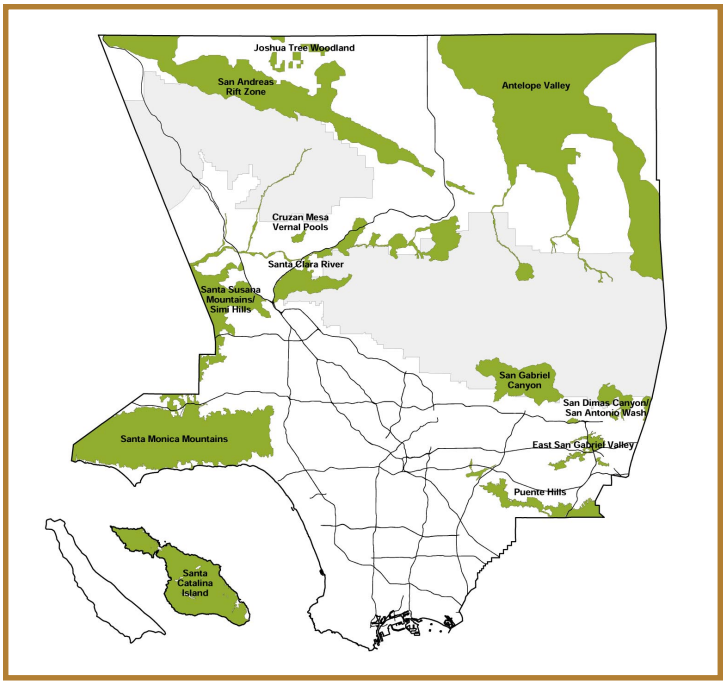
Los Angeles County Significant Ecological Area Update Study 2000



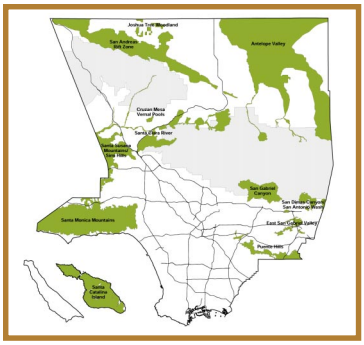
Background Report

Los Angeles County, California

November 2000

PCR

Los Angeles County Significant Ecological Area Update Study 2000



Background Report

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Los Angeles County, California

November 2000

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EXECUTIVE SUMMARY

The Los Angeles County Significant Ecological Area (SEA) Study has three purposes: To evaluate existing SEAs for changes in biotic conditions and consider additional areas for SEA status within unincorporated Los Angeles County; to delineate SEA boundaries based upon biotic evaluation; and to propose guidelines for managing and conserving biological resources within these areas.

The "original" SEA report was prepared in 1972 by a committee of scientists from the Los Angeles County Museum of Natural History and local academic institutions. This was done as a background study for the 1973 County General Plan. A second SEA study was completed in 1976 by England and Nelson, Environmental Consultants. The 61 SEAs existing today represent the findings of the 1976 Study, as amended through the adoption of a revised General Plan in 1980. After 20 years, it is necessary to re-evaluate the SEA program as part of the next General Plan amendment.

As in 1976, the underlying objective of the SEA program remains the preservation of biotic diversity. Following this objective, it is crucial to identify and designate as proposed SEAs areas that possess examples of biotic resources that cumulatively represent biological diversity. Equally important, this objective has been expanded to include the future sustainability of this diversity through the application of more current practices in conservation planning, primarily by consolidation into larger interconnected SEAs.

The criteria used to identify prospective SEAs were similar to those used in 1976 by England and Nelson. Of the original eight criteria, minor modifications were made to one, and two were omitted from this study without loss to the range of biological diversity subject to this study. The methods used to identify and delineate proposed SEAs was multi-faceted, including: a broad outreach program focused in the government resource agencies, academic institutions, conservation groups, and the general public; a comprehensive database and literature review; an evaluation of existing SEAs in the unincorporated County; the interpretation of aerial photography; and, field study.

The SEA study focused on existing SEAs, within the unincorporated county jurisdiction, and areas nominated for SEA status. Significant Ecological Areas located within cities were not studied, though this analysis recommends that the boundaries of these areas be retained. Significant Ecological Areas remaining within the unincorporated area were consolidated into twelve new areas. These areas were connected to enhance sustainability and biological diversity. As a consequence, the proposed acreage of these areas covers a total of 442,983 acres (unincorporated). This is a

substantial increase in comparison to the 176,174 acres (unincorporated) of SEAs previously designated in 1980 County General Plan.

The proposed SEAs in this study were based on scientifically-grounded concepts regarding their size and connectivity. Most do not focus on a single resource or habitat type. Where feasible, these areas form linkage systems which should greatly improve the probability of achieving the expanded objectives of this study, the preservation of biological diversity in Los Angeles County.

LOS ANGELES COUNTY SEA UPDATE STUDY 2000
BACKGROUND REPORT

1. INTRODUCTION

1.1 PURPOSE

The Los Angeles County General Plan provides guidelines and policies for decision-making regarding new development. As mandated by the State of California, every city and county must adopt and periodically update a comprehensive long-range general plan for physical development within its jurisdiction. The elements of this plan include land use, circulation, housing, safety and noise, open space, and conservation. As part of its General Plan Conservation/Open Space and Land Use elements, Los Angeles County has identified and adopted policies for "Significant Ecological Areas" (SEAs) for certain areas. It has been 20 years, however, since elements of the General Plan, including the SEA component, were last updated.

The purpose of this study is three-fold: First, the study evaluates existing SEAs and additional areas considered for SEA status within unincorporated Los Angeles County. This includes a biotic assessment of existing SEAs for changing conditions, and an evaluation of areas nominated for potential SEA designation. A primary focus of this evaluation is the diversity of ecological resources and potential long-term sustainability. Second, based upon the biotic evaluation, SEA boundaries are delineated to reflect existing conditions or to include additional areas identified with significant ecological resources. Third, this study revisits SEA policies in the Los Angeles County General Plan to propose updated guidelines for managing and conserving resources within these areas. SEAs within city boundaries were not studied, though the analysis recommends that these areas be retained.

1.2 BACKGROUND AND HISTORY

The "original" Significant Ecological Areas report was prepared in 1972 by a committee of scientists from the University of California, Los Angeles, the Los Angeles County Museum of Natural History, and other local academic institutions. That study addressed significant ecological areas that warranted special consideration, due to their high biological resource value. The study served as background for the 1973 Los Angeles County General Plan. The result of that effort was the identification and delineation of 81 such areas throughout the County, including consideration of areas in the Channel Islands and Angeles National Forest.

In 1976, a second study was undertaken by England & Nelson, Environmental Consultants as part of the General Plan revision program. For purposes of this effort the Channel Islands and the Angeles National Forest were excluded from the study. At the conclusion of their work England and Nelson identified 62 SEAs in unincorporated Los Angeles County. Subsequently, the county found it necessary to add two SEAs and delete three others prior to the approval of its revised General Plan in 1980. There are currently 61 existing SEAs designated in the county General Plan. These areas are shown in Figure 1, *Existing Boundaries*, on page 3.

Since their adoption in 1980, Los Angeles County has attempted to update the status of existing SEAs. In 1991 the County hired the consulting firm of Michael Brandman Associates to evaluate seven selected SEAs and complete what is referred to as the "Phase I SEA Study." In addition, de facto evaluations and status monitoring have been provided in the form of biological assessments for individual projects within SEAs. This has been done through the County's Significant Ecological Area Technical Advisory Committee (SEATAC) as part of the County's environmental review process. However, these updates did not include evaluations of all SEAs (as in the case of the Phase I SEA Study); nor, did these studies evaluate entire SEAs.

1.3 GEOGRAPHICAL SCOPE

Los Angeles County possesses an extremely diverse topography. Within its approximately 4,000 square miles, it contains coastal areas, islands, plains, mountains, and desert. Elevations within the County range from sea level to over 10,000 feet. Climates range from mild near the coast, to severe in the high mountains and in the desert. Similarly, soils and underlying geology vary according to prehistoric volcanic activity, marine sedimentation and river deposition. This wide variation in physical environments has produced the very unique and diverse collection of biological resources found in the County today.

The geographical scope of this study encompassed all biological resources within the unincorporated lands of Los Angeles County, including Santa Catalina Island. Lands within incorporated cities, San Clemente Island and the Angeles National Forest were not studied except where existing and prospective SEAs identified within County lands overlapped these jurisdictions. While existing and prospective SEAs entirely within the National Forest or cities were not studied, their designation has been retained.

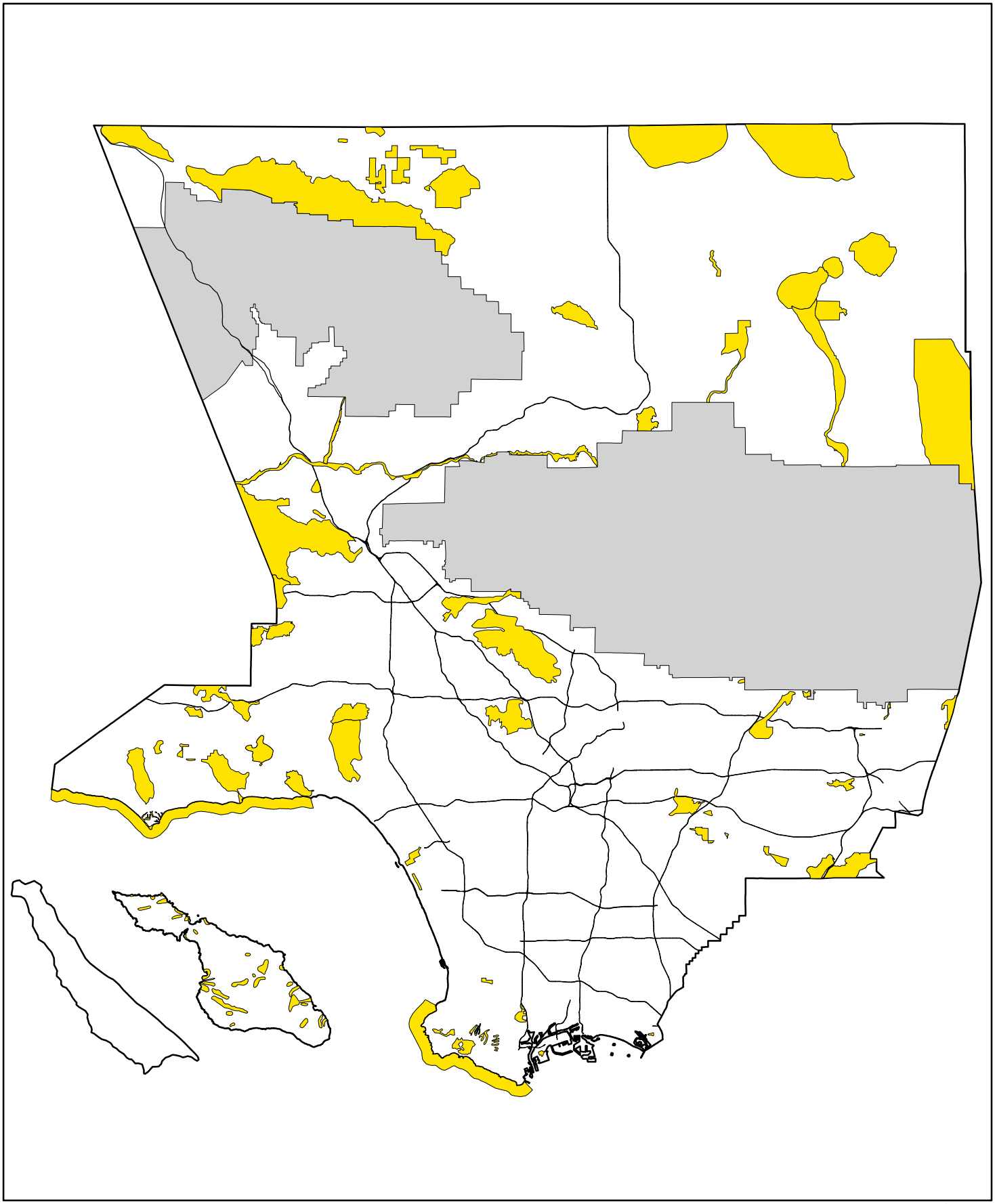

Figure 1

Significant Ecological Areas
Update Study 2000
Existing Boundaries

Existing Significant Ecological Areas
Angeles National Forest

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2. STUDY OBJECTIVES

2.1 A HISTORICAL PERSPECTIVE

The overall objective of the original SEA Study (England and Nelson, 1976), as adopted by Los Angeles County in 1980, was to preserve biological diversity within the areas of County jurisdiction. The England and Nelson study described the County's natural diversity in its introductory chapter, and in its concluding chapter, justified the goal of preserving this diversity. In order to meet this goal, the study sought to identify areas within Los Angeles County which possessed biotic resources which were considered to be uncommon, rare, or unique, were absolutely critical to the maintenance of wildlife, or which represented relatively undisturbed examples of the County's more common habitat types. Such criteria were then used as the basis for designating SEAs.

England and Nelson formulated a set of eight selection criteria with which to classify biological resources and identify SEAs. An extensive literature review was conducted; the 1972 committee of scientists was interviewed; the 81 original SEAs were evaluated; and, a survey questionnaire/nomination form was mailed to a broad list of government agencies, academic institutions, conservation groups and individuals. From these combined efforts a total of 62 SEAs were identified and delineated.

The physical limits determined for each SEA were based upon the data and recommendations received, along with interpretation of topographic maps and high altitude color infrared aerial photography. In general, the boundaries chosen conformed to natural topographic features; however, man-made features and artificial boundaries were used where they coincided with appropriate biological limits. Where SEAs required additional protection from adjacnt land uses, buffer zones were mapped to protect watershed units or to provide distancing from noise, light, traffic and other development impacts. However, the majority of the original SEAs were thought to consist of more or less self-contained units, not in need of additional buffering. It is important to note here, that the underlying ecological concepts employed during the England and Nelson delineations were based upon recently published theories of "island biogeography," which were at that time (1976) prevalent in the emerging field of conservation planning.

Because it was broadly based on published and unpublished information acquired through a comprehensive outreach approach which accessed literature, governmental resource agencies, academia and private conservation groups, the 1976 SEA study provided an adequate basis for the preservation of biotic diversity in the County for many years; and, it established a foundation of thought and early action upon which effective programs to preserve biotic diversity could be built.

However, land use within the County has undergone tremendous growth during the intervening decades, including considerable development within and adjacent to the original SEAs, and as a consequence, many of the original SEAs have been compromised, surrounded or isolated physically by development, resulting in true islands in a sea of land use changes. Additionally, conservation planning knowledge and application processes have changed somewhat in the years since the SEA Study was drafted, and it is clear that the SEA program needs a thorough conceptual review and analysis of the underlying foundations, employing more modern conservation biology perspectives.

The original SEAs served to slow or modify the type of development within their defined boundaries, but over time many of the smaller areas lost the biotic qualities for which they were nominated, and resource values in some larger SEAs may have been reduced or degraded, particularly where all or portions of an SEA no longer lie within the jurisdiction of Los Angeles County. To some extent, the SEA project review process has adjusted to changing conservation strategies and philosophies, generally as a reflection of the knowledge, concerns and abilities of responsible County staff and the SEATAC. However, the static and somewhat isolated physical parameters of the original SEA units limits the abilities of planners and resource agencies to conserve dynamic resources as they occur across the whole of the County landscape.

Increasingly, conservation plans have employed more fluid approaches to conserving the ever-increasing list of sensitive resources (e.g., endangered species, habitats of limited distribution, and "patchy" habitats such as coastal sage scrub). Recalling that the 1976 study applied a pragmatic interpretation of island biogeographic theory to its SEA delineation rationale, the primary principles for determining SEA boundaries were that: 1) species extinction rates are lower on larger islands than smaller islands; and, 2) isolated habitat areas have less opportunity to regain species by recolonization from other areas. These principles have moved from theory to demonstrated fact during the intervening years, but even as we come to understand that conserving intact biotic diversity requires providing very large, physically connected parcels, land use changes were dramatically reducing the natural open space remaining within the County. When England and Nelson translated the early biogeographic concepts into SEA design (that is, that large SEAs were better than small SEAs, and SEAs closer to the National Forest and other expanses of open space were better than SEAs placed farther away), they did not foresee the rates of growth which have occurred within the County, and despite what seemed at the time to be an adequate application of the theory, they created SEAs which have over time proven to be either too small to conserve habitat biodiversity internally, and/or too distant to provide essential connectivity between them.

Another area of concern not anticipated within the 1976 England and Nelson study is the issue of land stewardship outside the development impact areas. Existing SEAs predominantly depend on a custodial management approach, with the County providing oversight on an as-needed

basis. Conservation easements and management agreements now provide a broader spectrum of options to the land owner, and can free the County of undue responsibility after project completion. Such provisions for long-term natural resource custodianship and sustainability were not emphasized in the original SEA study.

2.2 EXPANDED OBJECTIVES

The preservation of biological diversity today, as in 1976, remains a paramount objective of conservation planning for a variety of reasons. Aesthetically, conserved open space adds value to adjacent developed land, and provides an essential environmental buffer between intensive human activity areas. Natural open space near urban areas can function as a visual amenity, a passive recreational asset, a groundwater recharge site, a reservoir for native species populations, and a buffer between development and surrounding larger land use reserves (such as Natural Forests).

More importantly, large natural open space areas can conserve entire habitats and ecosystems intact, preserving species diversity and insuring that native species do not become extinct or endangered. Open space or low-density zoning areas must be of sufficient size to retain all the essential "pieces" of the system, however to function biologically over time, and while absolute size parameters are not known for many systems, as a general rule, larger is better. The story of the "mouse and the fungus" provides a good example of how conserved systems need sufficient space and their component species to function. Until fairly recently, forestry practices traditionally focused upon the growing of trees, often arrayed in plantations which emphasized space utilization rather than natural habitat values, and therefore lacked many animal species. Despite the massive use of fertilizers, herbicides and pesticides, these plantations rarely yield the quality or quantity of wood found in a native forest of similar tree composition. Ecological studies of forest ecosystems were undertaken, and in time it was demonstrated that most trees cannot efficiently extract nourishment directly from the soil, but rather are sustained biologically by a type of external fungi which grow on their root systems and aid in the uptake of nutrients. The spores of these fungi are eaten, but not digested, by native mice, who then distribute them over the forest floor in their fecal pellets, insuring their availability to seedling and sapling trees. The mouse population is held in balance by owls and other small predators, many of which in turn roost, shelter and nest in the trees. This example and many others have demonstrated that long-term preservation of all ecosystem components-- however unassuming in stature-- is essential to the continued existence of our deserts, wetlands, forests and other natural habitat areas.

On a more pragmatic note, several recent medical discoveries have been made wherein chemicals extracted from tree bark and herbaceous plants provided cures for certain types of cancer; a previously unknown perennial corn species, with the potential to save billions of dollars in

replanting costs, was discovered on a hillside being cleared to plant corn, and a compound derived from the blood of horseshoe crabs has proven to be the most effective way to screen for contaminants in drugs, vaccines, artificial limbs and intravenous drips, and now is used in virtually every hospital in America. Other studies have shown that many insect species have the ability to ingest and modify chemical compounds from their toxic host plants, potentially leading to new or improved ways of treating the way humans react to these compounds. New plant and animal species continue to be found in natural habitats within a few miles of major urban centers, and it is clear that we have only begun to understand the genetic, biochemical and physical diversity-- and potential-- of our own urban "backyard."

While the SEA designation is not directly intended to provide such biological services, it is logical to create SEAs which encompass biotic resources cumulatively representing the biodiversity (and yet-to-be-discovered biological potential) of Los Angeles County. These areas must be designed to sustain themselves into the future, genetically and physically. Therefore, the present SEA study focuses on maintaining biodiversity in the long-term by creating boundaries which follow natural biological parameters, embrace habitats, linkages and corridors, and are of sufficient size to support sustainable populations of their component species. Thus, this study attempts to resolve the issue not adequately addressed in the 1976 study by applying updated conservation planning concepts and philosophies to design a series of larger, interconnected SEAs.

3. SELECTION CRITERIA

3.1 1976 CRITERIA

In 1976, England and Nelson developed a set of eight criteria to identify and designate SEAs. An explanation of each criteria is provided in Appendix A, *1976 Criteria for Selecting and Classifying SEAs*.

Class 1 – The habitat of rare, endangered, and threatened plant and animal species.

Class 2 – Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.

Class 3 – Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution in Los Angeles County.

Class 4 – Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, or migrating grounds, and is limited in availability.

Class 5 – Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or they represent an unusual variation in a population or community.

Class 6 – Areas important as game species habitat or as fisheries.

Class 7 – Areas that would provide for a preservation of relatively undisturbed examples of the natural biotic communities in Los Angeles County.

Class 8 – Special areas.

The numbering sequence of one through eight has sometimes been misinterpreted as a priority ranking. England and Nelson actually presented these criteria, or classes of resources, in order of increasing availability. In their 1976 report, England and Nelson clearly stated that the classification system should not be interpreted as a measure of the absolute value of the area, but as an index of how close a certain type of resource is to being lost from Los Angeles County.

3.2 UPDATED CRITERIA

Since the adoption of the 1976 SEA Study, as amended in 1980, the jurisdictional status of some SEAs has changed while others have remained relatively stable. From a jurisdictional standpoint, portions or all of many SEAs were actually designated within cities incorporated prior to 1976. In addition, portions or all of several other SEAs became part of city jurisdictions incorporated since 1976. While some of these cities do not formally recognize SEAs by this title in their General Plans and Zoning Ordinances, others afford some degree of sensitivity through open space designations and protective grading guidelines (See Appendix B, *City and County Survey Responses*).

Incorporation of new cities and annexations are expected to continue and are not processes that selection criteria can reasonably foresee and address. Of greater concern and relevance are examples of SEAs which have remained within City and County jurisdictions where biotic diversity has become threatened or locally extinct. According to a study sponsored by the California Native Plan Society (Landis, 1993) at least five of the SEAs designated for their rare plant habitats have suffered from the effects of weed abatement, freeway construction, illegal dumping, development or invasive plants; at least three SEAs designated for unique or restricted plant communities, vegetative

associations and/or habitats have been disturbed by invasive plants; and, ongoing flood control maintenance and development have degraded three others.

