit DFG for its recommendations. For the first three years of the Botany Policy's implementation, SPI will, at minimum, schedule annual meetings with DFG to discuss its results and effectiveness and to discuss possible modifications to the Policy in order to correct problems that may have arisen. Thereafter, meetings will be scheduled as necessary at the request of either or both parties.

Contact Information

Please contact Ms. Cajun James, Principal Research Scientist, at Sierra Pacific Industries, (530) 378-8000, with questions and comments pertaining to the Botany Policy and this planning document. Questions about individual timber harvesting plans should be directed to Mr. Tom Engstrom, Sierra Pacific Industries, (530) 378-8000.

Appendix A—Selection Criteria for Botany Policy Plant List

Development of SPI s Botany Policy Plant List was formulated by Dr. Dean Taylor, (independent botanical consultant and research associate with the University of California and Jepson Herbaria in Berkeley, California) using the following criteria:

1. Plants deemed sensitive by the U.S. Forest Service were considered. Also considered were plants listed by the U.S. Forest Service as Sensitive for all national forests directly adjacent to SPI lands, which include the Six Rivers, Shasta-Trinity, Modoc, Lassen, Plumas, Tahoe, Eldorado, and Stanislaus National Forests.
2. Other rare plants with documented occurrence in California counties where SPI owns significant acreage were considered. These include rare plants documented as occurring in Humboldt, Mendocino, Trinity, Siskiyou, Modoc, Shasta, Lassen, Plumas, Butte, Yuba, Sierra, Nevada, Placer, El Dorado, Amador, Stanislaus, and Tuolumne counties.
3. Plants with documented occurrences in the counties listed in (2) above were excluded if all or the vast bulk of their known range was from lowland habitats in the Sacramento Valley (e.g., *Atriplex cordulata, Astragalus tener* var. *ferrisiae*), or from very high alpine habitats (e.g., *Podistera nevadensis*) not directly represented by SPI land holdings nor affected by timber harvest activities.

The selection criteria resulted in a tabulation of 342 plants for the Botany Policy Plant List.

Groups: For purposes of implementation of the SPI Botany Policy, the Botany Policy Plant List was subdivided into *groups* on the basis of risk with respect to timber harvest activity. The plant species were categorized into groups based on life-history traits, known or inferred responses to disturbance, and ecological specialization for occurrence in mixed coniferous forests. Plant species in Group 1 were considered most susceptible to direct effects resulting from timber harvest activity, plant species in Group 2 were determined to be somewhat less susceptible to direct effects, and most

plant species in Group 3 were determined to be generally susceptible only to indirect effects of timber harvest activity or occur in habitats or locations in which direct impacts from SPI timber operations are infrequent. Criteria for assigning species to Groups 1 and 2 were more subjective than those for Group 3 because relatively little published or anecdotal information is available on their ecology and response to disturbances. Plant species in Group 4 were identified as those needing additional review but not necessarily needing protection. Species in Group 5 were identified as those with very narrow ecological distributions, restricted populations, and typically needing protection measures.

Appendix B—Professional Profiles of Independent Consultants

Dr. Dean W. Taylor, Independent Botanical Consultant and Research Associate, Jepson and University Herbaria, Berkeley, California.

Dr. Taylor is a native of California. He holds a Ph.D. from University of California, Davis, and has served on the faculty of UC Davis, UC Santa Cruz, San Francisco State, and the University of Colorado. He is currently a research associate of the University and Jepson Herbaria, University of California, Berkeley.

His primary botanical interest is diversity of the endemic flora of California. He is the author of over 30 technical papers and book chapters in peer-reviewed journals and many hundreds of reports resulting from extensive consulting assignments. His field activity and experience includes (excluding ancillary extralimital in the Caribbean, Mexico, and the Pacific Basin) the bulk of the flora of western North America (reflected in his 20,000 herbarium specimens representing over 6,000 species). He has discovered many new species in California, including the Shasta snow-wreath *(Neviusia cliftonii*), and is commemorated by one of his discoveries, the Yosemite fawn lily (*Erythronium taylori*).

Appendix C—Plant Survey Form

SPI Botany Program Plant Survey Form

THP Name: _____ Survey Date: _____

Legal Description: T: _____ R: _____ S: _____ Total Survey Hours: _____

Surveyor(s): _____ Map Attached? ☐

PHYSICAL SITE DESCRIPTION (In General):

Habitat: _____ % Canopy: _____

Elevation: _____ Aspect: _____ Substrate: _____ % Slope: _____

SURVEYED SPECIES (See Final THP Species List):

	Species Name	Present?	Species Habitat	Canopy Closure: <50% 50-70% >70%
1.		☐		☐ ☐ ☐
	Reference Site	Reference Habitat		
2.	Species Name	Present?	Species Habitat	Canopy Closure: <50% 50-70% >70%
		☐		☐ ☐ ☐
	Reference Site	Reference Habitat		
3.	Species Name	Present?	Species Habitat	Canopy Closure: <50% 50-70% >70%
		☐		☐ ☐ ☐
	Reference Site	Reference Habitat		
4.	Species Name	Present?	Species Habitat	Canopy Closure: <50% 50-70% >70%
		☐		☐ ☐ ☐
	Reference Site	Reference Habitat		
5.	Species Name	Present?	Species Habitat	Canopy Closure: <50% 50-70% >70%
		☐		☐ ☐ ☐
	Reference Site	Reference Habitat		

