



INTERIM INTERPRETIVE GUIDELINES for EL DORADO COUNTY GENERAL PLAN POLICY 7.3.3.4

Adopted June 22, 2006

BACKGROUND

The adopted 2004 El Dorado County General Plan, Conservation and Open Space Element, provides for the conservation and protection of soils, minerals, water, wildlife and fisheries, vegetation, cultural resources, and open space. Policies adopted in this element serve to guide the design of new development to meet these objectives. Policy 7.3.3.4, reproduced below, is a key interim standard that addresses buffers and setbacks for the protection of riparian areas and wetlands.

Policy 7.3.3.4

- *The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas.*
- *Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, **or where such buffers deny reasonable use of the property**, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project.*
- *Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that use Best Management Practices BMPs as recommended by the County Agricultural Commission and adopted by the Board of Supervisors.*
- *Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply **a minimum setback of 100 feet from all perennial streams, rivers, lakes and 50 feet from intermittent streams and wetlands.***
- *These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be **sufficient to protect** the particular riparian area at issue.*

- *For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. **If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.***

DEFINITIONS

Enhance: To improve existing conditions by increasing the quantity or quality of uses or features identified as desirable.

Environment: The physical conditions which exist within the area which may be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise and objects of historic or aesthetic significance.

Habitat: The physical location or type of environment in which an organism or biological population lives or can be found.

Intermittent Stream: A stream that normally flows for at least thirty days after the last major rain of the season and is dry the remainder of the year, not including manmade drainage. Intermittent streams do not include ephemeral watercourses.

Lake: Any natural or manmade body that impounds water year round under normal conditions. In identifying the high water mark on manmade lakes controlled by dams, the maximum spillway elevation will be used.

Natural Communities: A general term for an assemblage of naturally-occurring plants and animals coexisting together in a common area that is relatively undisturbed and unfragmented and that is self-perpetuating. These communities are generally comprised of a variety of plant and animal species that have evolved together over time in a specific location or region as a result of complex interactions among climate, soils, hydrology, topography, fire, vegetation, wildlife, and human interaction.

Natural State: The condition existing prior to development, modification, or disturbance.

Ordinary High Water Mark (OHWM): The line on the shore in non-tidal areas established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.

Perennial Stream or River: Any watercourse that is either shown on the USGS 7.5 minute topographic quadrangle map series as a solid blue line or under normal conditions flows year round.

Rare or Endangered Species: A species of animal or plant is considered to be “endangered” when its prospects for survival and/or reproduction are in immediate jeopardy from one or more causes. Includes plant or animal species listed in: (1) *Sections 670.2 or 670.5, Title 14 of the California Administrative Code*; or (2) *Title 50, Code of Federal Regulations, Section 17.11 or Section 17.2*, pursuant to the Federal Endangered Species Act designating species as rare, threatened or endangered.

Significant Effect: A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Substantial: Considerable in importance, value, degree, or amount.

Top of Bank: The visible high water mark of any lake, stream, or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil.

VegCAMP: A program administered by the State of California Department of Fish and Game that establishes protocols for classifying and mapping vegetation.

Watercourse: Natural or once naturally flowing (perennially or intermittently) water, including rivers, streams, and creeks. Includes natural waterways that have been channelized, but does not include human-made channels, ditches, and underground drainage and sewer systems. Also called a “waterway.”

Wetlands: Land that qualifies as jurisdictional wetlands by displaying hydric soils, hydrophilic plants, and wetland hydrology as defined by the U.S. Army Corps of Engineers. Wetlands include those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under 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. (33 CFR 328.3(b); 40 CFR 230.3(t))

See also http://ceres.ca.gov/wetlands/introduction/defining_wetlands.html for additional information.

Sources: *El Dorado County General Plan, State of California Department of Fish & Game, State of California Resources Agency, U.S. Army Corps of Engineers.*

STANDARDS

Interim Standards: Policy 7.3.3.4 establishes *interim* standards until permanent standards are developed by ordinance. Since these standards are interim, this policy also provides a process for site specific modifications to these interim standards if certain findings and requirements are satisfied. These interim setback standards apply to existing and proposed new parcels or parcels proposed to be modified by a boundary line adjustment. Development (such as grading, building sites, roads, slopes, primary and accessory structures) must comply with the interim setbacks established by Policy 7.3.3.4 unless:

1. Specifically exempted by this policy, or involving necessary development of utilities, wells, and lighting; or
2. The project is within the joint jurisdiction of El Dorado County and the Tahoe Regional Planning Agency (TRPA), in which case, the TRPA setbacks will apply; or
3. The project site is not located within a designated “Important Biological Corridor Overlay District” and an *alternative* setback is approved pursuant to the process described below.

Alternative Setbacks: An alternative setback can be approved when the applicant demonstrates that the alternative setback would still provide sufficient protection to the affected biological resource(s) and avoid or minimize impacts as required by the General Plan or if the alternative setback is necessary to allow “*reasonable use*” of an existing legal parcel and appropriate mitigation measures and/or Best Management Practices (BMPs) are incorporated into the project.

In order to apply for an alternate setback, an initial **Site Assessment Form** must be prepared by a qualified biologist and submitted to the Planning Services Division for review. If the project biologist concludes, and County staff concur, that there is no potential for any impact on riparian/biological resources from the proposed alternative setback, then, with incorporation of BMPs into the project, an alternative setback may be approved for the project. The extent of the setback reduction and the approving authority depends on the type of project (Discretionary, Ministerial or Special Cases) and is discussed in further detail in Sections A through C below. Applicants/property owners and their biologist are strongly encouraged to coordinate the preparation of the Site Assessment Form and/or the Biology Report early in the process to avoid procedural duplication or delay.

If the site assessment, or if early consultation with Planning Services staff concludes that the proposed alternative setback does have the potential to impact riparian/biological resources, then a full **Biology Report** for the project must be provided to the County prior to further consideration of the alternative setback. The Biology Report must:

- a) Be prepared by a qualified biologist and include the data specified in “*Biology Report Requirements*” section of this document;
- b) Identify any impacts on riparian/wetland resources that would occur if the project is constructed with the proposed alternative setback instead of the interim setback established in Policy 7.3.3.4.
- c) Identify feasible mitigation measures and BMPs that would avoid or minimize impacts on riparian and wetland resources associated with development of the project at the alternative setback;
- d) Provide the author’s opinion as to whether the identified measures will be “sufficient to protect” the onsite riparian or wetland resources as required by the General Plan.

After the Site Assessment and/or Biology Report is accepted as adequate, and County staff and/or the County’s reviewing biologist concur with the reports’ conclusions, then the following procedures for approving alternative setbacks shall be used depending on the specific circumstances involved as listed below.

- A. **Discretionary Projects:** A reduction in the interim setback for development can be recommended for approval to County decision-makers (Zoning Administrator, Planning Commission and/or Board of Supervisors) subject to compliance and coordination with the requirements of the California Environmental Quality Act; a Biology Report is required; or
- B. **Ministerial Projects** (unless a “Reasonable Use Determination or “Previous Approval” is involved, then see Special Cases below): **A reduction in the interim setback to a minimum of 50 feet from perennial streams, rivers, and lakes and a minimum of 25 feet from intermittent streams and wetlands** can be approved by the Deputy Director/Building Official in accordance with the recommendations in the Site Assessment Form or the Biology Report.

Special Cases:

- 1) **Ministerial Projects Requiring Reasonable Use Determinations for Existing Legal Lots:** If the applicant demonstrates to the satisfaction of the Deputy Director/Building Official that the proposed development cannot feasibly be located outside of the prescribed interim setbacks, then a **reduction in the interim setback for development to a minimum of 50 feet from perennial streams, rivers, lakes, and wetlands and a minimum of 25 feet from intermittent streams and wetlands** can be approved by the Deputy Director/Building Official in accordance with the recommendations in the Site Assessment Form or the

Biology Report, if necessary, to allow for “reasonable use” of the property.

- 2) **Ministerial Projects on Existing Legal Lots for which Previous Approvals or Determinations of Developable Area have been made by County Decision-Makers:** Any previous determinations or approvals by the decision-makers of El Dorado County (i.e. the Zoning Administrator, Planning Commission, or Board of Supervisors) that have defined the *specific* extent of allowable development on an existing legal lot shall be recognized as establishing an area for “reasonable use” under these Guidelines. These would include approvals of variances, subdivision maps, parcel maps, planned developments, boundary line adjustments or other actions in which a building or development envelope has been specifically delineated or where specific criteria for the location of development were adopted as part of the discretionary approval defining the portion of an existing legal lot available for development. In addition, prior discretionary project approvals that included specific perennial stream, river, lake, and/or intermittent stream, river, and/or wetland setback requirements may use the prior approved setbacks.

Consideration for alternative setbacks under the ministerial provision requires the completion of a Site Assessment Form.

If an alternative setback is proposed for development in areas where a previous determination or approval as defined above has occurred, then a **reduction in the setback for development** can be approved by the Deputy Director/Building Official in accordance with the recommendations in the Site Assessment Form or Biology Report provided that:

- a) All development/disturbance is limited to the area on the property that was specifically delineated by previous County approvals for development; and
 - b) The reduction in the alternative setback would not be inconsistent with any conditions of approval and/or mitigation measures that were previously placed on the project by County decision-makers.
- C. If the biology report concludes that it is not feasible to incorporate mitigation measures and/or BMPs into the project to avoid or minimize impacts in order to provide sufficient protection to the biological resource with the alternative setback, the report must include findings with adequate supporting information demonstrating why it is not feasible to incorporate such mitigation measures and/or BMPs into the project:

For Discretionary Projects, these findings are subject to review and approval by the Planning Commission, in conjunction with the CEQA process at the public hearing for the project.

For Ministerial Projects and for Projects Involving Reasonable Use Determinations, these findings are subject to review and approval by the Planning Commission prior to issuance of a building permit for the project.

GENERAL REQUIREMENTS APPLICABLE TO ALL PROJECTS

Compliance with the General Plan:

In addition to compliance with these guidelines for Policy 7.3.3.4, the proposed development shall be in conformance with all other applicable policies of the County General Plan and any applicable Specific Plans and/or Development Agreements.

Relationship to Tahoe Regional Planning Agency (TRPA) Requirements:

The primary mission of the TRPA is to protect water quality in the Lake Tahoe Basin. TRPA's development regulations are specifically crafted for this purpose and are based on extensive study and analysis. Consequently, for development that is under the joint jurisdiction of El Dorado County and the TRPA, the setbacks from riparian/wetland resources shall be as determined by TRPA.

Compliance with the Zoning Ordinance, Grading Ordinance and Building Codes:

The proposed development shall be in compliance with all applicable requirements of the County Zoning Ordinance, Grading Ordinance and Building Codes.

County, State, or Federal Agency Requirements

County, State, and Federal agencies have different jurisdictional authority which may result in different conditions for permit approval. In the event of multiple agency permit approval, the most restrictive set of conditions shall apply. Exhibit 1 illustrates varied agencies' authority.

Important Biological Resource Corridor Overlay Designation

Requests for alternative setbacks for property located in an Important Biological Corridor Overlay (IBC) pursuant to the General Plan shall only be considered in conjunction with a discretionary review process. The analysis and Biology Report for the project must address all of the provisions of General Plan Policy 7.4.2.9. If a discretionary review process is not otherwise required for the project, the request for alternative setbacks will be considered by the Planning Commission as a policy determination. In either instance, in order to approve an alternative setback, the Planning Commission must consider all the evidence, conduct a public hearing and make all of the findings prescribed in County Code Section 17.22.630 (Variances) as well as conclude, based on substantial evidence, that the alternative setback would be consistent with the General Plan.

Measurement of Setbacks:

The setbacks required by Policy 7.3.3.4 or as modified through approval of an alternative setback as described above, shall be measured by the following setback criteria, as applicable on the project site:

Lakes with Spillways: Shall be measured by the maximum spillway elevation.

Lakes without Spillways: Shall be measured by the identification of the Ordinary High Water Mark (OHWM).

Perennial Streams and Rivers: Shall be measured from Top of Bank.

Intermittent Streams and Rivers: Shall be measured from Top of Bank.

Wetlands: Shall be measured from outermost edge of hydric soils.

Top of bank, spillway elevation, OHWM, or outermost edge of hydric soils shall be mapped as part of the project Biology Report. The required setback shall be measured continuously and parallel to the top of bank, spillway elevation, OHWM, or outermost edge of hydric soils. Any disputes concerning the appropriate location for measurement shall be resolved by the Director. The Director's decision is appealable to the Planning Commission. The Planning Commission's decision is appealable to the Board of Supervisors.

Exhibits 2 through 6 illustrate setback requirements.

BIOLOGY REPORT REQUIREMENTS

A. Required Content for Reports and Field Surveys:

Biological reports and field surveys must contain the following information:

1. **Project Map:** A detailed, scaled, map of the project regional location and specific study area including a site plan (and grading plan if applicable) for the subject parcel showing all proposed development/site disturbance, the flow line and top of bank of the river, stream or creek (including sufficient spot elevations to accurately establish top of bank), the extent of any wetlands on the site, the extent of any riparian or native vegetation on the site and the proposed setbacks between areas of development/disturbance and the river/stream/creek/lake/wetland resource. An aerial photograph at a sufficient scale to identify all of these site features/resources is also recommended.

Any wetlands on the project site or within 100 feet of any disturbance proposed for the project site shall be mapped using one of the following methods:

- a) *Simplified Method of Wetlands Mapping:* This method may be used in most cases where riparian vegetation, areas of potentially hydric soils and drainage features with a defined bed and bank are/will be largely avoided through project design and the applicant wishes to minimize processing costs. The mapping of wetlands and/or waters of the U.S. can often be completed with site visits and review of aerial photographs, and topographical, vegetation and soil maps. Under this method wetlands and/or waters of the U.S. are conservatively identified to extend to the outermost limit of riparian vegetation (canopy drip line or scrub line boundary), hydric soils, or the defined bed and bank of a drainage feature, whichever is greatest.
- b) *Formal Method of Wetlands Mapping:* A formal wetland delineation may be completed under the following conditions 1) there may be extensive impacts (both direct and indirect) to or within the immediate proximity of identified wetlands and waters of the U.S, 2) the project applicant believes that using the simplified method of wetlands mapping results in too conservative delineation of the extent of wetlands, 3) there is disagreement between the County and the individual completing the delineation. Under this method the delineation must conform to the Army Corps of Engineers 1987 Wetland Delineation Manual. The boundaries of all wetlands and waters of the U.S., as defined by each of the agencies, must be clearly identified. When a formal wetland delineation is completed, a separate wetland delineation map is required in addition to showing the extent of wetlands on the vegetation map.

2. **Habitat Classification:** A written description/classification of the biological setting, referencing the natural communities keyed to a detailed map of the native/riparian vegetation and/or any animal habitat/migration corridor areas on the project site. Use of the “VegCAMP” classification system adopted by the California Department of Fish and Game (DFG) is preferred.

Further information regarding “VegCAMP” can be obtained from DFG and at the following internet website:

<http://www.dfg.ca.gov/whdab/html/vegcamp.html>

To classify disturbed areas of vegetation (areas not in a natural state) use the following guidelines:

a) Disturbed Areas:

When classifying the biological setting, only those lands meeting all of the following characteristics may be identified as “disturbed”:

- i. Land that has been permanently altered by previous *legal* human activity including grading and/or repeated clearing for fuel management purposes or shows evidence of being built upon.
- ii. Land exhibiting evidence that the previous disturbance has eliminated all future biological value of the land for any species of concern.
- iii. No native vegetation remains.
- iv. The land exhibits low value as habitat for sensitive wildlife, including foraging potential for raptors.

b) Illegal Grading/Clearing:

Areas graded or cleared without the legal authority to do so shall be mapped as the vegetation type that was previously present based on County records and regardless of the time that has lapsed since the clearing. Historical evidence, such as aerial photography or the County’s vegetation mapping information, must be used to determine the habitat that once existed.

c) Legal Clearing Related To Preparing the Land for Development:

Areas legally graded or cleared in preparation for the proposed project shall also be mapped as the habitat that existed prior to the clearing unless previous environmental review was conducted and appropriate mitigation applied. The reason for this is that the California Environmental Quality Act requires the County to assess the “whole of the proposed project” which includes activities completed preparation for the project. Examples include geotechnical testing, well drilling/testing, surveying, and recent (less than 5 years prior to project application) clearing or grading (including agricultural clearing or grading) completed without a clear documented purpose. Historical evidence, such as aerial photography or the County’s vegetation mapping information, must be used to determine the habitat that once existed.

d) Legal Clearing:

Areas graded or cleared with the legal authority that are not related to preparing the land for development may be mapped as existing disturbed, agriculture, or as the appropriate habitat type, whichever applies.

e) Burned Habitat:

Areas recovering from fire shall be mapped utilizing the resurgent vegetation as indicators of the probable resultant habitat. When the fire is so recent such that no new vegetation has emerged yet, historical evidence, such as aerial photos, will be used to map the habitat that previously existed.

f) Mixtures Of Habitat Components:

Where vegetation contains a mixture of component and indicator species from two or more vegetation communities, the indicator species that appears with the greatest vegetation coverage must be used to identify the vegetation community.

g) Agriculture:

Any lands that currently support an agricultural operation will be classified as agriculture. The absence of active agricultural activity, such as irrigation, cultivation or harvesting, for three years (or such time period deemed reasonable by the Agricultural Commissioner) is considered a general guideline after which the land may support habitat suitable for sensitive species and should be evaluated/classified accordingly.

3. **Methodology:** A detailed description of any survey methodology used for the study, including the dates and times of field visits.
4. **Impact Assessment:** An assessment of all potential direct and indirect impacts including a discussion of the quality of the habitat considering: its ability to support species diversity, its ability to be self-sustaining (in the context of the surrounding area, not just the project boundaries), how common or rare it is, how good a representative it is (plant community), the degree of previous disturbance, and other history of the site if applicable.
5. **List & Map of Species:** A list and map (as appropriate) for any listed or sensitive special status plant or animal species, including rare or endangered species, observed or expected to occur on site. A list of additional species observed or expected should also be included. This may be representative of the communities present rather than exhaustive. Division by taxonomic group is not necessary. Include a discussion of the status, distribution, and habitat affinities of any special status plants or animals found at the project site if applicable.
6. **Mitigation Measures:** Recommended mitigation measures and/or Best Management Practices to avoid or minimize impacts to the extent feasible and to provide sufficient protection to the resource(s) as called for by the General Plan.

Mitigation must be determined on a site specific basis and can include a range of possibilities, including but not limited to:

- a) Avoidance of impacts to the resource;
- b) Open space/conservation easements which, when feasible, work toward regional protection of the resources, including: combining open space easements with adjacent ownerships, maintenance of open space corridors; attempting to preserve as much contiguous habitat as possible consistent with County General Plan policy;
- c) Redesign of the project to avoid, reduce or minimize impacts;
- d) Clustering of proposed structures to avoid, reduce or minimize impacts;
- e) Providing a vegetated buffer of an appropriate width to provide sufficient protection to the resource as required by the General Plan. The type of vegetation to be maintained in this buffer shall be suitable to enhance habitat value, improve bank stability and reduce the likelihood of erosion and sedimentation of the adjoining riparian resource;
- g) Retaining animal dispersal corridors, including the under-story of any riparian vegetation;
- h) Planning construction activity to avoid critical time periods (nesting, breeding) for fish and other wildlife species;
- i) Careful siting of some projects such as bridges, roads and pipelines to limit the disturbance area to previously disturbed locations where feasible;
- j) Restoration or enhancement of riparian habitat to enhance the ecological value of the creek, stream, wetland or river resource;
- k) Best Management Practices for reducing impacts from grading/development in environmentally sensitive areas.

7. **Monitoring:** Methods for monitoring and evaluating the effectiveness of the mitigation measures during and after disturbance/construction if applicable.
8. **Report Author:** The name(s) of the field investigator(s); and a list of all references cited, persons contacted, herbaria and museums visited, and the location of any voucher specimens. Copies of any Natural Diversity Data Base Field Survey Forms sent to Sacramento and Natural Community Field Survey Forms, for sensitive species or communities found on the project site shall also be provided.
9. **Findings and Recommendations:** The project biologist's proposed findings and recommendation as to whether the project, with recommended mitigation and/or incorporation of Best Management Practices, would avoid or minimize impacts "sufficient to protect" the affected biological resource at the alternative setback as required by the El Dorado County General Plan.
10. **Digital File Specifications:** Should a digital file of the mapped data be submitted, one of the following formats is preferred: 1) personal geodatabase; 2) Arc/Info coverages packaged as a .zip file including all associated Info files or in .e00 format; and 3) in shapefile format packaged as a .zip file. 4) AutoCAD 2000 or newer versions of .dwg or .dxf files. The personal geodatabase should be compacted and then zipped. Files can be e-mailed, provided on CD, DVD, or flash drives. All electronically submitted files must be registered in California State Plane Zone 2, NAD 83, Feet. These file preferences apply to any GIS data submitted as part of a project's requirements.