In the cases of these SEAs, it is apparent that the criteria correctly identified the types and range of resources comprising biotic diversity in the county; however, the delineation of SEAs in 1976 failed in some cases to identify all of the resources required to sustain this diversity. This has occurred in the previous examples with or without the incorporation of SEAs into cities. As mentioned, some cities recognize the importance of existing SEAs in their General Plans, Zoning Ordinances and special protective grading guidelines; some have also requested the county continue to designate them as SEAs as part of this study.

Having identified sustainability of diversity as a key challenge, this study also recognized that the status of resources has changed since 1980. In drafting revised selection criteria, this study critically reviewed criteria used by England and Nelson. It was determined that the criteria used in 1976 should be modified. Consequently, one criterion was modified and two were deleted altogether. Criterion Class 1 – The Habitat of Rare, Endangered, and Threatened Plant and Animal Species, was modified to address the habitat of "core populations" of such species but not all populations. This was determined to be necessary to recognize many species within Los Angeles County that have been granted protected status since 1976 and key sites where these species may occur throughout the County. It is also important to note that the designation of critical habitat areas and regulation of endangered species acts is under the purview of the U.S. Fish and Wildlife Service (USFWS) and the State Department of Fish and Game (CDFG). Regardless, the recognition of core populations that contribute significantly to the preservation of biotic diversity could be addressed in the County's General Plan policies. Criterion Class 6 – Areas Important As Game Species Habitat or as Fisheries, was omitted. This was due to the questionable contribution of these areas to biotic diversity, in the absence of other criteria, which adequately address resources at the species level. In addition, it was determined that the scope of this study does not include the maintenance of recreation, sport, or other commercial activities as they pertain to biological resources which are regulated by the CDFG. Finally, Criterion Class 8 – Special Areas, was deleted due to its vagueness and the ability of the remaining criteria to encompass its objectives.

As in 1976, a revised draft of selection criteria was distributed for public review. These criteria were sent to resource agencies, conservation groups, local jurisdictions and individual members of the public for review and comment. The review indicated support with minor modifications. A number of the respondents recommended that misrepresentation of resources as prioritized according to the numbered criteria scheme be corrected; and, to apply the criteria not simply to targeted resources, also to areas that afforded long-term sustainability. Hence, in some cases, SEA nominations included large areas often conforming to entire watersheds.

The final SEA selection criteria used in this study are presented in Table 1, *Los Angeles County SEA Update Study 2000 Selection Criteria*, on page 11. The difference between the modified criteria and those used by England and Nelson in 1976 has been described above. For the purpose of this study, updated criteria were used to determine if an existing SEA or candidate SEA should be re-designated or designated as a SEA in the Los Angeles County General Plan. In addition to satisfying a minimum of one criterion, any prospective SEA must lie at least partially within an unincorporated area of Los Angeles County.

Table 1
LOS ANGELES COUNTY SEA UPDATE STUDY 2000 SELECTION CRITERIA

Criterion	Intent/Rationale
A) The Habitat of Core Populations of Endangered or Threatened Plant or Animal Species	These areas are important in maintaining viable plant and/or animal populations for those species recognized by state and or federal resource agencies as being extremely low in numbers or having a very limited amount of suitable habitat available. The terms "endangered" and "threatened" have precise meanings defined in both state and federal law (see below). The identification of "core population"[1] will be determined by the United States Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG). This criterion is not meant to constitute a recovery program for listed species but rather one element of a more comprehensive conservation effort for the long term sustainment of listed species within the county. At the local level, recovery programs of both the CDFG and the USFWS have measures in place which can impose severe penalties for the "take " of listed species or their habitat. *Federally Endangered:* "any species which is in danger of extinction throughout all or a significant portion of its range …" *Federally Threatened:* "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *State Endangered:* "…a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." *State Threatened:* "… a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter [California Code of Regulations, Title 14, Sec 670.5]. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."

[1] *The term "core population" as used here is a general biological term referring to a known and/or a viable population. Other locations of endangered or threatened plant or animal species may also occur in Los Angeles County which are not within a SEA. It should also be noted that the concept of core populations is consistent with current thinking of the USFWS and the CDFG.*

Table 1
LOS ANGELES COUNTY SEA UPDATE STUDY 2000 SELECTION CRITERIA
(CONTINUED)

Criterion	Intent/Rationale
B) On a Regional Basis, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon on a regional basis. The geographical region considered could be as small as the southern California coastal plains, the Transverse mountain ranges, the Mojave Desert, the southern California coastline, etc.; or they could be as large as southern California, the Pacific coast, all of California, the western United States, or even larger. The point being that the community, association, or habitat is either unique or restricted in distribution in an area larger than the political boundaries of Los Angeles County (i.e., coastal sage scrub, native grasslands, or vernal pools). Resources that are limited in distribution in the region being considered, but common elsewhere, are also included under this category.
C) Within Los Angeles County, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon within the political boundaries of Los Angeles County, regardless of their availability elsewhere. The County has a high diversity of biological components. It and San Diego County are the only counties in the United States that possess coastal, montane, and desert subregions within their boundaries. It is a rich heritage that few local governments have an opportunity to preserve. Many biotic communities that were once common in Los Angeles County have been severely reduced due to urban and agricultural development. This is especially true south of the San Gabriel Mountains, and among the agricultural fields of the North County. Other biotic features have never been common.
D) Habitat that at some point in the life cycle of a species or group of species, serves as Concentrated Breeding, Feeding, Resting, or Migrating Grounds, and is limited in availability either regionally or in Los Angeles County	Species or groups of species, at various points in their life cycles, tend to congregate in certain areas. These areas possess resources that are essential to the maintenance of specific wildlife species. This criterion is intended to identify those areas that are limited in distribution either regionally or in Los Angeles County, and not the primary habitat of common species or groups of species.
E) Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent unusual variation in a population or community	Oftentimes scientists learn the most about a biological phenomenon by studying it at an extreme in its distribution. This frequently reveals the biological and ecological parameters under which it can survive. In addition, isolated populations and communities often are relicts of what was present in an area at some previous time, and may show genetic traits not found elsewhere in the species. These biological and ecological parameters may be useful in determining taxonomic relationships.

Table 1
LOS ANGELES COUNTY SEA UPDATE STUDY 2000 SELECTION CRITERIA
(CONTINUED)

Criterion	Intent/Rationale
F) Areas that would provide for the preservation of relatively undisturbed examples of the original natural biotic communities In Los Angeles County	The intent of this criterion was to identify examples of the primary biotic resources in Los Angeles County. At least one example (e.g., native grassland, valley oak savannah) of each vegetation type will be selected from the various geographical regions in the County in order to preserve basic bio-geographic diversity.

Note: Criterion Class 6 from the 1976 SEA study has been omitted in this study due to a lack of biological significance. The scope of the SEA study entails the evaluation of county biological resources which does not include the maintenance of recreation, sport, or otherwise commercial activities. In addition, many of these activities, as they pertain to biological resources, are managed by the CDFG. Criterion Class 8 from the 1976 SEA study has also been omitted due to its vagueness; remaining criteria cover its objective.

4. IDENTIFICATION AND DELINEATION OF PROPOSED SEAs

4.1 OUTREACH PROGRAM

An outreach program served as the first step in identifying prospective SEAs. The program obtained input from interested parties including the general public, governmental resource agencies, and academic institutions. In an effort to notify interested parties, the PCR Project Team and the Los Angeles County Department of Regional Planning (DRP) jointly assembled a mailing list of over 400 entries. In September 1999, each party on the list was mailed a notice that the study had been initiated (copy provided in Appendix C, *SEA Update Study Notice*). The material included: the purpose of the update study and a schedule of public meetings to solicit public comments.

Public meetings hosted by the DRP and assisted by the PCR project team were held in several areas of the County in late September and early August 1999. After a brief summary presentation, comments were received and recorded and a nomination form was distributed (Appendix D, *Public Meeting Materials*). The survey questionnaire/nomination form was also available time through the County website.

The outreach program also gathered input from resource agencies. Meetings were held in the Carlsbad and Ventura offices of the USFWS with regional representatives from the CDFG attending. The main objective of these meetings was to acquire all available information on federal and state listed species within the County. Of particular interest, were locations of core populations of listed species. This information would be used as supporting evidence for one of the revised criteria designations. Secondarily, species account information would be added to sensitive species occurrences within prospective SEAs where applicable. Meetings were also held with resource agencies or groups with a more local focus such as the National Park Service, Whittier Wildlife Corridor Conservation Authority, Catalina Island Conservancy, and the West Mojave Planning Group. Discussions with these groups provided background for review of areas for prospective SEA designation and the eventual boundary delineation.

The final phase of the outreach program consisted of a survey form mailed to all incorporated cities within Los Angeles County that contained entire SEAs or SEA segments within their jurisdictional boundaries (copy of survey questionnaire provided in Appendix E, *City and County Questionnaire Form*). The survey questions focused on determining the extent and condition of biological resources and open space within the city as well as the degree of protection afforded to existing SEAs.

4.2 DATABASE/LITERATURE REVIEW

The second step in the process of identifying prospective SEAs consisted of a thorough literature review. The PCR Project Team started this task by reviewing the year 2000 version of the California Natural Diversity Database covering Los Angeles County. This database provided accounts of sensitive species recorded in the County and was used to support the potential presence of habitats as well. In order to determine the current status of sensitive species, the most recent copies of all listing documents of the USFWS, the CDFG, and the California Native Plant Society were reviewed.

On a more local level, databases and literature that pertained to particular areas of the County were collected from groups focusing on biological resources within those areas. These groups, or agencies, included: National Park Service; Santa Monica Mountains Conservancy; Whittier Wildlife Corridor Conservation Authority; West Mojave Planning Group; Edwards Air Force Base (AFB); Catalina Island Conservancy; Mojave California Poppy Reserve; Frank G. Bonelli Park; and many others. Data including species accounts and vegetation maps gathered from these groups were used to aid in the review and eventual delineation of proposed SEAs in those areas. A complete listing of all sources used in this study is provided in Appendix F, *Comprehensive Study Sources*, of this report.

4.3 EXISTING SEA REVIEW

All existing SEAs in unincorporated Los Angeles County at the time of study were evaluated. The preliminary evaluation of these SEAs consisted of a review of the 1976 SEA Nomination archive files (England and Nelson, 1976). These files included original nomination reports with SEA descriptions, SEA boundaries on USGS topographic maps, and supporting data gathered during the 1976 study.

A second source of literature used to review existing SEAs was previous (SEATAC) biota reports and the Phase 1 SEA Study (Michael Brandman Associates, 1991). The SEATAC reports evaluated potential impacts of proposed projects within existing SEAs and normally included: a description of the SEA; a list of potential sensitive species in the vicinity; a description of the vegetation of the area; current use of the site and adjacent lands; and a list of all species observed. The *Phase 1 SEA Study*, evaluated the condition of seven existing SEAs (No. 6 - Las Virgenes; No. 9 - Cold Creek; No. 10 - Tuna Canyon; No. 15 - Tonner Canyon/Chino Hills; No. 19 - San Francisquito Canyon; No. 45 - Dudleya Desiflora Population, Azusa; No. 61 - Kentucky Springs).

Data obtained from these reports was used in conjunction with ground-truthing field studies (see below) to define the location, extent, and condition of biological resources within each existing SEA. Where applicable, this information was extrapolated to adjacent lands. These data were also used to review the existing SEA boundaries to determine their accuracy and/or potential for recommended modification.

4.4 AERIAL PHOTOGRAPHY

Aerial photos were obtained from two sources to accurately assess biological resources and define boundaries. The DRP provided high resolution, digital, color, ortho-rectified photos taken in the summer of 1999. These images covered most of the existing SEAs in the unincorporated County and some adjacent lands. Photographs of the remaining SEAs in unincorporated County, as well as candidate areas, were acquired from the United States Geological Survey (USGS). These images were high resolution, black and white, digital, ortho-rectified, photos taken five to ten years ago. Approximately 99 percent of the areas encompassed by existing and prospective SEAs were covered aerially. The remaining one percent, mostly within U.S. Forest, was evaluated using USGS Quadrangle maps at 1:24,000 (1" = 2000'). Photographs from both sources were printed and mounted for field use at a scale of 1:12,000 (1" = 1000').

4.5 FIELD STUDY

After reviewing data for existing and prospective SEA areas, field surveys were performed. The objective of the field surveys was to verify the location and evaluate the condition of biological resources previously described in the literature and nomination material. Using mounted aerial photographs as a reference, sites were toured by accessing vantage points which would allow for review of large areas from a single point. Although, not every resource was verified due to the limitations of access to private properties, most areas were field-truthed.

Based on the results of the literature review and field-truthing surveys, preliminary proposed boundaries were formulated and sketched on regional maps. PCR project team biologists next visited each proposed SEA area and refined the boundaries onto aerial photographs. Delineation of the outer boundaries of the proposed SEA's considered many factors. In general they were drawn to include those areas that met the designation criteria and the sustainable biological unit of which they are a part. Most development and other disturbed areas that occurred along the edges of these units were excluded from the SEA. Within the interior of proposed SEAs, only large developments were excluded. After field efforts were completed, boundaries were reviewed and refined a final time to eliminate drawing errors and to ensure the accuracy of the boundary position. The proposed boundaries were then digitized and incorporated in a Geographic Information System (GIS) formatted database.

The final field task involved mapping the vegetative communities within the boundaries of each proposed SEA. Vegetation boundaries were drawn on aerial photographs in the field, then later digitized into the GIS formatted database. Plant communities were classified using standard methodology and terminology. Most of the communities correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). A few communities were classified using standard naming conventions based on dominant species. Where possible, classifications were specific; however, many areas were classified in more general or mixed terms (e.g., riparian, chaparral/coastal sage scrub) due to access limitations. Descriptions of each plant community can be found in the individual proposed SEA reports.

Vegetation maps for two of the proposed SEAs were acquired in digital format from existing sources. The National Park Service provided a map of the Santa Monica Mountains, and the Santa Catalina Island Conservancy provided a map of Santa Catalina Island. These maps were reprojected and printed on USGS topographic maps and reviewed for accuracy. Descriptions of vegetative communities within these SEAs were developed by PCR project team biologists in the field.

Several factors limited the accuracy of field efforts during this study. Access to many areas within unincorporated County is restricted. Some areas within proposed SEAs that were in private property or inaccessible due to terrain or surrounding private property. These areas could only be interpreted from aerial photographs. Secondly, USGS aerial photographs, used in many areas, are out of date and do not reflect land use changes within the last five to ten years. Boundary lines in these areas may not be as precise as others delineated on more recent photographs. Finally, while many areas were mapped using color photographs, the black and white USGS photographs made interpretation of the remaining areas difficult. Designation of community types was particularly difficult with these photographs due to the lack of clear distinctions in gray scale. Although these factors limited the accuracy of the study in some areas, efforts were made wherever possible to increase the precision of the final product.

5. PROPOSED SEAs

5.1 CANDIDATES

The list of candidate SEAs was derived from two primary sources. Initially, the County identified all existing SEAs as candidates with the directive that those SEAs entirely or partially within County unincorporated lands be studied. Those SEAs entirely within incorporated cities were to be retained without further study or modification. The County also identified several areas for consideration that were not existing SEAs but which had been brought to their attention as

candidates by SEATAC members, the County biologist and others. The remaining candidates were obtained through the survey questionnaire/nomination process included in the study's public outreach program. Through this process, numerous additional candidate areas were received for evaluation. A summary of the respondents and their nominations along with this study's response to these nominations is provided in Appendix G, *SEA Nomination Table*.

Nominations were received from the following groups, and individuals: California Native Plant Society, Altadena Foothill Conservancy Planning, Ballona Ecosystem Education Project and Save All of Ballona, Endangered Habitats League, Environment Now, Friends of the Santa Clara River, Los Cerritos Wetlands Task Force, Monrovia Mountain Conservancy, National Audubon Society, Natural History Club of Acton/Agua Dulce, Puente Hills Landfill Native Habitat Conservation Authority, Resource Conservation District of the Santa Monica Mountains, San Gabriel Mountains Regional Conservancy, Santa Monica Mountains Task Force/Sierra Club Chapter, Santa Susana Mountain Park Association, Santa Clarita Organization for Planning the Environment, Sierra Club - Santa Clarity Valley and Santa Clarita Valley Preservation Committee, Sierra Club - Angeles Chapter Conservation Committee, Wildlife Corridor Conservation Authority, The Theodore Payne Foundation for Wildflowers and Native Plants, Inc., and Desert Tortoise Preservation Committee, State of California, Resource Agency - Santa Monica Mountains Conservancy, U.S. Department of Agriculture - National Forest Service - Angeles National Forest, Wilmington Harbor City Harbor Lake Regional Park, U.S. Department of the Interior - National Park Service - Santa Monica Mountains National Recreation Area, U.S. Department of the Interior - Bureau of Land Management - West Mojave Interagency Planning Team, and California Department of Parks and Recreation - Angeles Division, Diamond Bar East Partners, Hacienda Heights Improvement Association, David Brown, Judy Garris, Marcia Scully, and Barbara Wampole. Areas nominated by the respondents varied considerably from modifications to individual existing SEA boundaries to the entire watersheds of major rivers including all tributaries.

5.2 CONCLUSIONS

Twelve SEAs are proposed, based upon this study. These are shown in Figure 2, *Proposed Boundaries*, on page 20. The Proposed SEAs have been designated Antelope Valley, San Andreas Rift Zone, Santa Clara River, Joshua Tree Woodland, Cruzan Mesa Vernal Pools, Santa Susana Mountains/Simi Hills, Santa Monica Mountains, San Gabriel Canyon, San Dimas Canyon/San Antonio Wash, East San Gabriel Valley, Puente Hills, and Santa Catalina Island. In comparison to the approximately 176,174 acres (unincorporated) within the 61 existing SEAs, the twelve proposed SEAs cover approximately 442,983 acres (unincorporated) whereby many existing SEAs are consolidated and linked.

Individual Biological Assessment Reports for each of the proposed SEAs have been prepared under separate covers. These reports include location, description, existing land use, land ownership, vegetation, wildlife, wildlife movement, sensitive resources, regional value, and recommended management practices for each proposed SEA. A list of all plant and animal species potentially occurring within each proposed SEA was also prepared and is included in Appendix H, *Comprehensive Floral and Faunal Compendium*. A summary of the disposition of proposed and existing SEAs is provided in Table 2, *Proposed Versus Existing SEAs*, on page 21. In general, however, proposed changes are the result of incorporating sensitive resource information with current conservation practices.

Recent studies of biological diversity have demonstrated that there are two essential components needed within land use plans to conserve native species and their habitats in an urbanizing environment: sufficient size (of the conservation or open space use area), and connectivity (with other like or supporting systems). Urban "islands" lose biological diversity at a fairly steady rate, commensurate with size (smaller habitat patches losing more, faster), and isolated habitat areas, regardless of size, have less opportunity to regain species by re-colonization from other areas. The distance between habitat areas, and land use within the intervening areas, also influence both the rate of loss and the potential for gain. The criteria used to designate SEAs changed only slightly, but their application was made at a greater scale reflective in part of the changes that have occurred within and around the existing SEAs in the past 25 years.

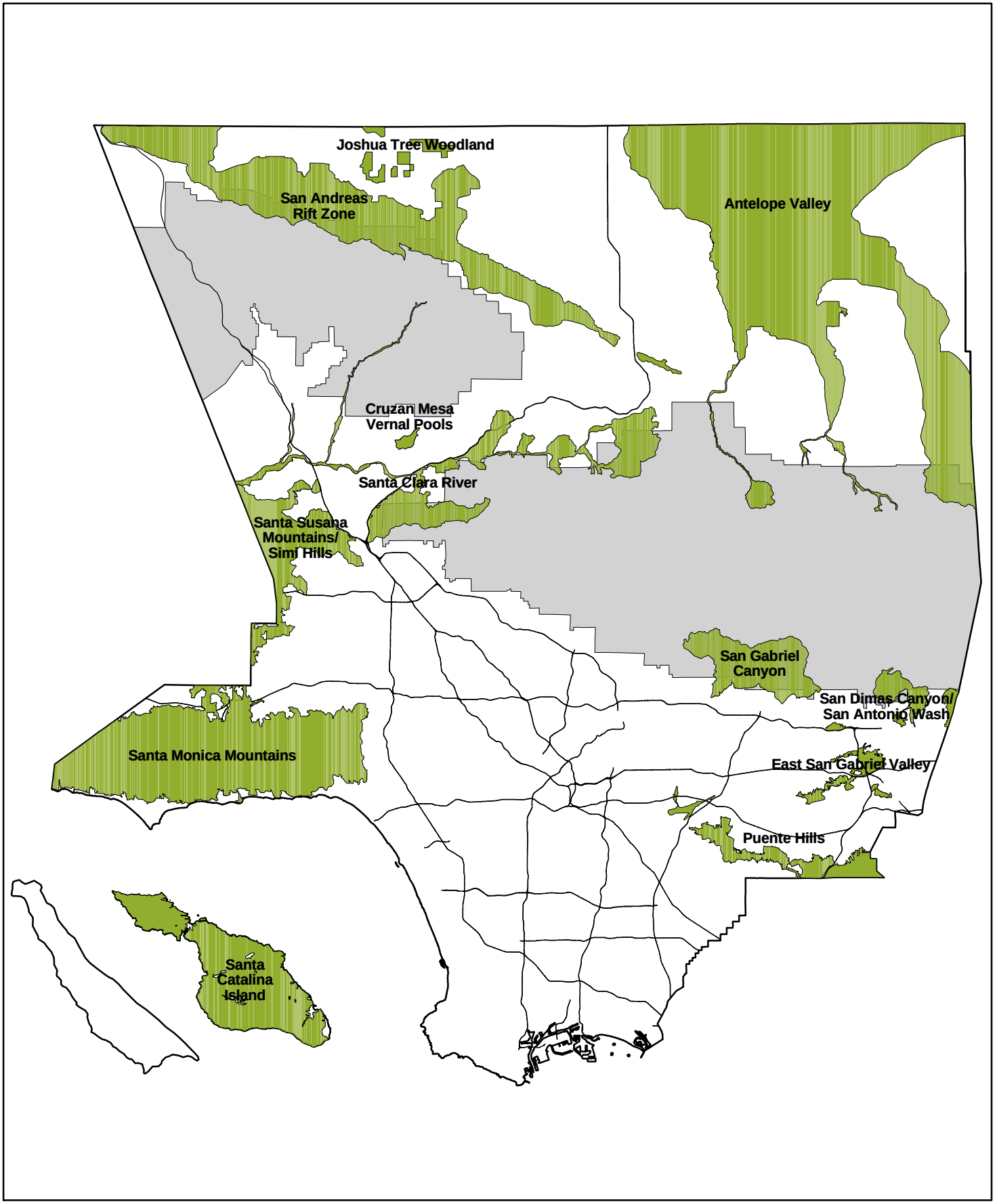

Figure 2

Significant Ecological Areas Update Study 2000 Proposed Boundaries

Proposed Significant Ecological Areas
Angeles National Forest

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Table 2
PROPOSED VERSUS EXISTING SEA BOUNDARIES