** Complete the "Plant Protection Measures Form" for species listed above that are checked as being "Present"*

Remarks:

SPI Forester: _____ **Date:** _____

District: _____

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Appendix D—Botany Policy Plant List

Plant taxa are presented by SPI district, from north to south (northern districts Weaverville, Redding, Lassen, and Stirling, and southern districts Tahoe, Martell, Camino, Sonora), and then subdivided by risk status (Group 1, highest risk; Group 2 second-highest risk; Group 3, third-highest risk; Group 4, watch list; and Group 5, narrow distribution).

California Native Plant Society (CNPS) designations (1A, presumed extinct in California; 1B, rare, threatened, or endangered in California and elsewhere; 2, rare, threatened, or endangered in California but more common elsewhere; 3, more information is needed; 4, plants of limited distribution) are listed below.

Species classifications under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA), and U.S. Forest Service Region 5 (USFS R5) status are also included.

In addition, the Natural Diversity Database (NDDB) tally of known occurrences is listed; numbers in parentheses indicate additional known populations that are not yet listed in the NDDB.

Table 1. Species on the Weaverville District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Arctostaphylos klamathensis	Group 1	1B	None	None	None	17
Astragalus agnicidus	Group 1	1B	None	Endangered	Sensitive	3
Bensoniella oregana	Group 1	1B	None	Rare	Sensitive	5
Campanula wilkinsiana	Group 1	1B	None	None	Sensitive	19
Chaenactis suffrutescens	Group 1	1B	None	None	Sensitive	20
Erythronium citrinum var. *roderickii*	Group 1	1B	None	None	Sensitive	5 (15)
Ivesia pickeringii	Group 1	1B	None	None	Sensitive	12 (13)
Lilium occidentale	Group 1	1B	Endangered	Endangered	None	16
Madia (Harmonia) doris-nilesiae	Group 1	1B	None	None	Sensitive	23
Madia (Harmonia) stebbinsii	Group 1	1B	None	None	Sensitive	12
Minuartia stolonifera	Group 1	1B	None	None	Sensitive	2
Penstemon filiformis	Group 1	1B	None	None	Sensitive	46
Phacelia greenei	Group 1	1B	None	None	Sensitive	24
Swertia umpquaensis	Group 1	1B	None	None	Sensitive	6
Total: 14						

Group 2

Abies lasiocarpa var. *lasiocarpa*	Group 2	2	None	None	None	12
Asarum marmoratum	Group 2	2	None	None	None	6
Astragalus umbraticus	Group 2	2	None	None	None	NA
Boschniakia hookeri	Group 2	2	None	None	None	7
Erythronium hendersonii	Group 2	2	None	None	None	4
Erythronium howellii	Group 2	1B	None	None	None	NA
Erythronium revolutum	Group 2	2	None	None	None	NA
Galium serpenticum ssp. *scotticum*	Group 2	1B	None	None	None	18
Gentiana setigera	Group 2	1B	None	None	Sensitive	3
Monotropa uniflora	Group 2	2	None	None	None	5
Picea engelmanii	Group 2	2	None	None	Sensitive	10
Raillardella pringlei	Group 2	1B	None	None	Sensitive	15
Rorippa columbiae	Group 2	2	None	None	Sensitive	11
Sidalcea malviflora ssp. *patula*	Group 2	1B	None	None	Sensitive	6
Sidalcea malachroides	Group 2	1B	None	None	None	86
Smilax jamesii	Group 2	1B	None	None	Sensitive	13(20)
Tauschia howellii	Group 2	1B	None	None	Sensitive	3
Thermopsis robusta	Group 2	1B	None	None	Sensitive	13
Tracyina rostrata	Group 2	1B	Endangered	None	Sensitive	12

Total: 19

Group 3

Arctostaphylos canescens sonamensis	Group 3	1B	None	None	None	14
Arnica fulgens	Group 3	2	None	None	None	23
Botrychium pinnatum	Group 3	2	None	None	None	2
Calochortus greenei	Group 3	1B	None	None	Sensitive	32
Carex arcta	Group 3	2	None	None	None	7
Carex hystericina	Group 3	2	None	None	None	1
Carex leptalea	Group 3	2	None	None	None	7
Carex praticola	Group 3	2	None	None	None	10
Carex viridula var. *viridula*	Group 3	2	None	None	None	6
Corallorhiza trifida	Group 3	2	None	None	None	1
Epilobium oreganum	Group 3	1B	None	None	None	30
Heuchera chlorantha	Group 3	2	None	None	None	NA
Juncus dudleyi	Group 3	2	None	None	None	2
Juncus regelii	Group 3	2	None	None	None	2
Lewisia cotyledon var. *heckneri*	Group 3	1B	None	None	None	22
Lewisia oppositifolia	Group 3	2	None	None	None	14
Lomatium martindalei	Group 3	2	None	None	None	8
Lycopodiella inundata	Group 3	2	None	None	None	3
Mimulus evanescens	Group 3	1B	None	None	None	NA
Mitella caulescens	Group 3	2	None	None	None	NA
Monardella villosa ssp. *globosa*	Group 3	1B	None	None	None	8
Montia howellii	Group 3	2	None	None	None	22
Phacelia leonis	Group 3	1B	None	None	Sensitive	12
Rhynchospora capitillata	Group 3	2	None	None	None	NA
Sanguisorba officinialis	Group 3	2	None	None	None	6
Scirpus subterminalis	Group 3	2	None	None	None	10