B. Qualifications to Perform the Biological Study

Biological consultants must meet the following qualifications as determined by the Director of Development Services:

1. A BA/BS or advanced degree in biological sciences or other degree specializing in the natural sciences.
2. Professional or academic experience as a biological field investigator, with a background in field sampling design and field methods.
3. Taxonomic experience and knowledge of plant and animal ecology.
4. Familiarity with plants and animals of the area, including the species of concern.
5. Familiarity with the appropriate county, state and federal policies and protocols related to special status species and biological surveys.

Prior to accepting a report for review, the County must determine whether the party preparing the biology report meets the above requirements. The County of El Dorado maintains the right to submit any consultant prepared study for peer review by either a staff biologist or an outside consulting biologist under contract to the County prior to making any final determinations concerning any project. The cost of such review will be reimbursed by the applicant.

INTERNET RESOURCES

ACOE Wetlands Delineation:
<http://www.usace.army.mil/inet/functions/cw/cecwo/reg/techbio.htm>

CNPS Sawyer/Keeler-Wolf 1995:
<http://www.cnps.org/programs/vegetation/vegmanual.htm>

El Dorado County General Plan:
<http://www.co.el-dorado.ca.us/Planning/GeneralPlanAdopted.html>

El Dorado County General Plan EIR:
<http://www.co.el-dorado.ca.us/Planning/GeneralPlanEIR.html>

Mayer/Laudenslayer Habitat Classification (CWHR) used by EDC General Plan EIR:
http://www.dfg.ca.gov/whdab/html/wildlife_habitats.html

State of California Resources Agency Wetlands Information:
http://ceres.ca.gov/wetlands/introduction/defining_wetlands.html

U.S. Army Corps of Engineers Commonly Used Terms:
<http://www.nap.usace.army.mil/cenap-op/regulatory/definitions.html>

VegCAMP:
<http://www.dfg.ca.gov/whdab/html/vegcamp.html>

VegCAMP Natural Communities List:
<http://www.dfg.ca.gov/whdab/pdfs/natcomlist.pdf>

ADMINISTRATION

The above guidelines are interim standards used by the Development Services Department of El Dorado County to provide for consistent review of projects for conformance with Policy 7.3.3.4 of the General Plan pending adoption of permanent regulations. Any requests to reduce the interim setback for development beyond the reductions provided for in these Guidelines will require Planning Commission review at a public hearing. Any determinations made by the Planning Commission are appealable to the Board of Supervisors.

- Attachments: (1) Site Assessment Form
(2) El Dorado County Major Habitat Types
(3) El Dorado County Vegetation Communities/Wildlife Habitat
Crosswalk Summary Table
(4) El Dorado County Vegetation Bioclassification

ATTACHMENT ONE

SITE ASSESSMENT FORM

SITE ASSESSMENT FORM

Project Biologist & Contact Information: <i>(attach qualifications)</i>		
APN(s):		
Address:		
General Plan Designation:		
Zoning:		
Project Description: <i>(attach site photos)</i>		
Alternative Setback Requested:		
Would the project, at the proposed alternative setback, directly or indirectly have the potential to cause any impact, conflict with, or disturbance to:	YES	NO
a) Riparian Vegetation?		
b) Creeks or Streams?		
c) Wetlands or Lakes?		
d) Movement of Wildlife and/or Any Wildlife Migration Corridor?		
e) Any Candidate, Listed or Special Status Plant or Animal Species?		
f) Are all applicable Best Management Practices incorporated into the project? <i>(attach BMPs)</i>		
g) Was alternative setback request subject to prior County approval? (If yes, provide Tentative Map # and environmental documents)		
Conclusions:		
<i>I affirm that all of the information contained in this document is true and correct to the best of my knowledge and I acknowledge and agree that any material misinformation in this document can result in the denial or revocation of any permits or County approvals for this project.</i>		
Biologist: _____ Date: _____		
Applicant/Owner: _____ Date: _____		

Required Attachments: 1) Biologist Qualifications; 2) Site Photos; 3) Project BMPs

ATTACHMENT TWO

**EL DORADO COUNTY
MAJOR HABITAT TYPES**

EL DORADO COUNTY MAJOR HABITAT TYPES¹

The following descriptions of major habitat types are summaries of detailed accounts presented in *A Guide to Wildlife Habitats in California* (Mayer and Laudenslayer 1988). The reader is encouraged to refer to that publication for a complete description of the major habitat types in El Dorado County. The major habitats in El Dorado County have been grouped into five categories: coniferous forest habitats, woodland habitats, shrub-dominated habitats, herbaceous-dominated habitats, and other habitats.

Coniferous Forest Habitats

Coniferous forest habitats are the dominant vegetation type above 2,500 feet elevation (Exhibit 5.12-2). Coniferous forest habitats cover 613,200 acres, or more than half of the 1,145,400 acres in the county. The eight major coniferous forest habitats in El Dorado County are Douglas-fir, Jeffrey pine, lodgepole pine, ponderosa pine, red fir, Sierran mixed conifer, subalpine conifer, and white fir.

Douglas-fir covers 68,400 acres and is found primarily at middle and higher elevations where it frequently replaces ponderosa pine on north-facing slopes. Plant diversity and density in the shrub and herbaceous understory of Douglas-fir forest vary considerably depending upon topographic and environmental factors such as elevation, aspect, and age of the stand.

Jeffrey pine covers 20,200 acres and is found generally between 6,000 and 7,000 feet elevation. Jeffrey pine replaces ponderosa pine as the dominant species of pine at higher elevations and in drainages with colder temperatures. On the west slope of the Sierra Nevada, Jeffrey pine typically occurs in mixed stands, although pure stands may be present on glaciated soils or granite outcrops.

Lodgepole pine covers 24,800 acres and is found generally between 7,000 and 9,000 feet elevation. Lodgepole pine dominates the zone commonly found immediately above red fir habitat and is characterized by open forest with sparse litter accumulation and little shrub or herbaceous understory. It intergrades with red fir or Sierran mixed conifer below the subalpine forests and is frequently found in extensive even-aged stands around meadows.

Ponderosa pine covers 75,000 acres and usually occurs above montane hardwood-conifer (discussed under Woodland Habitat below) and below Sierran mixed conifer at elevations between 4,000 and 7,000 feet elevation. This habitat ranges in composition from open to dense forest, and may exist in pure stands or be associated with other species such as white fir, Douglas-fir, or sugar pine.

Red fir covers 90,300 acres between 6,000 and 9,000 feet elevation. Few other tree species grow in mature red fir forests because of the shading and thick layer of needles on the forest floor. At lower elevations on drier sites, red fir habitat intergrades with mixed conifer stands dominated by white fir. At lower elevations on moist sites, red fir habitat intergrades with stands of lodgepole pine.

¹ Source: EDAW, El Dorado County General Plan EIR, May 2003, 5.12-3 Biological Resources

Sierran mixed conifer covers 304,100 acres and is the most common habitat type in El Dorado County. Generally occurring between 2,500 and 6,000 feet elevation, this habitat is comprised of both hardwood and conifer species. Trees commonly occurring in Sierran mixed conifer include Douglas-fir, ponderosa pine, sugar pine, incense cedar, white fir, and black oak. Historically, burning and logging have caused wide variability in stand structure, resulting in both even-aged and uneven-aged stands. Forested stands form closed, multilayered canopies with nearly 100% overlapping cover. Virgin old-growth stands where fire has been excluded are often two-storied, with the overstory composed of mixed conifer and the understory white fir and incense cedar. Shrubs are common below openings in the canopy. Common shrub species are deer brush, manzanita, bush chinquapin, squawcarpet, mountain whitethorn, gooseberry, and mountain misery.

Subalpine conifer covers 5,400 acres and is generally found between 9,000 and 11,000 feet elevation on dry, thin, well-drained soils that contain a large percentage of sand, gravel, volcanic debris, and rocks. This habitat intergrades with lodgepole pine, Jeffrey pine, and red fir habitats at lower elevations. Subalpine conifer is often dominated by lodgepole pine, mountain hemlock, and/or red fir. These trees are usually low to medium in stature because of the poor soils, heavy snow, and strong winds that characterize the climatic conditions of the high Sierra Nevada.

White fir covers 25,000 acres and is found between Sierran mixed conifer and red fir habitats, usually at elevations between 5,000 and 8,500 feet elevation. This habitat consists of nearly pure stands of white fir with a sparse understory restricted to canopy openings. White fir forests are found generally on coarse, well-drained soils on cool north- and east-facing slopes. The understory may consist of white fir seedlings and saplings as well as sparsely scattered grasses, forbs, and shrubs (e.g., gooseberry, snowberry, deer brush, manzanita).

Woodland Habitats

Woodland habitats are located primarily at middle and lower elevations in the western half of El Dorado County. The four major woodland habitats are montane hardwood-conifer, montane hardwood, blue oak-foothill pine, and blue oak woodland. These habitats combined cover 252,400 acres in El Dorado County. Woodland habitats range in structure from open savannah to dense forest. Sensitive woodland habitats in the county include montane riparian, valley-foothill riparian, aspen, and valley oak woodland. These habitats are discussed under Sensitive Biological Resources below.

Montane hardwood-conifer, which covers 49,100 acres, includes vegetation associated with both coniferous and hardwood habitats and is a transitional habitat between the montane hardwood, mixed chaparral, and woodlands of low elevations and the coniferous forests of high elevations. Habitat composition is generally defined as including a minimum of one-third coniferous trees and one-third broad-leaved trees. Typically, conifers dominate the upper canopy, ranging up to 200 feet in height, and broad-leaved trees form a sub-canopy at 30–100 feet elevation. Common tree species associated within this habitat type include black oak, ponderosa pine, Douglas-fir, white fir, and incense cedar. In the northern Sierra Nevada, montane hardwood-conifer is found between 1,000 and 4,000 feet elevation.

Montane hardwood covers 155,900 acres. This habitat usually occurs at lower elevations than montane hardwood-conifer and is often associated with major river canyons. Montane hardwood is composed of a mixture of trees that occur on rocky, poorly developed and well drained soils. The structure ranges from dense to open tree cover with a poorly developed

shrub understory. At low elevations, common species include canyon live oak, foothill pine, madrone, and California bay. Black oak and Douglas-fir may occur at higher elevations. Common shrubs in montane hardwood habitat include wood rose, snowberry, manzanita, and poison-oak.

Blue oak-foothill pine covers 4,200 acres and is characterized by a mixture of hardwoods, conifers, and shrubs. This habitat is found generally in the foothills where it intergrades with blue oak woodland and annual grassland at lower elevations, extending up to about 3,000 feet elevation, where it frequently intergrades with mixed chaparral. The understory is commonly characterized by clusters of mixed shrubs with interspersed openings dominated by annual grasses. Blue oaks are dominant at lower elevations but are usually outnumbered by foothill pines at higher elevations. Associated tree species include interior live oak, canyon live oak, and California buckeye. Interior live oaks are present on alluvial soils associated with river floodplains, low foothills, and upland slopes. Canyon live oaks are present on low foothills, mountain canyons, upland slopes, and exposed ridges.

Blue oak woodland covers 43,200 acres and is found mostly below 3,000 feet elevation on shallow, rocky, and infertile soils. Blue oak woodland includes an understory of annual grasses or a poorly developed shrubby understory featuring species such as poison-oak, California coffeeberry, and buckbrush. Interior live oaks and canyon live oaks are often found in blue oak woodland. These species can also be the dominant tree species where they may be considered as distinct habitats. Interior live oaks are often associated with river floodplains, low foothills, and upland slopes. In low-elevation foothill woodlands, interior live oaks occur as widely spaced trees or clumps that may be concentrated around rock outcrops. Interior live oak becomes a more significant part of the blue oak woodland canopy with increasing elevation, particularly on north-facing slopes. Canyon live oaks are found on low foothills, mountain canyons, upland slopes, and exposed ridges.

Shrub-Dominated Habitats

Shrub-dominated habitats exist at scattered locations throughout the county and include sagebrush, alpine dwarf-shrub, montane chaparral, chamise chaparral, and mixed chaparral. These five habitats cover a total of 84,100 acres. Although none of these habitats are considered sensitive, they are known to provide habitat for a number of special-status plant and wildlife species.

Alpine dwarf-shrub covers 1,200 acres above 8,500 feet elevation. The prostrate plants within this habitat are adapted to the thin, rocky soil, heavy snowpack, and short growing season. Common plants include pussy paws, Sierra primrose, Davidson's penstemon, and Indian paintbrush.

Chamise chaparral covers 3,700 acres and is usually found below 4,000 feet elevation often consists of nearly pure stands of chamise. The purest stands of chamise occur on xeric (dry), south-facing slopes. Toyon, sugar sumac, poison-oak, and California buckthorn are commonly found with chamise in drainages and on other relatively moist sites.

Mixed chaparral covers 40,000 acres and generally occurs at higher elevations than chamise chaparral on damp or north-facing slopes. The structure of mixed chaparral is generally more complex than that of chamise chaparral and includes more woody, broader leaved species with higher canopy coverage. Vegetation typically consists of a nearly impenetrable mass of

shrubs, vines, and herbs. Fire plays an important role in the composition and makeup of mixed chaparral, and the vegetation is naturally prone to wildfire. After fire removes the mature woody vegetation, a greater abundance and diversity of herbaceous plant species emerge.

Montane chaparral covers 38,100 acres and generally occurs at higher elevations (up to 9,000 feet elevation) than chamise chaparral and mixed chaparral and often intergrades with coniferous forest habitats. Montane chaparral is characterized by scattered shrubs in forests or in dense thickets where forests have been disturbed by landslide or avalanche, fire, or logging activities. Common plants found within this habitat include mountain whitethorn, greenleaf manzanita, deerbrush, and snowbrush.

Sagebrush, which covers 1,100 acres, is a common habitat type in northeastern California but is uncommon on the west slope of the Sierra Nevada. In El Dorado County its distribution is restricted to scattered locations, mostly at higher elevations.

Herbaceous-Dominated Habitats

Annual grassland, which covers 81,100 acres, is the only major herbaceous-dominated habitat in El Dorado County. Annual grassland is fairly common at low elevations (i.e., below 2,500 feet elevation) in the western region of the county. This habitat comprises mostly non-native annuals, primarily of Mediterranean origin, but can also include a variety of native herbaceous species. Non-native grasslands have replaced most native perennial grasslands in El Dorado County and throughout most of California.

Sensitive Habitats

Montane riparian habitat, which covers 700 acres, is associated with montane lakes, ponds, seeps, bogs, and meadows, as well as rivers and streams. This habitat is usually present below 8,000 feet elevation. Montane riparian vegetation is quite variable and often structurally diverse. Usually, the montane riparian zone occurs as narrow, often dense grove of broadleaved, deciduous trees. In the Sierra Nevada, characteristic species include thinleaf alder, aspen, black cottonwood, dogwood, wild azalea, willow, and white alder. Like all riparian habitats, montane riparian habitat supports rich fauna that include a high diversity of amphibians, reptiles, birds and mammals. Montane and other riparian habitats also provide important migration and dispersal corridors for wildlife (Mayer and Laudenslayer 1988). A few of the many common wildlife species associated with montane riparian habitat in El Dorado County include western aquatic garter snake, Pacific treefrog, Wilson's warbler, and mink. Several special-status wildlife species depend on montane riparian including willow flycatcher and yellow-legged frog.

Valley-foothill riparian habitat is typically found at lower elevations (i.e., below 3,000 feet elevation) in western El Dorado County. It is found along many of the rivers and streams that flow through the valleys and rolling foothills in this region. Plant diversity within valley foothill riparian varies considerably depending upon hydrological factors, soils, and other environmental conditions. Dominant tree species may include Fremont cottonwood, willow, and valley oak. The understory typically consists of a shrub and herbaceous layer. Common shrubs and vines include wild rose, blackberry, blue elderberry, poison-oak, wild grape, California coffeeberry, and willows. Common wildlife associated with valley-foothill riparian

habitat include black-headed grosbeak, bushtit, striped skunk, raccoon, and gray fox. Special status wildlife species that depend on valley-foothill riparian habitat include the northwestern pond turtle, Cooper's hawk, and foothill yellow-legged frog.

Aspen covers 400 acres, primarily at higher elevations near seeps, streams, and meadows. This habitat is almost entirely restricted to USFS land and the Lake Tahoe Basin. Mature stands of aspen usually have relatively open canopies, often shared with other deciduous trees or a few conifer species, typically pines. Aspen provides excellent foraging habitat and cover for wildlife. Aspen stands are favored by a variety of cavity nesting birds, such as the western bluebird, red-breasted sapsucker, downy woodpecker, and mountain chickadee. Aspen, which is categorized by both the CNDDDB and CWHR, is listed as a high-priority community for inventory by the CNDDDB.

Valley oak woodland covers 3,300 acres at lower elevations in El Dorado County. This habitat, which is dominated by valley oaks, varies from savanna-like to forest-like stands with partially closed canopies. Valley oak woodland is composed mostly of winter-deciduous, broad-leaved species. Denser stands typically grow in valley soils along natural drainages. In the foothills, valley oak woodland often intergrades with blue oak woodland or blue oak-foothill pine habitats. Trees frequently associated with this habitat include western sycamore, box elder, Northern California black walnut, blue oak, and interior live oak. Valley oak woodland, like most oak woodland habitats, supports numerous wildlife species. It is particularly important for species that feed on acorns, are cavity-nesters, or otherwise dependent on valley oaks for food and/or breeding habitat. Wildlife found commonly in valley oak woodland includes gopher snake, acorn woodpecker, oak titmouse, white-breasted nuthatch, California quail, and western gray squirrel. Valley oak woodland is classified by both the CNDDDB and CWHR, and is listed as a high-priority community for inventory by the CNDDDB.

Wet meadow covers 8,600 acres in El Dorado County, where it is found predominantly at higher elevations (i.e., above 4,000 feet elevation). This habitat is found predominantly on USFS land and in the Lake Tahoe Basin. Wet meadows occur throughout virtually every forest type of the Sierra Nevada. Plant diversity varies considerably but the structure is always simple, consisting of a layer of herbaceous plants. Shrub or tree layers are usually absent or very sparse. Wet meadow supports a variety of wildlife species, which vary considerably depending on elevation, hydrology, substrate, and vegetation.

Vernal pools are associated with annual grassland habitat in the westernmost region of the county. These ephemeral pools support many endemic species, including special-status plants, invertebrates, and amphibians. Suitable topographic and soil conditions are prerequisites for the occurrence of vernal pools. The topography requirement is a series of microdepressions that collect water from precipitation and runoff from the surrounding higher landforms during the rainy season. The important soil requirement is a subsoil hardpan or claypan, which prevents the draining of water from these pools by downward percolation, resulting in a perched water table. Vernal pools are typically characterized by a high percentage of native annuals such as goldfields, downingia, and meadowfoam.

Other Habitats

El Dorado County has a total of 101,600 acres that are not categorized as major habitat types. This acreage includes urban, agricultural, barren, and open water areas. However, the true extent of urban and other development in El Dorado County is greater than what was

calculated using the FRAP data. Except for high-density developments, urban and low-density developed areas can be difficult to detect using remote-sensing satellite imagery because development is often obscured by tree canopy cover. Because of this limitation, low-density urbanized areas could be categorized as nonurban habitats (Saving, pers. comm., 2002).

Agricultural lands, which include cropland, orchards, and vineyards, cover 3,203 acres in El Dorado County. The county's two largest agricultural crops are wine grapes of the emerging vineyards/wineries in the Fair Play and Apple Hill areas and apples in the Apple Hill and Gold Hill regions.

Urban development calculated using FRAP data covers 12,600 acres in El Dorado County. However, according to the County Assessor's data, parcels with some level of development total 196,355 acres. The most densely populated areas are concentrated on the west slope of the Sierra Nevada foothills along the U.S. Highway 50 (U.S. 50) corridor. Substantial development has also occurred along the south shore of Lake Tahoe. Urban areas in El Dorado County frequently include both ornamental and natural vegetation, with highly developed areas typically having a lower percentage of native vegetation. Low-density urban development is often found in association with patches of fragmented native habitats.

Open water covers 53,600 acres in El Dorado County. The CWHR definition of open water includes lakes, ponds, rivers, and streams, provided that greater than 98% of the surface is not vegetated. Open water is present throughout the county.

Barren land covers 31,200 acres in El Dorado County. The CWHR defines barren as lands absent of vegetation measured by canopy closure. Tree and shrub habitats are considered barren if they support less than 10% crown closure. Most of the land categorized as barren in El Dorado County is present on the rocky substrates found at the highest elevations in the county.