Proposed			Existing				Comparison
SEA Name	**Total Acres**	**Uninc. Acres**	**SEA #**	**SEA Name**	**Total Acres**	**Uninc. Acres**	
Santa Monica Mountains	99,430	70,880	3	Zuma Canyon	3,202	≈2,900	Consolidated with proposed Santa Monica Mountains SEA.
			4	Upper La Sierra Canyon	287	287	Consolidated with proposed Santa Monica Mountains SEA.
			5	Malibu Canyon and Lagoon	3,680	≈3,500	Consolidated with proposed Santa Monica Mountains SEA.
			6	Las Virgenes	500	≈250	Consolidated with proposed Santa Monica Mountains SEA.
			7	Hepatic Gulch	15	15	Consolidated with proposed Santa Monica Mountains SEA.
			8	Malibu Creek State Park Buffer Area	245	245	Consolidated with proposed Santa Monica Mountains SEA.
			9	Cold Creek	1,552	1,552	Consolidated with proposed Santa Monica Mountains SEA.
			10	Tuna Canyon	1,491	≈1,350	Consolidated with proposed Santa Monica Mountains SEA.
			11	Temescal-Rustic-Sullivan Canyon	5,702	0	Consolidated with proposed Santa Monica Mountains SEA.
			12	Palo Comado Canyon	2,496	≈1,000	Consolidated with proposed Santa Monica Mountains SEA.
			39	Encino Reservoir	2,071	0	Consolidated with proposed Santa Monica Mountains SEA.
Subtotal	99,430	70,880			21,241	11,099	
Puente Hills	13,421	10,103	15	Tonner Canyon/ Chino Hills	4,145	≈3,950	Consolidated with proposed Puente Hills SEA.
			17	Powder Canyon/Puente Hills	609	≈100	Consolidated with proposed Puente Hills SEA.
			42	Whittier Narrows Dam County Recreation Area	1,585	≈1,300	Consolidated with proposed Puente Hills SEA; except for northerly portions.
			44	Sycamore and Turnball Canyons	607	≈100	Consolidated with proposed Puente Hills SEA.
Subtotal	13,421	10,103			6,946	5,450	

Table 2
PROPOSED VERSUS EXISTING SEA BOUNDARIES
(CONTINUED)

Proposed			Existing				Comparison
SEA Name	**Total Acres**	**Uninc. Acres**	**SEA #**	**SEA Name**	**Total Acres**	**Uninc. Acres**	
East San Gabriel Valley	5,175	722	16	Buzzard Peak/ San Jose Hills	601	≈300	Consolidated with proposed East San Gabriel Valley SEA.
			18	Wayhill	27	0	Studied; not included in proposed SEA due to degraded nature of resources and disjunct location.
Subtotal	5,175	722			628	300	
Santa Clara River	37,774	19,408	19	San Francisquito Canyon	747	≈650	Consolidated with proposed Santa Clara River SEA.
			23	Santa Clara River	4,829	≈3,600	Consolidated with proposed Santa Clara River SEA.
			61	Kentucky Springs	1,490	1,490	Consolidated with proposed Santa Clara River SEA.
Subtotal	37,774	19,408			7,066	5,740	
Santa Susana Mountains/ Simi Hills	26,795	23,425	20	Santa Susana Mountains	18,240	≈17,900	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
			21	Santa Susana Pass	1,225	≈750	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
			13	Chatsworth Reservoir	1,301	0	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
			14	Simi Hills	850	≈800	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
			63	Lyon Canyon	171	171	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
			64	Valley Oaks Savannah	320	320	Consolidated with proposed Santa Susana Mountains/Simi Hills SEA.
Subtotal	26,795	23,425			22,107	19,941	
San Gabriel Canyon	22,966	128	22	Santa Fe Dam Floodplain	2,125	0	Consolidated with proposed San Gabriel Canyon SEA.

Table 2
PROPOSED VERSUS EXISTING SEA BOUNDARIES
(CONTINUED)

Proposed			Existing				Comparison
SEA Name	**Total Acres**	**Uninc. Acres**	**SEA #**	**SEA Name**	**Total Acres**	**Uninc. Acres**	
			45	Dudleya Densiflora population	151	≈60	Consolidated with proposed San Gabriel Canyon SEA.
			62	Galium Grande Population	84	0	Consolidated with proposed San Gabriel Canyon SEA.
Subtotal	22,966	128			2,360	60	
San Dimas Canyon/San Antonio Wash	6,785	1,568	25	San Dimas Canyon	104	≈15	Consolidated with proposed San Dimas Canyon/San Antonio Wash SEA.
			26	San Antonio Canyon Mouth	766	0	Consolidated with proposed San Dimas Canyon/San Antonio Wash SEA.
Subtotal	6,785	1,568			870	15	
Antelope Valley	222,325	197,634	47	Edwards Air Force Base	17,396	17,396	Consolidated with proposed Antelope Valley SEA.
			48	Big Rock Wash	6,202	6,202	Consolidated with proposed Antelope Valley SEA.
			49	Little Rock Wash	3,225	≈1,300	Consolidated with proposed Antelope Valley SEA.
			50	Rosamond Lake	13,584	13,584	Consolidated with proposed Antelope Valley SEA.
			51	Saddleback Butte State Park	5,362	5,362	Consolidated with proposed Antelope Valley SEA.
			52	Alpine Butte	5,635	≈4,500	Consolidated with proposed Antelope Valley SEA.
			53	Lovejoy Butte	1,955	1,955	Consolidated with proposed Antelope Valley SEA.
			54	Piute Butte	1,295	1,295	Consolidated with proposed Antelope Valley SEA.
			55	Desert Montane Transect	26,775	26,775	Consolidated with proposed Antelope Valley SEA.
Subtotal	222,325	197,634			81,429	78,369	

Table 2
PROPOSED VERSUS EXISTING SEA BOUNDARIES
(CONTINUED)

Proposed			Existing				Comparison
SEA Name	**Total Acres**	**Uninc. Acres**	**SEA #**	**SEA Name**	**Total Acres**	**Uninc. Acres**	
San Andreas Rift Zone	89,698	68,722	56	Ritter Ridge	2,290	≈900	Consolidated with proposed San Andreas Rift Zone SEA
			57	Fairmont and Antelope Buttes	5,567	5,567	Consolidated with proposed San Andreas Rift Zone SEA.
			58	Portal Ridge/ Liebre Mountains	31,063	31,063	Consolidated with proposed San Andreas Rift Zone SEA.
			59	Tehachapi Foothills	4,611	4,611	Consolidated with proposed San Andreas Rift Zone SEA.
Subtotal	89,698	68,722			43,531	42,141	
Joshua Tree Woodland	4,728	4,728	60	Joshua Tree Woodland Habitat	5,760	5,760	Consolidated with proposed Joshua Tree Woodland SEA (existing boundaries do not correspond with proposed SEA due to past mapping error).
Subtotal	4,728	4,728			5,760	5,760	
Santa Catalina Island	46,537	44,707	N/A	Santa Catalina Island	≈7,200	≈7,050	Consolidated with proposed Santa Catalina Island SEA.
Subtotal	46,537	44,707			7,200	7,050	
Cruzan Mesa Vernal Pools	958	958	N/A	N/A	0	0	No existing SEAs within proposed SEA.
Subtotal	958	958			0	0	
N/A			1	Malibu Coastline	11,754	0	Not studied; marine areas not included in study.
			2	Point Dume	275	0	Not studied; entirely within City of Malibu.
			24	Tujunga Valley/Hansen Dam	2,660	0	Not studied; entirely within City of Los Angeles.
			27	Portugese Bend Landside	893	0	Not studied; entirely within City of Rancho Palos Verdes.
			28	El Segundo Dunes	166	0	Not studied; entirely within City of Los Angeles.
			29	Ballona Creek	459	≈140	Not studied; currently being studied by County/City of Los Angeles Local Coastal Program.

Table 2
PROPOSED VERSUS EXISTING SEA BOUNDARIES
(CONTINUED)

Proposed			Existing				Comparison
SEA Name	**Total Acres**	**Uninc. Acres**	**SEA #**	**SEA Name**	**Total Acres**	**Uninc. Acres**	
			30	Alamitos Bay	43	0	Not studied; entirely within City of Long Beach.
			31	Rolling Hills Canyon	520	0	Not studied; entirely within cities of Rolling Hills, Rancho Palos Verdes, and Rolling Hills Estates.
			32	Agua Amarga Canyon	289	0	Not studied; entirely within City of Palos Verde Estate, Rancho Palos Verdes, Rolling Hills Estate.
			33	Terminal Island	87	0	Not studied; entirely within City of Los Angeles.
			34	Palos Verde Peninsula Coastline	8,644	0	Not studied; marine areas not included in study.
			35	Harbor Lake Regional Park	386	0	Not studied; entirely within City of Los Angeles.
			36	Madrona Marsh Total	149	0	Not studied; entirely within City of Torrance.
			37	Griffith Park Total	3,441	0	Not studied; entirely within City of Los Angeles.
			40	Verdugo Mountains	11,554	0	Not studied; entirely within City of Glendale, Burbank, and Los Angeles.
			43	Rio Hondo Wildlife Sanctuary	109	109	Studied; not included in proposed SEA.
Subtotal	N/A	N/A			41,429	249	
GRAND TOTAL	576,592	442,983			240,567	176,174	

Note: Differences between Total Acres and Unincorporated (Uninc.) County acres represents portions of SEAs within incorporated cities and National Forest.

Based on updated evaluation principles, the revised SEAs reflect a more modern and scientifically-grounded concept regarding size and connectivity. Rather than focus on a single resource or habitat type, existing SEAs are connected into a linkage system which should greatly improve the maintenance of critical resources. The SEA designation does not protect biotic resources on land per se, and SEAs are not preserves or conservation areas; rather, SEAs are areas in which planning should be sensitive to resources and maintenance of biological functions as well. By creating larger SEAs, habitat linkage zones are provided between related habitat types (such as the Antelope Valley buttes, or the San Andreas Rift Zone wetlands), and areas of sufficient width, to function as wildlife movement routes between open space areas. The linkages may serve to sustain populational genetic diversity of low-mobility species (such as plants, amphibians, reptiles, rodents), as well as provide refuge areas for migrant species. Corridor routes provide for dispersal between habitat areas by supporting more mobile species. The need for buffer areas has also been eliminated, with SEAs incorporating not only local resources (such as sensitive species) and their habitats, but also the seasonal support habitats for those species, with connections to essential sustaining resource areas (such as corridor areas and hydrological systems). Additionally, potential impacts of non-native species, feral pets, lights, noise, etc., on sensitive habitats have been alleviated by reducing the "edge effect" of urbanization relative to the overall size of the SEAs. In short, by "bridging the current SEA islands" wherever possible, zones of lower intensity human impacts between essential habitat resources have been provided, which help maintain overall species and habitat diversity in Los Angeles County.

6. RECOMMENDATIONS FOR IMPLEMENTATION

6.1 COMPLIANCE WITH FEDERAL AND STATE LAW

Existing federal and state laws mandate the regulatory jurisdiction of government agencies over certain biological resources within SEAs. These include regulation of the following resources: waters and wetlands of the United States (e.g., riparian habitats and most drainages) by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act; federally-listed threatened and endangered species by the USFWS under the federal Endangered Species Act; streambeds, riparian habitats and fisheries by the CDFG under Section 1603 of the California Fish and Game Code; state-listed threatened and endangered species by the CDFG under the California Endangered Species Act; and, water quality by the Regional Water Quality Control Board under Section 401 of the Clean Water Act. The SEA program does not attempt to duplicate these same regulatory programs; rather the implementation of the SEAs is viewed as a complementary program intended to preserve and sustain all biological diversity.

6.2 INTERPRETATION OF MAPPING

The rationale for mapping SEAs was to include, as accurately as possible at 1"=1000' scale, areas of sufficient acreage to ensure that the targeted resources would be sustained into perpetuity. This provides sufficient area for metapopulation stability (e.g., pollinators, water and nutrient supply, genetic exchange, etc.), or to at least provide a broad resource base for the biological elements present, in the event of a natural catastrophe (e.g., fire, flood, etc.) or isolating of the SEA. The margin of error of both the SEA boundaries and the vegetation boundaries at the scale of 1" = 1,000' is subject to several factors: 1) intended location versus actual location of drawn lines; 2) digitizing center versus off center of drawn lines; 3) width of drawn line; and, 4) reprojected coverages. However, the mapping was intended to be interpreted on a project submittal and analysis basis. Therefore, when interpreting SEA boundary maps, the following guidelines are recommended:

- SEA boundaries mapped along natural topographic "breaks", such as a ridge line or toe of slope, were intended to be delineated without variation.

- Boundaries mapped along man-made features, such as a roadway or an aqueduct, were drawn without variation, and are not intended to stray onto such features or cross them unless there is a clear change in boundary direction.

- Boundaries that conform to the edge of urban development were intended to follow the property lines of developed properties, such as the rear or side yard boundary.

- Pre-existing developed portions of properties within SEAs, such as buildings, landscaped areas, and ancillary structures (e.g., barns, corrals), oil field facilities, roadways, utility infrastructure (e.g., water tanks, flood control, electric towers), etc. were not intended as a part of the SEA. Some such features and their maintenance and operation are not subject to SEATAC review. Regardless, due to considerations of mapping scale these features may have been included within SEA boundaries but are recognized as not being biologically sensitive.

6.3 SEATAC REVIEW

As an outgrowth of the 1976 England and Nelson SEA Study, Los Angeles County formed the Significant Ecological Area Technical Advisory Committee. This committee consists of seven members from the private and public sectors with a range of biological expertise. The members are appointed by the DRP Director of Planning to serve staggered three year terms. The primary role of SEATAC is to review projects proposed within SEAs, coordinated by the Department's staff biologist. The Significant Ecological Area Technical Advisory Committee procedures and reporting guidelines provide an additional layer of County review and added scientific rigor to the California

Environmental Quality Act compliance process. The findings of this study support the need to continue and to even increase its activities by virtue of the larger and more complex SEAs proposed. As part of the on-going SEATAC role, the following policies are recommended:

- Clearly stress to users the benefits of completing a Biological Constraints Analysis for SEATAC review prior to developing development plans for a project site (i.e., time and processing savings).

- Eliminate the requirement for small mammal trapping due to the risk associated with hantavirus and other pathogens carried by small mammals; rather, rely on species' range information and habitat evaluations.

- Implement a monitoring program relative to SEA issues and concerns for post-approval construction monitoring, restoration measures and monitoring, and reporting requirements to the DRP staff biologist.

- Require project impact analysis and mitigation measures to fully assess the effects of the project on SEA integrity using the existing SEA Design and Compatibility Guidelines; that is, give it equal consideration and emphasis, under its own heading, as the project site itself.

- Screen project applications within SEAs and exempt projects with nominal effects from further SEATAC review, subject to specific conditions, as appropriate and as developed on a case by case basis. Projects that have undergone SEATAC/environmental review (but may have not been approved) should also be considered in this manner. This would enable SEATAC to focus its time and efforts on projects with potentially substantial effects.

6.4 COMPREHENSIVE LAND USE MANAGEMENT PRACTICES

Land use management guidelines are listed below for all projects within SEAs. These guidelines are proposed to be used in concert with the specific recommended management practices provided in each of the individual SEA reports.

General

It is difficult, if not impossible, to anticipate all potential land uses within SEAs. Therefore, the following recommended guidelines identify by example, rather than an exhaustive listing, general considerations for land uses within SEAs.

- High intensity and/or extensive land uses, by their nature, are not generally compatible with SEA resources. Such uses would include expansive housing tracts, regional commercial and business centers, landfills, quarries, surface mining, etc. Only in cases where key resources (e.g., core habitats, linkages, sensitive resources) are avoided and the dedication of open space is such that overall SEA integrity is preserved should such uses be considered.

- As a general rule, lands within SEAs should be used for low rural density development.

- As a target, development of properties within SEAs should disturb no more than 20 percent of the SEA. Considerations should be given to clustering development and dedicating open space that is contiguous with adjacent open space areas. To the extent feasible, place roads, utilities and other infrastructure within development areas and minimize encroaching into adjacent open space areas.

- Avoiding the intrusion and "spillover" of development effects on adjacent habitat areas should be a primary guiding principle in the design of all projects.

- New landscape plantings in developments, particularly at their perimeters, should avoid the use of invasive plant species and revegetate with native plant species indigenous to the surrounding area.

- All outdoor lighting in SEAs should be shielded and directed away from adjacent open space areas; further, lighting for public health and safety should represent the minimum required to conform to applicable ordinances.

Core Habitats

Many wildlife species, particularly carnivores and other wide ranging species require large areas of suitable habitat for genetically and demographically viable populations. In addition, large contiguous blocks of habitat are more likely to encompass diverse habitat types and are more easily buffered from potential impacts from surrounding developed lands. Most proposed SEAs contain large blocks of habitat generally conforming to a significant topographical feature such as a water-shed, major river, butte, etc. These habitat blocks are referred to as "core habitats." Protecting natural open space (i.e., undeveloped land) within and adjacent to or near these large patches will maintain valuable protected core habitats, which, in turn, can protect larger wildlife populations and potentially generate a greater diversity of species and communities.

- Place primary emphasis on the preservation of large unbroken blocks of natural open space and wildlife habitat (i.e., core habitats).

- Preserve substantial areas of common habitats (e.g., chaparral, non-native grassland) along with sensitive and/or limited habitats (e.g., oak and riparian woodland, coastal sage scrub) within core habitat areas. Retention of common habitats should be designed so as to: buffer sensitive habitats from development; preserve ecotones; and, contribute to long-term functioning of plant and animal communities.

Habitat Linkages and Wildlife Corridors

Within the overall range of a species or suite of species, areas which possess sufficient cover, food, forage, water and other essential elements to serve as a movement pathway, or between two or more larger areas of habitat are referred to as "habitat linkages." An example would be a belt of coastal sage scrub traversing a golf course, and connecting sage scrub habitat areas on either side, providing a "safe passage" zone for smaller, slower-moving species such as lizards and rodents to maintain population connectivity between the two sides of the golf course.

Areas of open space of sufficient width to permit larger, more mobile species (such as foxes, bobcats and coyote) to pass between larger areas of open space, or to disperse from one major open space region to another are referred to as "wildlife corridors." Such areas generally are several hundred feet wide, unobstructed, and usually possess cover, food and water. The upland margins of a creek channel, open ridgelines, or open valleys in the bottoms of drainages often serve as major corridors locally, as do riparian alignments.

- When determining the portions of a development site to be retained in open space, give priority to the preservation of habitat linkages and movement corridors to maintain habitat connectivity.

Habitat connecting core areas together can mitigate the detrimental effects of shrinking habitat availability and wildlife population isolation. Typically, habitat in the SEAs consists of large contiguous blocks (core habitat areas) with intervening areas of open space containing non-native grassland, roads, rural residential, and other low intensity disturbance. A primary goal of any land use within SEAs should be to maintain high levels of connectivity between core habitat areas via a network of linkages and corridors each of which should be no less than 1,000 feet wide. Such linkages should make use of natural topographic features (ridge lines and drainages), vegetative cover (woodlands and scrub), water sources (streams, springs, and ponds), and road undercrossings (bridges and culverts). They may also take advantage of conservation easements, parklands, and preserves.

Also, when reviewing proposed land uses, linkages between core habitats should be analyzed, then be designated, as open space. The following guidelines should be considered.

- Keep road grading and clearance to a minimum; design any necessary roads that cross or enter linkage areas should be designed to minimize alterations to natural terrain and vegetation.

- To the greatest extent feasible and without compromising public safety, design roads within linkages to rural road standards with minimum widths and reduced speed limits.

- Place signs identifying "wildlife crossing area" along roads within linkage areas.

- Where a road crosses a streambed within a linkage area, utilize a bridge-crossing rather than a culvert; enhance vegetation at undercrossing portals to encourage wildlife use.

- Fencing should be discouraged and where needed should not be of a wildlife obstructing nature (e.g., barbed wire, chain link, solid wall), except around the immediate vicinity of residences and associated yards or where public health and safety dictates its use; all other fencing should be "open" in design and structure (e.g., split rail), and not exceeding four feet in height.

- Incorporate vegetative screening and intervening topography into project design and landscaping as buffers for linkages and corridors.

Fire Management

Many standard fuel management practices, some mandated by local and regional fire control agencies, are essentially incompatible with the desired conservation of natural biological resources within SEAs. Practices such as brushing increase erosion, destroy topsoil and native vegetation, and result in the proliferation of invasive, non-native plants. Repeated brushing may completely remove native habitat values, and altered substrates may not recover except over long periods of time without disturbance, and/or costly restoration programs to return a site to a native condition.

- The DRP should confer with the County Fire Department and Forestry and Fire Warden and sensitize them to this issue.

Fire risk reduction measures have the potential to significantly effect and fragment the habitat values of SEAs. Lot sizes of five acres of less can require over four acres of brush clearance, and within a rural residential subdivision, even with a conservation ethic, this can significantly impair natural habitat values and interrupt movement pathways and linkages. Alternative fire management schemes should be seriously explored with the appropriate fire prevention agencies, with consideration given to the following:

- Keep fuel reduction around residential structures to the minimum footprint necessary to insure public and private sector safety, and to comply with insurance requirements.

- For projects within SEAs, the DRP, through the SEATAC process, require fuel management programs which utilize agency-approved vegetation phasing (layering various types of lower-hazard native shrubs and ground-cover species) around the perimeter, and require that larger woody vegetation be thinned and trimmed rather than removed.

- Plan roadwork, fuelbreak creation and maintenance, and other similar activities performed by fire management agencies within SEAs, to reduce impacts to natural resources to the extent possible.

Public Access and Recreation

In general, public access, passive recreational uses and development of future recreation facilities are compatible with SEA management. Significant portions of any public lands proposed for inclusion in SEAs may have been originally acquired by governmental agencies specifically for recreational purposes. Some of these lands already have been developed as a National Recreation Area and County Regional Parks. It should also be stressed that there may be localized areas within SEAs where the biological resources are so sensitive that no access would be appropriate. These areas should be identified at the project level during the SEATAC review process. In addition, the following guidelines are recommended for the design of golf courses:

- Avoid areas supporting sensitive species and/or sensitive habitats (e.g., riparian areas, vernal pools, etc.).