Sedum divergens	Group 3	2	None	None	None	3
Sedum paradisum	Group 3	1B	None	None	Sensitive	6
Sidalcea oregana ssp. *eximia*	Group 3	1B	None	None	None	8
Silene marmorensis	Group 3	1B	None	None	None	13
Vaccinium scoparium	Group 3	2	None	None	None	16
Viburnum ellipticum	Group 3	2	None	None	None	NA
Viola palustris	Group 3	2	None	None	None	5
Total: 33						

Group 4

Arnica venosa	Group 4	4	None	None	None	NA
Asplenium trichomanes ssp. trichomanes	Group 4	2	None	None	None	1
Calamagrostis foliosa	Group 4	4	Rare	None	None	NA
Cypripedium fasciculatum	Group 4	4	None	None	Sensitive	50+
Cypripedium montanum	Group 4	4	None	None	Sensitive	50+
Eriogonum congdonii	Group 4	4	None	None	None	NA
Eriogonum ternatum	Group 4	4	None	None	None	NA
Erythronium klamathense	Group 4	4	None	None	None	NA
Glyceria grandis	Group 4	2	None	None	None	6
Lathyrus sulphureus var. *argillaceus*	Group 4	3	None	None	None	NA
Lupinus croceus var. *pilosellus*	Group 4	4	None	None	None	NA
Lycopodium clavatum	Group 4	2	None	None	None	17
Minuartia rosei	Group 4	4	None	None	None	NA
Muhlenbergia jonesii	Group 4	4	None	None	Sensitive	NA
Pedicularis howellii	Group 4	4	None	None	Sensitive	NA
Raillardiopsis scabrida	Group 4	4	None	None	None	NA
Sanicula tracyi	Group 4	4	None	None	None	NA
Senecio bolanderi var. bolanderi	Group 4	2	None	None	None	NA
Trillium ovatum ssp. *oettingeri*	Group 4	4	None	None	None	NA
Veratrum insolitum	Group 4	4	None	None	None	NA
Total: 20						

Group 5

Arabis macdonaldiana	Group 5	1B	Endangered	Endangered	Sensitive	29
Calochortus persistens	Group 5	1B	None	Rare	Sensitive	3
Eriastrum tracyi	Group 5	1B	Rare	None	None	8
Eriogonum alpinum	Group 5	1B	None	Endangered	Sensitive	8
Horkelia hendersonii	Group 5	1B	None	None	Sensitive	1
Lathyrus biflorus	Group 5	1B	None	None	Sensitive	1
Lupinus constancei	Group 5	1B	None	None	Sensitive	3
Lupinus elmeri	Group 5	1B	None	None	Sensitive	2
Minuartia decumbens	Group 5	1B	None	None	Sensitive	1
Penstemon tracyi	Group 5	1B	None	None	None	3
Phlox hirsuta	Group 5	1B	Endangered	Endangered	Sensitive	3(4)
Thlaspi californicum	Group 5	1B	Endangered	None	Sensitive	1
Total: 12						