ATTACHMENT THREE

**EL DORADO COUNTY
VEGETATION COMMUNITIES/
WILDLIFE HABITAT
CROSSWALK SUMMARY**

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
Coniferous forest habitats	Douglas-fir Forest	Douglas-fir - tanoak series	Sierra Nevada montane	82.500.00	Douglas-fir - Tanoak Forest
		Douglas-fir series	Sierra Nevada montane	82.000.00	Coastal and Montane Douglas-fir Forests and Woodlands
	Jeffrey pine	Jeffrey pine series	Sierra Nevada montane	87.020.00	Jeffrey Pine Forest and Woodland Jeffrey Pine - Ponderosa Pine Forest and Woodland Jeffrey Pine-White Fir Forest
			Sierra Nevada subalpine	87.200.00	
				87.205.00	
	Lodgepole pine	Lodgepole pine series ⁴		87.080.00	Lodgepole Pine Forest and Woodland
	Ponderosa pine	Ponderosa pine series	Sierra Nevada	87.010.00	Ponderosa Pine Forest and Woodland Ponderosa Pine - Incense Cedar Forest
				87.015.00	
	Red fir	Red fir series	Sierra Nevada montane	88.200.00	Red Fir Forest
	Sierran mixed conifer	Giant sequoia series Incense-cedar series Mixed conifer series	Sierra Nevada montane	86.200.00	Giant Sequoia Forest
			Sierra Nevada montane	85.000.00	Incense-cedar Forests
			Sierra Nevada montane	88.600.00	Mixed Conifer Forest
	Subalpine conifer	Mixed subalpine forest series Whitebark pine series	Sierra Nevada subalpine	87.220.00	Mixed Subalpine Forest
Sierra Nevada subalpine			87.180.00	Whitebark Pine Woodland	
White fir	White fir series	Sierra Nevada montane	88.500.00	White Fir Forest	
Woodland habitats	Aspen	Aspen series	Sierra Nevada subalpine	61.111.00	Aspen Upland and Riparian Forests and Woodlands
	Blue oak-foothill pine	Foothill pine series	Sierra Nevada foothills	87.130.00	Foothill Pine Woodland

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
	Blue oak woodland	Blue oak series	Sierra Nevada foothills	71.020.00	Blue Oak Woodland
	Montane hardwood	Canyon live oak series	Sierra Nevada montane	71.050.00	Canyon Live Oak Forest and Woodland
		Interior live oak series	Sierra Nevada foothills	71.080.00	Interior Live Oak Woodland
		Tanoak series	Sierra Nevada montane	73.000.00	Tanoak Forest and Woodland
	Montane hardwood-conifer ⁵			82.200.29 82.200.73 82.400.02 87.015.02 88.500.29	White Fir - Douglas-fir - Black Oak Douglas-fir - White Fir - Incense-cedar Douglas-fir - Ponderosa Pine - Incense-cedar Ponderosa Pine - Incense Cedar - Black Oak White Fir - Incense-cedar - Black Oak
	Montane riparian	Black cottonwood series	Sierra Nevada	61.120.00	Black Cottonwood Riparian Forests and Woodlands
		Montane wetland shrub habitat	Sierra Nevada montane	63.150.00	Montane Wetland Shrub Habitat
		Mountain alder series	Sierra Nevada montane	63.210.00	Mountain Alder Scrub
		Mountain heather-bilberry series	Sierra Nevada subalpine	45.400.00	Mountain Heather - Bilberry
		Subalpine wetland shrub habitat	Sierra Nevada subalpine	63.160.00	Subalpine Wetland Shrub Habitat
	Valley oak woodland	Valley oak series	Sierra Nevada foothills	71.040.00	Valley Oak Forests and Woodlands
	Valley-foothill riparian	California sycamore series	Sierra Nevada foothills	61.310.00	California Sycamore

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
		Fremont cottonwood series	Sierra Nevada foothills	61.130.00	Fremont Cottonwood Riparian Forests and Woodland
		White alder series	Sierra Nevada foothills	61.420.00	White Alder Forest and Woodland
			Sierra Nevada montane		
Shrub-dominated habitats	Alpine dwarf-scrub	Subalpine upland shrub habitat	Sierra Nevada subalpine	38.000.00	Subalpine Upland Shrub
	Chamise chaparral	Chamise series	Sierra Nevada foothills	37.100.00	Chaparral with Chamise with or without other codominant shrubs
		Chamise-wedgeleaf ceanothus series	Sierra Nevada montane		
	Mixed chaparral	Birchleaf mountain-mahogany series	Sierra Nevada foothills	37.101.10	Chamise - Wedgeleaf Ceanothus
			Sierra Nevada foothills	37.408.00	Scrub Oak - Birchleaf Mountain-mahogany Chaparral
			Sierra Nevada montane	37.600.00 37.610.00	Birchleaf Mountain-mahogany - California buckwheat Chaparral Birchleaf Mountain-mahogany Woodland
	Deerbrush series	Deerbrush series	Sierra Nevada	37.206.00	Deerbrush Montane Chaparral
	Interior live oak shrub series	Interior live oak shrub series	Sierra Nevada foothills	37.401.00 37.402.00 37.403.00 37.404.00	Interior Live Oak Chaparral Interior Live Oak - Canyon Live Oak Chaparral Interior Live Oak - Chaparral Whitethorn Chaparral Interior Live Oak - Scrub Oak Chaparral
	Whiteleaf manzanita series	Whiteleaf manzanita series	Sierra Nevada foothills	37.305.00	Whiteleaf Manzanita Chaparral
			Sierra Nevada montane		
	Montane chaparral	Brewer oak series	Sierra Nevada foothills	37.411.00	Brewer Oak Chaparral
		Bush chinquapin	Sierra Nevada montane	37.700.00	Bush Chinquapin Montane Chaparral

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
		series	Sierra Nevada subalpine		
		Greenleaf manzanita series	Sierra Nevada montane	37.303.00	Greenleaf Manzanita Chaparral
			Sierra Nevada subalpine		
		Huckleberry oak series	Sierra Nevada montane	37.414.00	Huckleberry Oak Chaparral
			Sierra Nevada subalpine		
	Mountain whitethorn series	Sierra Nevada montane	37.209.00	Mountain Whitethorn Montane Chaparral	
		Sierra Nevada subalpine			
	Sagebrush	Tobacco brush series	Sierra Nevada montane	37.210.00	Tobacco Brush Montane Chaparral
			Sierra Nevada subalpine		
		Big sagebrush series	Sierra Nevada montane	35.110.00	Big Sagebrush Scrub
	Sierra Nevada subalpine				
	Bitterbrush series	Sierra Nevada subalpine	35.200.00	Antelope Bitterbrush Scrub	
Sierra Nevada montane					
Rubber rabbitbrush series	Sierra Nevada subalpine	35.310.00	Rubber Rabbitbrush Scrub		
				Sierra Nevada montane	
Herbaceous-dominated habitats	Annual grassland	California annual grassland series	Sierra Nevada foothills	42.040.00	California Annual Grassland
	Wet meadow	Alpine habitat	Sierra Nevada alpine	91.100.00	Alpine Fell-field
		Beaked sedge series	Sierra Nevada montane	45.110.01	Longbeak Sedge - Shortbeak Sedge Shortbeak Sedge - Inflated Sedge Skyline Bluegrass - Beaked Sedge
			Sierra Nevada subalpine	45.110.02	
Sierra Nevada subalpine	45.110.04				

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
		Fen habitat	Sierra Nevada montane Sierra Nevada subalpine	51.100.00	Fen Habitat
		Montane meadow habitat	Sierra Nevada montane	45.310.00	Montane Meadow
		Nebraska sedge series	Sierra Nevada montane Sierra Nevada subalpine	45.130.00	Nebraska Sedge
		Rocky Mountain sedge series	Sierra Nevada montane Sierra Nevada subalpine Sierra Nevada alpine	45.120.00	Rocky Mountain Sedge
		Subalpine meadow habitat	Sierra Nevada subalpine	45.320.00	Subalpine Meadow
		Vernal pools ⁷ (Annual grassland)	Vernal Pools		44.000.00
	Other habitats⁶				
	Disturbed vegetation			11.200.00 11.300.00	Disturbed Wetland Disturbed Habitat
	Urban			12.000.00	Urban/Developed
	Open water			13.100.00 13.200.00	Open Water Non-Vegetated Channel, Floodway, Lakeshore Fringe
	Agricultural			18.000.00 18.100.00 18.200.00 18.310.00 18.320.00	General Agriculture Orchards and Vineyards Intensive Agriculture - Dairies, Nurseries, Chicken Ranches Field/Pasture Row Crops

El Dorado County Vegetation/Wildlife Habitat Crosswalk Summary¹

Habitat Category	CWHR Habitat Type (GP DEIR) ²	California Native Plant Society Series Name ³	CNPS Geographic Area	VegCAMP Classification Number	VegCAMP Description
	Barren			91.000.00	Boulder and Rock Field/Other

¹Data is summarized; for thorough and comprehensive classification, consult the complete VegCAMP list at:

<http://www.dfg.ca.gov/whdab/pdfs/natcomlist.pdf>

²The 2004 El Dorado County General Plan Draft EIR utilized major habitat descriptions presented by Mayer and Laudenslayer 1988 in "A Guide to Wildlife Habitats in California". The CWHR is most beneficial for "large-patch" botany. Descriptions available at:

http://co.el-dorado.ca.us/planning/Volume2/V2_512.pdf

³The California Native Plant Society series names are based on Sawyer and Keeler-Wolf 1995 in "A Manual of California Vegetation". Available at: <http://www.cnps.org/programs/vegetation/vegmanual.htm>.

A database is available at: <http://davisherb.ucdavis.edu/cnpsActiveServer/searchcnps.asp>

⁴There was no entry for the Lodgepole pine series in the pertinent CNPS geographic area database for the Sierra Nevada region, however, the series is included here as lodgepole pine is identified by the EDC GP DEIR.

⁵The habitat type of Montane hardwood-conifer was not represented as a series in the CNPS database; representative VegCAMP classifications were chosen that represent at least three of the common species associated within this habitat type (black oak, ponderosa pine, Douglas-fir, white fir, and incense cedar).

⁶With the exception of the "Barren" habitat type, the "Other habitats" category's classification numbers are based on modified Holland 1986 classification types. VegCAMP does not address these habitat types.

⁷Vernal Pools are listed in the El Dorado County General Plan DEIR as a CWHR Habitat Type. The CNPS database notates the Habitat Type as Annual Grassland. There was no entry for the Vernal Pool series in the CNPS geographic area database for the Sierra Nevada region

ATTACHMENT FOUR

EL DORADO COUNTY VEGETATION BIOCLASSIFICATION

(Based on Holland, Sawyer and Keeler-Wolf, and VegCAMP)

El Dorado County Vegetation Communities¹

Based on Holland, Sawyer and Keeler-Wolf, and VegCAMP

05/05/06

10.000.00 **NON-NATIVE VEGETATION, DEVELOPED AREAS, OR UNVEGETATED HABITAT**

11.000.00 Non-Native Vegetation

11.200.00 Disturbed Wetland

11.300.00 Disturbed Habitat

12.000.00 Urban/Developed

13.000.00 Unvegetated Habitat

13.100.00 Open Water

13.200.00 Non-Vegetated Channel, Floodway, Lakeshore Fringe

18.000.00 General Agriculture

18.100.00 Orchards and Vineyards

18.200.00 Intensive Agriculture - Dairies, Nurseries, Chicken Ranches

18.300.00 Extensive Agriculture - Field/Pasture, Row Crops

18.310.00 Field/Pasture

18.320.00 Row Crops

91.000.00 Barren

30.000.00 **SCRUB AND CHAPARRAL**

35.000.00 Great Basin Scrub

35.110.00 Big Sagebrush Scrub [*Artemisia tridentata*] {35210}

35.110.01 Big Sagebrush - Rubber Rabbitbrush [*Artemisia tridentata-Chrysothamnus nauseosus*] (Ferren & Davis 1991)

*35.110.02 Big Sagebrush [*Artemisia tridentata*] (Gordon & White 1994)

35.110.03 Desert Slope Sagebrush (Spolsky 1979)

35.110.04 Big Sagebrush - Desert Snowberry [*Artemisia tridentata-Symphoricarpos longiflorus*] (Taylor 1980)

35.110.05 Big Sagebrush - Blackbush [*Artemisia tridentata-Coleogyne ramosissima*] (Keeler-Wolf and Thomas 2000)

35.110.06 Big Sagebrush - Virgin River Encelia [*Artemisia tridentata-Encelia virginensis*] (Keeler-Wolf and Thomas 2000)

35.110.07 Big Sagebrush - Antelope Bitterbrush [*Artemisia tridentata-Purshia tridentata*] (Keeler-Wolf and Thomas 2000)

35.110.08 Big Sagebrush - Green Ephedra [*Artemisia tridentata-Ephedra viridis*] (Keeler-Wolf and Thomas 2000)

35.110.09 Big Sagebrush / Mountain Monardella [*Artemisia tridentata/Monardella odoratissima*] (Keeler-Wolf and Moore 2001)

35.110.10 Mountain Big Sagebrush / Shorthair Sedge [*Artemisia tridentata* var.

¹ This list is not entirely inclusive or exclusive of all plant communities found in El Dorado County, but is representative based on habitat descriptions from the El Dorado County General Plan Draft EIR, California Native Plant Society (CNPS) Series Names, and crosswalked by CNPS Geographic Areas. For more information, the reader is referred to the California Department of Fish and Game Vegetation Classification and Mapping Program (VegCAMP) for additional classifications, the CNPS online database for series names and geographic range, and the El Dorado County General Plan Draft EIR for habitat descriptions. See references.

- vaseyana/Carex filifolia*] (Keeler-Wolf and Moore 2001)
- 35.200.00 Antelope Bitterbrush Scrub [*Purshia tridentata*]
- 35.200.01 Antelope Bitterbrush - Big Sagebrush - Horesebush [*Purshia tridentata-Artemisia tridentata-Tetradymia canescens*] (Keeler-Wolf and Moore 2001)
- 35.200.02 Antelope Bitterbrush - Big Sagebrush / Indian Ricegrass [*Purshia tridentata-Artemisia tridentata/Achnatherum hymenoides*] (Keeler-Wolf and Moore 2001)
- 35.200.03 Antelope Bitterbrush - Big Sagebrush - Round-leaf Snowberry [*Purshia tridentata-Artemisia tridentata-Symphoricarpos rotundifolia*] (Keeler-Wolf and Moore 2001)
- 35.200.04 Antelope Bitterbrush / Nelson's Needlegrass [*Purshia tridentata/Achnatherum nelsonii*] (Keeler-Wolf and Moore 2001)
- 35.200.05 Antelope Bitterbrush / Sulphur-flower Buckwheat [*Purshia tridentata/Eriogonum umbellatum*] (Keeler-Wolf and Moore 2001)
- 35.310.00 Rubber Rabbitbrush Scrub [*Chrysothamnus nauseosus*]
- 37.000.00 Undifferentiated Chaparral Scrubs {37000}
- 37.100.00 Chaparral with Chamise with or without other codominant shrubs {37200}
- 37.101.00 Chamise Chaparral [*Adenostoma fasciculatum*]
- 37.101.01 Chamise - Bigberry Manzanita [*Adenostoma fasciculatum-Arctostaphylos glauca*] (Gordon & White 1994)
- 37.101.02 Chamise - Black Sage [*Adenostoma fasciculatum-Salvia mellifera*] (Gordon & White 1994)
- 37.101.03 Chamise - California Buckwheat - White Sage [*Adenostoma fasciculatum-Eriogonum fasciculatum-Salvia apiana*] (Gordon & White 1994)
- 37.101.04 Chamise - Chaparral Yucca [*Adenostoma fasciculatum-Yucca whipplei*] (Gordon & White 1994)
- 37.101.05 Chamise - Cupleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus greggii*] (Gordon & White 1994)
- *37.101.06 Chamise - Cupleaf Ceanothus - Mafic Soils [*Adenostoma fasciculatum-Ceanothus greggii*] (Gordon & White 1994)
- 37.101.07 Chamise - Eastwood Manzanita [*Adenostoma fasciculatum-Arctostaphylos glandulosa*] (Gordon & White 1994)
- 37.101.08 Chamise - Hoaryleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus crassifolius*] (Gordon & White 1994)
- 37.101.09 Chamise - Scrub Oak [*Adenostoma fasciculatum-Quercus berberidifolia*] (Gordon & White 1994)
- 37.101.10 Chamise - Wedgeleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus cuneatus*] (Gordon & White 1994)
- 37.101.11 Chamise - Woollyleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus tomentosus*] (Gordon & White 1994)
- *37.101.12 Chamise / Bush Monkeyflower [*Adenostoma fasciculatum/Mimulus aurantiacus*] (Keeler-Wolf, et al. 2001)
- 37.102.00 Chamise - Black Sage Chaparral [*Adenostoma fasciculatum-Salvia mellifera*]
- *37.102.01 Southern Maritime Chaparral {37C30}
- 37.102.02 Chamise - Black Sage / Herb [*Adenostoma fasciculatum-Salvia mellifera/Herb*] (Hogan & Sawyer 1996)
- *37.102.03 Chamise - Black Sage - Mixed Shrub [*Adenostoma fasciculatum-Salvia mellifera/Mixed Shrub*] (Hogan & Sawyer 1996)
- 37.103.00 Chamise - White Sage Chaparral [*Adenostoma fasciculatum-Salvia apiana*]
- 37.103.01 Chamise - White Sage [*Adenostoma fasciculatum-Salvia apiana*] (Gordon & White 1994)
- 37.104.00 Chamise - Bigberry Manzanita Chaparral [*Adenostoma fasciculatum-Arctostaphylos glauca*]
- 37.104.01 Chamise - Bigberry Manzanita [*Adenostoma fasciculatum-Arctostaphylos glauca*] (Gordon & White 1994)
- 37.104.02 Chamise - Bigberry Manzanita - Chaparral Whitethorn [*Adenostoma*

- fasciculatum-Arctostaphylos glauca-Ceanothus leucodermis*] (Gordon & White 1994)
- 37.104.03 Chamise - Bigberry Manzanita - Chaparral-Yucca [*Adenostoma fasciculatum-Arctostaphylos glauca-Yucca whipplei*] (Gordon & White 1994)
- 37.104.04 Chamise - Bigberry Manzanita - Cupleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glauca-Ceanothus greggii*] (Gordon & White 1994)
- 37.104.05 Chamise - Bigberry Manzanita - Hoaryleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glauca-Ceanothus crassifolius*] (Gordon & White 1994)
- 37.104.06 Chamise - Bigberry Manzanita - Scrub Oak [*Adenostoma fasciculatum-Arctostaphylos glauca-Quercus berberidifolia*] (Gordon & White 1994)
- 37.104.07 Chamise - Bigberry Manzanita - Wedgeleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glauca-Ceanothus cuneatus*] (Gordon & White 1994)
- 37.105.00 Chamise - Cupleaf Ceanothus Chaparral [*Adenostoma fasciculatum-Ceanothus greggii*]
- 37.105.01 Chamise - Cupleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus greggii*] (Gordon & White 1994)
- *37.105.02 Chamise / Mafic Soils [*Adenostoma fasciculatum*] (Gordon & White 1994)
- 37.106.00 Chamise - Eastwood Manzanita Chaparral [*Adenostoma fasciculatum-Arctostaphylos glandulosa*]
- 37.106.01 Chamise - Eastwood Manzanita - Birchleaf Mountain-mahogany [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Cercocarpus betuloides*] (Gordon & White 1994)
- 37.106.02 Chamise - Eastwood Manzanita - Chaparral Whitethorn [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Ceanothus leucodermis*] (Gordon & White 1994)
- 37.106.03 Chamise - Eastwood Manzanita - Cupleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Ceanothus greggii*] (Gordon & White 1994)
- 37.106.04 Chamise - Eastwood Manzanita - Hoaryleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Ceanothus crassifolius*] (Gordon & White 1994)
- 37.106.05 Chamise - Eastwood Manzanita / Mafic Soils [*Adenostoma fasciculatum-Arctostaphylos glandulosa*] (Gordon & White 1994)
- 37.106.06 Chamise - Eastwood Manzanita - Birchleaf Mountain-mahogany [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Cercocarpus betuloides*] (Gordon & White 1994)
- 37.106.07 Chamise - Eastwood Manzanita - Wedgeleaf Ceanothus [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Ceanothus cuneatus*] (Gordon & White 1994)
- 37.106.08 Chamise - Eastwood Manzanita [*Adenostoma fasciculatum-Arctostaphylos glandulosa*] (Parker 1990)
- 37.106.09 Chamise - Eastwood Manzanita - Musk Brush / Serpentine Reed Grass [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Ceanothus jepsonii/Calamagrostis ophitidis*] (Keeler-Wolf, et al. 2001)
- 37.106.10 Chamise - Eastwood Manzanita - Interior Live Oak [*Adenostoma fasciculatum-Arctostaphylos glandulosa-Quercus wislizeni*] (Keeler-Wolf, et al. 2001)
- 37.107.00 Chamise - Hoaryleaf Ceanothus Chaparral [*Adenostoma fasciculatum-Ceanothus crassifolius*]
- 37.107.01 Chamise - Hoaryleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus crassifolius*] (Gordon & White 1994)
- 37.107.02 Chamise - Hoaryleaf Ceanothus-Black Sage [*Adenostoma fasciculatum-Ceanothus crassifolius-Salvia mellifera*] (Gordon & White 1994)
- 37.108.00 Chamise - Wedgeleaf Ceanothus Chaparral [*Adenostoma fasciculatum-Ceanothus cuneatus*]
- 37.108.01 Chamise - Wedgeleaf Ceanothus [*Adenostoma fasciculatum-Ceanothus cuneatus*] (Gordon & White 1994)
- *37.109.00 Chamise - Mission-manzanita - Woollyleaf Ceanothus Chaparral [*Adenostoma*