- Incorporate conservation programs such as water and nutrient recycling and avoid changes in hydrology (groundwater and surface).

- Use indigenous native landscaping exclusively and divert runoff containing herbicides, pesticides, and other chemicals from reaching natural water courses and water bodies prior to clarification.

There are many examples of golf courses across the country that have been designed to achieve an “environmental friendly” character. In some cases, golf courses serve as manufactured linkages between habitat reserves. On a case-by-case basis, a new golf course proposed within a SEA should follow avoidance, preservation, and compensation measures, in that order, so the net result is minimal loss in biological resource value and function.

Infrastructure

Certain public infrastructure necessary for public health, safety or welfare may be unavoidable within SEAs. These include: arterial and other identified roads; water lines and associated facilities (e.g., pump stations, pressure control facilities, and access roads), regional water storage and treatment facilities; sewer lines and pump stations; electric, telephone, and natural gas facilities; and storm drain and flood control facilities. The following guidelines are recommended for use in the siting and construction of infrastructure, both existing and proposed, within SEAs.

- To the greatest extent feasible, siting of new infrastructure within SEAs should minimize impacts to natural habitats, and avoid sensitive species.

- Consider flexibility in future design and siting of facilities since many such facilities may not be constructed in the immediate future (e.g., certain arterial roads and water facilities to support growth), and the service environment for public utilities will change over time.

Routine operation and maintenance activities for existing and proposed facilities are to be expected within facility easements. These activities may include: road maintenance; regular patrol and inspection; insulator washing; facility operations; clearing and weed abatement around facilities; routine maintenance and repair of facilities; replacement, rehabilitation and upgrading of facilities; and, other activities mandated by regulation or law affecting public health, safety, and welfare.

For other activities, of a non-routine nature, the following guidelines are recommended:

- Facility operation, maintenance, and repairs that extend outside areas already cleared, should first document existing biological resources in the area to be disturbed using existing or new surveys, to be submitted for review to the DRP staff biologist. A revegetation plan should be prepared, implemented and monitored, by the agency proposing the action. The monitoring results should be submitted for review to the DRP staff biologist.

- Where feasible and consistent with public safety, encourage joint use for public access on infrastructure access roads in order to reduce the need for new trail construction.

- Undertake activities before or after the breeding/nesting season (typically March 15 to June 15).

The following guidelines are recommended to apply to the construction of new facilities.

- To the greatest extent feasible, locate and design infrastructure to minimize or avoid impacts to sensitive resources within SEAs, considering physical and engineering requirements of the proposed infrastructure.

- Design access roads for facilities that minimize disturbance and avoid impacts to sensitive resources. This will generally be the shortest feasible route. The cleared roadbed should be the minimum feasible width taking into account specific slope and safety requirements. Necessary erosion control measures and/or drainage pipes are also recommended.

- Require that a qualified biologist document the resources and vegetation in the area to be disturbed by the proposed facility; use the biological findings to provide the basis for revegetation and monitoring plans.

Wetlands, Riparian Habitats and Streambeds

Many land uses may have adverse effects on the quality, structure, and function of natural streambeds and their associated wetlands and riparian habitats. These uses include urban development, roads, mining, grazing, agriculture, recreational activities, reservoirs and flood control, among others. Because these resources are so critical to healthy ecosystems especially in semi-arid environments such as Los Angeles County, their conservation is considered vital to the long-term maintenance of SEAs.

The inherent functions and values of these habitats within local and regional ecosystems should be retained, such as: their importance to upstream, downstream and surrounding habitat systems; their critical value to migratory birds; their important contribution to habitat linkage and wildlife corridor networks; and their role in maintaining subsurface and surface water quality. For project planning and design purposes for all projects within SEAs resource conservation areas and buffer areas should be established adjacent to wetland, riparian and streambed habitat formations including: riparian and oak riparian woodlands, forests and scrub; desert riparian and wash; vernal pools; marshes, seeps and springs; and natural ponds. The purpose of using this approach is to define preservation areas where uses are excluded within wetland, riparian and streambed habitats (conservation area), plus an adjacent area with limited uses (buffer area). The buffer area serves to reduce impacts to the primary conservation or streamside area to accommodate water quality, fisheries, and terrestrial habitat management requirements. Consideration for resource conservation areas and buffer area setbacks should extend to habitat areas associated with all perennial, intermittent and ephemeral waters. Recommended guidelines to apply this concept are outlined below:

- Establish wetland, riparian and streambed resource conservation areas consisting of the target wetland, riparian and streambed habitat with minimum widths delineated as follows:

  — Riparian and oak riparian scrub, woodlands and forests – at the edge of the riparian vegetation (i.e., the dripline) on either side of the active stream channel; if riparian vegetation is absent or sparse, use the bed and bank of the stream channel.
  — Desert riparian and wash – because the associated riparian vegetation is typically sparse or xeric in life form, use the bed and bank of the active channel inclusive of any braided channel conditions.
  — Vernal pools – use the maximum pool extent.
  — Marshes, seeps and springs – use the edge of the saturated soil.

- Avoid impacts to resource conservation areas associated with channelization, bridge construction, mining and gravel extraction, utility crossings, etc.

- Designate resource conservation areas to be use exclusion areas and prohibit ground disturbing activities and vegetation removal.

- Establish buffer areas adjacent to and around resource conservation areas with minimum buffer setbacks measured from the edge of the resource conservation area as follows:

  — Riparian and oak riparian scrub, woodlands and forests and desert riparian and washes – 300 feet for rivers and streams with resource conservation area width greater than 100 feet; 150 feet for rivers and streams with resource conservation area width 50 to 100 feet; 75 feet for rivers and streams with resource conservation area width less than 50 feet.
  — Vernal pools – 150 feet, or the watershed boundary, whichever is greater.
  — Marshes, seeps and springs – 300 feet for resource conservation area greater than 1 acre; 150 feet for resource conservation area 0.5 to 1 acre; 75 feet for resource conservation area less than 0.5 acre.

- Measure buffer setbacks horizontally, in plan view, since they are intended to serve as spatial buffers; consider lesser setbacks if topography and/or other physical features are determined to provide adequate screening and buffering.

- Designate buffer areas as limited use areas; compatible uses may include agriculture and grazing, passive recreation (hiking, riding, golf and parks with no night lighting), and brush thinning for fire hazard reduction (no removal of trees).

The above guidelines are intended as a general rule for the treatment of wetlands, riparian habitats and streambeds. At times, land uses may necessitate encroachment into the recommended resource conservation areas and buffer areas due to topography or other constraints and road and utility crossings. In these cases the following guidelines are recommended.

- If necessary, encroachment of land uses other than those considered as compatible above should be minimized.
- Crossings of riparian habitats and streambeds should be designed to be as perpendicular as possible to drainage courses in order to minimize resource disturbance.
- Whenever feasible, drainage courses should be bridged with minimal intrusions of abutments and bridge supports into the drainage in order to minimize disturbances and effects on natural surface flow.

Non-riparian/Upland Woodlands

Similar to riparian habitats and streambeds, it is recommended that upland woodlands consisting of oak species, California walnut, joshua tree, native conifers, and cherry (Island and Mainland) be considered sensitive and require avoidance and setback guidelines. Typically, native trees are susceptible to changes in hydrology, soil compaction, impermeable surfaces within their driplines, loss of root systems due to trenching, and other modifications to their integrity and microclimate. Presently, the County administers an oak tree ordinance that has provisions for mitigation of potential impacts and replacement of oak trees but not necessarily oak woodland habitat values. In addition, qualified biologists and certified arborists are available to provide tree-specific recommendations for management. For the purpose of this study, however, these approaches should be followed only after considerations are made for the avoidance of oaks and all other native trees. This is particularly acute when dealing with woodlands that have their own distinct community character and provide unique and valuable habitat for many plant and animal species. Consideration for resource conservation areas and buffer area setbacks should also extend to non-riparian/upland woodlands. Recommended guidelines for this purpose are outlined below.

- Establish non-riparian/upland woodland resource conservation areas with a minimum outer boundary of the dripline of edge trees in the target woodland.
- Designate resource conservation areas as use exclusion areas and prohibit ground disturbing activities and vegetation removal.
- Establish buffer areas adjacent to and around resource conservation areas with minimum buffer setbacks of 150 feet measured from the edge of resource conservation areas.

- Measure buffer setbacks horizontally, in plan view, since they are intended to serve as spatial buffers; consider lesser setbacks if topography and/or other physical features are determined to provide adequate screening and buffering.

- Designate buffer areas as limited use areas; compatible uses include agriculture and grazing, passive recreation (hiking, riding, golf and parks with no night lighting), and brush thinning for fire hazard reduction (no removal of trees).

The above guidelines are intended as a general rule for the treatment of non-riparian/upland woodland habitats. At times, land uses may necessitate encroachment into the recommended resource conservation areas and buffer areas due to topography or other constraints and road and utility placement. In these cases the following guideline is recommended:

- If necessary, encroachment of land uses other than those considered as compatible above should be minimized.

Appendix A

1976 Criteria for Selecting and Classifying SEAs

Criteria for Selecting and Classifying Significant Ecological Areas

CLASS 1 – The habitat of rare, endangered, and threatened plant and animal species.

These areas are important for the maintenance of plant and animal species that are recognized as being either extremely low in numbers or having a very limited amount of habitat available. The terms rare, endangered, and threatened have precise meanings defined in both state and federal law.

State of California

Rare – An animal of a species or subspecies of birds, mammals, fish, amphibia, or reptiles that, although not presently threatened with extinction is in such small numbers throughout its range that it may be endangered if its environment worsens.

Endangered – An animal of a species or subspecies of birds, mammals, fish, amphibia, or reptiles the prospects of which are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

United States Government

Threatened – Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Endangered – Any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary (of the Interior) to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

Severe penalties can be imposed for destroying individual organisms or their habitat. The California Department of Fish and Game, and the United States Fish and Wildlife Service publish official lists of rare, endangered, and threatened species. Both agencies recognize mammals, birds, reptiles, and amphibians, but only the Fish and Wildlife Service is empowered to recognize insects and plants.

The literature on rare, endangered, and threatened species is extensive, and increasing all the time. This information was used to identify existing habitat in Los Angeles County.

CLASS 2 – Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.

The purpose of this criteria is to identify biotic resources that are uncommon on a regional basis. The geographical region considered could be as small as the southern California coastal plains, the transverse mountain ranges, the Mojave Desert, the southern California coastline, etc; or they could be as large as southern California, the Pacific coast, all of California, the western United States, or even larger. The point being that community, association, or habitat is either unique or restricted in distribution in an area larger than the political boundaries of Los Angeles County. Resources that are limited in distribution in an area larger than the political boundaries of Los Angeles County. Resources that are limited in distribution in the region being considered, but common elsewhere, are also included under this category.

CLASS 3 – Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution in Los Angeles County.

The purpose of this criteria is to identify biotic resources that are uncommon within the political boundaries of Los Angeles County, regardless of their availability elsewhere. The County has a high diversity of biological components. It and San Diego County are the only counties in the United States that possess coastal, montane, and desert communities within their boundaries. It is a rich heritage that few local governments can attempt to preserve.

Many of the communities that were once common in Los Angeles County have been severely reduced due to urban and agricultural development. This is especially true south of the San Gabriel Mountains, and among the agricultural fields of the north County. Other biotic features have never been common.

CLASS 4 – Habitat that as some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, or migrating grounds, and is limited in availability.

Certain areas tend to concentrate a species or group of species at various points in their life cycles. These areas possess specialized characteristics that are essential to the maintenance of wildlife. This criteria is intended to identify those areas that are limited in distribution, and not the specialized habitat of a common species or group of species.

CLASS 5 – Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or they represent an unusual variation in a population or community.

Oftentimes scientists learn the most about biological phenomenon by studying it at an extreme in its distribution. This reveals what the extremes are under which it can survive.

In addition, isolated populations and communities are often relicts of what was present in an area at some previous time, and often show genetic traits not found elsewhere in the species. These characteristics may be useful in determining taxonomic relationships.

CLASS 6 – Areas important as game species habitat or as fisheries.

The criteria was designed to identify areas that are critical to the maintenance of game and fish populations in Los Angeles County.

CLASS 7 – Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.

The intent of this criteria was to identify examples of the more common biotic resources in Los Angeles County. As often as possible, the areas selected:

1. were completely of nearly undisturbed

2. had a diversity of habitats

3. were large enough to support a representative sample of the native fauna.

4. were more or less isolated from outside impacts, such as a self-contained watershed or isolated mountain peak.

Examples of each vegetation type were selected from the various geographical regions in the County in order to preserve geographic diversity.

CLASS 8 – Special areas.

Certain areas that are worthy of inclusion, but that do not fit any of the above criteria, should be pointed out at this time. Each area has its own special characteristics that are discussed on the individual area description sheets.

APPENDIX B

City and County Survey Responses

Los Angeles County SEA Update Study
City & County Survey Questionnaire

Date Received:	Respondent:	Summary of Comments:	Response:
10-21-99	**City of Claremont** Community Development Department 207 Harvard Avenue Claremont, CA 91711-0880 Contact: Jennifer Craven, Assistant Planner	Remove SEA #26 (San Antonio Canyon Mouth) from the County's list due to approved and built development, as well as, other disturbances to the area.	Due to remaining biological resources of regional significance, principally extensive undisturbed alluvial fan scrub, this SEA is proposed to be retained and consolidated into the proposed San Dimas Canyon/San Antonio Wash SEA.
12-20-99	**City of Diamond Bar** 21660 E. Copley Drive, Suite 100 Diamond Bar, CA 91765-4177 Contact: James DeStefano, Deputy City Manager	Modify the boundaries of SEA #15 (Tonner Canyon/Chino Hills) to include only the area located in the unincorporated County. The City is opposed to any expansion or additional SEAs within City boundaries or its Sphere of Influence. The City maintains a Significant Ecological Area Technical Advisory Committee as a component of its development review and environmental evaluation process. The City also requires development meet special conditions under a Hillside Conditional Use Permit and Hillside Management Ordinance.	Existing SEA #31 has been consolidated with the proposed Puente Hills SEA, including areas within the City and spheres of influence. This is due to the inter-relationship with region-wide ecological systems throughout the Puente/Chino Hills region.
12-01-99	**City of Glendale** 633 E. Broadway, Rm. 103 Glendale, CA 91206-4386 Contact: David Bobardt, Senior Planner	City acknowledges SEA #40 (Verdugo Mountains), in its General Plan Open Space and Conservation Elements, even though a 572-unit development in the SEA is currently pending. Often, most sensitive biological areas are set aside for protection during development review. City's Hillside Ordinance provides further direction on this issue.	Existing SEA #40 was not studied due to its location outside of the unincorporated jurisdiction. Existing SEAs within city boundaries are retained as originally approved.
11-03-99	**City of Glendora** Department of Planning & Redevelopment 116 E. Foothill Boulevard Glendora, CA 91741 Contact: Bill Rodrigues, Assistant Planner	No SEAs are located within the City boundaries, but the General Plan promotes protection of biotic resources, including the San Gabriel Mountains live-forever (*Dudleya densiflora*).	Existing SEA #45 (*Dudleya densiflora* Population) is consolidated into the San Gabriel Canyon SEA which also includes additional areas supporting the species. A portion of existing SEA #45 is located within the City of Glendora. In correspondence dated November 3, 1999, the City noted that areas with *Brodiaea filifolia* are designated Open Space in the zoning and General Plan classifications. The portion within the city will be retained as an SEA.
11-09-99	**City of La Verne** 3660 D Street La Verne, CA 91750 Contact: Hal Frederickson, Community Development Director Ili Lobaco, Graduate Planning Intern	City supports SEA #25 (San Dimas Canyon) and agrees it should continue to be classified as a SEA. City General Plan contains a Resource Management Chapter including policies and implementation measures to address biological resources.	San Dimas Canyon, including the entire existing SEA #25 has been consolidated into the proposed San Dimas Canyon/San Antonio Wash SEA.

Los Angeles County SEA Update Study
City & County Survey Questionnaire

Date Received:	Respondent:	Summary of Comments:	Response:
10-04-99	**City of Long Beach** Planning & Building Department City Hall, Fourth Floor Long Beach, CA 90802	Biotic resources within the City are addressed under the PD (Planned Development) zoning designation. There are no other mechanisms in place.	The City of Long Beach recently acquired Alamitos Bay, an existing SEA, through annexation. This area was not studied due to its location outside of the unincorporated jurisdiction. Existing SEAs within city boundaries are retained as originally approved.
10-20-99	**City of Los Angeles** Los Angeles Department of City Planning 221 South Figueroa, Ste. 210 Los Angeles, CA 90012 Contact: Anne Howell	LA City responses were received on the following existing SEAs: #11 (Temescal/Rustic/Sullivan Canyons), #13 (Chatsworth Reservoir), #14 (Simi Hills), #21 (Santa Susana Pass), #24 (Tujunga Valley/Hansen Dam), #29 (Ballona Creek), #33 (Terminal Island), #35 (Harbor Lake Regional Park), #37 (Griffith Park), #39 (Encino Reservoir), and #40 (Verdugo Mountains). Zoning designations for these SEAs are as follows unless noted otherwise below. Publicly owned land in an SEA is zoned open space, whereas privately owned land in an SEA will have open space, agricultural or very low-density designations. • SEA #24: a portion of the Tujunga Wash has been approved for a golf course. • Delete portions of SEA #28 along the east boundary because it is not included in the habitat protection project for the El Segundo Blue Butterfly. • Portions of SEA #29, Ballona Creek, are proposed or approved for restoration. • A large commercial-residential-recreation-industrial project is approved for a major portion of the area NE of SEA #29. • SEA #29 should be modified to include restoration areas and delete developed areas. • SEA #33 should be deleted because the Least Tern nesting site has been relocated to the outer harbor. • In SEA #35, the area north of Pacific Coast Highway should be deleted due to residential development.	Existing SEAs #11 and #39 have been included within the proposed Santa Monica Mountains SEA. Existing SEAs #13, #14, and #21 have been consolidated into the proposed Santa Susana Mountains/Simi Hills SEA. SEAs #24, #33, #35, #37, and #40 are entirely outside lands within County jurisdiction. Existing SEAs #24, #33, #35, #37 and #40 were not studied due to location of these areas outside of the unincorporated jurisdiction. With exception to SEA #33, existing SEAs within city boundaries are retained as originally approved. SEA #33 (Terminal Island) can be deleted; in correspondence dated October 19, 1999, the City recommended that SEA #33 be relocated to new land created in the outer harbor area. According to the City, this recommendation was made by the U.S. Fish and Wildlife Service, and State Department of Fish and Game. Existing SEA #29, Ballona Creek, was not a part of the study, and it will be retained as originally approved. The analysis of this SEA is undergoing an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed to this SEA until an assessment of existing conditions has been completed by this study. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved. The analysis of this area is also pending an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed until an assessment of existing conditions has been completed. Existing SEA #28 will be retained as originally approved.

Los Angeles County SEA Update Study
City & County Survey Questionnaire

Date Received:	Respondent:	Summary of Comments:	Response:
12-15-99	**City of Monrovia** 415 South Ivy Avenue Monrovia, CA 91016-2888 Contact: Robert A. Kastenbaum, Director of Community Development Craig Jimenez, Alice Griselle	City Council approved resolution 99-68 on 12-14-99, nominating the Monrovia Hillside an SEA. This area is located east of Arcadia's City limits, south of the Angeles National Forest and west of Monrovia Canyon Park. The site is approximately 957 acres in size.	The entire area nominated has been consolidated into the proposed San Gabriel Canyon SEA.
02-16-99	**City of Rancho Palos Verdes** 30940 Hawthorne Blvd. Rancho Palos Verdes, CA 90275-5391 Contact: David Snow, Principal Planner	Request the final document note that the SEAs in the City (existing SEA #27 – Portuguese Bend Landslide, #31 – Rolling Hills Canyons, and #32 – Agua Amarga Canyon) do not fall under County regulatory guidelines. Slope regulations, open space hazard zoning, and overlay zones for natural areas are tools that Rancho Palos Verdes uses to protect biotic resources. However, special planning recognition is not directly attributed to SEA designations. In fact, several projects have been approved and two projects are currently pending within the SEAs. The City is currently preparing a Natural Communities Conservation Plan (NCCP).	These SEAs are located outside of the unincorporated area. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved.
11-02-99	**City of Rolling Hills** No. 2 Portuguese Bend Road Rolling Hills, CA 90274 Contact: Lola Ungar	Preservation of natural habitat in the City is called out in the City's General Plan and reflected in its zoning ordinance. Deeply wooded hillsides and canyons or natural drainages that have also been designated as existing County SEAs are considered Open Space Resources and are defined as Canyon Open Space. Special conditions typically apply to such areas.	Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved.
11-29-99	**City of Santa Clarita** Planning & Building Services 23920 Valencia Blvd., Ste. 300 Santa Clarita, CA 91355-2196 Contact: Jeff Lambert, Director	Recommend approximately 3,800 acres in portions of Placerita, Whitney, Los Pinetos & Elsmere Canyons and Los Pinetos Spring be designated as an SEA.	The subject area is consolidated into the proposed Santa Clara River SEA.
10-20-99	**City of South El Monte** 1415 N. Santa Anita Avenue South El Monte, CA 91733 Contact: Gary Dean Myrick, Director of Community Development	City is unaware of any biotic resources within their boundaries.	Reconfigured SEA #42 will no longer extend into the jurisdiction of South El Monte.

Los Angeles County SEA Update Study
City & County Survey Questionnaire

Date Received:	Respondent:	Summary of Comments:	Response:
11-18-99	**City of Torrance** Planning Department 3031 Torrance Blvd. Torrance, CA 90509-2970 Contact: Tony Gardea	SEA #36 (Madrona Marsh), is maintained as a natural preserve, which was dedicated to the City, but is now smaller than the original SEA due to the Park Del Amo planned development.	Existing SEA #36 is not within the unincorporated area and was not studied. SEAs within city boundaries are retained as originally approved.
12-16-99	**City of Whittier** 13230 Penn Street Whittier, CA 90602-1772 Contact: Thomas Mauk	Whittier City Council passed a resolution urging LA County to restore SEA #44 (Sycamore and Turnbull Canyons) to the original pre-1980 boundaries, incorporating Sycamore Canyon, Dark Canyon, & portions of Turnbull Canyon. Sent follow-up letter regarding SEA #44 and to support for the nominations submitted by Wildlife Corridor Conservation Authority (WCCA).	Consistent with development patterns over the past 20 years, existing SEA #44 has been expanded and consolidated into the proposed Puente Hills SEA. This also corresponds to the nomination submitted by WCCA.
11-04-99	**Kern County** Planning Department 2700 M Street, Suite 100 Bakersfield, CA 93301-2323 Contact: Steve Strait	Kern County does not have a land use designation or other form of program to identify, protect or monitor biological resources.	While Los Angeles County has no jurisdiction to designate SEAs in Kern County, connection with areas of biotic significance outside of Los Angeles County can be accomplished through the proposed San Andreas Rift Zone SEA.