Table 2. Species on the Redding District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Arctostaphylos klamathensis	Group 1	1B	None	None	None	17
Astragalus pulsiferae var. *suksdorfii*	Group 1	1B	None	None	Sensitive	39
Campanula wilkinsiana	Group 1	1B	None	None	Sensitive	19
Chaenactis suffrutescens	Group 1	1B	None	None	Sensitive	20
Cordylanthus tenuis ssp. *pallescens*	Group 1	1B	None	None	Sensitive	30
Erythronium citrinum var. *roderickii*	Group 1	1B	None	None	Sensitive	5 (15)
Gratiola heterosepala	Group 1	1B	None	Endangered	Sensitive	54
Ivesia pickeringii	Group 1	1B	None	None	Sensitive	12 (13)
Madia (Harmonia) doris-nilesiae	Group 1	1B	None	None	Sensitive	23
Madia (Harmonia) stebbinsii	Group 1	1B	None	None	Sensitive	12
Minuartia stolonifera	Group 1	1B	None	None	Sensitive	2
Neviusia cliftonii	Group 1	1B	None	None	Sensitive	8
Orcuttia tenuis	Group 1	1B	Threatened	Endangered	Sensitive	74
Penstemon filiformis	Group 1	1B	None	None	Sensitive	46
Phacelia cookei	Group 1	1B	None	None	Sensitive	3
Phacelia greenei	Group 1	1B	None	None	Sensitive	24
Silene occidentalis ssp. *longistipitata*	Group 1	1B	None	None	Sensitive	11
Total: 17						
Group 2						
Abies amabilis	Group 2	2	None	None	None	9
Abies lasiocarpa var. *lasiocarpa*	Group 2	2	None	None	None	12
Arnica fulgens	Group 2	2	None	None	None	23
Asarum marmoratum	Group 2	2	None	None	None	6
Balsamorhiza hookeri var. *lanata*	Group 2	1B	None	None	Sensitive	12
Campanula shetleri	Group 2	1B	None	None	Sensitive	7
Clarkia borealis ssp. *arida*	Group 2	1B	None	None	None	3
Eriogonum prociduum	Group 2	1B	None	None	Sensitive	25
Eriogonum umbellatum glaberrimum	Group 2	1B	None	None	None	2
Erythronium hendersonii	Group 2	2	None	None	None	4
Galium serpenticum ssp. *scotticum*	Group 2	1B	None	None	None	18
Iliamna bakeri	Group 2	1B	None	None	Sensitive	NA
Lewisia cantelovii	Group 2	1B	None	None	Sensitive	56
Linanthus nuttallii ssp. *howellii*	Group 2	1B	None	None	Sensitive	4
Lupinus latifolius var. *barbatus*	Group 2	1B	None	None	None	2
Picea engelmanii	Group 2	2	None	None	Sensitive	10
Potentilla cristae	Group 2	1B	None	None	None	7
Raillardella pringlei	Group 2	1B	None	None	Sensitive	15
Rorippa columbiae	Group 2	2	None	None	Sensitive	11
Smilax jamesii	Group 2	1B	None	None	Sensitive	13(20)
Tauschia howellii	Group 2	1B	None	None	Sensitive	3
Total: 21						
Group 3						
Agrostis hendersonii	Group 3	3	None	None	None	16
Botrychium pinnatum	Group 3	2	None	None	None	2

Botrychium virginicum (virginianum)	Group 3	2	None	None	None	1
Calochortus greenei	Group 3	1B	None	None	Sensitive	32
Carex atherodes	Group 3	2	None	None	None	2
Carex comosa	Group 3	2	None	None	None	8
Carex halliana	Group 3	2	None	None	None	8
Carex limosa	Group 3	2	None	None	None	14
Carex petasata	Group 3	2	None	None	None	4
Carex praticola	Group 3	2	None	None	None	10
Carex scoparia	Group 3	2	None	None	None	1
Carex sheldonii	Group 3	2	None	None	None	16
Carex vulpinoidea	Group 3	2	None	None	None	6
Castilleja miniata ssp. *elata*	Group 3	2	None	None	None	30
Chaenactis douglasii var. *alpina*	Group 3	2	None	None	None	7
Corallorhiza trifida	Group 3	2	None	None	None	1
Cryptantha crinita	Group 3	1B	None	None	None	27
Dimeresia howellii	Group 3	2	None	None	None	44
Draba carnosula	Group 3	1B	None	None	None	8
Epilobium oreganum	Group 3	1B	None	None	None	30
Epilobium siskiyouense	Group 3	1B	None	None	None	44
Eriastrum brandegeae	Group 3	1B	None	None	None	42
Erigeron bloomeri var. *nudatus*	Group 3	2	None	None	None	10
Geum aleppicum	Group 3	2	None	None	None	5
Hierochloe odorata	Group 3	2	None	None	None	3
Lewisia cotyledon var. *heckneri*	Group 3	1B	None	None	None	22
Limnanthes floccosa ssp. *bellingeriana*	Group 3	1B	None	None	Sensitive	2
Lomatium hendersonii	Group 3	2	None	None	None	14
Lomatium peckianum	Group 3	2	None	None	None	13
Lomatium ravenii	Group 3	2	None	None	None	17
Lupinus uncialis	Group 3	2	None	None	None	13
Phacelia inundata	Group 3	1B	None	None	Sensitive	6
Phacelia sericea var. *cilosoa*	Group 3	1B	None	None	Sensitive	8
Pinguicula vulgaris ssp. *macrocera(s)*	Group 3	2	None	None	None	15
Potamogeton robbinsii	Group 3	2	None	None	None	5
Potamogeton zosteriformis	Group 3	2	None	None	None	6
Potentilla basaltica	Group 3	1B	None	None	None	2
Potentilla newberryi	Group 3	2	None	None	None	13
Ranunculus macounii	Group 3	2	None	None	None	2
Saxifraga cespitosa	Group 3	2	None	None	None	2
Saxifraga rufidula	Group 3	2	None	None	None	1
Scirpus subterminalis	Group 3	2	None	None	None	10
Scutellaria galericulata	Group 3	2	None	None	None	13
Sedum paradisum	Group 3	1B	None	None	Sensitive	6
Silene marmorensis	Group 3	1B	None	None	None	13
Stachys palustris ssp. *pilosa*	Group 3	2	None	None	None	6
Stellaria longifolia	Group 3	2	None	None	None	3
Stenotus lanuginosus	Group 3	2	None	None	None	17
Thelypodium howellii ssp. *howellii*	Group 3	1B	None	None	None	5
Trimorpha acris ssp. *debilis*	Group 3	2	None	None	None	6
Triteleia grandiflora ssp. *howellii*	Group 3	3	None	None	None	3
Vaccinium scoparium	Group 3	2	None	None	None	16