- fasciculatum*-*Xylococcus bicolor*-*Ceanothus tomentosus*]
 37.109.01 Chamise - Mission-manzanita [*Adenostoma fasciculatum*-*Xylococcus bicolor*]
 (Gordon & White 1994)
 37.109.02 Chamise - Mission-manzanita-Woollyleaf Ceanothus [*Adenostoma fasciculatum*-*Xylococcus bicolor*-*Ceanothus tomentosus*] (Gordon & White 1994)
 *37.109.03 Chamise - Mission-manzanita - Woollyleaf Ceanothus (mafic soils)
 [*Adenostoma fasciculatum*-*Xylococcus bicolor*-*Ceanothus tomentosus*] (Gordon & White 1994)
 *37.109.04 Chamise - Woollyleaf Ceanothus [*Adenostoma fasciculatum*-*Ceanothus tomentosus*] (Gordon & White 1994)
- 37.206.00 Deerbrush Montane Chaparral [*Ceanothus integerrimus*] {37531}
 37.206.01 Deerbrush [*Ceanothus integerrimus*] (Gordon & White 1994)
 37.206.02 Deerbrush - Canyon Live Oak - Blue Wildrye [*Ceanothus integerrimus*-*Quercus chrysolepis*-*Elymus glaucus*] (Stuart *et al.* 1993)
 37.206.03 Tanoak - Madrone - Deerbrush [*Lithocarpus densiflora*-*Arbutus menziesii*-*Ceanothus integerrimus*] (Stuart *et al.* 1993)
 37.206.04 Deerbrush - Whiteleaf Manzanita [*Ceanothus integerrimus*-*Arctostaphylos viscida*] (Keeler-Wolf and Moore 2001)
- 37.209.00 Mountain Whitethorn Montane Chaparral [*Ceanothus cordulatus*]
 37.209.01 Mountain Whitethorn [*Ceanothus cordulatus*] (Keeler-Wolf and Moore 2001)
- 37.210.00 Tobacco Brush Montane Chaparral [*Ceanothus velutinus*] {37533}
 37.210.01 Tobacco Brush [*Ceanothus velutinus*] (Keeler-Wolf and Moore 2001)
 37.210.02 Tobacco Brush - Bitter Cherry [*Ceanothus velutinus*-*Prunus emarginata*]
 (Keeler-Wolf and Moore 2001)
- 37.303.00 Greenleaf Manzanita Chaparral [*Arctostaphylos patula*]
 37.303.01 Greenleaf Manzanita [*Arctostaphylos patula*] (Keeler-Wolf and Moore 2001)
- 37.305.00 Whiteleaf Manzanita Chaparral [*Arctostaphylos viscida*]
 37.305.01 Whiteleaf Manzanita [*Arctostaphylos viscida*] (Keeler-Wolf and Moore 2001)
- 37.400.00 Chaparral with Oak [*Quercus* spp.] as principal indicator
 37.401.00 Interior Live Oak Chaparral [*Quercus wislizeni*] {37A00}
 37.402.00 Interior Live Oak - Canyon Live Oak Chaparral [*Quercus wislizeni*-*Quercus chrysolepis*]
 37.402.01 Interior Live Oak - Canyon Live Oak [*Quercus wislizeni*-*Quercus chrysolepis*]
 (Gordon & White 1994)
- 37.403.00 Interior Live Oak - Chaparral Whitethorn Chaparral [*Quercus wislizeni*-*Ceanothus leucodermis*]
 37.403.01 Shrub Interior Live Oak - Chaparral Whitethorn [*Quercus wislizeni*-*Ceanothus leucodermis*] (Gordon & White 1994)
 37.403.02 Shrub Interior Live Oak - Chaparral Whitethorn - Eastwood Manzanita
 [*Quercus wislizeni*-*Ceanothus leucodermis*-*Arctostaphylos glandulosa*] (Gordon & White 1994)
- 37.404.00 Interior Live Oak - Scrub Oak Chaparral [*Quercus wislizeni*-*Quercus berberidifolia*]
 37.408.00 Scrub Oak - Birchleaf Mountain-mahogany Chaparral [*Quercus berberidifolia*-*Cercocarpus betuloides*]
 37.408.01 Scrub Oak - Birchleaf Mountain-mahogany [*Quercus berberidifolia*-*Cercocarpus betuloides*] (Gordon & White 1994)
 37.408.02 Scrub Oak - Birchleaf Mountain-mahogany - Cupleaf Ceanothus [*Quercus berberidifolia*-*Cercocarpus betuloides*-*Ceanothus greggii*] (Gordon & White 1994)
 *37.408.03 Foothill Ash - Birchleaf Mountain-mahogany - Scrub Oak [*Fraxinus dipetala*-*Cercocarpus betuloides*-*Quercus berberidifolia*] (Gordon & White 1994)
 *37.408.04 Scrub Oak - Birchleaf Mountain-mahogany - Palmer Ceanothus [*Quercus berberidifolia*-*Cercocarpus betuloides*-*Ceanothus palmeri*] (Gordon & White 1994)
- 37.411.00 Brewer Oak Chaparral [*Quercus garryana* var. *breweri*] {37541}
 37.414.00 Huckleberry Oak Chaparral [*Quercus vaccinifolia*] {37542}
 37.414.01 Huckleberry Oak [*Quercus vaccinifolia*] (Keeler-Wolf and Moore 2001)

- 37.414.02 Huckleberry Oak - Bush Chinquapin [*Quercus vaccinifolia-Chrysolepis sempervirens*] (Keeler-Wolf and Moore 2001)
- 37.414.03 Huckleberry Oak - Greenleaf Manzanita [*Quercus vaccinifolia-Arctostaphylos patula*] (Keeler-Wolf and Moore 2001)
- 37.600.00 Birchleaf Mountain-mahogany - California buckwheat Chaparral [*Cercocarpus betuloides-Eriogonum fasciculatum*]
 - 37.600.01 Birchleaf Mountain-mahogany - California Buckwheat [*Cercocarpus betuloides-Eriogonum fasciculatum*] (Gordon & White 1994)
- 37.610.00 Birchleaf Mountain-mahogany Woodland [*Cercocarpus betuloides* var. *betuloides*] (Keeler-Wolf and Moore 2001)
 - 37.610.01 Birchleaf Mountain-mahogany [*Cercocarpus betuloides* var. *betuloides*] (Keeler-Wolf and Moore 2001)
- 37.700.00 Bush Chinquapin Montane Chaparral [*Chrysolepis sempervirens*] {37540}
 - 37.700.01 Bush Chinquapin [*Chrysolepis sempervirens*] (Keeler-Wolf and Moore 2001)

38.000.00 Subalpine Upland Shrub

- 38.100.00 Sierra Subalpine Upland Shrub
 - 38.100.01 Shrub Cinquefoil Dwarf Scrub [*Potentilla fruticosa*] (Burke 1982)
 - 38.100.02 Compact Phlox - Stemless Haplopappus - Alpine Ipomopsis dwarf scrub [*Phlox pulvinata-Stenotus acaulis-Ipomopsis congesta*] (Major & Taylor 1977)
 - 38.100.03 Granite-gilia / King Ricegrass Dwarf Scrub [*Leptodactylon pungens/Ptilagrostis kingii*] (Major & Taylor 1977)
 - 38.100.04 entry moved to 38.120.02
 - 38.100.05 Podistera - Pygmy Fleabane [*Podistera-Eriogonum pygmaeus*] (Major & Taylor 1977)
 - 38.100.06 Wax Currant / Purple Reedgrass [*Ribes cereum/Calamagrostis purpurascens*] (Major & Taylor 1977)
 - *38.100.07 Red Elderberry - Congdon Sedge [*Sambucus racemosa-Carex congdonii*] (Taylor 1984)
 - 38.100.08 entry moved to 41.211.01
 - 38.100.09 entry moved to 38.100.01
- *38.110.00 Shrubby Cinquefoil [*Potentilla fruticosa*] (Keeler-Wolf and Moore 2001)
 - 38.110.01 Shrub Cinquefoil - One-seeded Oatgrass [*Potentilla fruticosa-Danthonia unispicata*] (Taylor 1984)
 - 38.110.02 Shrub Cinquefoil - One-seeded Oatgrass [*Potentilla fruticosa-Danthonia intermedia*] (Keeler-Wolf and Moore 2001)
- 38.120.00 Alpine Goldenbush - Nuttall Sandwort [*Ericameria discoidea-Minuertia nuttallii*] (Keeler-Wolf and Moore 2001)
 - 38.120.01 Nuttall Sandwort [*Minuartia nuttallii*] (Taylor 1984)
 - 38.120.02 Granite-gilia / Alpine Goldenbush [*Leptodactylon pungens/Ericameria discoidea*] (Major & Taylor 1977)
 - 38.120.03 Alpine Goldenbush - Timberline Phacelia [*Ericameria discoidea-Phacelia frigida*] (Taylor 1984)

40.000.00 **GRASS & HERB DOMINATED COMMUNITIES**

42.000.00 Non-native Grassland

- 42.040.00 California Annual Grassland {42200}
 - 42.040.01 European Hairgrass [*Aira caryophyllea*] (Schlising & Sanders 1982)
 - 42.040.02 Soft Brome - Storkbill [*Bromus hordeaceus-Erodium botrys*] (Schlising & Sanders 1982)
 - 42.040.03 Brachypodium [*Brachypodium distachyon*] (Keeler-Wolf, et al. 2001)

- 44.000.00 Vernal Pools²
- 44.100.00 Northern Vernal Pools
 - *44.110.00 Northern Hardpan Vernal Pools {44110}
 - *44.110.01 Fremont Goldfields [*Lasthenia fremontii*] (Schlising & Sanders 1982)
 - 44.120.00 Northern Claypan Vernal Pools {44120}
 - *44.120.01 Coyote-thistle - Alkali Heath Pools [*Eryngium castrense-Frankenia salina*] (Taylor *et al.* 1990)
 - *44.120.02 Fremont Goldfields - Saltgrass Pools [*Lasthenia fremontii-Distichlis spicata*] (Taylor *et al.* 1990)
 - 44.130.00 Northern Volcanic Vernal Pools
 - 44.131.00 Northern Basalt Flow Vernal Pools {44131}
 - *44.132.00 Northern Volcanic Mudflow Vernal Pools {44132}
 - *44.132.01 California Goldfields - Two-crowned Downingia Pools [*Lasthenia californica-Downingia bicornuta*] (Taylor *et al.* 1990)
 - *44.132.02 Whiteflower Navarretia - Dwarf Blennosperma Pools [*Navarretia leucocephala-Blennosperma nana*] (Taylor *et al.* 1990)
 - *44.133.00 Northern Volcanic Ashflow Vernal Pools {44133}
- 45.000.00 Meadows and Seeps not dominated by grasses
- 45.110.00 Sedge [*Carex* spp.]
 - 45.110.01 Longbeak Sedge - Shortbeak Sedge [*Carex rostrata-Carex simulata*] (Burke 1987)
 - 45.110.02 Shortbeak Sedge - Inflated Sedge [*Carex simulata-Carex vesicaria*] (Burke 1987)
 - *45.110.03 Primrose Monkeyflower - Shore Sedge [*Mimulus primuloides-Carex limosa*] (Beguin & Major 1975)
 - *45.110.04 Skyline Bluegrass - Beaked Sedge [*Poa cusickii-Carex utriculata*] (Beguin & Major 1975)
 - 45.120.00 Rocky Mountain Sedge [*Carex scopulorum*]
 - 45.120.01 Rocky Mountain Sedge [*Carex scopulorum*] (Major & Taylor 1977)
 - 45.120.02 Rocky Mountain Sedge - Elephant's Head [*Carex scopulorum-Pedicularis groenlandica*] (Taylor 1984)
 - *45.120.03 Rocky Mountain Sedge - Cotton-grass [*Carex scopulorum-Eriophorum criniger*] (Taylor 1984)
 - 45.120.04 Rocky Mountain Sedge - Few-flowered Spikerush [*Carex scopulorum-Eleocharis pauciflora*] (Keeler-Wolf and Moore 2001)
 - 45.130.00 Nebraska Sedge [*Carex nebrascensis*]
 - 45.130.01 Nebraska Sedge [*Carex nebrascensis*] (Beguin & Major 1975)
 - 45.130.02 Nebraska Sedge - Sierra Ricegrass [*Carex nebrascensis-Ptilagrostis kingii*] (Halpern 1986)
 - 45.310.00 Montane Meadow
 - 45.310.02 Bluejoint Reedgrass - Small-fruited Bulrush [*Calamagrostis canadensis-Scirpus microphyllus*] (Halpern 1986)
 - 45.310.03 Rough Bentgrass [*Agrostis scabra*] (Halpern 1986)
 - 45.310.06 Bracken Fern- Pale Hedge-nettle [*Pteridium aquilinum-Stachys rigida*] (Palmer 1979)
 - 45.310.07 Gentian - Alpine Aster [*Gentiana newberryi-Aster alpigenus*] (Ratliff 1982, 1985)
 - 45.310.09 Carpet Clover [*Trifolium monathum*] (Ratliff 1982, 1985)
 - 45.310.10 Angelica - Indian Paintbrush [*Angelica tomentosa-Castilleja miniata*] (Stillman 1980)
 - 45.310.11 Diego Bentgrass - Ribbed Sedge [*Agrostis diegoensis-Carex*

² The Vernal Pool classification is not noted by the CNPS database to occur in El Dorado County; however, vernal pools are noted by the El Dorado County General Plan DEIR to occur in the county, and so are included here.

- multicostata*] (Stillman 1980)
- 45.310.12 Wet Montane Meadow {45110}
- 45.310.13 Dry Montane Meadow {45120}
- 45.320.00 Subalpine Meadow
 - 45.320.01 Skyline Bluegrass - Smooth-beaked Sedge [*Poa cusickii* spp.*epilis*-*Carex integra*] (Beguín & Major 1975)
 - 45.320.02 Heretic Penstemon - Yarrow [*Penstemon heterodoxus*-*Achillea lanulosa*] (Benedict 1983)
 - 45.320.03 Many-nerved Sedge - Yarrow [*Carex multicostata*-*Achillea lanulosa*] (Benedict 1983)
 - 45.320.04 Tawny Buckwheat - Woolly Mountain-parsley [*Eriogonum incanum*-*Oreonana vestita*] (Benedict 1983)
 - 45.320.05 Davis Knotweed - Tawny Buckwheat [*Polygonum davisiae*-*Eriogonum incanum*] (Major & Taylor 1977)
 - 45.320.06 Pussypaws - Heretic Penstemon [*Calyptridium umbellatum*-*Penstemon heterodoxus*] (Major & Taylor 1977)
 - 45.320.07 Jeffrey Shooting Star - Mertens Rush [*Dodecatheon jeffreyi*-*Juncus mertensianus*] (Palmer 1979)
 - 45.320.08 Wet Subalpine or alpine meadow
- 45.400.00 Mountain Heather - Bilberry [*Phyllodoce* spp.-*Vaccinium caespitosum*]
 - 45.400.01 Sierra Primrose [*Primula suffrutescens*] (Burke 1982)
 - 45.400.02 Bilberry - Blackish Sedge [*Vaccinium caespitosum*-*Carex nigricans*] (Major & Taylor 1977)
 - 45.400.03 Drummond Cinquefoil - Brewer Cinquefoil [*Potentilla drummondii*-*Potentilla breweri*] (Major & Taylor 1977)

50.000.00 BOG AND MARSH {50000}

- 51.000.00 Bog and Fen {51000}
 - *51.100.00 Fen Habitat {51110} {51200}

60.000.00 RIPARIAN AND BOTTOMLAND HABITAT

- 61.000.00 Riparian Forest and Woodland
 - 61.111.00 Aspen Upland and Riparian Forests and Woodlands
 - *61.111.01 Riparian Aspen Forest (Talley 1977)
 - *61.111.02 Aspen [*Populus tremuloides*] (Potter 1994)
 - *61.111.03 Aspen / White Corn-lily [*Populus tremuloides*/*Vertrum californicum*] (Riegel *et al.* 1990, Potter 1994)
 - *61.111.04 Aspen / Upland [*Populus tremuloides*]
 - *61.111.05 Aspen / Leafy Aster [*Populus tremuloides*/*Aster foliaceus*] (Riegel *et al.* 1990)
 - 61.111.06 Aspen / Big Sagebrush [*Populus tremuloides*/*Artemisia tridentata*] (Keeler-Wolf and Moore 2001)
 - 61.111.07 Aspen / Big Sagebrush / Mountain Monardella - Kelloggia [*Populus tremuloides*/*Artemisia tridentata*/*Monardella odoratissima*-*Kelloggia galioides*] (Keeler-Wolf and Moore 2001)
 - 61.111.08 Aspen / Mountain Monardella [*Populus tremuloides*/*Monardella odoratissima*] (Potter 1994)
 - 61.111.09 Aspen / Jeffrey Pine [*Populus tremuloides*/*Pinus jeffreyi*] (Keeler-Wolf and Moore 2001)
 - 61.111.10 Aspen / Woods Rose [*Populus tremuloides*/*Rosa woodsii*] (Keeler-Wolf and Moore 2001)
 - 61.111.11 Aspen - Lodgepole Pine / Big Sagebrush / Kentucky blue-grass [*Populus tremuloides*-*Pinus contorta*/*Artemisia tridentata*/*Poa pratensis*] (Keeler-

- Wolf and Moore 2001)
- *61.120.00 Black Cottonwood Riparian Forests and Woodlands [*Populus balsamifera*] {61110}
 - *61.120.01 North Coast Black Cottonwood [*Populus balsamifera*]
 - *61.120.02 Montane Black Cottonwood [*Populus balsamifera*] {61530}
 - 61.120.03 Black Cottonwood - Jeffrey Pine [*Populus balsamifera*-*Pinus jeffreyi*] (Keeler-Wolf and Moore 2001)
 - *61.130.00 Fremont Cottonwood Riparian Forests and Woodlands [*Populus fremontii*]
 - *61.130.01 Great Valley Cottonwood Riparian [*Populus* spp.] {61410}
 - *61.130.02 Southern Cottonwood - Willow Riparian [*Populus* spp.-*Salix* spp.] {61330}
 - *61.130.03 Modoc - Great Basin Cottonwood - Willow Riparian [*Populus* spp.-*Salix* spp.]
 - *61.130.04 Mojave Riparian {61700}
 - *61.130.05 Sonoran Cottonwood - Willow Riparian [*Populus* spp.-*Salix* spp.] {61810}
 - 61.130.06 Fremont Cottonwood [*Populus fremontii*] Sacramento River association (Vaghti 2003)
 - 61.130.07 Fremont Cottonwood /Box-elder [*Populus fremontii*/*Acer negundo*] (Vaghti 2003)
 - 61.130.08 Fremont Cottonwood/Box-elder/Hymalian Blackberry [*Populus fremontii*/*Acer negundo*/*Rubus discolor*] (Vaghti 2003)
 - 61.130.09 Fremont Cottonwood/Douglas' Mugwort [*Populus fremontii*/*Artemisia douglasiana*] (Vaghti 2003)
 - 61.130.10 Fremont Cottonwood/Common bedstraw [*Populus fremontii*/*Gallium aparine*] (Vaghti 2003)
 - 61.130.11 Fremont Cottonwood/California Blackberry [*Populus fremontii*/*Rubus ursinus*] (Vaghti 2003)
 - 61.130.12 Fremont Cottonwood-Gooddings Black Willow [*Populus fremontii*-*Salix gooddingii*] (Vaghti 2003)
 - 61.130.13 Fremont Cottonwood/California Wild Grape [*Populus fremontii*/*Vitis californica*] (Vaghti 2003)
 - 61.300.00 Sycamore [*Platanus* spp.]
 - *61.310.00 California Sycamore [*Platanus racemosa*]
 - *61.311.00 Central California Sycamore Alluvial Woodland [*Platanus* spp.] {62100}
 - *61.311.01 California Sycamore / Slender Wildoats [*Platanus racemosa*/*Avena barbata*] (Keeler-Wolf *et al.* 1994)
 - *61.311.02 California Sycamore / Soft Chess [*Platanus racemosa*/*Bromus hordeaceus*] (Keeler-Wolf *et al.* 1994)
 - *61.312.00 Southern Sycamore - Alder Riparian Woodland [*Platanus* spp.-*Alnus* spp.] {62400}
 - 61.312.01 California Sycamore - Coast Live Oak [*Platanus racemosa*-*Quercus agrifolia*] (Keeler-Wolf *et al.* 1994)
 - *61.312.02 California Sycamore [*Platanus racemosa*] (Campbell 1980)
 - *61.313.00 Foothill Sycamore Riparian Woodland [*Platanus* spp.]
 - *61.313.01 California Sycamore / Mulefat [*Platanus racemosa*/*Baccharis salicifolia*] (Keeler-Wolf *et al.* 1994)
 - *61.314.00 Central Coast Cottonwood - Sycamore Riparian Woodland [*Populus* spp.-*Platanus* spp.] {61210}
 - 61.400.00 Alder Riparian Forest [*Alnus* spp.]
 - 61.420.00 White Alder Forest and Woodland [*Alnus rhombifolia*] {61510}
 - *61.420.01 White Alder / California Polypody [*Alnus rhombifolia*/*Polypodium californicum*] (Borchert *et al.* 1988)
 - 61.420.02 White Alder / Spikenard [*Alnus rhombifolia*/*Aruncus dioicus*] (Jimerson 1993)
 - 61.420.03 White Alder - Bigleaf Maple [*Alnus rhombifolia*/*Acer macrophyllum*] (Stuart *et al.* 1992)
 - 61.420.04 Douglas-fir - White Alder / Himalaya Berry [*Pseudotsuga menziesii*-*Alnus rhombifolia*/*Rubus discolor*] (Stuart *et al.* 1992)