APPENDIX C

SEA Update Study Notice

SEA Meeting Schedule

Dept. of Regional Planning
Commission Hearing Room 150
September 22nd from 2:00 to 5:00 pm
320 W. Temple Street, Los Angeles

Valencia Public Library*
September 23rd from 7:30 to 8:30 pm
23743 W. Valencia Blvd., Santa Clarita

Las Virgenes Municipal* Water District
Board Hearing Room
September 29th from 6:30 to 8:30 pm
4243 Las Virgenes Road, Calabasas

Lancaster Regional Library*
October 12th from 7:00 to 8:00 pm
601 W. Lancaster Blvd., Lancaster

* Please note that these meetings will be preceded by workshops on updating the Housing and Safety Elements of the Los Angeles County General Plan. These meetings may still be in session at the time of your arrival.

General Plan Section
Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
(213) 974-6417

GENERAL PLAN

The Los Angeles County Department of Regional Planning

invites you to attend a Workshop to update the

Significant Ecological Areas (SEAs) in the County.

Your ideas and comments are welcomed!

Si no entiende este aviso o necesita mas información por favor llame este numero (213) 974-6466

Significant Ecological Area Update Study

The Department of Regional Planning is undertaking a revision of the Los Angeles County General Plan. The General Plan Update devotes special consideration to areas with biologically significant plant or animal species. These Significant Ecological Areas (SEAs) are identified based on biological resources found in the area. Environmental preservation is the fundamental goal behind identifying SEAs. Increased urbanization in Los Angeles County makes the preservation of these resources an important priority. Careful designation of SEAs lead to better land use decisions that maintain a balance between environmental resources and new development.

Meeting Objectives

Due to the ever-changing nature of biological habitats, the County is conducting an SEA Study to update the status of existing SEA designated-sites and where appropriate to identify additional sites as deserving SEA status. These meetings will focus on identifying possible sites for further evaluation of biological significance and eligibility for SEA designation by the County's consultant team. Members of the public and government agencies are encouraged to attend and contribute their ideas and suggestions during the four SEA meetings being held in September and October. Your contribution is an important component to the success of the study.

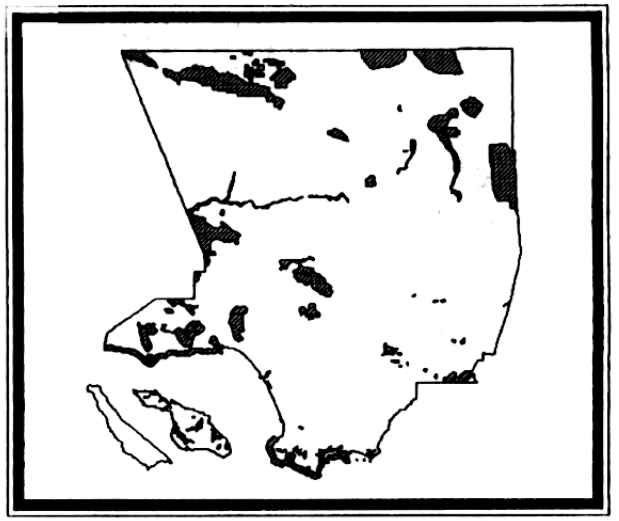
Criteria for SEA Designation

General Criteria for SEA designation include those areas that contain:

1. Biological resources, which are rare or unique to the area;
2. Habitat appropriate to endangered, threatened or otherwise protected species;
3. Undisturbed biological communities of plants or animal species;
4. A vital element necessary to another species' life-cycle, such as breeding, feeding or migratory locations, and are found in limited concentrations;
5. Species found in limited geographical areas, such as the Mojave Desert.
6. Habitat important to game species and fish communities; OR
7. Other special characteristics not mentioned above, but deserving of further study.

Special Accommodations

Individuals who require special accommodations or material in alternate format, please contact the ADA Coordinator, Mary Blair, at (213) 974-6488 (VOICE) or (213) 617-2292 (TDD), with at least 3 business days' notice prior to the scheduled workshop date.



Map of Existing SEAs

Response to Draft Elements

If you are unable to attend the workshops, you may obtain a copy of the draft materials handed out at the meetings by contacting staff at the below listed number. You may also view the drafts on the Department of Regional Planning's website located at www.planning.co.la.ca.us. We welcome your comments, which may be sent to the staff of the General Plan Development Section in any of the following forms:

Mail: Department of Regional Planning
General Plan Development Section
320 W. Temple Street
Los Angeles, CA 90012

Phone: (213) 974-6417

Fax: (213) 626-0434

Email: gmalone@planning.co.la.ca.us

For additional information, a copy of the draft documents, or to be placed on the General Plan mailing list, please contact the General Plan Staff by mail, phone, fax or email.

APPENDIX D

Public Meeting Materials

SIGNIFICANT ECOLOGICAL AREAS STUDY
1999-2000

Study Objectives

The Department of Regional Planning is undertaking a revision of the Los Angeles County General Plan. As part of this effort, the department is conducting a Significant Ecological Areas (SEAs) Study to update the status of existing SEA designated-sites and, where appropriate, to identify additional sites as deserving SEA status. The department has contracted with PCR, in association with Frank Hovore & Associates, and Forma (the PCR Project Team) to undertake such analysis, studies, field surveys, and research as is necessary to prepare a comprehensive reevaluation of Significant Ecological Areas (SEAs) within the unincorporated areas of Los Angeles County. This study will evaluate the continuing viability of existing designated SEAs, will update all pertinent information about the SEAs, and will recommend boundary adjustments as may be deemed necessary, considering changed circumstances due to public ownership changes, development activity, and environmental changes. The study shall also undertake a survey and analysis of selected areas for possible nomination for inclusion as SEAs in the General Plan.

The PCR Project Team will provide an overall product that assists the Department of Regional Planning in its land use regulatory role, specifically in the areas of natural/biological resource conservation and protection. This task will be accomplished through: the application of knowledge about individual SEAs gained through firsthand experience; the compilation of updated and reliable data; the formulation of clear policies for implementation; and, the development of baseline condition reports and a GIS-linked database. Ultimately, the study will be intended to be used as a tool to guide project applicants, Regional Planning staff, the SEA Technical Advisory Committee, and county decision-makers in sound stewardship of the biological resources within the county's SEAs.

A draft of the study will be released in the Spring of 2000, and the public will be given an opportunity to review and comment on this draft before a final version is completed. The study is expected to last one year from July 1999 to June 2000. Once completed, the Regional Planning staff will use the study to prepare amendments to the General Plan. Public hearings on these amendments will be heard before the Regional Planning Commission and the Board of Supervisors.

Geographic Coverage

Whereas the original SEA Study of 1976 nominated potential sites throughout the county, and included candidate areas that were completely within city jurisdictions, this study calls for a more circumscribed study area. The geographic focus of the study will be on areas wholly or partial within the unincorporated areas of the county. SEAs within the National Forest and public park lands will be studied only to the extent necessary to provide an

overview of the habitat area that is the subject of the SEA within privately-owned adjacent unincorporated areas.

The study will include the following existing SEAs as identified below: 19 sites that are wholly within the unincorporated area of the county, 22 sites that are partially within both a city and unincorporated area, multiple sites on Santa Catalina Island, Environmentally Sensitive Habitat Areas (ESHAs) associated with five SEAs and potential sites that may be nominated for SEA designation during the course of the study. Since SEAs vary considerably in size – from just a few acres to many square miles – the study will be further guided by the following criteria: first consideration will be given to those SEAs that are wholly within unincorporated areas; second consideration will be given to those SEAs that are predominately under private ownership as opposed to those that are predominately in open space or committed to a long term open space use; and thirdly, for those SEAs that are split between city and unincorporated areas, priority will be given to SEAs that are predominately within the unincorporated area. See accompanying maps for location of SEAs.

***SEAs Wholly within Unincorporated Jurisdiction*: (19 sites)**

Predominately in Private Ownership: (11 sites)

4. Upper La Sierra Canyon
7. Hepatic Gulch
48. Big Rock Wash
53. Lovejoy Butte
54. Piute Butte
55. Desert Montane Transect
58. Portal Ridge/Liebre Mountain
59. Tehachapi Foothills
60. Joshua Tree Woodland Habitat
61. Kentucky Springs*
63. Lyon Canyon

Predominately committed to Open Space or Public Ownership: (8 sites)

8. Malibu Creek State Park Buffer Area
9. Cold Creek*
43. Rio Hondo College Wildlife Sanctuary
47. Edwards Air Force Base
50. Rosamond Lake
51. Saddleback Butte State Park
57. Fairmont and Antelope Buttes
64. Valley Oaks Savannah, Newhall

SEAs Partially within a City and County Jurisdiction: (30 sites)

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* SEAs marked with an * were included in the 1991 SEA Study (Phase 1) prepared by Michael Brandman Associates. These SEAs need only to be analyzed if changes such as new species, a need for a boundary change, or significant development, etc., have occurred. SEAs located completely within the boundaries of incorporated cities are not a part of this study.

Predominately in Unincorporated Area and in Private Ownership: (7 sites)

10. Tuna Canyon*
14. Simi Hills
15. Tonner Canyon/Chino Hills*
19. San Francisquito Canyon*
20. Santa Susana Mountains
21. Santa Susana Pass
44. Sycamore and Turnbull Canyon

Predominately in City Area and in Private Ownership: (11 sites)

6. Las Virgenes*
12. Palo Comado Canyon
16. Buzzard Peak/San Jose Hills
17. Powder Canyon/Puente Hills
23. Santa Clara River
25. San Dimas Canyon
31. Rolling Hills Canyons
45. Dudleya Densiflora Population, Azusa*
49. Little Rock Wash
52. Alpine Butte
56. Ritter Ridge

Predominately in Unincorporated Area and committed to Open Space or Public Ownership: (3 sites)

3. Zuma Canyon
5. Malibu Canyon and Lagoon
42. Whittier Narrows Dam Recreation Area
Santa Catalina Island (multiple areas)

Predominately in City Area and in Public Ownership: (1 site)

35. Harbor Lake Regional Park

Environmentally Sensitive Habitat Areas (ESHAs) associated with the following SEAs:

3. Zuma Canyon (Zuma Canyon ESHA)
99. Zuma Canyon Buffer (Newton Canyon and Ramirez Canyon ESHAs)
4. Upper La Sierra Canyon (Upper La Sierra Canyon ESHA)
5. Malibu Canyon and Lagoon (Malibu Creek and Dark Canyon ESHAs)
9. Cold Creek (Cold Creek ESHA)
10. Tuna Canyon (Tuna Canyon and Pena Canyon ESHAs)

Potential SEA Candidates

SEAs marked with an * were included in the 1991 SEA Study (Phase 1) prepared by Michael Brandman Associates. These SEAs need only to be analyzed if changes such as new species, a need for a boundary change, or significant development, etc., have occurred. SEAs located completely within the boundaries of incorporated cities are not a part of this study.

Leo Carrillo State Park (Santa Monica Mountains)
Cruzan Mesa (north of Santa Clarita)
Bee Canyon (Canyon Country)
Barrel Springs (Palmdale area)
Buffer Areas (primarily watershed areas in Santa Monica Mountains)
And other areas that may be nominated and agreed to during course of contract

Release Date: September 21, 1999

SIGNIFICANT ECOLOGICAL AREA
NOMINATING FORM
1999-2000

Prepared by the PCR Project Team

Please review the attached supporting materials before completing this form. Based on the 1999 update study criteria, nominate areas you or your group feel should be considered for the Significant Ecological Area designation in the Los Angeles County General Plan Update. Given the immensity of the reviewing task, we strongly suggest submitting a nomination form with as much detail as possible. This will allow for a more thorough review of each nomination area. Additional sheets may be attached if needed. Use a separate form for each nomination area.

1. Location: Briefly describe the general location of the nomination area.

2. Boundaries: Briefly describe the approximate boundaries of the candidate area and attach a United States Geological Service (USGS) quad map with the boundaries delineated.

3. Size: Estimate the approximate area of the nomination site.

4. Owner (if known):

5. Current land uses:

6. Resources: Describe the resources present in the nominating area which would warrant this area being designated as a significant ecological area. Indicate which criteria are met.

7. References: List any published or unpublished information sources for the areas as well as other persons knowledgeable about the area.

_____

_____

_____

_____

_____

Thank you for your input.

Return your nominating material to:

George Malone
SEA Study Project Manager
Department of Regional Planning
320 West Temple Street
Los Angeles CA 90012

Optional:
Should we need to contact you about your submittal, please provide us with your name and address.

Name _____
Address _____
_____
_____
Phone _____

Questions regarding this form, the SEA Study, or the Los Angeles County General Plan Update Program may be answered by the General Plan Development Section staff at (213) 974-6417.

George Malone, Project Manager

Release Date: September 21, 1999

Appendix E

City and County Questionnaire Form

DEPARTMENT OF REGIONAL PLANNING
SIGNIFICANT ECOLOGICAL AREAS
SURVEY QUESTIONNAIRE UPDATE

I. Do you have biotic resources in the city that are protected by your city's general plan or zoning ordinance?

☐ YES ☐ NO

If yes, what resources and how protected? _____

_____

_____

_____

_____

_____

_____

II. Do you provide special planning recognition to the biotic resources within the city that have been identified by the County as Significant Ecological Areas (SEAS)?

☐ YES ☐ NO

III. What General Plan category and definition do you have for significant biotic resources in the City for a County designated SEA?

General Plan Designation _____

Description _____

_____

_____

_____

_____

_____

_____

IV. What Zoning designation do you use for significant biotic resources of SEA areas?

Zoning Designation _____
Description _____

V. Have any development projects been approved within County-designated Significant Ecological Areas located in your city since 1980?

☐ YES ☐ NO

If yes, please provide information concerning the nature of the approve projects (i.e., location, acreage, type of approved development, etc.).

VI. Do you utilize any mechanism to regulate development within City or County-designated Significant Ecological Areas?

☐ YES ☐ NO

If yes, please explain. _____

VII. Do you maintain updated information on the boundaries or biotic resources within Significant Ecological Areas located within your jurisdiction?

☐ YES ☐ NO

If yes, please explain what information you have available and ifthe County Planning Department may have access to this information.

VIII. List any projects within SEAs currently pending?

IX. What type of conditions, restrictions or development constraints are applied to projects proposed within SEA areas?

X. Do you have any other land use designations within the city that are used to designate biologic or ecologic resource areas?

If yes, please explain. _____

XI. Do you have any type of development monitoring program within the city?

If yes, please explain. _____

Appendix F

Comprehensive Study Sources

APPENDIX F: COMPREHENSIVE STUDY SOURCES

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APPENDIX G

SEA Nomination Table

Los Angeles County SEA Update Study
SEA Nominations

Date:	Respondent:	Comments/ Area(s) Nominated:	Response:
12-15-99	**Altadena Foothill Conservancy Planning** 153 Jaxine Drive Altadena, CA 91001-3817 Contact: Lori Paul	Nominated a section of the Altadena Foothills in the San Gabriel Mountain foothill corridor, between Arroyo Seco and Hastings Canyon.	A field analysis determined that the Altadena Foothills do not contain biotic resources with significant regional resource values, as those found within the proposed San Gabriel Canyon and San Dimas Canyon/San Antonio Wash SEAs. This area, therefore, is not proposed as an SEA, but may be designated as "Open Space" in the Los Angeles County General Plan.
12-01-99	**Ballona Ecosystem Education Project & Save All of Ballona** 6038 75th St. Los Angeles, CA 90045 Contact: Rex Frankel **Spirit of the Sage Council** 1122 Oak Street Santa Monica, CA 90405 Contact: Kathy Knight	Nominated an expansion of Ballona Creek SEA #29 to include 1,087-acre lowland and 44-acre undeveloped bluff, total acres – 1,130. Pictures, maps, articles and species information on file with DRP in room 1356.	Existing SEA #29, Ballona Creek, was not a part of the study, and it will be retained as originally approved. The analysis of this SEA is undergoing an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed to this SEA until an assessment of existing conditions has been completed by this study. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved. The analysis of this area is also pending an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed until an assessment of existing conditions has been completed.
12-07-99	**Brown, David** 5860 Belbert Circle Calabasas, CA 91302 Contact: David Brown	Nominated Solstice Canyon watershed	Solstice Canyon has been consolidated with the proposed Santa Monica Mountains SEA.
12-01-99	**California Department of Parks and Recreation, Angeles Division** 1925 Las Virgenes Road Calabasas, CA 91302 Contact: Russ Dingman, District Planner	The following areas were nominated: • Solstice Canyon watershed area, especially where Corral Canyon and Pacific Coast Highway cross the stream; • Watershed of Arroyo Sequit, approximately 4,500 acres (half of which is state or federal parkland); • Area that borders the northwest side of Malibu Creek State Park; • 32 acre inholding in Malibu Creek State Park; • Liberty Canyon Natural Preserve Area; • An area just east of Malibu Lake; • North slope of Castro Peak; • Bulldog Canyon watershed located along the west side of Malibu Creek State Park; • Expand the Malibu Creek State Park Buffer SEA/April Road; • Additions to the Cold Creek SEA bordering on the west side and the north and northeast sides of the SEA, including Calabasas Peak.	All of the areas nominated have been consolidated with the proposed Santa Monica Mountains SEA.

Los Angeles County SEA Update Study
SEA Nominations

Date:	Respondent:	Comments/ Area(s) Nominated:	Response:
12-15-99	**California Native Plant Society –** Los Angeles/Santa Monica Mtns. Chapter 3908 Mandeville Canyon Road Los Angeles, CA 90049 Contact: Betsey Landis, Vice President, Education	The following nominations were made for eight Regional SEAs, with boundaries that correspond with major watershed areas and natural drainage channels: • The entire Santa Catalina Island, excluding Avalon, Two Harbors, the Airport, Wrigley Ranch, and some private holdings, which total approximately 42,400 acres;	• The entire Santa Catalina Island, excluding Avalon and other developed areas, has been proposed as an SEA.
		• Western Antelope Valley, Mojave Desert, Portal Ranch, Liebre Mtn., Angeles National Forest, and SEAs #57 (Fairmont and Antelope Buttes), #58 (Portal Ridge/Liebre Mountain), & #60 (Tehachapi Foothills);	• The proposed San Andreas Rift Zone and Joshua Tree Woodland SEAs include existing SEAs #57, #58 and #60 and key biotic resources. Portions of the nomination were not included where field survey found no significant resources. The proposed SEAs do not include Amargosa Creek due to high levels of disturbance along its course through the cities of Palmdale, Quartz Hill, and Lancaster.
		• Little Rock Wash, Big Rock Wash, eastern Mojave, and the northern San Gabriel Mtns. watershed. Located within this area are SEAs #47 (Edwards AFB), #48 (Big Rock Wash), #49 (Little Rock Wash), #50 (Rosamond Lake), #51 (Saddleback Butte State Park), #53 (Lovejoy Butte), #54 (Piute Butte), #55 (Desert – Montane Transect) and the Angeles National Forest;	• Existing SEAs #47, #48, #49, #50, #51, #53, #54, #55, and a substantial portion of the other areas nominated have been included in the proposed Antelope Valley SEA. The proposed SEA differs from the nomination in two ways: 1) Areas within the National Forest are recognized, but are outside the unincorporated jurisdiction. These areas are designated as "Open Space" on the Los Angeles County General Plan Land Use Policy Map and, 2) a northeasterly region was not included.
		• Santa Clara River and its watersheds. Located within this area are SEAs #19 (San Francisquito Canyon), #20 (Santa Susana Mountains), #23 (Santa Clara River), #63 (Lyon Canyon), #64 (Valley Oaks Savannah) and the Angeles National Forest;	• Existing SEAs #19 and #23 along with several other tributaries to the Santa Clara River have been included in the proposed Santa Clara River SEA. Existing SEAs #20, #63, and #64 have been included in the proposed Santa Susana Mountains/Simi Hills SEA. These proposed SEAs do not include large portions of the National Forest and the entire Santa Clara River watershed. Areas within the National Forest are recognized, but are outside the unincorporated jurisdiction; these areas are designated as "Open Space" on the Los Angeles County General Plan Land Use Policy Map. While this study advocates appropriate watershed management practices, a field survey determined that regionally significant biotic resources did not exist in a number of nominated areas.