Viburnum ellipticum	Group 3	2	None	None	None	NA
Total: 53						
Group 4						
Ageratina shastense	Group 4	4	None	None	None	NA
Arnica venosa	Group 4	4	None	None	None	NA
Astragalus inversus	Group 4	4	None	None	None	NA
Calochortus longebarbatus var. *long.*	Group 4	2	None	None	Sensitive	87
Eriogonum congdonii	Group 4	4	None	None	None	NA
Eriogonum ternatum	Group 4	4	None	None	None	NA
Erythronium klamathense	Group 4	4	None	None	None	NA
Fritillaria eastwoodiae	Group 4	3	None	None	Sensitive	101
Lathyrus sulphureus var. *argillaceus*	Group 4	3	None	None	None	NA
Lupinus croceus var. *pilosellus*	Group 4	4	None	None	None	NA
Minuartia rosei	Group 4	4	None	None	None	NA
Muhlenbergia jonesii	Group 4	4	None	None	Sensitive	NA
Penstemon heterodoxus var. *shastensis*	Group 4	4	None	None	None	NA
Pogogyne floribunda	Group 4	1B	None	None	Sensitive	52
Total: 14						
Group 5						
Astragalus anxius	Group 5	1B	None	None	None	6
Collomia larsenii	Group 5	2	None	None	None	3
Eriastrum tracyi	Group 5	1B	Rare	None	None	8
Eriogonum alpinum	Group 5	1B	None	Endangered	Sensitive	8
Ivesia longibracteata	Group 5	1B	None	None	Sensitive	1
Ivesia paniculata	Group 5	1B	None	None	Sensitive	20
Orthocarpus pachystachyus	Group 5	1B	None	None	None	1
Phlox hirsuta	Group 5	1B	Endangered	Endangered	Sensitive	3(4)
Polemonium chartaceum	Group 5	1B	None	None	Sensitive	14
Puccinellia howellii	Group 5	1B	None	None	Sensitive	1
Silene suksdorfii	Group 5	2	None	None	None	7
Total: 11						

Table 3. Species on the Lassen District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Astragalus pulsiferae var. *pulsiferae*	Group 1	1B	None	None	Sensitive	21
Astragalus pulsiferae var. *suksdorfii*	Group 1	1B	None	None	Sensitive	39
Astragalus webberi	Group 1	1B	None	None	Sensitive	10
Campanula wilkinsiana	Group 1	1B	None	None	Sensitive	19
Clarkia biloba ssp. *brandegeae*	Group 1	1B	None	None	Sensitive	24
Penstemon personatus	Group 1	1B	None	None	Sensitive	24
Silene occidentalis ssp. *longistipitata*	Group 1	1B	None	None	Sensitive	11
Total: 7						
Group 2						
Arnica fulgens	Group 2	2	None	None	None	23

Ivesia aperta aperta	Group 2	1B	None	None	Sensitive	46
Ivesia webberi	Group 2	1B	None	None	Sensitive	10
Monardella follettii	Group 2	1B	None	None	Sensitive	25
Pyrrocoma lucida	Group 2	1B	None	None	Sensitive	49
Rorippa columbiae	Group 2	2	None	None	Sensitive	11
Scheuchzeria palustris americana	Group 2	2	None	None	Sensitive	4
Sedum albomarginatum	Group 2	1B	None	None	Sensitive	16
Total: 8						

Group 3

Asplenium septentrionale	Group 3	2	None	None	None	8
Astragalus geyeri var. *geyeri*	Group 3	2	None	None	None	23
Carex lasiocarpa	Group 3	2	None	None	None	8
Carex limosa	Group 3	2	None	None	None	14
Carex sheldonii	Group 3	2	None	None	None	16
Claytonia umbellata	Group 3	2	None	None	None	2
Drosera anglica	Group 3	2	None	None	None	15
Epilobium palustre	Group 3	2	None	None	None	2
Geum aleppicum	Group 3	2	None	None	None	5
Lomatium hendersonii	Group 3	2	None	None	None	14
Lomatium ravenii	Group 3	2	None	None	None	17
Pedicularis centranthera	Group 3	2	None	None	None	6
Phlox muscoides	Group 3	2	None	None	None	26
Potamogeton epihydris ssp. *nuttallii*	Group 3	2	None	None	None	5
Potamogeton filifomis	Group 3	2	None	None	None	5
Potamogeton praelongis	Group 3	2	None	None	None	3
Scirpus subterminalis	Group 3	2	None	None	None	10
Scutellaria galericulata	Group 3	2	None	None	None	13
Senecio eurycephalus var. *lewisrosei*	Group 3	1B	None	None	None	31
Solidago gigantea	Group 3	2	None	None	None	2
Trimorpha acris ssp. *debilis*	Group 3	2	None	None	None	6
Utricularia ochroleuca	Group 3	2	None	None	None	2
Total: 22						