- 61.420.05 White Alder / Indian Rhubarb [*Alnus rhombifolia/Darmera peltata*] (Taylor 1975a, b)
- 61.420.06 White Alder / Miner Dogwood [*Alnus rhombifolia/Cornus sessilis*] (Taylor & Teare 1979a)
- 61.420.07 White Alder / Red Osier [*Alnus rhombifolia/Cornus sericea*] (Taylor & Teare 1979a)
- 61.420.08 White Alder / Fragrant Bedstraw [*Alnus rhombifolia/Galium trifolium*] (Taylor & Teare 1979b)
- 61.420.09 White Alder / Mulefat [*Alnus rhombifolia/Baccharis salicifolia*] (White 1994a)
- 61.420.10 White Alder [*Alnus rhombifolia*] (Potter 2000)

63.000.00 Low to High Elevation Riparian Scrub {63000}

- *63.150.00 Montane Wetland Shrub Habitat
- *63.160.00 Subalpine Wetland Shrub Habitat
 - 63.160.01 Sierra Ragwort - Showy Sedge [*Senecio scorzonella-Carex spectabilis*] (Burke 1982)
 - *63.160.02 Sierra Willow / Arrowhead Butterweed [*Salix eastwoodiae/Senecio triangularis*] (Major & Taylor 1977)
 - *63.160.03 Grayleaf Willow - Meadow Onion [*Salix orestera-Allium validum*] (Taylor 1984)
 - *63.160.04 Grayleaf Willow - Shorthair [*Salix orestera-Carex filifolia*] (Taylor 1984)
 - *63.160.05 Mountain Spiraea [*Spiraea densiflora*] (Taylor 1984)
 - *63.160.06 Tealeaf Willow - Showy Sedge [*Salix planifolia-Carex spectabilis*] (Taylor 1984)
- *63.210.00 Mountain Alder Scrub [*Alnus incana*] {63500}

70.000.00 **BROAD LEAFED UPLAND TREE DOMINATED**

71.000.00 Oak Woodlands and Forests

- 71.020.00 Blue Oak Woodland [*Quercus douglasii*] {71140}
 - 71.020.01 Blue Oak - Coast Live Oak / Grass [*Quercus douglasii-Quercus agrifolia*/Grass] (Allen *et al.* 1991)
 - 71.020.02 Blue Oak - Foothill Pine / Grass [*Quercus douglasii-Pinus sabinana*/Grass] (Allen *et al.* 1991)
 - 71.020.03 Blue Oak - Foothill Pine / Wedgeleaf Ceanothus - Birchleaf Mountainmahogany [*Quercus douglasii-Pinus sabinana/Ceanothus cuneatus-Cercocarpus betuloides*] (Allen *et al.* 1991)
 - 71.020.04 Blue Oak - Foothill Pine / Whiteleaf Manzanita / Grass [*Quercus douglasii-Pinus sabinana/Arctostaphylos viscida*/Grass] (Allen *et al.* 1991)
 - 71.020.05 Blue Oak / Grass [*Quercus douglasii*/Grass] (Allen *et al.* 1991) (Includes Blue Oak / Bajada Lupine - Tree Clover, [*Quercus douglasii/Lupinus concinnus-Trifolium ciliolatum*], Blue Oak / Blue Larkspur-California Phacelia, [*Quercus douglasii/Delphinium parryi- Phacelia californica*], Blue Oak / Blue-eyed Mary-Rigiopappus, [*Quercus douglasii/Collinsia sparsiflora-Rigiopappus leptocladus*], Blue Oak / Chile Lotus - Purple Needlegrass, [*Quercus douglasii/Lotus wrangelianus-Stipa pulchra*], Blue Oak / Common Fiddleneck - Rusty Popcorn Flower, [*Quercus douglasii/Amsinckia intermedia-Plagiobothrys nothofulvus*], Blue Oak / Foxtail - Johnny-jump-up, [*Quercus douglasii/Hordeum leporinum-Viola pedunculata*], Blue Oak / Phloxleaf Bedstraw - Bajada Lupine, [*Quercus douglasii/Galium andrewsii-Lupinus concinnus*], Blue Oak / Wand Buckwheat/Chile Lotus - California Plantain, [*Quercus douglasii/Eriogonum elongatum/Lotus wrangelianus-Plantago erecta*], Blue Oak / Wart Spurge - Goldenback Fern, [*Quercus douglasii/Euphorbia spathulata-Pentagramma triangularis*], Blue Oak / Whitestem Filaree - Foxtail, [*Quercus douglasii/Erodium moschatum-*

- Hordeum leporinum*], of Borchert *et al.* 1993a, *Quercus douglasii* (and Blue Oak/Lemmon Needlegrass of Newton 1987) [*Quercus douglasii*/*Stipa lemmonii*]
- 71.020.06 Blue Oak - Interior Live Oak / Grass [*Quercus douglasii*-*Quercus wislizeni*/Grass] (Allen *et al.* 1991) (Includes Blue Oak - Interior Live Oak / Mission Star [*Quercus douglasii*-*Quercus wislizeni*/*Lithophragma cymbalaria*] of Borchert *et al.* 1993a)
- 71.020.07 Blue Oak - Interior Live Oak / Wedgeleaf Ceanothus /Grass [*Quercus douglasii*-*Quercus wislizeni*/*Ceanothus cuneatus*] (Allen *et al.* 1991)
- 71.020.08 Blue Oak - Linearleaf Goldenbush [*Quercus douglasii*-*Ericameria linearifolia*] (Allen *et al.* 1991)
- 71.020.09 Blue Oak - Understory Oak / Grass [*Quercus douglasii*-*Quercus* spp. /Grass] (Allen *et al.* 1991)
- *71.020.10 Blue Oak - Valley Oak - Coast Live Oak / Grass [*Quercus douglasii*-*Quercus lobata*-*Quercus agrifolia*/Grass] (Allen *et al.* 1991)
- 71.020.11 Blue Oak - Valley Oak / Grass [*Quercus douglasii*-*Quercus lobata*/Grass] (Allen *et al.* 1991)
- 71.020.12 Blue Oak / Wedgeleaf Ceanothus / Grass [*Quercus douglasii*/*Ceanothus cuneatus*/Grass] (Allen *et al.* 1991)
- 71.020.13 Interior Live Oak - Blue Oak - Foothill Pine / Grass [*Quercus wislizeni*-*Quercus douglasii*-*Pinus sabiniana*/Grass] (Allen *et al.* 1991)
- *71.020.14 Blue Oak / Birchleaf Mountain-mahogany / Bowlesia [*Quercus douglasii*/*Cercocarpus betuloides*/*Bowlesia incana*] (Borchert *et al.* 1993a)
- 71.020.15 Blue Oak / Hillside Gooseberry / Rippgut Brome [*Quercus douglasii*/*Ribes californica*/*Bromus diandrus*] (Borchert *et al.* 1993a)
- 71.020.16 Blue Oak / Non-native Bromegrass - Wild Carrot [*Quercus douglasii*/*Bromus* sp. - *Daucus pusillus*] (Keeler-Wolf and Moore 2001)
- 71.020.17 Blue Oak - Interior Live Oak / Non-native Bromegrass - Wild Carrot [*Quercus douglasii*-*Quercus wislizeni*/*Bromus* sp. - *Daucus pusillus*] (Keeler-Wolf and Moore 2001)
- *71.040.00 Valley Oak Forests and Woodlands [*Quercus lobata*] {61430}
- *71.040.01 Black Oak - Valley Oak / Grass [*Quercus kelloggii*-*Quercus lobata*/Grass] (Allen *et al.* 1991a)
- *71.040.02 Blue Oak - Valley Oak / Grass [*Quercus douglasii*-*Quercus lobata*/Grass] (Allen *et al.* 1991a)
- *71.040.03 Coast Live Oak - Valley Oak / Poison-oak [*Quercus agrifolia*-*Quercus lobata*/*Toxicodendron diversilobum*] (Allen *et al.* 1991a)
- *71.040.04 Mixed Oak - Valley Oak / Poison-oak - California Coffeeberry [*Quercus* spp. - *Quercus lobata*/*Toxicodendron diversilobum*-*Rhamnus californica*] (Allen *et al.* 1991a)
- *71.040.05 Valley Oak / Grass [*Quercus lobata*/Grass] (Allen *et al.* 1991a)
- *71.040.06 Valley Oak - Coast Live Oak / Grass [*Quercus lobata*-*Quercus agrifolia*/Grass] (Allen *et al.* 1991a)
- *71.040.07 Great Valley Valley Oak Riparian [*Quercus lobata*] {61430} (Vaghti 2003 as *Q lobata*/*Aristolochia californica*)
- *71.040.08 Valley Oak Woodland [*Quercus lobata*] {71130}
- 71.050.00 Canyon Live Oak Forest and Woodland [*Quercus chrysolepis*]
- 71.050.01 Canyon Live Oak - Madrone - Tanoak [*Quercus chrysolepis*-*Arbutus menziesii*-*Lithocarpus densiflora*] (Campbell 1980)
- *71.050.02 Sugar Pine - Canyon Live Oak [*Pinus lambertiana*-*Quercus chrysolepis*] (Griffin 1976a)
- *71.050.03 Canyon Live Oak - Deerbrush [*Quercus chrysolepis*-*Ceanothus integerrimus*] (Gordon & White 1994)
- 71.050.04 Canyon Live Oak Woodland [*Quercus chrysolepis*] (Meier 1979)
- 71.050.05 Canyon Live Oak - Douglas-fir [*Quercus chrysolepis*-*Pseudotsuga menziesii*] (Mize 1973)

- *71.050.06 Canyon Live Oak / Lemmon Catchfly [*Quercus chrysolepis/Silene lemmonii*] (NDDDB)
- *71.050.07 Canyon Live Oak- Oregon White Oak / Goldenback Fern [*Quercus chrysolepis-Quercus garryana* var. *garryana/Pentagramma triangularis*] (Sawyer & Stillman 1977)
- 71.050.08 Canyon Live Oak / Narrowleaf Sword Fern [*Quercus chrysolepis/Polystichum imbricans*] (Sawyer & Stillman 1977)
- 71.050.09 Canyon Live Oak / Mewuk Manzanita [*Quercus chrysolepis/Arctostaphylos mewukka*] (Taylor & Randal 1977a)
- 71.050.10 Moved to Douglas-fir – Canyon Live oak alliance
- 71.050.11 Canyon Live Oak [*Quercus chrysolepis*] Ravine forest (Holland 1986) {61350}
- 71.050.12 Canyon Live Oak Forest [*Quercus chrysolepis*] {81320}
- 71.050.13 Canyon Live Oak - California Bay [*Quercus chrysolepis-Umbellularia californica*] (Keeler-Wolf and Moore 2001)
- 71.050.14 Canyon Live Oak / Whiteleaf Manzanita [*Quercus chrysolepis-Arctostaphylos viscida*] (Keeler-Wolf and Moore 2001)
- 71.050.15 Canyon Live Oak / Greenleaf Manzanita [*Quercus chrysolepis/Arctostaphylos patula*] (Keeler-Wolf and Moore 2001)
- 71.050.16 Canyon Live Oak - Foothill Pine [*Quercus chrysolepis/Pinus sabiniana*] (Keeler-Wolf and Moore 2001)
- 71.050.17 Canyon Live Oak / Wood Fern [*Quercus chrysolepis/Dryopteris arguta*] (Keeler-Wolf and Moore 2001)
- 71.050.18 Canyon Live Oak - Ponderosa Pine [*Quercus chrysolepis/Pinus ponderosa*] (Keeler-Wolf and Moore 2001)
- 71.050.19 Canyon Live Oak - Incense Cedar [*Quercus chrysolepis/Calocedrus decurrens*] (Keeler-Wolf and Moore 2001)
- 71.080.00 Interior Live Oak Woodland [*Quercus wislizeni*]
 - 71.080.01 Interior Live Oak - Blue Oak - Foothill Pine [*Quercus wislizeni-Quercus douglasii-Pinus sabiniana*] (Allen *et al.* 1991)
 - 71.080.02 Interior Live Oak - Foothill Pine / Common Manzanita [*Quercus wislizeni-Pinus sabiniana/Arctostaphylos manzanita*] (Allen *et al.* 1991)
 - 71.080.03 Interior Live Oak - Madrone / Poison-oak [*Quercus wislizeni-Arbutus menziesii/Toxicodendron diversilobum*] (Allen *et al.* 1991)
 - 71.080.04 Interior Live Oak / Whiteleaf Manzanita [*Quercus wislizeni/Arctostaphylos viscida*] (Allen *et al.* 1991)
 - 71.080.05 Interior Live Oak / Yerba Santa / Grass [*Quercus wislizeni/Eriodictyon californicum/Grass*] (Allen *et al.* 1991)
 - 71.080.06 Interior Live Oak Woodland [*Quercus wislizeni*] {71150}
 - 71.080.07 Interior Live Oak Forest [*Quercus wislizeni*] {81330}

73.000.00 Tanoak Forest and Woodland

- 73.100.00 Tanoak Forest and Woodland [*Lithocarpus densiflora*] {81400}
 - 73.100.01 Sugar Pine - Tanoak / Poison-oak [*Pinus lambertina-Lithocarpus densiflora/Toxicodendron diversilobum*] (Griffin 1976)
 - 73.100.02 Tanoak / California Coffeeberry [*Lithocarpus densiflora/Rhamnus californica*] (Sawyer 1981a)

80.000.00 **CONIFEROUS UPLAND FOREST AND WOODLAND**

82.000.00 Coastal and Montane Douglas-fir Forests and Woodlands [*Pseudotsuga* spp.]

- 82.000.01 Mixed evergreen forest {82400}
- 82.200.00 Douglas-fir Forest [*Pseudotsuga menziesii*]
 - *82.200.29 White Fir - Douglas-fir - Black Oak [*Abies concolor-Pseudotsuga menziesii-Quercus kelloggii*] (Jimerson 1993)

- 82.200.73 Douglas-fir - White Fir - Incense-cedar [*Pseudotsuga menziesii-Abies concolor-Calocedrus decurrens*] (Keeler-Wolf and Moore 2001)
- *82.400.00 Douglas-fir - Ponderosa Pine Forest [*Pseudotsuga menziesii-Pinus ponderosa*]
- *82.400.02 Douglas-fir - Ponderosa Pine - Incense-cedar [*Pseudotsuga menziesii-Pinus ponderosa-Calocedrus decurrens*] (Stuart *et al.* 1992)
- 82.500.00 Douglas-fir - Tanoak Forest [*Pseudotsuga menziesii-Lithocarpus densiflora*]
- *82.500.01 Douglas-fir - Tanoak / Prince's Pine [*Pseudotsuga menziesii-Lithocarpus densiflora/Chimaphila umbellata*] (Keeler-Wolf 1985a, 1987b, 1989b)
- *82.500.02 Douglas-fir - Tanoak - Bigleaf Maple / Sword Fern [*Pseudotsuga menziesii-Lithocarpus densiflora-Acer macrophyllum/Polystichum munitum*] (Jimerson 1993)
- *82.500.03 Douglas-fir - Tanoak - Black Oak / Wild Rose [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus kelloggii/Rosa gymnocarpa*] (Jimerson 1993)
- 82.500.04 Douglas-fir - Tanoak - California Bay / Poison-oak [*Pseudotsuga menziesii-Lithocarpus densiflora-umbellularia californica/Toxicodendron diversilobum*] (Jimerson 1993)
- 82.500.05 Douglas-fir - Tanoak - Canyon Live Oak - Black Oak /Poison-oak [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis-Quercus kelloggii/Toxicodendron diversilobum*] (Jimerson 1993)
- 82.500.06 Douglas-fir - Tanoak - Canyon Live Oak / Little Oregon-grape - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis-Berberis nervosa-Gaultheria shallon*] (Jimerson 1993)
- *82.500.07 Douglas-fir - Tanoak - Canyon Live Oak / Little Oregon-grape [*Pseudotsuga menziesii-Lithocarpus densiflora/Berberis nervosa*] (Jimerson 1993)
- *82.500.08 Douglas-fir - Tanoak - Canyon Live Oak / Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis/Vaccinium ovatum*] (Jimerson 1993)
- *82.500.09 Douglas-fir - Tanoak - Canyon Live Oak / Black Huckleberry - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis/Vaccinium ovatum-Gaultheria shallon*] (Jimerson 1993)
- 82.500.10 Douglas-fir - Tanoak - Canyon Live Oak / Poison-oak [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis/Toxicodendron diversilobum*] (Jimerson 1993)
- 82.500.11 Douglas-fir - Tanoak - Canyon Live Oak / Rockpile [*Pseudotsuga menziesii-Lithocarpus densiflora-Quercus chrysolepis/Rockpile*] (Jimerson 1993)
- 82.500.12 Douglas-fir - Tanoak - Chinquapin / Bracken [*Pseudotsuga menziesii-Lithocarpus densiflora-Chrysolepis chrysophylla/Pteridium aquilinum*] (Jimerson 1993)
- *82.500.13 Douglas-fir - Tanoak - Chinquapin / Little Oregon-grape [*Pseudotsuga menziesii-Lithocarpus densiflora-Chrysolepis chrysophylla/Berberis nervosa*] (Jimerson 1993)
- *82.500.14 Douglas-fir - Tanoak - Chinquapin / Rhododendron / Beargrass [*Pseudotsuga menziesii-Lithocarpus densiflora-Chrysolepis chrysophylla/Rhododendron spp./Xerophyllum tenax*] (Jimerson 1993)
- *82.500.15 Douglas-fir - Tanoak - Chinquapin / Rhododendron - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora-Chrysolepis chrysophylla/Rhododendron spp.-Gaultheria shallon*] (Jimerson 1993)
- *82.500.16 Douglas fir - Tanoak - Chinquapin / Salal [*Pseudotsuga menziesii-Lithocarpus densiflora-Chrysolepis chrysophylla/Gaultheria shallon*] (Jimerson 1993)
- *82.500.17 Douglas-fir - Tanoak / Little Oregon-grape [*Pseudotsuga menziesii-Lithocarpus densiflora/Berberis nervosa*] (Thornburgh 1987, Jimerson 1993)
- *82.500.18 Douglas-fir - Tanoak / Little Oregon-grape - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora/Berberis nervosa-Gaultheria shallon*] (Jimerson 1993)
- *82.500.19 Douglas-fir - Tanoak / Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora/Vaccinium ovatum*] (Jimerson 1993)