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12-15-99 (cont.)	**California Native Plant Society –**	• Santa Monica Mtns., Simi Hills and Baldwin Hills as a wildlife corridor;	• Undeveloped portions of the Santa Monica Mountains, including existing SEAs and connections to the Simi Hills have been proposed as a regional SEA. The Los Angeles County undeveloped portions of the Simi Hills are also included as part of the proposed Santa Susana Mountains/ Simi Hills SEA. Developed areas and/or areas outside of Los Angeles County jurisdiction are not included. These are found in the vicinity of Agoura, the western Santa Monica Mountains, and Baldwin Hills.
		• Los Angeles River System. Located within the watershed area are SEAs #13 (Chatsworth Reservoir), #14 (Simi Hills), #20 (Santa Susana Mountains), #21 (Santa Susana Pass), #24 (Tujunga Valley – Hanson Dam), #33 (Terminal Island), #35 (Harbor Lake Regional Park), #37 (Griffith Park), #40 (Verdugo Mountains), #46 (Tujunga Spreading Grounds) and numerous canyons, creeks and other water channels;	• Existing SEAs #13, #14, #20 and #21 have been incorporated in the proposed Santa Susana Mountains/Simi Hills SEA. SEA #45 has been included in the proposed San Gabriel Canyon SEA. In these cases, proposed SEAs include much larger areas than the existing SEAs. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved. These include the following existing SEAs: #24, #33, #35, #37 and #40. The Tujunga Spreading grounds (#46), within the City of Los Angeles, was originally identified by the England and Nelson study in 1976 as a prospective SEA; subsequent analysis prior to adoption of the 1980 General Plan revision determined that biotic resources within this area were not significant. Consequently, this area is designated as "Open Space" on the Los Angeles County General Plan. The "Open Space" designation will be retained. Further, the Los Angeles River system is not proposed as part of an SEA due to its channelized condition within highly urbanized areas.
		• San Gabriel Valley River System. Located within the watershed area are SEAs #15 (Tonner Canyon – Chino Hills), #16 (Buzzard Peak – San Jose Hills), #17 (Powder Canyon – Puente Hills), #22 (Santa Fe Dam Floodplain), #25 (San Dimas Canyon), #26 (San Antonio Cyn Mouth), #30 (Alamitos Bay), #41 (Rio Hondo Spreading Grounds), #42 (Whittier Narrows), #43 (Rio Hondo College), #44 (Sycamore – Turnbull Canyons), #45 (*Dudleya Densiflora* Population) and Frank G. Bonnelli County Park;	• Existing SEAs #15, #16, #17, #25, #26, #42, #44, #45, and a substantial portion of other areas nominated have been incorporated into either the proposed Puente Hills SEA, the proposed East San Gabriel Valley SEA, the proposed San Gabriel Canyon SEA, or the proposed San Dimas Canyon/ San Antonio Wash SEA. In these cases, proposed SEAs include much larger areas than the existing SEAs. However, most of the remaining undeveloped portions of the nominated SEA are entirely outside lands within County jurisdiction including existing SEA #30. Existing SEAs within city boundaries are not a part of the study and are

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12-15-99 (cont.)	**California Native Plant Society –**		being retained as originally approved. The Rio Hondo Spreading Grounds (#46) within the City of Industry, was originally identified by the England and Nelson study in 1976 as a prospective SEA; subsequent analysis prior to adoption of the 1980 General Plan revision determined that biotic resources within this area were not significant. Consequently, this area is designated as "Open Space" on the Los Angeles County General Plan. The "Open Space" designation will be retained. Existing SEA #22 was not proposed due to isolation by surrounding development and lack of long-term sustainability. Based on field study, SEA #43 is isolated from the proposed Puente Hills SEA and does not contribute significantly to regional biological value. Therefore, SEA #43 is not proposed to be retained in this study. Finally, the San Gabriel River has been designated as "Open Space" in the Los Angeles County General Plan. The Open Space designation will be retained.
		• Palos Verdes Peninsula and coastline from the peninsula to El Segundo Dunes. Located in this watershed area are SEAs #27 (Portuguese Bend Landslide), #28 (El Segundo Dunes), #31 (Rolling Hills Canyons), #32 (Agua Amarga Canyon), and #34 (Palos Verdes Peninsula Coastline). Specific comments pertaining to existing SEAs also included the following:	• None of the existing SEAs or other open space referenced are proposed as part of the update study due to either their location entirely outside of lands within County jurisdiction or the lack of significant biological resources. It is important to note, however, that existing SEAs within city boundaries are being retained as originally approved.
		• Eliminate SEA #18 (Way Hill) and establish Frank G. Bonelli County Park as an SEA.	• Existing SEA #18 is not proposed as part of this update study due to disturbance which has eliminated the population of *Dudleya multicaulis*, for which the SEA was originally designated. Frank G. Bonelli County Park has been consolidated into the proposed East San Gabriel Valley SEA.
		• Retain SEA #36 (Madrona Marsh)	• SEA # 36 is located outside of the unincorporated jurisdiction. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved.
2-10-00	**Diamond Bar East Partners** 3480 Torrance Boulevard, Suite 300 Torrance, CA 90503 Contact: Kurt Nelson	Opposes the inclusion of two graded and developed properties in Diamond Bar within the area nominated by the Wildlife Corridor Conservation Authority.	The proposed Puente Hills SEA includes most of the open space remaining in the unincorporated portion of the Puente Hills and Chino Hills area; the SEA also includes natural areas of the Whittier Narrows Recreation and Flood Control Basin. Existing Seas #15, #42, and #44 are consolidated with the SEA with minor boundary modifications. The focus of this study

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			and the proposed SEAs is on regionally sustainable areas with regionally significant biotic resources.
12-15-99	**Endangered Habitats League** PMB 592, 8424-A Santa Monica Blvd. Los Angeles, CA 90069-4267 Contact: Dan Silver, Coordinator	Would like Los Angeles County to take a more forward-thinking and comprehensive approach to protecting natural habitats. Suggested Riverside County's Multiple Species Habitat Conservation Plan as a model.	In addition to maintaining biological diversity throughout the County, the SEA Update Study emphasized current approaches to conservation biology, including a multi-species approach, larger SEA designations, and the need for connectivity.
12-09-99	**Environment Now** 11777 San Vicente Blvd, Suite 555 Los Angeles, CA 90049 Contact: David Myerson, Park to Playa Coordinator	Nominated Baldwin Hills area located in West Los Angeles, south of Jefferson Blvd, west of La Brea Avenue, north of Slauson Avenue and east of Jefferson Blvd., which totals approximately 800 acres of open space. This area could be linked to the Ballona Creek SEA.	Baldwin Hills is a highly disturbed area that was included as a prospective SEA under the England and Nelson Study in 1976, based on likely restoration. Subsequent analysis, prior to adoption of the 1980 General Plan revision determined that biotic resources within this area were not significant. The area was designated in the Los Angeles County General Plan as "Open Space." Circumstances have not changed since 1980 and the area remains of limited significant biotic value. Designation as an SEA is, therefore, not proposed; the "Open Space" designation will be retained.
03-31-00	**Friends of the Santa Clara River** 660 Randy Drive Newbury Park, California 91320-3036 Contact: Ron Bottroff, Chair	Supports the California Native Plant Society nomination of a regional SEA including the slopes and drainages that comprise the watershed of the Santa Clara River in Los Angeles County.	See California Native Plant Society.
11-24-99	**Garris, Judy** 7402 Remmet Avenue Canoga Park, CA 91303 Contact: Judy Garris	Nominated the Santa Susana Mountains and the Simi Hills.	The undeveloped portions of the Santa Susana Mountains and the Simi Hills located within Los Angeles County are proposed as a single regional SEA.
11-15-99	**Hacienda Heights Improvement Assoc.** 1622 S. Adalia Avenue Hacienda Heights, CA 91745 Contact: Jeff Yann, Environmental Chair	Expressed support for a large SEA that encompasses the Puente/Chino Hills Wildlife Corridor (see submittal by the Puente/Chino Hills Wildlife Corridor Conservation Authority) and retention of SEAs #17 (Powder Canyon/Puente Hills) and #44 (Sycamore and Turnbull Canyons). Specifically nominated the addition of three areas adjacent to SEA #44: • Canyons south & west of Seventh & Orange Grove Avenues; • Canyons on the south slope of Oak Canyon; • Canyon on the west end of Vallecito to Workman Hill.	SEAs #17 and #44 have been retained within a much larger area proposed as the Puente Hills SEA. The majority of the three nominated areas have been included as well.

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11-22-99	**Los Cerritos Wetlands Task Force** 5710 East Seventh St., Suite 168 Long Beach, CA 90803 Contact: Don May, President	Relist the Los Cerritos Wetland as an SEA. This would be an 85-acre parcel, much smaller than the original 2,400 acre San Gabriel River Estuary. It is more accurately described as the Los Cerritos Tidal Salt Marsh located in the southeast corner of Long Beach. (submittal included a video tape)	This area was not considered for designation as a County SEA due to its location entirely within the City of Long Beach.
12-21-99	**Monrovia Mountain Conservancy** PO Box 522 Monrovia, CA 91017 Contact: Stephanie Granger Kurzweil, President	Supports the Monrovia mountains and foothills as a SEA.	Undeveloped portions of the Monrovia mountains and foothills have been incorporated into the proposed San Gabriel Canyon SEA.
12-20-99	**National Audubon Society** 6042 Monte Vista Street Los Angeles, CA 90042 Contact: Mike San Miguel	Nominated approximately 27 acres adjacent to the Santa Anita Wash, at the mouth of Santa Anita Canyon, in the City of Arcadia.	Whereas, the mouths of several other canyons exiting the San Gabriel Mountains have been proposed as SEAs, the nominated area was not due to its location within an active groundwater recharge facility. However, Santa Anita Canyon upstream of the Dam is proposed as part of the San Gabriel Canyon SEA.
11-30-99	**Natural History Club of Acton/Agua Dulce** PO Box 965 Acton, CA 93510 Contact: Stacey Nickels, President	Nominated the entire area of the Santa Clara River including a buffer from its headwaters in the San Gabriel Mountains, east of Acton, to the City of Santa Clarita limits, west of Agua Dulce. Also, include Vasquez Rocks County Park in the SEA.	The proposed Santa Clara River SEA includes the Santa Clara River, several tributary drainage areas, adjacent buffer area and Vasquez Rocks County Park.
3-15-00	**Puente Hills Landfill Native Habitat Conservation Authority** 1955 Workman Mill Road Whittier, CA 90601 Contract: Bob Henderson, Chair	Requested the active disposal area of the Puente Hills Landfill, as included in the area nominated by the Wildlife Corridor Conservation Authority, be removed from SEA consideration.	In drafting the boundaries of the proposed Puente Hills SEA, active disposal areas, as evident from recent aerial photography, were excluded from SEA consideration. Based on past approvals, certain areas are already approved for SEA status.
11-16-99	**Resource Conservation District of the Santa Monica Mountains** 122 North Topanga Canyon Blvd. Topanga, CA 90290 Contact: Rosi Dagit	Suggested that the most appropriate way to afford protection of region-wide resources would be to create a Santa Monica Mountains SEA which included all undeveloped lands that are not already under public ownership. Specifically, focused on the following areas: • Lower Topanga Canyon; • Upper areas of Old Topanga Canyon (sub-drainage); • Expand Tuna Canyon SEA (#10) to include all adjacent significant portions of the watershed and Little Las Flores Canyon.	A Santa Monica Mountains SEA similar to the nominated is proposed, including existing SEA #3 (Zuma Canyon), #3A (Buffer), #3B (Buffer), #4 (Upper La Sierra Canyon), #5 (Malibu Canyon and Lagoon), #B5 (Buffer), #6 (Las Virgenes), #8 (Malibu Creek State Park Buffer Area), #9 (Cold Creek), #10 (Tuna Canyon), #11 (Temescal-Rustic-Sullivan Canyons), #12 (Palo Comado Canyon) and #39 (Encino Reservoir), and additional areas considered.

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12-14-99	**San Gabriel Mountains Regional Conservancy** (SGMRC) PO Box 963 Glendora, CA 91740 Contact: Dr. Ann Croissant	Recommended that SEA designation take a more strategic regional approach pointing out the need to protect watershed and wildlife corridor areas. Example SEAs based on this approach include: • San Gabriel Foothills and Mountains • San Gabriel River and its tributaries • San Gabriel Valley ridgelines	For the reasons suggested, the San Gabriel Mountain Foothills, the Puente Hills, and the East San Gabriel Valley SEAs are proposed. The analysis also determined that the San Gabriel River and its tributaries are channelized; under these circumstances an SEA designation is not appropriate, though the river can be designated as "Open Space" in the Los Angeles County General Plan.
11-14-99	**Santa Monica Mountains Task Force / Sierra Club Angeles Chapter** PO Box 344 Woodland Hills, CA 91365-0344 Contact: David Brown	Nominated the following areas: • Five acres along Malibu Creek State Park; • Area between Ventura Freeway & Liberty Canyon; • Area between Castro Park, Malibu Creek State Park, Malibu Lake Community, & Peter Strauss Ranch; • Solstice Canyon rises on Castro Park; • Watershed of Arroyo Sequit; • West border of Cold Creek SEA.	All of the nominated areas have been consolidated into the proposed Santa Monica Mountains SEA.
12-02-99	**Santa Susana Mountain Park Assoc.** 5922 Corbin Avenue Tarzana, CA 91356 Dorian Keyser, Vice-President and Lands Committee Chair	Retain and expand SEAs #14 (Simi Hills) and #13 (Chatsworth Reservoir) to insure the inclusion of the Chatsworth Nature Preserve/Reservoir and portions of Simi Hills. Expand the Santa Susana Pass State Historic Park.	Existing SEAs #13 and #14 have been consolidated into the proposed Santa Susana Mountains/Simi Hills SEA.
12-13-99	**SCOPE Santa Clarita Organization for Planning the Environment** PO Box 1182 Santa Clarita, CA 91386 Contact: Michael Kotch	The following comments were provided: • Supports the Sierra Club's nomination of the three adjacent watersheds in Elsmere, Whitney and Placerita Canyons east of the 14 Freeway as one SEA; • Request that an additional criterion be added to the program: aquifer re-charge areas; • Oppose any SEA reduction.	• These canyons have been consolidated into the proposed Santa Clara River SEA. • An analysis of aquifer re-charge areas, as a distinct criterion, was beyond the scope of the SEA update study. It should be noted, however, that biological/ hydrological relationships were used in part to delineate the boundaries of the proposed Antelope Valley SEA. • As a general approach, consistent with current conservation planning practices, proposed SEAs include existing SEAs, as well as expanses of land in between these areas; consolidating areas situated between SEAs provides connectivity. Following this approach, the area of SEAs were significantly increased in size. Reduction of SEAs occurred only rarely in unincorporated Los Angeles County, where development or reduction of biotic resources failed to justify retainment of the SEA designation.

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12-07-99	**Scully, Marcia** 6292 Hillside Lane Whittier, CA 90601-3832 Contact: Marcia Scully	All open space within the jurisdiction of the Whittier/ Puente Hills Conservation Authority, generally delineated by I-605 on the west, SR-60 on the north, Hacienda Boulevard on the east, and Whittier Boulevard on the south.	The majority of the open space within the nominated area has been included in the proposed Puente Hills SEA.
9- 21-99	**Sierra Club – Santa Clarita Valley & SCV Canyons Preservation Committee** 26617 Gavilan Drive Santa Clarita, CA 91350 Contact: Karen Pearson	Nominated: • Whitney Canyon • Elsmere Canyon • Placerita Canyon (combined, these areas total 4,390 acres).	These canyons have been consolidated into the proposed Santa Clara River SEA.
11-22-99	**Sierra Club,** **Angeles Chapter Conservation Committee** 3435 Wilshire Blvd., Ste. 320 Los Angeles, CA 90010-1904 Contact: Kevin Finny, Vice Chair	Sierra Club endorsed nominations included: • Puente / Chino Hills Wildlife Corridor (a 30 mile corridor extending to the Cleveland National Forest). The boundary would include Tonner Canyon to Whittier Narrows. • Elsmere Canyon, Whitney Canyon and Placerita Canyon, which would represent the last wildlife corridor between the Santa Susana and San Gabriel Mountains. This corridor would encompass the watersheds of Elsmere, Whitney and Placerita Canyons from Highway 14 to the Angeles National Forest boundary. • Eastern Desert SEA linking the desert Montane transect with Big Rock Wash, Butte Complex and Little Rock Wash to Edwards Airforce Base and Rosamond Lake. • Watershed area of Solstice Canyon and two tributary canyons. • California Buckeye Grove on the south slope of Oak Canyon in Hacienda Heights. • Western Desert SEA, which would link the San Francisquito watershed buffer with Portal Ridge to the Butte Complex and Joshua Tree Woodlands through northern drainages.	• The proposed Puente Hills SEA embodies this nomination within Los Angeles County. • These canyons have been incorporated into the proposed Santa Clara River SEA. • The proposed Antelope Valley SEA embodies this nomination. • This area has been incorporated into the proposed Santa Monica Mountains SEA. • This area has been incorporated into the proposed Puente Hills SEA. • The proposed Santa Clara River SEA includes San Francisquito Creek until it is “cut-off” by development in Green Valley. The Portal Ridge/Butte complex is consolidated with the proposed San Andreas Rift Zone SEA. The consolidation of these areas provides a connection to the Angeles National Forest. The proposed Joshua Tree Woodland SEA is not linked due to intervening disturbances.

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11-22-99 (cont.)	**Sierra Club, Angeles Chapter Conservation Committee**	• Increase SEA #64 (Valley Oak Savannah) to include the area along the freeway adjacent to Dale Poe Parkway.	• The existing SEA and additional area have been incorporated into the proposed Santa Susana Mtns./Simi Hills SEA.
		• Link a canyon extending from the end of Vallecito Drive in Hacienda Heights to Workman Hill with the adjacent Turnbull/Worsham Canyon SEA #44.	• The proposed Puente Hills SEA includes this nomination.
		• Broaden the Santa Clara River SEA to include watersheds Cruzan Mesa and Bouquet Canyon.	• The proposed Cruzan Mesa Vernal Pool SEA covers most of the Cruzan Mesa region. Bouquet Canyon was not considered due to disturbance by development.
		• Arroyo Sequit in Leo Carillo State Park.	• This area has been consolidated into the proposed Santa Monica Mountains SEA.
		• Three canyons southwest of Seventh and Orange Grove Avenues in Hacienda Heights.	• These canyons have been included within the proposed Puente Hills SEA.
		• Increase the size of the Ballona Wetlands SEA.	• Existing SEA #29, Ballona Creek, was not a part of the study, and it will be retained as originally approved. The analysis of this SEA is undergoing an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed to this SEA until an assessment of existing conditions has been completed by this study. Existing SEAs within city boundaries are not a part of the study and are being retained as originally approved. The analysis of this area is also pending an independent review by a joint County/City of Los Angeles Local Coastal Program study. No changes are proposed until an assessment of existing conditions has been completed.
		• Simi Hills including linkages to Chatsworth Reservoir, Santa Susana Pass and Santa Susana Mountains.	• The nominated areas have been consolidated with the proposed Santa Susana Mountains/Simi Hills SEA.
		• Chatsworth Reservoir.	• The nominated area is outside of the unincorporated jurisdiction. However, the Chatsworth Reservoir has been consolidated with the proposed Santa Susana Mountains/Simi Hills SEA.
		• Soft bottom portions of the Los Angeles River, Sepulveda Dam and Glendale Narrows, including linkages to the Arroyo Seco through Mt. Washington.	• "Chatsworth Reservoir, the nomination area, is currently designated as SEA #13. While this SEA was not a part of the study, because it was outside the unincorporated area, proposed modifications to the boundaries of existing Simi Hills SEA #14 has resulted in linking of SEA #13 with the

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11-22-99 (cont.)	**Sierra Club, Angeles Chapter Conservation Committee**		expanded and combined Santa Susana Mountains/Simi Hills SEA.
		• Least Tern nesting grounds at the mouth of the Los Angeles River.	• This area has not been included in the update study due to its location entirely outside County jurisdiction. The nominated area is within the City of Los Angeles. In correspondence dated October 19, 1999, the City recommended that existing SEA #33 (Terminal Island) be relocated to new land created in the outer harbor area. According to the City, this recommendation was made by the U.S. Fish and Wildlife Service, and State Department of Fish and Game.
		• Soft bottom portions of the San Gabriel River extending from Whittier Narrows to Angeles National Forest.	• The analysis determined that the San Gabriel River and its tributaries are channelized; under these circumstances an SEA designation is not appropriate, though the river can be designated as "Open Space" in the Los Angeles County General Plan.
		• Worsham Canyon should be fully included within the boundary of SEA #44 (Sycamore – Turnbull Canyons).	• Worsham Canyon has been consolidated with the proposed Puente Hills SEA.
		• Beaches and Dune remnants from Marina del Rey to the Palos Verdes Peninsula.	• See California Native Plant Society.
		• Add the Liberty Canyon Wildlife Corridor to the Las Virgenes SEA to link the Santa Monica Mountains to the Simi Hills and Santa Susana Mountains.	• The undeveloped portions of this area have been included within the proposed Santa Monica Mountains SEA.
		• Recharge areas of the Santa Clara River that lie outside the current boundaries of SEA #23 (Santa Clara River).	• Existing SEAs #19 and #23 along with several other tributaries to the Santa Clara River have been included in the proposed Santa Clara River SEA. Existing SEAs #20, #63, and #64 have been included in the proposed Santa Susana Mountains/Simi Hills SEA. These proposed SEAs do not include large portions of the National Forest and the entire Santa Clara River water-shed. While this study advocates appropriate watershed management practices, a field survey determined that significant biotic resources did not exist in a number of nominated areas.
		• Isolated habitats on Palos Verdes Peninsula.	• See California Native Plant Society.
		• Revise Malibu Creek State Park Buffer (SEA #8).	• This area has been consolidated into the proposed Santa Monica Mountains SEA.

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11-22-99 (cont.)	**Sierra Club, Angeles Chapter Conservation Committee**	• Canyon that extends from Nicoya Drive in Hacienda Heights to Powder Canyon (SEA #17).	• The nominated area is included in the proposed Puente Hills SEA.
		• Wildlife Corridor extending from San Dimas Canyon and the San Antonio Canyon floodplain south through Bonnelli Park and Upper Tonner Canyon to interconnect with Puente/Chino Hills Corridor.	• The proposed East San Gabriel Valley SEA serves this purpose.
		• Add north side of Castro Peak to SEA #4 (Upper Sierra Cyn.)	• This area has been consolidated into the proposed Santa Monica Mountains SEA.
		• Wildlife corridor extending along Mulholland Scenic Parkway to Hollywood Reservoir and Griffith Park.	• The proposed Santa Monica Mountains SEA extends east to the Encino Reservoir/Temescal-Rustic-Sullivan Canyons area. Areas further to the east were not considered for SEA status due to existing development and numerous high traffic volume freeways. The remaining area was outside of the unincorporated jurisdiction. It is important to note, however, that existing SEAs within city boundaries are not a part of the study and are being retained as originally approved.
		• San Martinez Grande Canyon watershed near Val Verde	• This proposed linkage was not included due to its location in the Newhall Ranch project area. Environmental review determined that linkages further to the west within Ventura County serve this purpose; the area within Ventura County, along the Santa Clara River, is also located closer to the National Forest, which is generally not developed.
07-01-99	**United States Department of the Interior Bureau of Land Management: West Mojave Interagency Planning Team** 2601 Barstow Road Barstow, CA 92311 Contact: Lawrence F. LaPre, PhD	Provided the following comments: • Recommend expansion of SEA #48 (Big Rock Wash); • Add 160 acres Northeast of SEA #51 (Saddleback Butte); • Adjust boundaries of SEA #54 (Piute Butte); • Link SEAs #57 (Fairmont – Antelope Buttes), #58 (Portal Ridge – Liebre Mtns.), and #60 (Joshua Tree Woodland); • Support SEAs #47 (Edwards AFB), #50 (Rosamond Lake), #52 (Alpine Butte), #53 (Lovejoy Butte), and #55 (Desert Montane Transect).	Areas nominated for expansion and linkage are consolidated in the proposed Antelope Valley, San Andreas Rift Zone and Joshua Tree Woodland SEAs.