Group 4

Arabis constancei	Group 4	1B	None	None	Sensitive	49
Astragalus inversus	Group 4	4	None	None	None	NA
Astragalus lentiformis	Group 4	1B	None	None	Sensitive	55
Calochortus longebarbatus var. *long.*	Group 4	2	None	None	Sensitive	87
Fritillaria eastwoodiae	Group 4	3	None	None	Sensitive	101
Ivesia sericoleuca	Group 4	1B	None	None	Sensitive	64
Lupinus dalesiae	Group 4	1B	None	None	Sensitive	155
Muhlenbergia jonesii	Group 4	4	None	None	Sensitive	NA
Penstemon heterodoxus var. *shastensis*	Group 4	4	None	None	None	NA
Piperia colemanii	Group 4	4	None	None	None	NA
Piperia leptopetala	Group 4	4	None	None	None	NA
Scirpus heterochaetus	Group 4	2	None	None	None	NA
Total: 12						

Group 5						
Astragalus anxius	Group 5	1B	None	None	None	6
Collomia larsenii	Group 5	2	None	None	None	3
Draba aureola	Group 5	1B	None	None	None	8
Silene suksdorfii	Group 5	2	None	None	None	7
Smelowskia ovalis var. *congesta*	Group 5	1B	None	None	None	4
Total: 5						

Table 4. Species on the Stirling District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Calycadenia oppositifolia	Group 1	1B	None	None	Sensitive	NA
Calystegia atriplicifolia ssp. *buttensis*	Group 1	1B	None	None	Sensitive	25 (30)
Clarkia biloba ssp. *brandegeae*	Group 1	1B	None	None	Sensitive	24
Clarkia gracilis ssp. *albicaulis*	Group 1	1B	None	None	Sensitive	15
Clarkia mosquinii	Group 1	1B	None	None	Sensitive	36
Penstemon personatus	Group 1	1B	None	None	Sensitive	24
Rupertia hallii	Group 1	1B	None	None	Sensitive	23
Silene occidentalis ssp. *longistipitata*	Group 1	1B	None	None	Sensitive	11
Total: 8						
Group 2						
Allium jepsonii	Group 2	1B	None	None	Sensitive	16
Balsamorhiza macrolepis var. *macrolepis*	Group 2	1B	None	None	None	20
Botrychium ascendens	Group 2	2	None	None	Sensitive	2
Botrychium crenulatum	Group 2	2	None	None	Sensitive	8
Botrychium minganense	Group 2	2	None	None	Sensitive	2
Botrychium montanum	Group 2	2	None	None	Sensitive	1
Oreostemma elatum	Group 2	1B	None	None	Sensitive	NA
Sidalcea robusta	Group 2	1B	None	None	None	16
Total: 8						
Group 3						
Agrostis hendersonii	Group 3	3	None	None	None	16
Bulbostylis capillaris	Group 3	2	None	None	None	NA
Carex geyeri	Group 3	2	None	None	None	NA
Carex limosa	Group 3	2	None	None	None	14
Claytonia umbellata	Group 3	2	None	None	None	2
Corallorhiza trifida	Group 3	2	None	None	None	1
Penstemon janishae	Group 3	2	None	None	None	NA
Polystichum lonchitus	Group 3	2	None	None	None	NA
Potamogeton praelongis	Group 3	2	None	None	None	3
Rhynchospora alba	Group 3	2	None	None	None	NA
Rhynchospora capitillata	Group 3	2	None	None	None	NA
Stachys palustris ssp. *pilosa*	Group 3	2	None	None	None	6
Trifolium jokerstii	Group 3	1B	None	None	None	7
Total: 13						

Group 4						
Allium sanbornii var. *sanbornii*	Group 4	4	None	None	None	NA
Arctostaphylos mewukka ssp.truei	Group 4	4	None	None	None	NA
Astragalus whitneyi var. *lenophyllus*	Group 4	4	None	None	None	NA
Cardamine pachystigma var. *dissectifolia*	Group 4	3	None	None	None	NA
Chenopodium simplex	Group 4	4	None	None	None	NA
Clarkia mildrediae ssp. *lutescens*	Group 4	4	None	None	None	NA
Claytonia palustris	Group 4	4	None	None	None	NA
Cupressus bakeri	Group 4	4	None	None	None	NA
Cypripedium californicum	Group 4	4	None	None	None	NA
Darlingtonia californica	Group 4	4	None	None	None	NA
Erigeron inornatus var. *calidipetris*	Group 4	4	None	None	None	NA
Erigeron petrophilus var. *sierrensis*	Group 4	4	None	None	None	NA
Fritillaria eastwoodiae	Group 4	3	None	None	Sensitive	101
Hackelia amethystina	Group 4	4	None	None	None	NA
Lewisia kelloggii ssp. *hutchisonii*	Group 4	3	None	None	None	NA
Lilium humboldtii ssp. *humboldtii*	Group 4	4	None	None	None	NA
Lycopus uniflorus	Group 4	4	None	None	None	NA
Mimulus glaucescens	Group 4	4	None	None	None	NA
Mimulus pygmaeus	Group 4	4	None	None	None	NA
Monardella candicans	Group 4	4	None	None	None	NA
Perideridia bacigalupi	Group 4	4	None	None	None	NA
Stellaria obtusa	Group 4	4	None	None	None	NA
Trifolium lemmonii	Group 4	4	None	None	None	NA
Vaccinium coccinium	Group 4	3	None	None	Sensitive	NA
Veronica cuskckii	Group 4	4	None	None	None	NA
Viola tomentosa	Group 4	4	None	None	None	NA
Total: 26						