- *82.500.20 Douglas-fir - Tanoak / Black Huckleberry - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora/Vaccinium ovatum-Gaultheria shallon*] (Jimerson 1993)
- *82.500.21 Douglas-fir - Tanoak / Hazel [*Pseudotsuga menziesii-Lithocarpus densiflora/Corylus cornuta*] (Jimerson 1993)
- *82.500.22 Douglas-fir - Tanoak - Incense-cedar / California Fescue [*Pseudotsuga menziesii-Lithocarpus densiflora-Calocedrus decurrens/Festuca californica*] (Jimerson 1993)
- *82.500.23 Douglas-fir - Tanoak / Poison-oak - Hairy Honeysuckle [*Pseudotsuga menziesii-Lithocarpus densiflora/Toxicodendron diversilobum-Lonicera hispidula*] (Jimerson 1993)
- *82.500.24 Douglas-fir - Tanoak - Port Orford-cedar - California Bay /Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana-Umbellularia californica/Vaccinium ovatum*] (Jimerson 1993)
- *82.500.25 Douglas-fir - Tanoak - Port Orford-cedar / Little Oregon-grape / Twinflower [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Berberis nervosa/Linnaea borealis*] (Jimerson 1993)
- *82.500.26 Douglas-fir - Tanoak - Port Orford-cedar / Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Vaccinium ovatum*] (Jimerson 1993)
- *82.500.27 Douglas-fir - Tanoak - Port Orford-cedar / Black Huckleberry – Western Azalea [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Vaccinium ovatum-Rhododendron occidentale*] (Jimerson 1993)
- *82.500.28 Douglas-fir - Tanoak - Port Orford-cedar / Red Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Vaccinium parvifolium*] (Jimerson 1993)
- *82.500.29 Douglas-fir - Tanoak - Port Orford-cedar / Salal [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Gaultheria shallon*] (Jimerson 1993)
- *82.500.30 Douglas-fir - Tanoak - Port Orford-cedar / Vine Maple [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana/Acer circinatum*] (Jimerson 1993)
- *82.500.31 Douglas-fir - Tanoak - Port Orford-cedar - White Alder /Riparian [*Pseudotsuga menziesii-Lithocarpus densiflora-Chamaecyparis lawsoniana-Alnus rhombifolia/Riparian*] (Jimerson 1993)
- *82.500.32 Douglas-fir - Tanoak / Rhododendron - Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora/Rhododendron spp.-Vaccinium ovatum*] (Jimerson 1993)
- *82.500.33 Douglas-fir - Tanoak / Rhododendron - Huckleberry Oak [*Pseudotsuga menziesii-Lithocarpus densiflora/Rhododendron spp.-Quercus vaccinifolia*] (Jimerson 1993)
- *82.500.34 Douglas-fir - Tanoak / Rhododendron - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora/Rhododendron spp.-Gaultheria shallon*] (Jimerson 1993)
- *82.500.35 Douglas-fir - Tanoak / Salal [*Pseudotsuga menziesii-Lithocarpus densiflora/Gaultheria shallon*] (Jimerson 1993)
- *82.500.36 Douglas-fir - Tanoak / Vine Maple [*Pseudotsuga menziesii-Lithocarpus densiflora/Acer circinatum*] (Jimerson 1993)
- *82.500.37 Douglas-fir - Tanoak / Vine Maple - Salal [*Pseudotsuga menziesii-Lithocarpus densiflora/Acer circinatum-Gaultheria shallon*] (Jimerson 1993)
- *82.500.38 Douglas-fir - Tanoak / Pacific Yew [*Pseudotsuga menziesii-Lithocarpus densiflora/Taxus brevifolia*] (Mize 1973)
- *82.500.39 Douglas-fir - Tanoak - Sugar Pine [*Pseudotsuga menziesii-Lithocarpus densiflora-Pinus lambertiana*] (1973)
- *82.500.40 Douglas-fir - Tanoak / Vanilla Leaf [*Pseudotsuga menziesii-Lithocarpus densiflora/Achlys triphylla*] (Mize 1973)
- *82.500.41 Douglas-fir - Tanoak / Black Huckleberry [*Pseudotsuga menziesii-Lithocarpus densiflora/Vaccinium ovatum*] (Simpson 1980)

- *82.500.42 Douglas-fir - Tanoak / Poison-oak [*Pseudotsuga menziesii*-*Lithocarpus densiflora*/*Toxicodendron diversilobum*] (Thornburgh 1987)
- *82.500.43 Douglas-fir – Tanoak/Mountain Dogwood [*Pseudotsuga menziesii* – Mixed conifer -*Lithocarpus densiflora*/*Cornus nuttallii*] (Fites 1993)
- *82.500.44 Douglas-fir – Tanoak/Iris [*Pseudotsuga menziesii* –Mixed conifer - *Lithocarpus densiflora*/*Iris* spp.] (Fites 1993)
- *82.500.45 Douglas-fir – Tanoak/ Hazel [*Pseudotsuga menziesii* –Mixed Conifer – *Lithocarpus densiflora*/*Corulus cornuta*] (Fites 1993)
- 82.500.46 *Pseudotsuga menziesii* - *Lithocarpus densiflorus*/*Quercus vaccinifolia*-*Holodiscus discolor* association (Jimerson 1993)

85.000.00 Incense-cedar Forests [*Calocedrus* spp.]

- *85.100.00 Incense-cedar Forest [*Calocedrus decurrens*]
 - *85.100.01 Incense-cedar / Twayblane [*Calocedrus decurrens*/*Listera convallarioides*] (Muldavin 1982)
 - *85.100.02 Incense-cedar - Douglas-fir [*Calocedrus decurrens*-*Pseudotsuga menziesii*] (Stuart *et al.* 1992)
 - 85.100.03 Incense-cedar - White Alder [*Calocedrus decurrens*-*Alnus rhombifolia*] (Keeler-Wolf and Moore 2001)

86.000.00 Coastal and Montane Redwood Forests [*Sequoia sempervirens*] {82300}

- *86.200.00 Giant Sequoia Forest [*Sequoiadendron giganteum*] {84250}
 - 86.200.01 Giant Sequoia - Sugar Pine / Pacific Dogwood [*Sequoiadendron giganteum*-*Pinus lambertiana*/*Cornus nuttallii*] (Keeler-Wolf and Moore 2001)

87.000.00 Pine Forests and Woodlands [*Pinus* spp.]

- 87.010.00 Ponderosa Pine Forest and Woodland [*Pinus ponderosa*]
 - *87.010.01 Ponderosa Pine / Antelope Bitterbrush / Bolander Bedstraw [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*] (Fites 1993)
 - *87.010.02 Ponderosa Pine / Mountain Misery [*Pinus ponderosa*/*Chamaebatia foliolosa*] (Taylor & Randall 1977, Fites 1993)
 - *87.010.03 Ponderosa Pine / Greenleaf Manzanita - Mountain Misery [*Pinus ponderosa*/*Arctostaphylos patula*-*Chamaebatia foliolosa*] (Fites 1993)
 - *87.010.04 Ponderosa Pine / Big Sagebrush [*Pinus ponderosa*/*Artemisia tridentata*] (Keeler-Wolf 1984c)
 - *87.010.05 Ponderosa Pine / Antelope Bitterbrush [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*] (Keeler-Wolf 1984c, Vora 1988)
 - *87.010.06 Ponderosa Pine / California Brome [*Pinus ponderosa*/*Bromus carinatus*] (Keeler-Wolf 1984c)
 - *87.010.07 Ponderosa Pine / Shrubby Bedstraw [*Pinus ponderosa*/*Galium angustifolium*] (Keeler-Wolf 1986e, 1988e)
 - *87.010.08 Ponderosa Pine/ Mahala Carpet [*Pinus ponderosa*/*Ceanothus prostratus*] (Sawyer & Thornburgh 1977)
 - *87.010.09 Ponderosa Pine / Wedgeleaf Ceanothus [*Pinus ponderosa*/*Ceanothus cuneatus*] (Simpson 1980)
 - *87.010.10 Ponderosa Pine / Antelope Bitterbrush / Arrowleaf Balsam Root [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*/*Balsamorhiza sagittata*] (Smith 1994)
 - *87.010.11 Ponderosa Pine / Antelope Bitterbrush - Choke Cherry /Orcutt Brome [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*] (Smith 1994)
 - *87.010.12 Ponderosa Pine / Antelope Bitterbrush / Columbia Needlegrass / Pumice [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*/*Stipa nelsonii*/Pumice] (Smith 1994)
 - *87.010.13 Ponderosa Pine / Antelope Bitterbrush - Greenleaf Manzanita / Columbia Needlegrass [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*-*Arctostaphylos patula*/*Stipa nelsonii*] (Smith 1994)
 - *87.010.14 Ponderosa Pine / Antelope Bitterbrush - Tobacco Brush [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*-*Ceanothus velutinus*] (Smith 1994)

- *87.010.15 Ponderosa Pine / Antelope Bitterbrush / Tower Butterweed/ Granite [*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*/*Senecio integerrimus*/Granite] (Smith 1994)
- *87.010.16 Ponderosa Pine / Antelope Bitterbrush - Wax Currant /Orcutt Brome [*Pinus ponderosa*/*Purshia tridentata* var.*tridentata*-*Ribes cereum*/*Bromus orcuttii*] (Smith 1994)
- *87.010.17 Ponderosa Pine - Black Oak / Curlleaf Mountain-mahogany [*Pinus ponderosa*/*quercus kelloggii*/*Cercocarpus ledifolius*] (Smith 1994)
- *87.010.18 Ponderosa Pine / Columbia Needlegrass [*Pinus ponderosa*/*Stipa nelsonii*] (Smith 1994)
- *87.010.19 Ponderosa Pine / Curlleaf Mountain-mahogany - Antelope Bitterbrush / Idaho Fescue [*Pinus ponderosa*/*Cercocarpus ledifolius*-*Purshia tridentata* var. *tridentata*/*Festuca idahoensis*] (Smith 1994)
- *87.010.20 Ponderosa Pine / Curlleaf Mountain-mahogany / Blue Wheatgrass [*Pinus ponderosa*/*Cercocarpus ledifolius*/*Pseudoroegneria spicata*] (Smith 1994)
- *87.010.21 Ponderosa Pine - Douglas-fir / Antelope Bitterbrush /Mule's Ears [*Pinus ponderosa*-*Pseudotsuga menziesii*/*Purshia tridentata* var. *tridentata*/*Wyethia mollis*] (Smith 1994)
- *87.010.22 Ponderosa Pine - Interior Live Oak [*Pinus ponderosa*-*Quercus wislizeni*] (Smith 1994)
- *87.010.23 Ponderosa Pine - Lodgepole Pine / Service Berry [*Pinus ponderosa*-*Pinus contorta* ssp. *murrayana*/*Amelanchier alnifolia*] (Smith 1994)
- *87.010.24 Ponderosa Pine / Mountain Big Sagebrush / Idaho Fescue [*Pinus ponderosa*/*Artemisia tridentata* var. *vaseyana*/*Festuca idahoensis*] (Smith 1994)
- *87.010.25 Ponderosa Pine / Mountain Big Sagebrush - Antelope Bitterbrush [*Pinus ponderosa*/*Artemisia tridentata* var. *vaseyana*-*Purshia tridentata* var. *tridentata*] (Smith 1994)
- *87.010.26 Ponderosa Pine / Service Berry - Choke Cherry [*Pinus ponderosa*/*Amelanchier alnifolia*-*Prunus virginiana*] (Smith 1994)
- *87.010.27 Ponderosa Pine / Service Berry - Creeping Oregon-grape /Heartleaf Arnica [*Pinus ponderosa*/*Amelanchier alnifolia*-*Berberis repens*/*Arnica cordifolia*] (Smith 1994)
- *87.010.28 Ponderosa Pine / Tobacco Bush / Columbia Needlegrass [*Pinus ponderosa*/*Ceanothus velutinus*/*Stipa nelsonii*] (Smith 1994)
- *87.010.29 Ponderosa Pine / Desert Snowberry [*Pinus ponderosa*/*Symphoricarpos longiflorus*] (Vora 1988)
- *87.010.30 Ponderosa Pine - Canyon Live Oak [*Pinus ponderosa*-*Quercus chrysolepis*] (Waddell 1982)
- *87.010.31 Maritime Coast Range Ponderosa Pine Forest {84132}
- *87.010.32 Ponderosa Dune Forest {84221}
- *87.010.33 Westside Ponderosa Pine Forest {84210}
- *87.010.34 Eastside Ponderosa Pine Forest {84220}
- 87.010.35 Upland Coast Range Ponderosa Pine Forest {84131}
- 87.010.36 Ponderosa Pine / Whiteleaf Manzanita / Ripgut Brome [*Pinus ponderosa*/*Arctostaphylos viscida*/*Bromus diandrus*] (Keeler-Wolf and Moore 2001)
- 87.015.00 Ponderosa Pine - Incense Cedar Forest [*Pinus ponderosa*-*Calocedrus decurrens*] (Keeler-Wolf and Moore 2001)
- 87.015.02 Ponderosa Pine - Incense Cedar - Black Oak [*Pinus ponderosa*-*Calocedrus decurrens*-*Quercus kelloggii*] (Keeler-Wolf and Moore 2001)
- 87.015.03 Ponderosa Pine - Incense Cedar / Mountain Misery [*Pinus ponderosa*-*Calocedrus decurrens*/*Chamaebatia foliosa*] (Keeler-Wolf and Moore 2001)
- 87.015.04 Ponderosa Pine - Incense Cedar-Canyon Oak / Mountain Misery [*Pinus ponderosa*-*Calocedrus decurrens*-*Quercus chrysolepis*/*Chamaebatia foliosa*] (Fites 1993, re-named Keeler-Wolf and Moore 2001)
- 87.015.05 Ponderosa Pine –Incense-cedar /Huckleberry Oak [*Pinus ponderosa*

- Mixed Conifer /*Quercus vaccinifolia*] (Fites 1993)
- 87.015.06 Ponderosa Pine - Incense Cedar - Canyon Live Oak / Bolander Bedstraw
[Mixed Conifer-*Quercus chrysolepis*/*Galium bolanderi*] (Fites 1993)
- 87.015.07 Ponderosa pine- Incense Cedar/Bearclover/Bolander Bedstraw
[Ponderosa pine-mixed conifer/*Chamaebatia foliosa*/*Galium bolanderi*]
(Fites 1993)
- 87.020.00 Jeffrey Pine Forest and Woodland [*Pinus jeffreyi*]
- 87.020.01 Jeffrey Pine / Sadler Oak / Bear-grass [*Pinus jeffreyi*/*Quercus sadleriana*/*Xerophyllum tenax*] (Jimerson 1993)
- *87.020.02 Jeffrey Pine - Douglas-fir / Huckleberry Oak / California Fescue [*Pinus jeffreyi*-*Pseudotsuga menziesii*/*Quercus vaccinifolia*/*Festuca californica*]
(Jimerson 1993)
- *87.020.03 Jeffrey Pine / Idaho Fescue [*Pinus jeffreyi*/*Festuca idahoensis*]
(Duebendorfer 1987, Jimerson 1993)
- 87.020.04 Jeffrey Pine - Incense-cedar / Buckbrush [*Pinus jeffreyi*-*Calocedrus decurrens*/*Ceanothus cuneatus*] (Jimerson 1993)
- 87.020.05 Jeffrey Pine - Incense-cedar / Huckleberry Oak / Bear-grass [*Pinus jeffreyi*-*Calocedrus decurrens*/*Quercus vaccinifolia*/*Xerophyllum tenax*]
(Jimerson 1993)
- *87.020.06 moved to Jeffrey Pine-Fir alliance
- 87.020.07 Jeffrey Pine [*Pinus jeffreyi*] (Potter 1994)
- 87.020.08 Jeffrey Pine / Huckleberry Oak [*Pinus jeffreyi*/*Quercus vaccinifolia*]
(Potter 1994)
- 87.020.09 Jeffrey Pine / Greenleaf Manzanita [*Pinus jeffreyi*/*Arctostaphylos patula*]
(Potter 1994)
- 87.020.10 Jeffrey Pine / Mountain Whitethorn [*Pinus jeffreyi*/*Ceanothus cordulatus*] (Potter 1994)
- 87.020.11 Jeffrey Pine / Tailed Lupine [*Pinus jeffreyi*/*Lupinus caudatus*] (Riegel *et al.* 1990)
- *87.020.12 Jeffrey Pine / Antelope Bitterbrush/ Mule's Ears [*Pinus jeffreyi*/*Purshia tridentata* var. *tridentata*/*Wyethia mollis*] (Smith 1994)
- *87.020.13 Jeffrey Pine / Antelope Bitterbrush - Curlleaf Mountain-mahogany / Western Needlegrass [*Pinus jeffreyi*/*Purshia tridentata* var. *tridentata*/*Cercocarpus ledifolius*/*Stipa occidentalis*] (Smith 1994)
- *87.020.14 Jeffrey Pine / Antelope Bitterbrush - Desert Snowberry / Wheeler Bluegrass [*Pinus jeffreyi*/*Purshia tridentata* var. *tridentata*-*Symphoricarpos longiflorus*/*Poa wheeleri*] (Smith 1994)
- *87.020.15 Jeffrey Pine - Black Oak / One-sided Bluegrass [*Pinus jeffreyi*-*Quercus kelloggii*/*Poa secunda*] (Smith 1994)
- *87.020.16 Jeffrey Pine - Black Oak / Basket Bush [*Pinus jeffreyi*-*Quercus kelloggii*/*Rhus trilobata*] (Smith 1994)
- *87.020.17 Jeffrey Pine / Curlleaf Mountain-mahogany [*Pinus jeffreyi*/*Cercocarpus ledifolius*] (Smith 1994)
- *87.020.18 Jeffrey Pine / Desert Snowberry / Wheeler Bluegrass [*Pinus jeffreyi*/*Symphoricarpos longiflorus*/*Poa wheeleri*] (Smith 1994)
- *87.020.19 Jeffrey Pine / Mountain Big Sagebrush / Idaho Fescue [*Pinus jeffreyi*/*Artemisia tridentata* var. *vaseyana*/*Festuca idahoensis*] (Smith 1994)
- *87.020.20 Jeffrey Pine / Bush Chinquapin [*Pinus jeffreyi*/*Chrysolepis sempervirens*]
(Talley 1978)
- *87.020.21 Jeffrey Pine / Antelope Bitterbrush [*Pinus jeffreyi*/*Purshia tridentata* var. *tridentata*] (Taylor 1980)
- *87.020.22 Jeffrey Pine / Serpentine-Haplopappus [*Pinus jeffreyi*/*Ericameria ophitidis*] (Taylor & Teare 1979)
- *87.020.23 Jeffrey Pine / Tufted Reedgrass [*Pinus jeffreyi*/*Calamagrostis koelerioides*] (Taylor & Teare 1979b)
- 87.020.24 Jeffrey Pine / Pinemat Manzanita [*Pinus jeffreyi*/*Arctostaphylos*

- nevadensis*] (Waddell 1982)
- 87.020.25 Northern Ultramafic Jeffrey Pine Forest {84121}
- 87.020.26 Jeffrey Pine - Singleleaf Pinyon [*Pinus jeffreyi*-*Pinus monophylla*] (Keeler-Wolf and Moore 2001)
- 87.020.27 Jeffrey Pine/Huckleberry Oak-Pinemat Manzanita/Idaho Fescue [*Pinus jeffreyi*/*Quercus vaccinifolia*-*Arctostaphylos nevadensis*/*Festuca idahoensis*] (Jimerson et al. 1995)
- 87.020.28 Jeffrey Pine-Incense-cedar/Siskiyou mat [*Pinus jeffreyi*-*Calocedrus decurrens*/*Ceanothus pumila*] (Jimerson et al. 1995)
- *87.020.29 *Pseudotsuga menziesii* - *Pinus jeffreyi*/*Festuca californica* association (Jimerson et al. 1995)
- *87.020.30 Jeffrey Pine-Port Orford-cedar/Huckleberry Oak [*Pinus jeffreyi*-*Chamaecyparis lawsoniana*/*Quercus vaccinifolia*] (Jimerson et al. 1999)
- 87.080.00 Lodgepole Pine Forest and Woodland [*Pinus contorta* ssp. *murrayana*] {86100}
- 87.080.01 Lodgepole Pine [*Pinus contorta* ssp. *murrayana*] (Potter 1994)
- 87.080.02 Lodgepole Pine / Big Sagebrush [*Pinus contorta* ssp. *murrayana*/*Artemisia tridentata*] (Potter 1994)
- 87.080.03 Lodgepole Pine / Gray Lovage [*Pinus contorta* ssp. *murrayana*/*Ligusticum grayi*] (Potter 1994)
- 87.080.04 Lodgepole Pine / Open [*Pinus contorta* ssp. *murrayana*/Open] (Potter 1994)
- 87.080.05 Lodgepole Pine / Pussypaws [*Pinus contorta* ssp. *murrayana*/*Calyptidium monosperma*] (Taylor 1980)
- 87.080.06 Lodgepole Pine / Ross Sedge [*Pinus contorta* ssp. *murrayana*/*Carex rossii*] (Taylor 1984)
- 87.080.07 Lodgepole Pine / Fendler Meadow-rue [*Pinus contorta* ssp. *murrayana*/*Thalictrum fendleri*] (Taylor 1984)
- 87.080.08 Lodgepole Pine / Labrador-Tea [*Pinus contorta* ssp. *murrayana*/*Ledum glandulosum*] (Taylor 1984)
- 87.080.09 Lodgepole Pine / Western Blueberry [*Pinus contorta* ssp. *murrayana*/*Vaccinium uliginosum*] (Keeler-Wolf and Moore 2001)
- 87.080.10 Lodgepole Pine / Shorthair Sedge [*Pinus contorta* ssp. *murrayana*/*Carex filifolia*] (Keeler-Wolf and Moore 2001)
- 87.080.11 Lodgepole Pine - Whitebark Pine / Ross Sedge [*Pinus contorta* ssp. *murrayana*-*Pinus albicaulis*/*Carex rossii*] (Keeler-Wolf and Moore 2001)
- 87.080.12 Lodgepole Pine / Mountain Pride Penstemon [*Pinus contorta* ssp. *murrayana*/*Penstemon newberryi*] (Keeler-Wolf and Moore 2001)
- 87.130.00 Foothill Pine Woodland [*Pinus sabiniana*] {71300}
- 87.130.01 Serpentine Digger Pine Chaparral Woodland {71321}
- 87.130.02 Non-Serpentine Digger Pine Chaparral Woodland {71322}
- 87.130.03 Digger Pine-Oak Woodland {71410}
- 87.130.04 Foothill Pine - Interior Live Oak / Wedgeleaf Ceanothus [*Pinus sabiniana*-*Quercus wislizeni*/*Ceanothus cuneatus*] (Keeler-Wolf and Moore 2001)
- 87.130.05 Foothill Pine - Interior Live Oak / Whiteleaf Manzanita [*Pinus sabiniana*- *Quercus wislizeni*/*Arctostaphylos viscida*] (Keeler-Wolf and Moore 2001)
- 87.180.00 Whitebark Pine Woodland [*Pinus albicaulis*] {86600}
- 87.180.01 Whitebark Pine / California Needlegrass [*Pinus albicaulis*/*Stipa californica*] (Reigel et al. 1990)
- 87.180.02 Whitebark Pine / Slender Penstemon [*Pinus albicaulis*/*Penstemon gracilentus*] (Reigel et al. 1990)
- 87.180.03 Whitebark Pine / Woody Sandwort [*Pinus albicaulis*/*Arenaria pumicola*] (Reigel et al. 1990)
- 87.180.04 Whitebark Pine / Ocean Spray [*Pinus albicaulis*/*Holodiscus discolor*] (Sawyer & Thornburgh 1977)
- 87.180.05 Whitebark Pine / Wheeler Bluegrass [*Pinus albicaulis*/*Poa wheeleri*]