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07-25-99	**United States Department of the Interior, National Park Service - Santa Monica Mountains National Recreation Area** 401 West Hillcrest Drive Thousand Oaks, CA 91360-4207 Contacts: Arthur E. Eck, Superintendent Melanie Beck, Outdoor Recreational Planner	Nominated the Santa Monica Mountains as a full Mountain range, including all existing SEAs. Stressed the importance of north-south linkages to connect with the Simi Hills, east-west linkages through the Santa Monica Mountains, and additions to core habitat areas.	Essentially, the entire mountain range, including all existing SEAs, (#3 (Zuma Canyon), #4 (Upper La Sierra Canyon), #5 (Malibu Canyon and Lagoon), #6 (Las Virgenes), #7, #8 (Malibu Creed State Park Buffer Area), #9 (Cold Creek), #10 (Tuna Canyon), #11 (Temescal-Rustic-Sullivan Canyons), #12 (Palo Comado Canyon), and #39 (Encino Reservoir) as well as linkages with the Simi Hills have been consolidated into the proposed Santa Monica Mountains SEA. The proposed SEA also includes linkages to the Simi Hills across the Ventura County line.
12-06-99	**Wampole, Barbara** 28006 San Martinez Grande Road Saugus, CA 91384	Nominated a corridor linking the Santa Clara River to Los Padres and Angeles National Forest lands, west of the communities of Val Verde and Castaic.	This proposed linkage was not included due to its location in the Newhall Ranch project area. Environmental review determined that linkages further to the west within Ventura County serve this purpose; the area within Ventura County, along the Santa Clara River, is also located closer to the National Forest, which is generally not developed.
12-20-99	**Wildlife Corridor Conservation Authority** 2500 East Imperial Highway, #201-357 Brea, CA 92821 Contact: Jennifer Schlotterbeck, Staff Analyst Additional information for the Whittier-Puente Hills SEA nomination	Nominated a Whittier-Puente Hills Wildlife Corridor (especially the areas between SEA #44 (Sycamore-Turnbull Canyons) and #17 (Powder Canyon)). The corridor encompasses existing open space within the Chino Hills & Puente Hills from the Cleveland National Forest in Orange County to the Whittier Narrows area in Los Angeles County.	As proposed, the Puente Hills SEA includes the majority of open space remaining in the county portion of the Puente Hills and Chino Hills and the natural areas of the Whittier Narrows Recreation Area and Flood Control Basin. Existing SEAs #15 (Tonner Canyon-Chino Hills), #17, #42 (Whittier Narrows), and #44 are included in this SEA with minor modifications to their boundaries.
10-22-99	**Wilmington-Harbor City Harbor Lake Regional Park** 221 South Figueroa Street Los Angeles, CA 90012 Contact: Anne Howell	Requested retention of SEA #35 (Harbor Lake Regional Park) (possibly reduce to just the drainage channel).	The nominated area is within the City of Los Angeles. In correspondence dated October 19, 1999, the City noted that existing SEA #35 (Harbor Lake Regional Park) is zoned as OS (Open Space Publicly Owned) and is in park use. The city also recommended deleting the area northerly of Pacific Coast Highway, due to channelization for flood control purposes as well as existing residential development.

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Date:	Respondent:	Comments/ Area(s) Nominated:	Response:
04-10-00	**United States Department of Agriculture** National Forest Service – Angeles National Forest 701 North Santa Anita Avenue Arcadia, CA 91006-2725 Contact: Susan R. Swinson, Acting Forest Supervisor	Expressed support of the regional SEA concept submitted by the California native Plant Society in December 1999.	See California Native Plant Society.
03-15-00	**The Theodore Payne Foundation for Wildflowers and Native Plants, Inc.** 10459 Tuxford Street Sun Valley, CA 91352 Contact: Michael Sorich, President of the Board of Directors	Expressed support of the regional SEA concept submitted by the California native Plant Society in December 1999.	See California Native Plant Society.
12-16-99	**State of California, The Resources Agency – Santa Monica Mountains Conservancy** 5750 Ramirez Canyon Road Malibu, CA 90265 Contact: Elizabeth A. Cheadle, Chairperson	Expressed support for the nominations submitted by the National Park Service, The Resource Conservation District of the Santa Monica Mountains, the Wildlife Corridor Conservation Authority, the City of Santa Clarita/Sierra Club Santa Clarita Chapter, and the Sierra Club—Angeles Chapter.	See National Park Service, the Resource Conservation District of the Santa Monica Mountains, the Wildlife Corridor Conservation Authority, the City of Santa Clarita/Sierra Club Santa Clarita Chapter, and the Sierra Club—Angeles Chapter.
02-10-00	**Desert Tortoise Preserve Committee, Inc.** 4067 Mission Inn Avenue Riverside, CA 92501 Contact: Michael J. Conner, Ph.D., Executive Director	Expressed support of the regional SEA concept submitted by the California Native Plant Society in December 1999. Specifically recommended SEA status for the designated critical habitat for the desert tortoise and Saddleback Butte State Park in the northeastern corner of the county.	See California Native Plant Society. In addition, a portion of the Critical Habitat Area is located in Saddleback Butte Park, which has been consolidated in the proposed Antelope Valley SEA. This study, nevertheless, recommends expansion of the proposed SEA boundaries to include the majority of the Desert Tortoise Critical Habitat Area within Los Angeles County.

Appendix H

Comprehensive Floral and Faunal Compendium

APPENDIX H
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	VASCULAR PLANTS–Gymnosperms		SIGNIFICANT ECOLOGICAL AREAS											
	Scientific Name	**Common Name**	**AV**	**SA**	**SC**	**JT**	**CM**	**SS**	**SM**	**SG**	**SD**	**ES**	**PH**	**CI**
	Cupressaceae	**Cypress Family**												
*	*Calocedrus decurrens*	incense cedar	X	X	X					X	X			
	Cupressus arizonica	Arizona cypress		X										
	Juniperus californica	California juniper	X	X	X	X			X					
	Ephedraceae	**Ephedra Family**												
	Ephedra californica	desert tea	X	X	X	X								
	Ephedra nevadensis	Nevada tea	X	X	X	X		X						
	Ephedra viridis	green ephedra	X	X	X	X		X						
	Pinaceae	**Pine Family**												
	Abies concolor	white fir		X										
	Pinus attenuata	knobcone pine						X		X	X			
	Pinus contorta	lodgepole pine												X
*	*Pinus coulteri*	coulter pine	X	X				X		X	X			
	Pinus jefferyi	Jeffery pine	X	X						X	X			
	Pinus lambertiana	sugar pine	X	X						X	X			
	Pinus monophylla	single-leaf pinyon pine	X	X						X	X			

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Pinus ponderosa	ponderosa pine	X	X						X	X			
Pinus sabiniana	gray or foothill pine	X	X	X			X						
Pseudotsuga macrocarpa	bigcone spruce	X	X	X			X		X	X			

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VASCULAR PLANTS–Ferns and Fern Allies		SIGNIFICANT ECOLOGICAL AREAS											
Scientific Name	**Common Name**	**AV**	**SA**	**SC**	**JT**	**CM**	**SS**	**SM**	**SG**	**SD**	**ES**	**PH**	**CI**
Aspleniaceae	**Spleenwort Family**												
Asplenium vespertinum		X						X	X	X	X	X	
Azollaceae	**Mosquito Fern Family**												
Azolla filiculoides	duckweed fern	X	X	X	X	X	X	X	X	X	X	X	X
Blechnaceae	**Deer Fern Family**												
Woodwardia fimbriata	giant chain fern		X	X			X	X	X	X	X	X	X
Dennstaedtiaceae	**Bracken Family**												
Pteridium aquilinum	Bracken fern	X	X	X		X	X	X	X	X	X	X	X
Dryopteridaceae	**Wood Fern Family**												
Cystopteris fragilis	fragile fern		X	X			X	X	X	X	X	X	X
Dryopteris arguta	coastal wood fern	X	X	X			X	X	X	X	X	X	X
Equisetaceae	**Horsetail Family**												
Equisetum hyemale	common scouring-rush	X	X	X		X	X	X	X	X	X	X	X
Equisetum laevigatum	smooth scouring-rush	X	X	X			X	X	X	X	X	X	X
Equisetum telmateia	giant horsetail		X				X	X			X	X	X
Marsileaceae	**Marsilea Family**												
Marsilea vestita	hairy pepperwort		X				X	X	X	X	X	X	
Pilularia americana			X				X	X	X	X	X	X	

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Ophioglossaceae	**Adder's-tongue Family**												
Botrychium crenulatum	scalloped moonwort	X	X					X	X	X	X	X	X
Ophioglossum californicum	California adder's tongue							X	X	X	X	X	
Polypodiaceae	**Polypody Family**												
Polypodium californicum	California polypody	X	X	X		X	X	X	X	X	X	X	X
Pteridaceae	**Brake Family**												
Adiantum capillus-veneris	southern maiden-hair	X	X	X		X	X	X				X	X
Adiantum jordanii	California maidenhair	X	X	X		X	X	X	X	X	X	X	X
Aspidotis californica	California lace fern	X	X	X		X	X	X	X	X	X	X	X
Cheilanthes clevelandii	Cleveland's lip fern										X	X	
Cheilanthes covillei		X	X	X		X	X	X	X	X	X	X	X
Cheilanthes newberryi		X	X	X		X	X	X	X	X	X	X	X
Notholaena californica		X					X	X			X	X	X
Pellaea andromedifolia	coffee fern	X	X	X		X	X	X	X	X	X	X	X
Pellaea mucronata	birds-foot fern	X	X	X		X	X	X	X	X			
Pentagramma triangularis	goldenback fern		X	X			X	X	X	X	X	X	X
Selaginellaceae	**Spike-Moss Family**												
Selaginella asprella	bluish spike-moss	X	X										
Selaginella bigelovii	Bigelow's spike-moss	X	X	X			X	X	X	X	X	X	X

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Thelypteridaceae	**Thelypteris Family**												
Thelypteris puberula	Sonoran maiden fern							X	X	X	X	X	X

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	VASCULAR PLANTS–Angiosperms (Dicotyledons)		SIGNIFICANT ECOLOGICAL AREAS											
	Scientific Name	**Common Name**	**AV**	**SA**	**SC**	**JT**	**CM**	**SS**	**SM**	**SG**	**SD**	**ES**	**PH**	**CI**
	Aceraceae	**Maple Family**												
	Acer macrophyllum	big-leaf maple	X	X	X		X	X	X	X	X	X	X	X
	Acer negundo	California box-elder	X	X	X			X	X	X	X	X	X	
	Amaranthaceae	**Amaranth Family**												
*	*Amaranthus albus*	tumbleweed	X	X	X	X	X	X	X	X	X	X	X	X
	Amaranthus blitoides	prostrate amaranth	X	X	X	X	X	X	X	X	X	X	X	X
	Amaranthus californicus	California amaranth	X	X	X	X	X	X	X	X	X	X	X	X
*	*Amaranthus deflexus*	low amaranth	X	X	X	X	X	X	X	X	X	X	X	X
	Amaranthus fimbriatus	fringed amaranth	X	X		X								
*	*Amaranthus hybridus*	slender pigweed	X	X	X	X	X	X	X	X	X	X	X	X
	Amaranthus palmeri	Palmer's amaranth	X	X		X								
*	*Amaranthus retroflexus*	rough pigweed	X	X	X	X	X	X	X	X	X	X	X	X
	Anacardiaceae	**Sumac or Cashew Family**												
	Malosma laurina	laurel sumac	X	X	X		X	X	X	X	X	X	X	X
	Rhus integrifolia	lemonade berry	X	X	X		X	X	X	X	X	X	X	X
	Rhus ovata	sugar bush	X	X	X		X	X	X	X	X	X	X	X
	Rhus trilobata	skunkbrush (squawbush)	X	X	X		X	X	X	X	X	X	X	X
	Toxicodendron diversilobum	poison oak	X	X	X		X	X	X	X	X	X	X	X

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	Apiaceae	**Carrot Family**												
*	*Anthriscus caucalis*	bur-chervil	X	X	X		X	X	X	X	X	X	X	X
	Apiastrum angustifolium	wild celery	X	X	X		X	X	X	X	X	X	X	X
*	*Apium graveolens*	celery	X	X	X	X	X	X	X	X	X	X	X	X
	Berula erecta	cutleaf waterparsnip	X	X	X		X	X	X	X	X	X	X	X
	Bowlesia incana	bowlesia	X	X	X	X	X	X	X	X	X	X	X	X
*	*Ciclospermum leptophyllum*	marsh-parsley	X	X	X		X	X	X	X	X	X	X	X
	Cicuta douglasii	western water hemlock						X	X	X	X	X	X	X
*	*Conium maculatum*	poison hemlock	X	X	X	X	X	X	X	X	X	X	X	X
*	*Coriandrum sativum*	coriander	X	X	X		X	X	X	X	X	X	X	X
	Cymopterus deserticola	desert cymopterus	X	X		X								
*	*Daucus pusillus*	rattlesnake weed	X	X	X	X	X	X	X	X	X	X	X	X
	Eryngium aristulatum	San Diego button-celery					X	X	X	X	X	X	X	X
*	*Foeniculum vulgare*	fennel	X	X	X	X	X	X	X	X	X	X	X	X
	Heracleum lantanum	cow parsnip	X	X	X	X	X	X	X	X	X	X	X	X
*	*Hydrocotyle moschata*							X	X					
	Hydrocotyle umbellata		X	X	X		X	X	X	X	X	X	X	X
	Lomatium californicum		X	X	X			X	X					
	Lomatium dasycarpum	woolly-fruited lomatium	X	X	X		X	X	X	X	X	X	X	X

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Lomatium dissectum var. *multifidum*		X	X	X		X	X	X	X	X	X	X	X
Lomatium insulare	San Nicolas Island lomatium												X
Lomatium lucidum	shiny lomatium	X						X	X	X	X	X	
Lomatium mohavense	lomatum	X	X	X	X	X	X	X					
Lomatium nevadense var. *parishii*			X				X		X	X			
Lomatium utriculatum	common lomatium		X	X		X	X	X			X	X	X
Oenanthe sarmentosa	dropwort							X	X	X	X	X	X
Oreonana vestita	woolly mountain-parsley	X							X	X			
Osmorhiza brachypoda	California sweet Cicely (osmorhiza)	X	X	X		X	X	X	X	X			
Perideridia gairdneri	Gairdner's yampah							X	X	X			
Perideridia parishii	Parish yampah	X	X	X		X	X	X	X	X	X	X	X
Perideridia pringlei	adobe yampah	X	X	X		X		X					
Sanicula arguta	sharp-toothed sanicle							X					
Sanicula bipinnata	poison sanicle			X				X					
Sanicula crassicaulis	Pacific sanicle		X					X					
Sanicula graveolens			X										
Sanicula maritima	adobe sanicle								X	X			
Sanicula tuberosa	tuberous sanicle, snakeroot		X					X					
Scandix pecten-veneris	shepherd's needle		X					X					

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Tauschia arguta	southern tauschia		X				X	X					
Tauschia hartwegii			X					X					
Tauschia parishii			X										
Torilis nodosa								X					
Yabea microcarpa	California hedge parsley		X					X					X
Asclepiadaceae	**Milkweed Family**												
Asclepias californica	California milkweed		X	X			X	X				X	
Asclepias eriocarpa	Indian milkweed	X	X	X	X	X	X	X	X	X	X	X	X
Asclepias erosa	desert milkweed	X	X	X		X	X	X	X	X	X	X	X
Asclepias fascicularis	narrow-leaf milkweed	X	X	X	X	X	X	X	X	X	X	X	X
Asclepias vestita	woolly milkweed	X	X		X	X	X	X	X	X			
Cynanchum utahense	Utah vine milkweed	X	X		X								
Matelea parvifolia	spearleaf	X	X		X								
Sarcostemma cynanchoides	climbing milkweed	X	X		X								
Asteraceae	**Sunflower Family**												
Acamptopappus sphaerocephalus	goldenhead	X	X		X	X	X		X	X	X	X	
Achillea millefolium	California yarrow	X	X	X		X	X	X	X	X	X	X	X
Achyrachaena mollis	blow-wives	X	X	X		X	X	X	X	X	X	X	X
Acourtia microcephala	sacapellote	X	X	X		X	X	X	X	X	X	X	X

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	Scientific Name	**Common Name**	**AV**	**SA**	**SC**	**JT**	**CM**	**SS**	**SM**	**SG**	**SD**	**ES**	**PH**	**CI**
*	*Acroptilon repens*	Russian knapweed	X	X	X		X	X	X	X	X	X	X	X
*	*Ageratina adenophora*	eupatory			X			X	X	X	X	X	X	X
	Agoseris grandiflora	mountain dandelion	X	X	X		X	X	X	X	X	X	X	X
	Agoseris heterophylla	agoseris	X	X	X		X	X	X	X	X	X	X	X
	Agoseris retrorsa	spear-leaved agoseris	X	X	X		X	X	X	X	X	X	X	X
	*Amblyopappus pusill*us								X					X
	Ambrosia acanthicarpa	annual bur-sage	X	X	X	X	X	X	X	X	X	X	X	X
	Ambrosia chamissonis	beach bur							X					X
	Ambrosia conifertiflora							X	X	X	X	X	X	
	Ambrosia dumosa	burro-bush	X	X		X								
	Ambrosia psilostachya	western ragweed (sandbur)	X	X	X	X	X	X	X	X	X	X	X	X
*	*Ancistrocarphus filagineus*		X	X	X	X	X	X		X	X	X	X	
	Anisocoma acaulis	scalebud	X	X		X				X	X	X	X	
	Antennaria marginata	white-margined everlasting								X	X			
*	*Anthemis cotula*	mayweed	X	X	X		X	X	X	X	X	X	X	X
*	*Artemisia biennis*	biennial sagewort	X	X	X		X	X	X	X	X	X	X	
	Artemisia californica	California sagebrush	X	X	X		X	X	X	X	X	X	X	X
	Artemisia douglasiana	mugwort	X	X	X		X	X	X	X	X	X	X	X
	Artemisia dracunculus	tarragon	X	X	X		X	X	X	X	X	X	X	X

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	Artemisia palmeri	Palmer sagewort							X	X	X	X	X	
	Artemisia spinescens	budsage	X	X		X								
	Artemisia tridentata	basin sagebrush	X	X					X	X	X	X	X	
	Aster frondosus		X	X	X		X	X	X	X	X	X	X	
	Aster greatae	Greata's aster	X	X	X			X		X	X			
	Aster lanceolatus hesperus	aster							X	X	X	X	X	
	Aster subulatus	broom aster	X	X	X		X	X	X	X	X	X	X	X
	Baccharis douglasii	marsh baccharis							X	X	X	X	X	
	Baccharis emoryi	Emory baccharis	X	X	X		X	X	X	X	X	X	X	
	Baccharis pilularis	coyote brush						X	X			X	X	X
	Baccharis plummerae	Plummer's baccharis		X	X		X	X	X	X	X	X	X	X
	Baccharis salicifolia	mulefat	X	X	X		X	X	X	X	X	X	X	X
	Baccharis sarothroides	broom baccharis	X	X		X						X	X	
	Baileya pleniradiata	desert marigold	X	X		X								
	Balsamorhiza deltoidea	deltoid balsam-root		X	X		X	X	X					
*	*Bellis perennis*	English daisy	X	X	X		X	X	X	X	X	X	X	X
	Bidens frondosa	stick tight	X	X	X		X	X	X	X	X	X	X	X
	Bidens laevis	bur-marigold	X	X	X		X	X	X	X	X	X	X	X
*	*Bidens pilosa*	beggar-ticks	X	X	X		X	X	X	X	X	X	X	X

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	Brickellia californica	California brickellbush	X	X	X	X	X	X	X	X	X	X	X	X
	Brickellia desertorum	desert brickellia	X	X		X								
	Brickellia microphylla	little-leaved brickelbush	X	X	X		X	X	X	X	X	X		
	Brickellia nevinii	Nevin's brickellbush	X	X	X	X	X	X	X	X	X	X		
	Calycadenia villosa	dwarf calycadenia							X	X	X	X	X	
	Calycoseris parryi	yellow tack stem	X	X						X	X	X	X	
*	*Carduus pycnocephalus*	Italian thistle	X	X	X		X	X	X	X	X	X	X	X
*	*Centaurea melitensis*	tocalote	X	X	X		X	X	X	X	X	X	X	X
*	*Centaurea solstitialis*	yellow star-thistle	X	X	X		X	X	X	X	X	X	X	X
*	*Chaenactis artemisiaefolia*	white pincushion										X	X	
	Chaenactis carphoclinia	pebble pincushion flower	X	X										
	Chaenactis fremontii	fremont pincushion flower	X	X		X				X	X	X	X	
	Chaenactis glabriuscula	yellow pincushion	X	X	X	X	X	X	X	X	X	X	X	X
	Chaenactis macrantha	large-flowered pincushion flower	X											
	Chaenactis parishii	Parish’s chaenaetis								X	X	X	X	
	Chaenactis santolinoides	perennial pincushion flower	X	X	X		X	X	X	X	X			
	Chaenactis stevioides	desert pincushion	X	X										
	Chaenactis xantiana		X	X	X	X	X	X	X	X	X			
	Chamomilla occidentalis	alkali pineapple weed	X						X			X	X	

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*	*Chamomilla suaveolens*	pineapple weed		X	X				X	X	X	X	X	
*	*Chrysanthemum coronarium*	garland daisy							X	X	X	X	X	
	Chrysothamnus nauseosus	rubber rabbitbrush	X	X	X	X	X	X	X	X	X	X	X	
	Chrysothamnus teretifolius		X	X	X	X	X	X	X	X	X			
*	*Cichorium intybus*	chichory	X	X	X		X	X	X	X	X	X	X	X
	Cirsium occidentale	thistle	X	X	X	X	X	X	X	X	X	X	X	X
*	*Cirsium vulgare*	bull thistle	X	X	X		X	X	X	X	X	X	X	X
*	*Cnicus benedictus*	blessed thistle	X	X	X		X		X	X	X	X	X	
*	*Conyza bonariensis*	flax-leaved horseweed	X	X	X		X	X	X	X	X	X	X	X
*	*Conyza canadensis*	horseweed	X	X	X	X	X	X	X	X	X	X	X	X
	Conyza coulteri	Coulter's horseweed	X	X	X	X	X	X	X	X	X	X	X	X
	Coreopsis bigelovii	Bigelow's coreopsis	X	X	X	X	X	X	X	X	X			
	Coreopsis californica	California coreopsis	X	X		X								
	Coreopsis calliopsidea	leafy-stemmed coreopsis	X	X	X	X	X	X	X	X	X			
	Coreopsis gigantea	sea dahlia							X	X	X	X	X	X
*	*Cotula australis*	Australian brass-buttons							X	X	X	X	X	
*	*Cotula coronopifolia*	brass-buttons							X	X	X	X	X	
*	*Cynara cardunculus*	cardoon	X	X	X		X	X	X	X	X	X	X	X
	Dicoria canscens	bugseed	X	X		X								