Group 5

None

Table 5. Species on the Tahoe District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Arabis constancei	Group 1	1B	None	None	Sensitive	49
Astragalus pulsiferae var. *pulsiferae*	Group 1	1B	None	None	Sensitive	15
Astragalus pulsiferae var. *suksdorfii*	Group 1	1B	None	None	Sensitive	39
Astragalus webberi	Group 1	1B	None	None	Sensitive	10
Clarkia biloba ssp. *brandegeae*	Group 1	1B	None	None	Sensitive	24
Lupinus dalesiae	Group 1	1B	None	None	Sensitive	155
Penstemon personatus	Group 1	1B	None	None	Sensitive	24
Total : 7						
Group 2						
Arabis rigidissima var. *demota*	Group 2	1B	None	None	Sensitive	2
Astragalus lentiformis	Group 2	1B	None	None	Sensitive	55
Epilobium howellii	Group 2	1B	None	None	Sensitive	3
Erigeron miser	Group 2	1B	None	None	Sensitive	13

Eriogonum umbellatum torreyanum	Group 2	1B	None	None	Sensitive	20
Ivesia aperta aperta	Group 2	1B	None	None	Sensitive	46
Ivesia sericoleuca	Group 2	1B	None	None	Sensitive	64
Ivesia webberi	Group 2	1B	None	None	Sensitive	10
Lewisia cantelovii	Group 2	1B	None	None	Sensitive	56
Lewisia longipetala	Group 2	1B	None	None	Sensitive	14
Lewisia serrata	Group 2	1B	None	None	Sensitive	9
Monardella follettii	Group 2	1B	None	None	Sensitive	25
Monardella stebbinsii	Group 2	1B	None	None	Sensitive	8
Pyrrocoma lucida	Group 2	1B	None	None	Sensitive	49
Total: 14						

Group 3

Allium atrorubens var. *atrorubens*	Group 3	2	None	None	None	7
Androsace occidentalis var. *simplex*	Group 3	2	None	None	None	1
Asplenium trichomanes-ramosum	Group 3	2	None	None	None	1
Carex lasiocarpa	Group 3	2	None	None	None	8
Carex limosa	Group 3	2	None	None	None	14
Carex sheldonii	Group 3	2	None	None	None	16
Claytonia megarhiza	Group 3	2	None	None	None	9
Drosera anglica	Group 3	2	None	None	None	15
Epilobium luteum	Group 3	2	None	None	None	2
Eriogonum ochrocephalum var. *ochrocephalum*	Group 3	2	None	None	None	1
Glyceria grandis	Group 3	2	None	None	None	6
Ivesia aperta canina	Group 3	1B	None	None	Sensitive	4
Ivesia baileyi var. *baileyi*	Group 3	2	None	None	None	14
Juncus marginatus var. *marginatus*	Group 3	2	None	None	None	1
Loeflingia squarrosa var. *artemisiarum*	Group 3	2	None	None	None	13
Lycopodiella inundata	Group 3	2	None	None	None	3
Orobanche ludoviciana var. *arenosa*	Group 3	2	None	None	None	3
Phacelia stebbinsii	Group 3	1B	None	None	Sensitive	45
Potamogeton filiformis	Group 3	2	None	None	None	5
Potamogeton praelongus	Group 3	2	None	None	None	3
Pyrola chlorantha	Group 3	2	None	None	None	1
Scirpus subterminalis	Group 3	2	None	None	None	12
Scutellaria galericulata	Group 3	2	None	None	None	13
Senecio eurycephalus var. *lewisrosei*	Group 3	1B	None	None	None	31
Sphaeralcea munroana	Group 3	2	None	None	None	1
Stachys palustris ssp. *pilosa*	Group 3	2	None	None	None	6
Viola aurea	Group 3	2	None	None	None	7
Total: 28						

Group 4

Carex davyi	Group 4	4	None	None	None	NA
Fritillaria eastwoodiae	Group 4	3	None	None	Sensitive	101
Piperia colemanii	Group 4	4	None	None	None	NA
Piperia leptopetala	Group 4	4	None	None	None	NA
Veronica cuskckii	Group 4	4	None	None	None	NA
Total: 5						

Group 5						
Calystegia stebbinsii	Group 5	1B	Endangered	Endangered	None	19
Fremontodendron californicum decumbens	Group 5	1B	Endangered	None	None	10
Mahonia sonnei	Group 5	None	Endangered	Endangered	None	NA
Sedum albomarginatum	Group 5	1B	None	None	Sensitive	16
Sidalcea stipularis	Group 5	1B	None	Endangered	None	3
Total: 5						