- (Taylor 1984)
- 87.180.06 Whitebark Pine / Davidson Penstemon [*Pinus albicaulis*/*Penstemon davidsonii*] (Taylor 1984)
- 87.180.07 Whitebark Pine - Mountain Hemlock [*Pinus albicaulis*/*Tsuga mertensiana*] (Keeler-Wolf and Moore 2001)
- 87.180.08 Whitebark Pine / Shorthair Sedge [*Pinus albicaulis*/*Carex filifolia*] (Keeler-Wolf and Moore 2001)
- 87.180.09 Whitebark Pine / Ross Sedge [*Pinus albicaulis*/*Carex rossii*] (Keeler-Wolf and Moore 2001)
- 87.200.00 Jeffrey Pine - Ponderosa Pine Forest and Woodland [*Pinus jeffreyi*-*Pinus ponderosa*]
- *87.200.01 Jeffrey Pine - Ponderosa Pine / Arrowleaf Balsam Root [*Pinus jeffreyi*-*Pinus ponderosa*/*Balsamorhiza sagittata*] (Smith 1994)
 - *87.200.02 Jeffrey Pine - Ponderosa Pine / Antelope Bitterbrush / Idaho Fescue [*Pinus jeffreyi*-*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*/*Festuca idahoensis*] (Smith 1994)
 - *87.200.03 Jeffrey Pine - Ponderosa Pine / Antelope Bitterbrush / Idaho Fescue / Granite [*Pinus jeffreyi*-*Pinus ponderosa*/*Purshia tridentata* var. *tridentata*/*Festuca idahoensis*/*Granite*] (Smith 1994)
 - *87.200.04 Jeffrey Pine - Ponderosa Pine / Modoc Coffeeberry / One-sided Bluegrass [*Pinus jeffreyi*-*Pinus ponderosa*/*Rhamnus rubra*/*Poa secunda*] (Smith 1994)
 - *87.200.05 Jeffrey Pine - Ponderosa Pine / Huckleberry Oak [*Pinus jeffreyi*-*Pinus ponderosa*/*Quercus vaccinifolia*] (Smith 1994)
 - *87.200.06 Jeffrey Pine - Ponderosa Pine / Columbia Needlegrass / Oregon Ash [*Pinus jeffreyi*-*Pinus ponderosa*/*Stipa nelsonii*/*Fraxinus latifolia*] (Smith 1994)
 - *87.200.07 Jeffrey Pine - Ponderosa Pine / Creeping Snowberry / Mule's Ears [*Pinus jeffreyi*-*Pinus ponderosa*/*Symphoricarpos mollis*/*Wyethia mollis*] (Smith 1994)
- 87.205.00 Jeffrey Pine-White Fir Forest {85210}
- 87.205.01 Jeffrey Pine - Red Fir [*Pinus jeffreyi*-*Abies magnifica*] (Potter 1994)
 - 87.205.02 Jeffrey Pine - White Fir / Big sagebrush/squirreltail [*Pinus jeffreyi*-*Abies concolor*/*Artemisia tridentata*/*Elymus elymoides*] (Keeler-Wolf and Moore 2001)
 - 87.205.03 Jeffrey Pine - White Fir - Red Fir [*Pinus jeffreyi*-*Abies magnifica*] (Potter 1994)
 - 87.205.04 White Fir - Jeffrey Pine / California Fescue [*Abies concolor*-*Pinus jeffreyi*/*Festuca californica*] (Jimmerson 1993)
 - 87.205.05 Jeffrey Pine-White fir/Sadler oak [*Pinus jeffreyi*-*Abies concolor*/*Quercus sadleriana*] (Jimerson 1993)
 - 87.205.06 Jeffrey Pine - White Fir / Del Norte Iris [*Pinus jeffreyi*-*Abies concolor*/*Iris innominata*] (Jimerson 1993)
- 87.220.00 Mixed Subalpine Forest [*Pinus* spp.]
- 87.220.01 Whitebark Pine Mountain Hemlock Forest {86210}
- 88.000.00 Forest and Woodland dominated by Fir [*Abies* spp.]
- 88.200.00 Red Fir Forest [*Abies magnifica* var. *magnifica*] {85310}
- 88.200.01 Shasta Fir / Sadler Oak [*Abies magnifica* var. *shastensis*/*Quercus sadleriana*] (Imper 1988a)
 - *88.200.02 Shasta Fir / Thinleaf Huckleberry [*Abies magnifica* var. *shastensis*/*Vaccinium membranaceum*] (Imper 1988a)
 - 88.200.03 Shasta Fir / Vanilla Leaf [*Abies magnifica* var. *shastensis*/*Achlys triphylla*] (Imper 1988a)
 - 88.200.04 Shasta Fir / Pinemat Manzanita [*Abies magnifica* var. *shastensis*/*Arctostaphylos nevadensis*] (Imper 1988b)
 - 88.200.05 Shasta Fir / Prince's-pine [*Abies magnifica* var. *shastensis*/*Chimaphila umbellata*] (Sawyer & Thornburgh 1977, Imper 1988b)
 - 88.200.06 Shasta Fir / Slender Penstemon [*Abies magnifica* var. *shastensis*/*Penstemon gracilentus*] (Imper 1988b)

*88.200.07 Port Orford-cedar - Red Fir / Sadler Oak - Thinleaf Huckleberry [*Chamaecyparis lawsoniana*-*Abies magnifica* var.*magnifica*/*Quercus sadleriana*-*Vaccinium membranaceum*] (Jimerson 1993)

88.200.08 Red Fir / Sadler Oak [*Abies magnifica* var.*magnifica*/*Quercus sadleriana*] (Jimerson 1993)

88.200.09 Red Fir / Sadler Oak - Pinemat Manzanita [*Abies magnifica* var.*magnifica*/*Quercus sadleriana*-*Arctostaphylos nevadensis*] (Jimerson 1993)

*88.200.10 Red Fir - Incense-cedar [*Abies magnifica* var.*magnifica*-*Calocedrus decurrens*] (Jimerson 1993)

88.200.11 Red Fir / One-sided Shinleaf [*Abies magnifica* var. *magnifica*/*Orthilia secunda*] (Jimerson 1993)

*88.200.12 Red Fir / Rhododendron [*Abies magnifica* var. *magnifica* /*Rhododendron* spp.] (Jimerson 1993)

88.200.13 Red Fir / White-veined Shinleaf [*Abies magnifica* var. *magnifica* /*Pyrola picta*] (Jimerson 1993)

*88.200.14 Red Fir - Brewer Spruce / Sadler Oak -Thinleaf Huckleberry [*Abies magnifica* var. *magnifica*-*Picea breweriana*/*Quercus sadleriana*-*Vaccinium membranaceum*] (Jimerson 1993)

88.200.15 Red Fir -Mountain Hemlock / One-sided Shinleaf [*Abies magnifica* var. *magnifica*-*Tsuga mertensiana*/*Orthilia secunda*] (Jimerson 1993)

88.200.16 entry moved to 88.520.02

88.200.17 entry moved to 88.520.03

88.200.18 entry moved to 88.520.04

88.200.19 entry moved to 88.520.05

88.200.20 entry moved to 88.520.06

88.200.21 entry moved to 88.520.07

88.200.22 entry moved to 88.520.08

88.200.23 Red Fir [*Abies magnifica* var. *magnifica*] (Potter 1994)

88.200.24 Red Fir / Lodgepole Pine / Whiteflower Hawkweed [*Abies magnifica* var. *magnifica*/*Pinus contorta* ssp. *murrayana*/*Hieracium albiflorum*] (Potter 1994)

88.200.25 Red Fir / Lodgepole Pine [*Abies magnifica* var. *magnifica*/*Pinus contorta* ssp. *murrayana*] (Potter 1994)

88.200.26 Red Fir / Mule's Ears [*Abies magnifica* var. *magnifica*/*Wyethia mollis*] (Potter 1994)

88.200.27 Red Fir / Pinemat Manzanita [*Abies magnifica* var. *magnifica*/*Arctostaphylos nevadensis*] (Potter 1994)

88.200.28 Red Fir / Western White Pine / Pinemat Manzanita [*Abies magnifica* var. *magnifica*/*Pinus monticola*/*Arctostaphylos nevadensis*] (Potter 1994)

88.200.29 Red Fir - Western White Pine - Lodgepole Pine [*Abies magnifica* var. *magnifica*-*Pinus monticola*-*Pinus contorta* ssp. *murrayana*] (Potter 1994)

88.200.30 Red Fir - Western White Pine [*Abies magnifica* var. *magnifica*-*Pinus monticola*] (Potter 1994)

88.200.31 Red Fir / Western White Pine / Bush Chinquapin [*Abies magnifica* var. *magnifica*/*Pinus monticola*/*Chrysolepis sempervirens*] (Potter 1994)

88.200.32 entry moved to 88.520.01

88.200.33 entry moved to 88.520.09

88.200.34 entry moved to 88.510.02

88.200.35 Shasta Fir / Black-laurel [*Abies magnifica* var. *shastensis*/*Leucothoe davisiae*] (Sawyer & Thornburgh 1977)

88.200.36 Shasta Fir / Huckleberry Oak [*Abies magnifica* var. *shastensis* /*Quercus vaccinifolia*] (Sawyer & Thornburgh 1977)

88.200.37 Shasta Fir / Twinflower [*Abies magnifica* var. *shastensis*/*Linnaea borealis*] (Sawyer & Thornburgh 1977)

88.200.38 Shasta Fir / White-veined Shinleaf [*Abies magnifica* var.

- shastensis/Pyrola picta*] (Sawyer & Thornburgh 1977)
 88.200.39 Shasta Fir / Pinemat Manzanita [*Abies magnifica* var. *shastensis/Arctostaphylos nevadensis*] (Simpson 1980)
 88.200.40 Shasta Fir / Sadler Oak [*Abies magnifica* var. *shastensis/Quercus sadleriana*] (Simpson 1980)
 88.200.41 Red Fir / Silver Bush Lupine [*Abies magnifica* var. *magnifica/Lupinus albifrons*] (Waddell 1982)
 88.200.42 Red Fir / White-veined Shinleaf [*Abies magnifica* var. *magnifica/Pyrola picta*] (Waddell 1982)
 88.500.00 White Fir Forest [*Abies concolor*] {85320}
 88.500.01 White Fir / Bush Chinquapin [*Abies concolor/Chrysolepis sempervirens*] (Fites 1993)
 88.500.02 White Fir / Creeping Snowberry / Kelloggia [*Abies concolor/Symphoricarpos mollis/Kelloggia galioides*] (Fites 1993)
 88.500.03 White Fir - Pacific Dogwood / Bush Chinquapin [*Abies concolor-Cornus nuttallii/Chrysolepis sempervirens*] (Fites 1993)
 88.500.04 White Fir - Pacific Dogwood / Hazel [*Abies concolor-Cornus nuttallii/Corylus cornuta*] (Fites 1993)
 88.500.05 White Fir - Pacific Dogwood / Trail Plant [*Abies concolor-Cornus nuttallii*] (Fites 1993)
 88.500.06 White Fir / Ross Sedge [*Abies concolor/Carex rossii*] (Fites 1993)
 88.500.07 entry moved to 88.510.03
 88.500.08 White Fir / Trail Plant [*Abies concolor/Adenocaulon bicolor*] (Fites 1993)
 *88.500.09 White Fir / Vine Maple - Bush Chinquapin [*Abies concolor/Acer circinatum-Chrysolepis sempervirens*] (Fites 1993)
 88.500.10 White Fir / Pinemat Manzanita [*Abies concolor/Arctostaphylos nevadensis*] (Imper 1988a)
 88.500.11 White Fir / Prince's-pine [*Abies concolor/Chimaphila umbellata*] (Sawyer & Thornburgh 1977b, Imper 1988a)
 88.500.12 White Fir / Vanilla Leaf [*Abies concolor/Achlys triphylla*] (Imper 1988a)
 *88.500.13 moved to Port Orford Cedar Alliance
 88.500.14 entry moved to 88.520.11
 88.500.15 entry moved to 88.520.12
 88.500.16 entry moved to 88.520.13
 88.500.17 White Fir / Heartleaf Arnica [*Abies concolor/Arnica ordifolia*] (Jimerson 1993)
 88.500.18 White Fir / Creeping Snowberry [*Abies concolor/Symphoricarpos mollis*] (Jimerson 1993)
 88.500.19 White Fir - Douglas-fir / Bear-grass [*Abies concolor-Pseudotsuga menziesii/Xerophyllum tenax*] (Jimerson 1993)
 88.500.20 White Fir - Douglas-fir / Bigleaf Maple [*Abies concolor-Pseudotsuga menziesii/Acer macrophyllum*] (Jimerson 1993)
 88.500.21 White Fir - Douglas-fir / Heartleaf Arnica [*Abies concolor-Pseudotsuga menziesii/Arnica cordifolia*] (Jimerson 1993)
 88.500.22 Moved to Douglas-fir alliance
 88.500.23 White Fir - Douglas-fir / Sadler Oak [*Abies concolor-Pseudotsuga menziesii/Quercus sadleriana*] (Jimerson 1993)
 88.500.24 Moved to Douglas-fir alliance
 88.500.25 White Fir - Douglas-fir / Mountain Maple [*Abies concolor-Pseudotsuga menziesii/Acer glabrum*] (Jimerson 1993)
 *88.500.26 moved to Douglas-fir alliance
 88.500.27 White Fir - Douglas-fir / Vanilla Leaf [*Abies concolor-Pseudotsuga menziesii/Achlys triphylla*] (Jimerson 1993)
 88.500.28 White Fir - Douglas-fir / Wild rose - Creeping Snowberry [*Abies concolor-Pseudotsuga menziesii/Rosa gymnocarpa-Symphoricarpos mollis*] (Jimerson 1993)

88.500.29 White Fir - Incense-cedar - Black Oak [*Abies concolor-Calocedrus decurrens-Quercus kelloggii*] (Jimerson 1993)
88.500.30 White Fir - Incense-cedar / Creeping Snowberry [*Abies concolor-Calocedrus decurrens/Symphoricarpos mollis*] (Jimerson 1993)
88.500.31 White Fir - Incense-cedar / White-veined Shinleaf [*Abies concolor-Calocedrus decurrens/Pyrola picta*] (Jimerson 1993)
88.500.32 White Fir / Little Prince's-pine - White-veined Shinleaf [*Abies concolor/Chimaphila menziesii-Pyrola picta*] (Jimerson 1993)
88.500.33 White Fir / Serviceberry [*Abies concolor/Amelanchier alnifolia*] (Jimerson 1993)
88.500.34 White Fir / Wild Rose [*Abies concolor/Rosa gymnocarpa*] (Jimerson 1993)
88.500.35 White Fir / Wild Rose - Creeping Snowberry [*Abies concolor/Rosa gymnocarpa-Symphoricarpos mollis*] (Jimerson 1993)
88.500.36 White Fir - Brewer Spruce / Sadler Oak - Thinleaf Huckleberry [*Abies concolor-Picea breweriana/Quercus sadleriana-Vaccinium membranaceum*] (Jimerson 1993)
*88.500.37 White Fir - Chinquapin [*Abies concolor-Chrysolepis chrysophylla*] (Jimerson 1993)
*88.500.38 White Fir - Chinquapin - Sugar Pine / Prince's-pine [*Abies concolor-Chrysolepis chrysophylla-Pinus lambertiana/chimaphila umbellata*] (Jimerson 1993)
88.500.39 White Fir - Douglas-fir / Alaska Oniongrass [*Abies concolor-Pseudotsuga menziesii/Melica subulata*] (Jimerson 1993)
88.500.40 Moved to Douglas-fir alliance
88.500.41 Moved to Douglas-fir alliance
88.500.42 Moved to Douglas-fir alliance
88.500.43 Moved to Douglas-fir alliance
88.500.44 Moved to Douglas-fir alliance
88.500.45 White Fir - Douglas-fir / Wild Rose - Twinflower - Creeping Snowberry [*Abies concolor-Pseudotsuga menziesii/Rosa gymnocarpa-Linnaea borealis-Symphoricarpos mollis*] (Jimerson 1993)
88.500.46 White Fir - Douglas-fir / Wild Rose - Twinflower [*Abies concolor-Pseudotsuga menziesii/Rosa gymnocarpa-Linnaea borealis*] (Jimerson 1993)
88.500.47 entry moved to 88.520.14
88.500.48 entry moved to 88.520.15
88.500.49 entry moved to 88.520.16
88.500.50 White Fir / Huckleberry Oak [*Abies concolor/Quercus vaccinifolia*] (Laidlaw-Holmes 1981)
88.500.51 White Fir / Bracken [*Abies concolor/Pteridium aquilinum*] (Sawyer 1981b)
88.500.52 White Fir / Sadler Oak [*Abies concolor/Quercus sadleriana*] (Sawyer 1981b)
88.500.53 White Fir / American Vetch [*Abies concolor/Vicia americana*] (Sawyer & Thornburgh 1977)
88.500.54 White Fir / Little Oregon-grape [*Abies concolor/Berberis nervosa*] (Sawyer & Thornburgh 1977)
88.500.55 White Fir / Prince's-pine [*Abies concolor/Chimaphila umbellata*] (Sawyer & Thornburgh 1977)
88.500.56 White Fir / Mahala Carpet [*Abies concolor/Ceanothus prostratus*] (Sawyer & Thornburgh 1977)
88.500.57 White Fir / Trillium [*Abies concolor/Trillium ovatum*] (Sawyer & Thornburgh 1977)
88.500.58 White Fir / Bitter Cherry [*Abies concolor/Prunus emarginata*] (Taylor & Randall 1977)
88.500.59 White Fir / Rattlesnake-plantain [*Abies concolor/Goodyera oblongifolia*] (Taylor & Randall 1977)

- 88.500.60 White Fir / Mountain Maple [*Abies concolor/Acer glabrum*] (Taylor & Teare 1979b)
- 88.500.61 White Fir / Sticky Starwort [*Abies concolor/Pseudostellaria jamesiana*] (Waddell 1982)
- 88.500.62 White Fir / White-veined Shinleaf [*Abies concolor/Pyrola picta*] (Waddell 1982)
- *88.500.63 Desert Mountain White Fir Forest
- 88.500.64 Sierran White Fir Forest {84240}
- 88.500.65 Southern California White Fir Forest {85320}
- 88.500.66 White Fir / Mountain Whitehorn [*Abies concolor/Ceanothus cordulatus*] (Keeler-Wolf and Moore 2001)
- 88.600.00 Mixed Conifer Forest {84230}
- *88.600.01 Mixed Conifer / Bolander Bedstraw - Milkwort [Mixed Conifer/*Galium bolanderi-Polygala cornuta*] (Fites 1993)
- 88.600.02 Mixed Conifer / Huckleberry Oak [Mixed Conifer/*Quercus vaccinifolia*] (Fites 1993)
- 88.600.03 Mixed Conifer / Rosy Everlasting - Naked-stemmed Buckwheat [Mixed Conifer/*Antennaria rosea-Eriogonum latifolium*] (Fites 1993)
- 88.600.04 Mixed Conifer / Service Berry [Mixed Conifer/*Amelanchier alnifolia*] (Fites 1993)
- 88.600.05 moved to Ponderosa pine- Incense cedar alliance
- *88.600.06 Mixed Conifer / Starflower [Mixed Conifer/*Trientalis latifolia*] (Fites 1993)
- 88.600.07 Mixed Conifer - Canyon Live Oak / Hazel [Mixed Conifer-*Quercus chrysolepis/Corylus cornuta*] (Fites 1993)??
- 88.600.08 moved to Ponderosa pine – Incense-cedar alliance
- 88.600.09 moved to Ponderosa pine – Incense-cedar alliance
- 88.600.10 Moved to Douglas-fir – Canyon live oak Alliance
- *88.600.11 Mixed Conifer – Tanoak / Mountain Dogwood [Mixed Conifer-*Quercus chrysolepis/Cornus nuttallii*] (Fites 1993)
- *88.600.12 Moved to White fir - Sugar Pine Alliance
- 88.600.13 Mixed Conifer / Little Oregon-grape [Mixed Conifer/*Berberis nervosa*] (Sawyer & Thornburgh 1977)
- 88.600.14 Mixed Conifer / Mahala Carpet [Mixed Conifer/*Ceanothus prostratus*] (Sawyer & Thornburgh 1977)
- 88.600.15 Southern Ultramafic Mixed Coniferous Forest {84182}
- 88.600.16 Coast Range Mixed Coniferous Forest {84110}
- 88.600.17 Ultramafic Mixed Coniferous Forest {84180}
- 88.600.18 Sierran Mixed Coniferous Forest {84230}