Table 6. Species on the Martell District by Group Status

Martell	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Calochortus clavatus avius	Group 1	1B	None	None	Sensitive	92
Horkelia parryi	Group 1	1B	None	None	Sensitive	14
Mimulus gracilipes	Group 1	1B	None	None	Sensitive	NA
Total: 3						
Group 2						
Chlorogalum grandiflorum	Group 2	1B	None	None	None	29
Lomatium stebbinsii	Group 2	1B	None	None	Sensitive	48
Total: 2						
Group 3						
NONE						
Group 4						
Ceanothus fresnensis	Group 4	4	None	None	None	NA
Clarkia virgata	Group 4	4	None	None	None	NA
Mimulus inconspicuus	Group 4	4	None	None	None	NA
Mimulus laciniatus	Group 4	4	None	None	None	NA
Monardella candicans	Group 4	4	None	None	None	NA
Sphenopholis obtusata	Group 4	2	None	None	None	10
Total: 6						
Group 5						
NONE						

Table 7. Species on the Camino District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Arctostaphylos nissenana	Group 1	1B	None	None	Sensitive	11
Calochortus clavatus avius	Group 1	1B	None	None	Sensitive	92
Clarkia biloba ssp. *brandegeae*	Group 1	1B	None	None	Sensitive	24

Horkelia parryi	Group 1	1B	None	None	Sensitive	14
Senecio layneae	Group 1	1B	Threatened	Rare	Sensitive	47
Total: 5						
Group 2						
Botrychium ascendens	Group 2	2	None	None	Sensitive	2
Chlorogalum grandiflorum	Group 2	1B	None	None	None	29
Draba asterophora asterophora	Group 2	1B	None	None	Sensitive	5
Draba asterophora macrocarpa	Group 2	1B	None	None	Sensitive	2
Lewisia longipetala	Group 2	1B	None	None	Sensitive	14
Lewisia serrata	Group 2	1B	None	None	Sensitive	9
Rorippa subumbellata	Group 2	1B	Candidate	Endangered	Sensitive	31
Total: 7						
Group 3						
Carex limosa	Group 3	2	None	None	None	14
Chaenactis douglasii var. alpina	Group 3	2	None	None	None	7
Epilobium oreganum	Group 3	1B	None	None	None	30
Phacelia stebbinsii	Group 3	1B	None	None	Sensitive	45
Potamogeton epihydris ssp. nuttallii	Group 3	2	None	None	None	5
Scirpus subterminalis	Group 3	2	None	None	None	12
Scutellaria galericulata	Group 3	2	None	None	None	13
Total: 7						
Group 4						
Ceanothus fresnensis	Group 4	4	None	None	None	NA
Fritillaria eastwoodiae	Group 4	3	None	None	Sensitive	101
Mimulus grayi	Group 4	4	None	None	None	NA
Mimulus laciniatus	Group 4	4	None	None	None	NA
Monardella candicans	Group 4	4	None	None	None	NA
Piperia colemanii	Group 4	4	None	None	None	NA
Piperia leptopetala	Group 4	4	None	None	None	NA
Total: 7						
Group 5						
NONE	0					

Table 8. Species on the Sonora District by Group Status

Species Name	SPI Status	CNPS	ESA	CESA	USFS R5	NDDB
Group 1						
Allium yosemitense	Group 1	1B	None	Rare	Sensitive	12
Clarkia australis	Group 1	1B	None	None	Sensitive	28
Clarkia biloba australis	Group 1	1B	None	None	Sensitive	14
Eriophyllum congdonii	Group 1	1B	None	Rare	Sensitive	14
Erythronium tuolumnense	Group 1	1B	None	None	Sensitive	31
Horkelia parryi	Group 1	1B	None	None	Sensitive	14

Mimulus filicaulis	Group 1	1B	None	None	Sensitive	37
Mimulus gracilipes	Group 1	1B	None	None	Sensitive	NA
Mimulus pulchellus	Group 1	1B	None	None	Sensitive	NA
Total: 9						
Group 2						
Allium tribracteatum	Group 2	1B	None	None	Sensitive	25
Arabis rigidissima var. *demota*	Group 2	1B	None	None	Sensitive	2
Balsamorhiza macrolepis var. macrolepis	Group 2	1B	None	None	None	20
Lomatium stebbinsii	Group 2	1B	None	None	Sensitive	48
Total: 4						
Group 3						
Carex limosa	Group 3	2	None	None	None	14
Lupinus spectabilis	Group 3	1B	None	None	None	19
Rhynchospora californica	Group 3	1B	None	None	None	9
Rhynchospora capitillata	Group 3	2	None	None	None	NA
Total: 4						
Group 4						
Ceanothus fresnensis	Group 4	4	None	None	None	NA
Clarkia virgata	Group 4	4	None	None	None	NA
Claytonia palustris	Group 4	4	None	None	None	NA
Mimulus grayi	Group 4	4	None	None	None	NA
Mimulus inconspicuus	Group 4	4	None	None	None	NA
Monardella candicans	Group 4	4	None	None	None	NA
Perideridia bacigalupi	Group 4	4	None	None	None	NA
Piperia colemanii	Group 4	4	None	None	None	NA
Piperia leptopetala	Group 4	4	None	None	None	NA
Total: 9						
Group 5						
Eriophyllum nubigenum	Group 5	1B	None	None	Sensitive	11
Erythronium taylorii	Group 5	1B	None	None	Sensitive	1
Mimulus whippleyi	Group 5	1A	None	None	None	1
Total: 3						