90.000.00 ALPINE HABITATS

91.000.00 Boulder and Rock Field

- 91.100.00 Alpine Fell-field (= Alpine Habitat from book)

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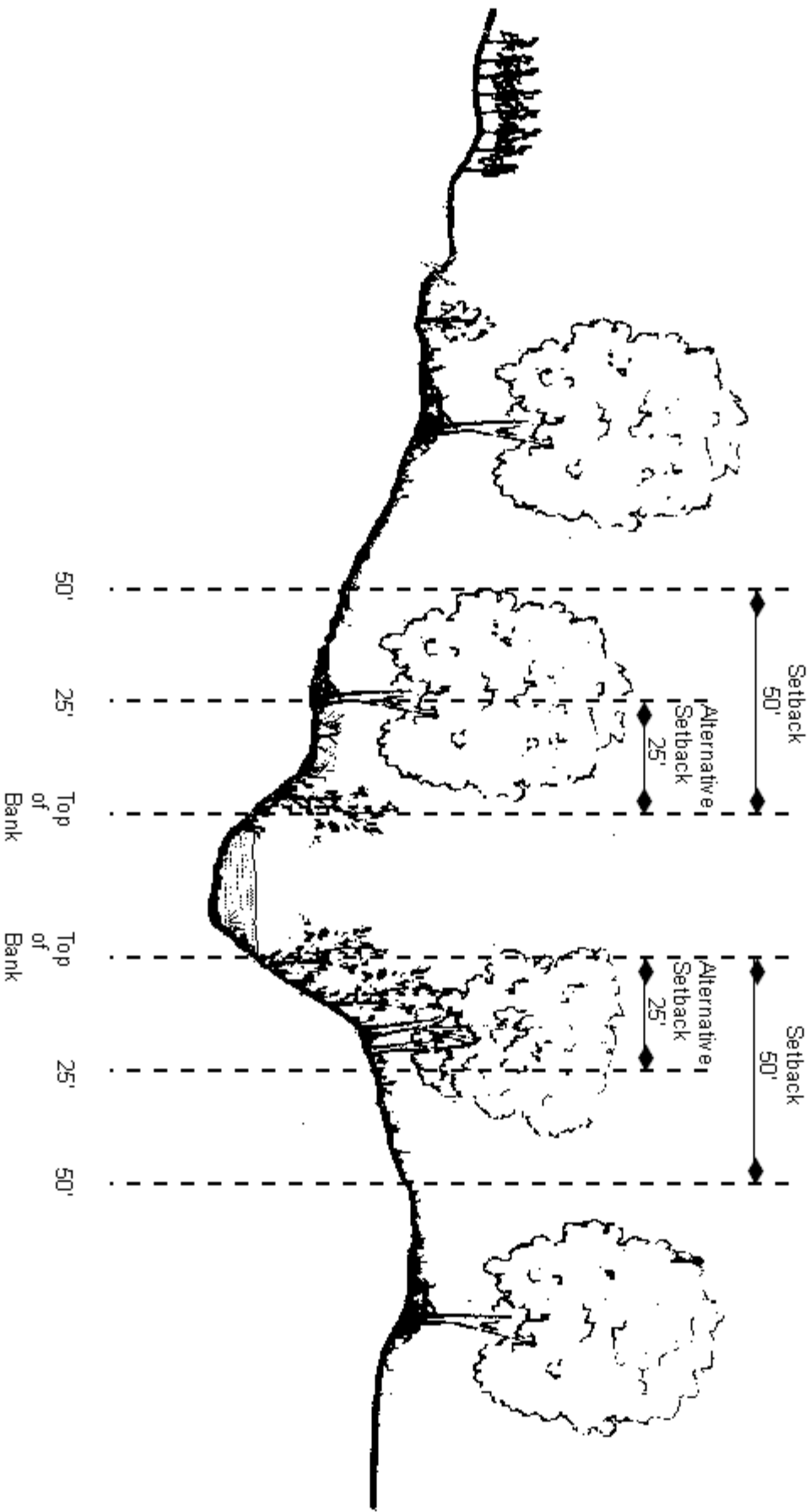
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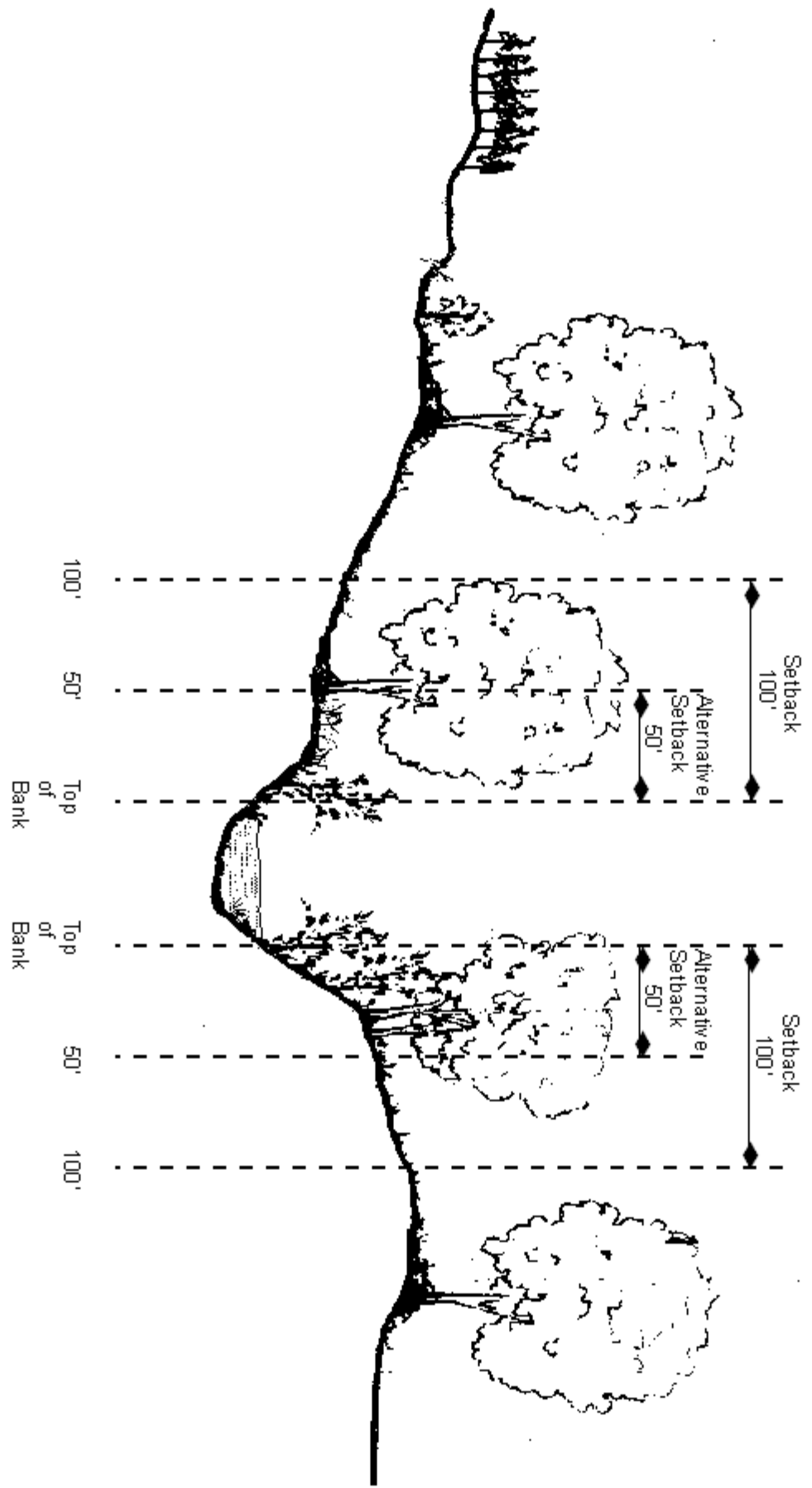
Intermittent Stream & River Setbacks

Cross Section



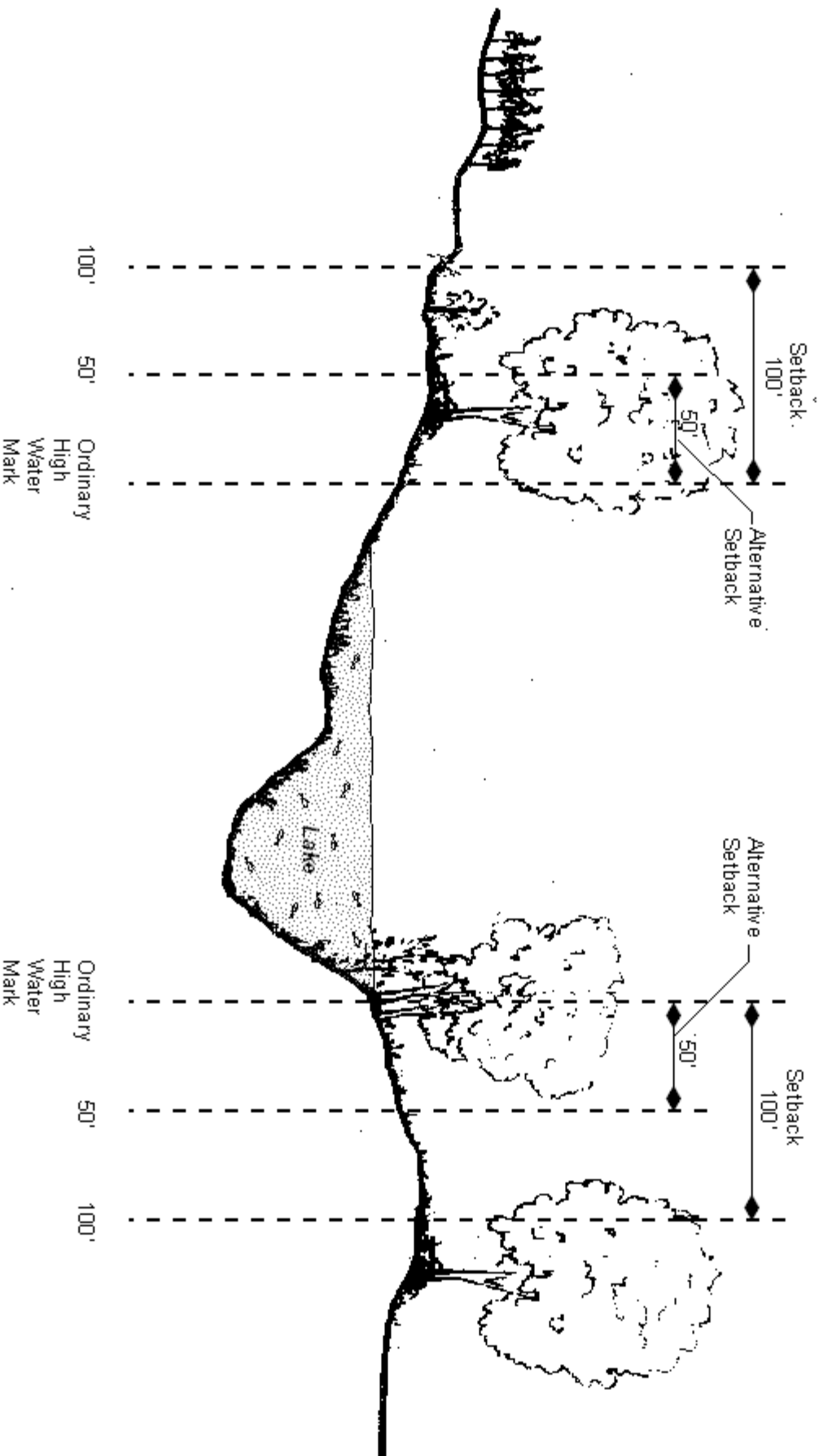
Perennial Stream & River Setbacks

Cross Section



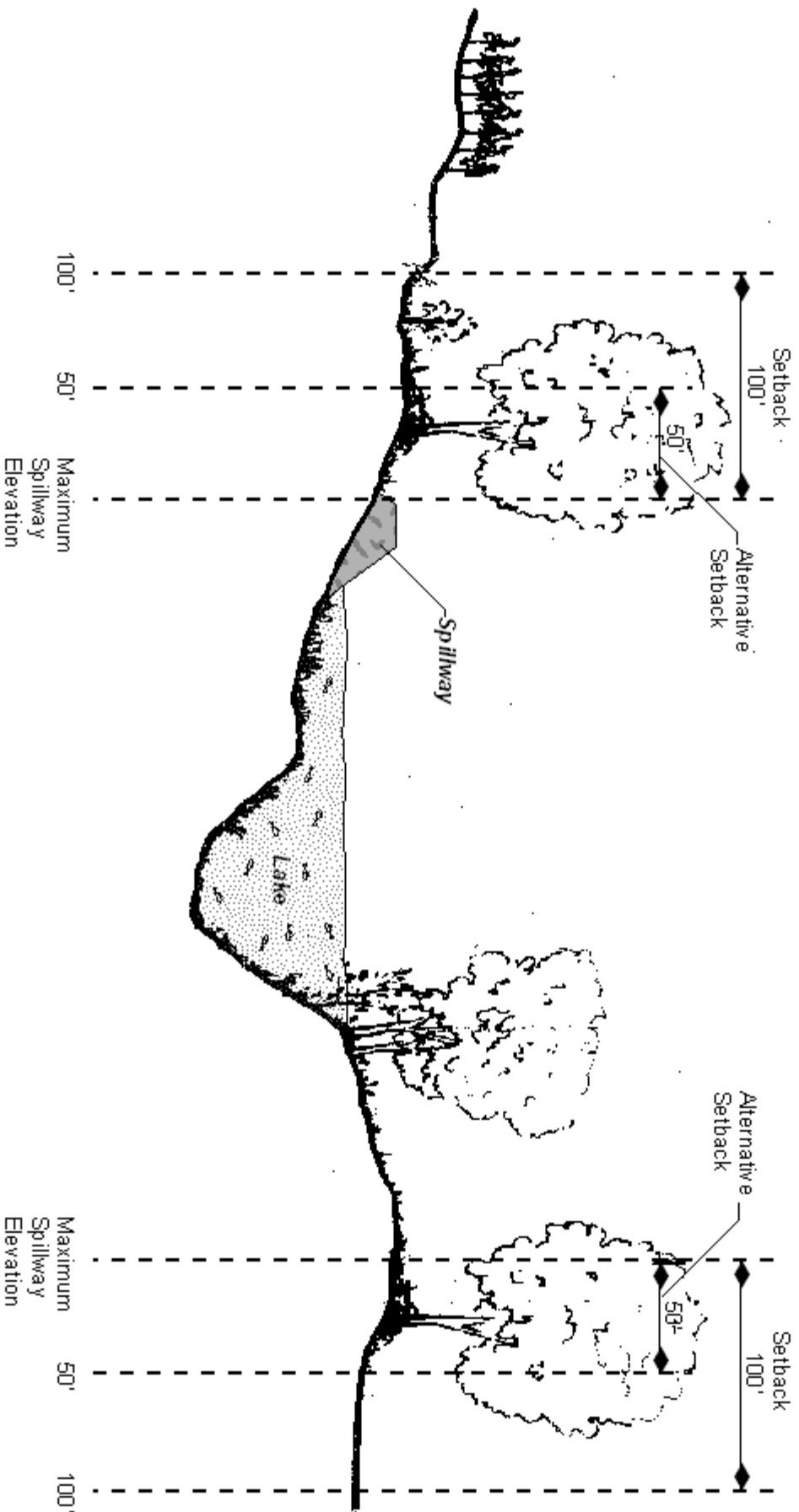
Lake Setbacks (Without Spillway)

Cross Section

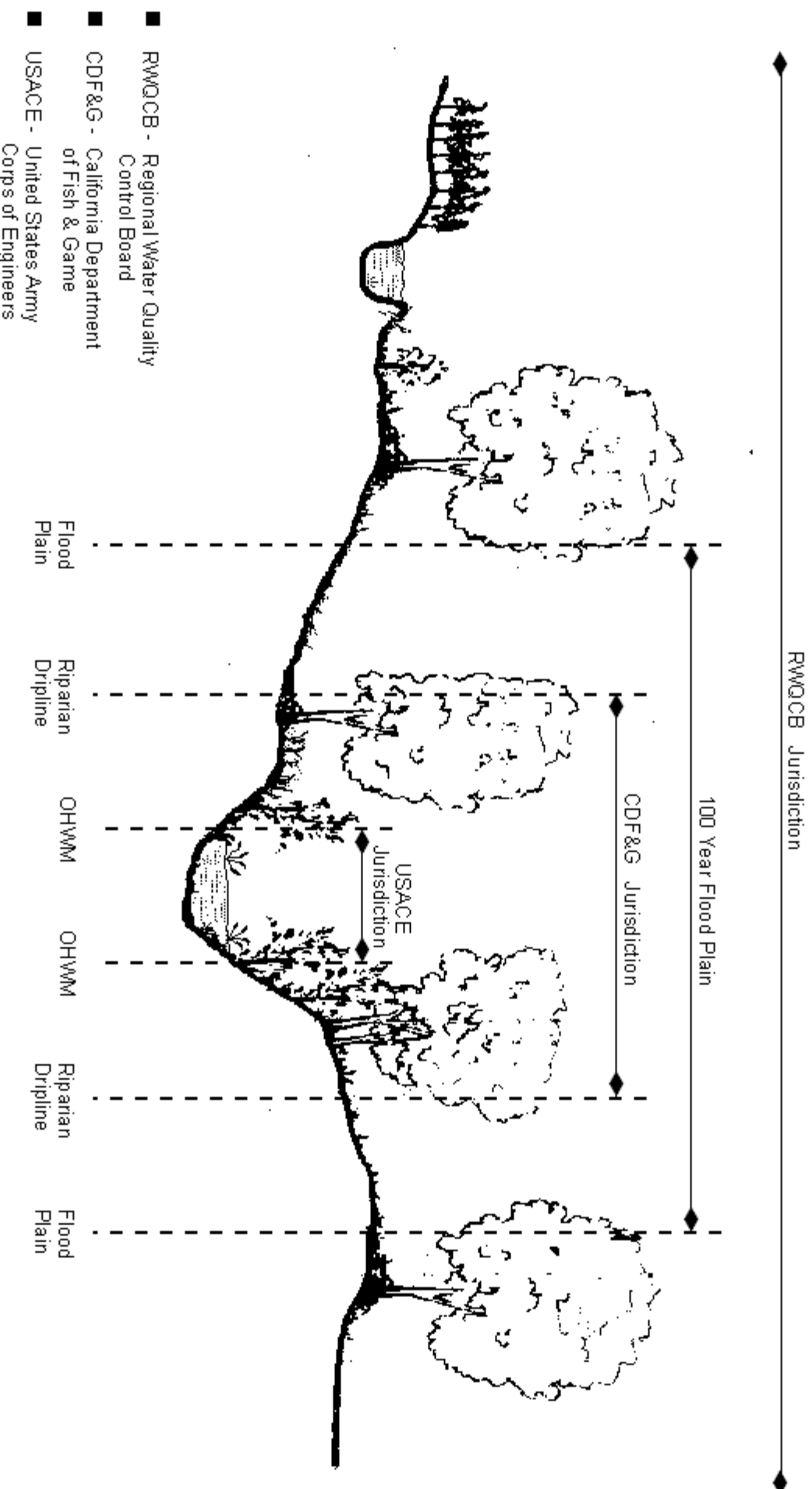


Lake Setbacks (With Spillway)

Cross Section



Water Regulatory Jurisdictions *



* For illustrative purposes only.

Exhibit 1

RWQOCB: All surface and ground water
 CDF&G: Surface and ground water to the edge of the riparian canopy, i.e., "drip line"
 USACE: Ordinary high water mark; wetlands

Wetlands Setbacks

Cross Section