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Dimorphotheca sinuata	cape-marigold							X	X	X	X	X	
Eclipta prostrata	false daisy	X	X	X		X	X	X	X	X	X	X	X
Encelia actoni	Acton's encelia	X	X	X	X								
Encelia californica	California bush sunflower		X	X			X	X	X	X	X	X	X
Encelia farinosa	brittlebush										X	X	
Encelia virginensis	bush sunflower	X			X								
Ericameria cooperi		X	X		X								
Ericameria cuneata		X	X	X		X	X	X	X	X	X	X	
Ericameria ericoides	heather goldenbush							X			X	X	
Ericameria linearifolia	interior goldenbush	X	X	X	X	X	X	X					
Ericameria palmeri	Palmer's goldenbush							X	X	X		X	
Ericameria parishii	Parish's goldenbush			X			X		X	X		X	
Ericameria pinifolia	pinebush		X	X		X	X	X				X	
Erigeron breweri	San Jacinto Mountains daisy	X	X	X		X	X	X	X	X			
Erigeron foliosus	leafy fleabane	X	X	X		X	X	X	X	X	X	X	X
Erigeron uncialis uncialis	limestone daisy		X						X	X			
Eriogonum giganteum	San Clemente Island buckwheat												X
Eriophyllum confertiflorum	golden yarrow	X	X	X		X	X	X	X	X	X	X	X
Eriophyllum lanatum halli	Fort Tejon woolly sunflower	X	X	X	X	X	X	X	X	X	X	X	X

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	Eriophyllum mohavense	Barstow woolly sunflower	X	X										
	Eriophyllum nevinii	Nevin's woolly sunflower												X
	Eriophyllum pringlei		X	X	X	X	X	X	X	X	X			
	Eriophyllum wallacei		X	X	X	X	X	X		X	X			
	Euthamia occidentalis	western goldenrod	X	X	X		X	X	X	X	X	X	X	X
	Filago arizonica	Arizona filago							X	X	X	X	X	X
	Filago californica	California fluffweed	X	X	X		X	X	X	X	X	X	X	X
	Filago depressa		X	X					X	X	X	X	X	
*	*Filago gallica*	narrow-leaved filago	X	X	X		X	X	X	X	X	X	X	X
	Galinsoga parviflora		X	X	X		X	X	X	X	X	X	X	X
	Gnaphalium bicolor	bicolored cudweed							X	X	X	X	X	X
	Gnaphalium californicum	California everlasting	X	X	X		X	X	X	X	X	X	X	X
	Gnaphalium canescens	felty everlasting	X	X	X	X	X	X	X	X	X	X	X	X
	Gnaphalium leucocephalum								X			X	X	X
*	*Gnaphalium luteo-album*	white cudweed	X	X	X		X	X	X	X	X	X	X	X
	Gnaphalium palustre	lowland cudweed	X	X	X		X	X	X	X	X	X	X	X
	Gnaphalium ramoisissimum		X	X	X		X	X	X	X	X	X	X	X
	Gnaphalium stramineum	cotton-batting plant	X	X	X		X	X	X	X	X	X	X	X
	Grindelia camporum	gum-plant	X	X	X		X	X	X	X	X	X	X	X

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	Grindelia hirsutula	San Diego gum-plant	X	X	X		X	X	X	X	X	X	X	X
	Gutierrezia californica	California matchweed	X	X	X		X	X	X	X	X	X	X	X
	Gutierrezia microcephala	small-flowered matchweed	X	X					X	X	X	X	X	
	Gutierrezia sarothrae	broom matchweed	X	X	X	X	X	X	X	X	X	X	X	
	Hazardia cana	San Clemente Island hazardia												X
	Hazardia squarrosa	saw-toothed goldenbush	X	X	X		X	X	X	X	X	X	X	X
*	*Hedypnois cretica*	crete hedypnois							X	X	X	X	X	
	Helenium puberulum	sneezeweed		X	X		X	X	X			X	X	
	Helianthus annuus	common sunflower	X	X	X	X	X	X	X	X	X	X	X	X
	Helianthus californicus								X	X	X	X	X	
	Helianthus gracilentus	slender sunflower	X	X	X		X	X	X	X	X	X	X	X
	Helianthus nuttallii	Los Angeles sunflower	X		X			X		X	X			
	Hemizonia clementia	island tarplant												X
	Hemizonia fasciculata	fascicled tarweed	X	X	X		X	X	X	X	X	X	X	X
	Hemizonia kelloggii		X	X	X		X	X	X	X	X	X	X	X
	Hemizonia minthornii	Santa Susana tarplant						X	X					
	Hemizonia mohavensis	Mohave tarplant								X	X			
	Hemizonia paniculata	San Diego tarweed							X	X	X	X	X	
	Hemizonia parryi	southern tarweed				X								X

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*	*Hemizonia pungens*	common spikeweed	X	X	X		X	X	X	X	X	X	X	X
	Heterotheca grandiflora	telegraph weed		X										
	Heterotheca sessiliflora	hairy golden-aster	X	X	X		X	X	X	X	X	X	X	X
	Hieracium argutum		X		X			X	X	X	X	X	X	
	Holocarpha heermannii			X										
	Holocarpha virgata	graceful tarplant							X	X	X	X	X	
	Hulsea heterochroma			X								X		X
	Hulsea vestita	beautiful hulsea	X	X	X			X	X	X	X		X	
	Hymenoclea salsola	burrobrush	X	X	X	X	X	X	X	X	X	X	X	X
*	*Hypochaeris glabra*	smooth cat's-ear	X	X	X		X	X	X	X	X	X	X	X
	Hypochaeris radicata	hairy cat's-ear							X					
	Isocoma acradenius	alkali golden bush	X	X										
	Isocoma menziesii	coastal goldenbush		X	X		X	X	X	X	X	X	X	X
	Iva axillaris		X	X	X		X	X	X	X	X	X	X	X
	Jaumea carnosa	fleshy Jaumea							X					
*	*Lactuca serriola*	prickly lettuce	X	X	X		X	X	X	X	X	X	X	X
	Lagophylla ramiosissma	common hareleaf	X	X	X		X	X	X	X	X	X	X	X
	Lasthenia californica	coast goldfields	X	X	X	X	X	X	X	X	X	X	X	X
	Lasthenia coronaria		X	X					X	X	X	X	X	

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	Lasthenia glabrata	Coulter goldfields	X	X	X		X	X	X	X	X	X	X	
	Layia glandulosa	white layia	X	X	X		X	X	X	X	X	X	X	X
	Layia heterotricha	pale-yellow layia		X										
	Layia platyglossa	tidy-tips	X	X	X		X	X	X	X	X	X	X	X
	Lepidospartum squamatum	scale-broom	X	X	X		X	X	X	X	X	X	X	X
	Lessingia filaginifolia	California aster	X	X	X		X	X	X	X	X	X	X	X
*	*Leucanthemum vulgare*	ox-eye daisy		X	X		X	X	X			X	X	
	Machaeranthera asteroides	Laguna Mountains aster								X	X	X	X	
	Machaeranthera carnosa	shrubby alkali aster	X	X		X								
	Madia elegans		X	X	X		X	X	X	X	X	X	X	X
	Madia exigua	threadstem madia	X	X	X		X	X	X	X	X	X	X	X
	Madia gracilis	slender tarweed	X	X	X		X	X	X	X	X	X	X	X
	Malacothrix californica		X	X	X		X	X	X	X	X	X	X	X
	Malacothrix coulteri	snake's head	X	X	X		X	X	X			X	X	
	Malacothrix glabrata	desert dandelion	X	X										
	Malacothrix incana	dunedelion							X					
	Malacothrix saxatilis	cliff aster	X	X	X		X	X	X	X	X	X	X	X
	Malacothrix sonchoides	yellow saucers	X	X										
	Micropus californicus	slender cottonweed	X	X	X		X	X	X	X	X	X	X	X

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	Microseris douglasii	Douglas's microseris		X					X	X	X	X	X	X
	Microseris elegans								X	X	X	X	X	X
	Monolopia lanceolota		X	X	X		X	X	X	X	X	X	X	X
	Monoloptilon bellidiforme	mojave desert star	X	X		X								
	Nicolletia occidentalis	hole-in-the-sand plant	X	X		X								
	Osmadenia tenella	southern rosinweed	X	X	X		X	X	X	X	X	X	X	X
*	*Osteospermum ecklonis*	training African daisy		X	X		X	X	X					
	Pentachaeta aurea	golden daisy			X			X		X	X	X	X	
	Pentachaeta lyonii	Lyon's pentachaeta							X					X
	Perityle emoryi		X	X	X		X	X	X	X	X	X	X	X
*	*Picris echioides*	bristly ox-tongue	X	X	X		X	X	X	X	X	X	X	X
	Pluchea odorata	salt marsh fleabane	X	X	X		X	X	X	X	X	X	X	X
	Pluchea sericea	arrow weed	X	X	X		X	X	X	X	X	X	X	X
	Porophyllym gracile	odora	X	X										
	Prenanthella exigua	annual mitre	X	X		X								
	Psathrotes annua	mealy rosettes	X	X		X								
	Psilocarphus brevissimus	woolly marbles	X	X	X		X	X	X	X	X	X	X	X
	Psilocarphus tenellus	slender woolly-heads	X	X	X		X	X	X	X	X	X	X	X
*	*Pulicaria paludosa*	Spanish sunflower	X	X	X		X	X	X	X	X	X	X	X

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Rafinesquia californica	California chicory	X	X	X	X	X	X	X	X	X	X	X	X
Rafinesquia neomexicana	California chicory	X	X		X								
Rigiopappus leptocladus		X	X	X		X	X	X	X	X			
Senecio aphanactis	Rayless ragwort							X	X	X	X	X	X
Senecio breweri		X	X	X		X	X	X					
Senecio californicus	California butterweed	X	X	X		X	X	X	X	X	X	X	X
Senecio flaccidus	shrubby butterweed	X	X	X	X	X	X	X	X	X	X	X	X
Senecio ionophyllus	Tehachapi ragwort	X	X	X			X		X	X			
Senecio lyonii	island ragwort												X
* *Senecio vulgaris*	common groundsel	X	X	X		X	X	X	X	X	X	X	X
* *Silybum marianum*	milk thistle							X	X	X	X	X	X
Solidago californica	California goldenrod	X	X	X		X	X	X	X	X	X	X	X
Solidago confinis	southern goldenrod	X	X	X		X	X	X	X	X	X	X	X
* *Soliva sessilis*		X	X	X		X	X	X	X	X	X	X	X
* *Sonchus asper*	prickly sow thistle	X	X	X		X	X	X	X	X	X	X	X
* *Sonchus oleraceus*	common sow thistle	X	X	X		X	X	X	X	X	X	X	X
Stebbinsoseris heterocarpa	brown microseris							X	X	X	X	X	X
Stephanomeria cichoriacea	Tejon milk-aster							X	X	X	X	X	X
Stephanomeria diegensis		X	X	X		X	X	X	X	X	X	X	X

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Stephanomeria exigua	small wreathplant	X	X	X		X	X	X	X	X	X	X	X
Stephanomeria parryi	rock pink	X	X		X								
Stephanomeria pauciflora	wire-lettuce	X	X	X	X	X	X	X	X	X	X	X	
Stephanomeria virgata	twiggy wreathplant	X	X	X	X	X	X	X	X	X	X	X	X
Stylocline masonii	Mason's neststraw		X										
Stylocline micropoides	desert nest straw	X											
Stylocline psilocarphoides	peck nest straw	X	X		X								
Syntrichopappus fremontii		X	X		X								
Syntrichopappus lemmonii	Lemmon's syntrichopappus	X	X	X		X	X	X	X	X			
Tetradymia axillaris	cotton-thorn	X	X		X								
Tetradymia canescens		X	X	X	X	X	X	X	X	X	X	X	X
Tetradymia comosa	hairy horsebrush	X	X	X		X	X	X	X	X	X	X	
Tetradymia glabrata	desert horsebrush	X	X		X								
Tetradymia stenolepis	felt-thorn	X	X		X								
* *Tragopogon porrifolius*	salsify, oyster plant	X	X	X		X	X	X	X	X	X	X	X
* *Trichocoronis wrightii*	Wright's trichocoronis							X	X	X	X	X	
Uropappus lindleyi	silver puffs	X	X	X	X	X	X	X	X	X	X	X	X
Venegasia carpesioides	canyon-sunflower	X	X	X		X	X	X	X	X	X	X	X
* *Verbesina encelioides*	golden crownbeard							X	X	X	X	X	

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	Xanthium spinosum	spiny cocklebur	X	X	X		X	X	X	X	X	X	X	X
*	*Xanthium strumarium*	cocklebur	X	X	X	X	X	X	X	X	X	X	X	X
	Xylorhiza tortilfolia	mojave aster	X	X		X								
	Bataceae	**Saltwort Family**												
	Batis maritima	saltwort							X					
	Berberidaceae	**Barberry Family**												
	Berberis fremontii	Fremont barberry	X	X								X	X	
	Berberis nevinii	Nevin's barberry	X	X	X		X	X	X	X	X	X	X	X
	Berberis pinnata	Oregon grape	X	X	X		X	X	X	X	X	X	X	
	Betulaceae	**Birch Family**												
	Alnus rhombifolia	white alder	X	X	X			X	X	X	X	X	X	
	Boraginaceae	**Borage Family**												
	Amsinckia menziesii	fiddleneck	X	X	X		X	X	X	X	X	X	X	X
	Amsinckia tessellata		X	X	X		X	X						
	Cryptantha angustifolia	caterpillar forget-me-not	X	X		X								
	Cryptantha circumscissa		X	X	X	X	X	X	X	X	X	X	X	X
	Cryptantha clevlandii								X	X	X	X	X	X
	Cryptantha decipiens		X	X	X		X	X	X					
	Cryptantha dumetorum	twining cryptantha	X	X	X									

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VASCULAR PLANTS–Angiosperms (Dicotyledons)		SIGNIFICANT ECOLOGICAL AREAS											
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Cryptantha holoptera	winged cryptantha	X	X		X								
Cryptantha intermedia	common forget-me-not	X	X	X		X	X	X	X	X	X	X	X
Cryptantha maritima		X	X	X	X	X	X	X	X	X	X	X	X
Cryptantha micrantha		X	X				X						
Cryptantha micromeres	minute-flowered cryptantha	X	X	X	X	X	X	X	X	X	X	X	X
Cryptantha microstachys	ribbed cryptantha		X				X	X					
Cryptantha muricata	prickly cryptantha	X	X	X	X	X	X	X	X	X	X	X	X
Cryptantha nevadensis		X	X				X						
Cryptantha oxygona		X	X	X	X	X	X	X	X	X	X	X	X
Cryptantha pterocarya			X										
Cryptantha simulanus			X										
Harpagonella palmeri	Palmer's grappling hook		X										X
Heliotropum curassavicum	saltmarsh heliotrope	X	X	X	X	X	X	X	X	X	X	X	X
Pectocarya heterocarpa	odd fruited combbur	X											
Pectocarya linearis	slender pectocarya	X	X	X	X	X	X	X	X	X	X	X	X
Pectocarya penicillata	winged pectocarya	X	X	X	X	X	X	X	X	X	X	X	X
Pectocarya platycarpa	broad-margined combbur	X	X		X								
Pectocarya recurvata		X	X		X								
Pectocarya setosa		X	X	X	X	X	X	X	X	X	X	X	X

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Plagiobothrys acanthocarpus	adobe allocarya							X					
Plagiobothrys arizonicus		X	X	X		X	X		X	X			
Plagiobothrys bracteatus	vernal pool popcornflower	X	X	X		X	X	X	X	X	X	X	X
Plagiobothrys canescens		X	X	X	X	X	X	X	X	X	X	X	X
Plagiobothrys collinus	California popcornflower	X	X	X	X	X	X	X	X	X	X	X	X
Plagiobothrys jonesii		X	X		X								
Plagiobothrys nothofulvus	popcornflower	X	X	X	X	X	X	X	X	X	X	X	X
Tiquila nuttalliana	annual coldenia	X	X										
Tiquila plicata	plaited coldenia	X	X										
Brassicaceae	**Mustard Family**												
Arabis glabra	tower mustard	X	X	X	X	X	X	X	X	X	X	X	X
Arabis pulchra		X	X										
Arabis shockleyi	Shockley's rock cress	X	X										
Arabis sparsiflora		X	X	X	X	X	X	X	X	X	X	X	X
Athysanus pusillus	dwarf athysanus	X	X	X	X	X	X	X	X	X	X	X	X
Barbarea orthroceras	winter-cress	X	X	X	X	X	X	X	X	X	X	X	X
* *Brassica nigra*	black mustard	X	X	X	X	X	X	X	X	X	X	X	X
* *Brassica rapa*	field mustard	X	X	X	X	X	X	X	X	X	X	X	X
Brassica tournefortii	Sahara mustard	X	X	X	X	X	X	X	X	X	X	X	X

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	Cakile maritima	sea-rocket							X					
*	*Capsella bursa-pastoris*	shepherd's purse	X	X	X	X	X	X	X	X	X	X	X	X
	Cardamine californica	milk maids	X	X	X	X	X	X	X	X	X	X	X	X
	*Cardamine ogliosperm*a		X	X	X		X	X	X	X	X	X	X	X
*	*Cardaria chalepensis*	lens-podded hoary cress	X	X	X		X	X	X	X	X	X	X	X
	Cardaria draba	heart-podded hoary cress	X	X	X		X	X	X	X	X	X	X	X
*	*Cardaria pubescens*	white-top	X	X	X	X	X	X	X	X	X	X	X	X
	Caulanthus amplexicaulis	Santa Barbara jewelflower		X	X			X	X	X	X			
	Caulanthus cooperi		X	X	X	X								
	Caulanthus heterophyllus	San Diego jewelflower	X	X	X		X	X	X	X	X	X	X	X
	*Caulanthus inflatu*s	desert candle	X	X										
	Coronopus didymus	wart cress	X	X	X	X	X	X	X	X	X	X	X	X
	Descurainia pinnata		X	X	X		X	X	X	X	X	X	X	X
*	*Descurainia sophia*		X	X	X	X	X	X	X	X	X	X	X	X
	Dithyrea californica	spectacle-pod	X	X		X								
	Dithyrea maritima	beach spectaclepod							X					X
	Draba cuneifolia		X	X	X	X	X	X	X	X	X	X	X	X
	Draba verna		X	X	X	X	X	X	X	X	X	X	X	X
	Erysimum capitatum	western wallflower	X	X	X	X	X	X	X	X	X	X	X	X

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	Erysimum insulare	wallflower							X					
	Guillenia lasiophylla	California mustard	X	X	X	X	X	X	X	X	X	X	X	X
*	*Hirshfeldia incana*	short-podded mustard							X	X	X	X	X	
	Hutchinsia procumbens	hutchinsia	X	X	X		X	X	X	X	X	X	X	X
	Lepidium flavum	yellow pepper-grass	X	X		X								
	Lepidium fremontii	desert alyssum	X	X		X								
	Lepidium lasiocarpum	peppergrass	X	X	X	X	X	X	X	X	X	X	X	X
	Lepidium latifolium	peppergrass							X					X
	Lepidium latipes	dwarf peppergrass							X	X	X	X	X	
	Lepidium nitidum	shining peppergrass	X	X	X	X	X	X	X	X	X	X	X	X
	Lepidium oblongum		X	X	X		X	X	X	X	X	X	X	X
	Lepidium perfoliatum	shield-cress	X	X		X								
	Lepidium virginicum		X	X	X	X	X	X	X	X	X	X	X	X
	Lesquerella kingii	San Bernardino Mountains bladderpod		X						X	X			
*	*Lobularia maritima*	sweet-alyssum							X	X	X	X	X	
*	*Matthiola incana*								X					
*	*Raphanus raphanistrum*	jointed charlock	X	X	X	X	X	X	X	X	X	X	X	X
*	*Raphanus sativus*	radish	X	X	X	X	X	X	X	X	X	X	X	X
	Rorippa curvisiliqua		X	X	X			X	X	X	X	X	X	X

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	Rorippa gambellii	Gambel's water cress								X	X			
	Rorippa nasturtium-aquaticum	water-cress							X	X	X	X	X	
	Rorippa palustris	Pacific yellow cress	X	X	X			X	X	X	X	X	X	X
	Sibara filifolia	Santa Cruz Island rock cress												X
*	*Sinapsis arvensis*	charlock	X	X	X	X	X	X	X	X	X	X	X	X
*	*Sisymbrium altissimum*	tumble mustard	X	X	X	X	X	X	X	X	X	X	X	X
*	*Sisymbrium irio*	London rocket	X	X	X	X	X	X	X	X	X	X	X	X
*	*Sisymbrium officinale*	hedge mustard	X	X	X	X	X	X	X	X	X	X	X	X
*	*Sisymbrium orientale*	Oriental mustard	X	X	X	X	X	X	X	X	X	X	X	X
	Stanleya pinnata	prince's plume	X	X	X	X	X	X	X	X	X			
	Streptanthella longirostris	little twist flower	X	X		X								
	Streptanthus bernardinus	Laguna Mountains jewelflower	X	X						X	X			
	Streptanthus campestris	southern jewelflower	X	X						X	X			
	Thysanocarpus curvipes		X	X	X		X	X	X	X	X	X	X	X
	Thysanocarpus laciniatus	narrow-leaved fringe pod	X	X	X	X	X	X	X	X	X	X	X	X
	Tropidocarpum gracile	slender dobie-pod	X	X	X	X	X	X	X	X	X	X	X	X
	Cactaceae	**Cactus Family**												
	Bergerocactus emoryi	golden-spined cereus												X
	Echinocactus polycephalus	cotton top cactus	X											

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	Escobaria vivipara	foxtail cactus	X	X		X								
	Opuntia acanthocarpa	buckhorn cholla	X	X		X								
	Opuntia basilaris	beavertail cactus	X	X	X	X		X		X	X			
	Opuntia echinocarpa	silver or golden cholla	X	X		X								
*	*Opuntia ficus-indica*	Indian fig							X				X	X
	Opuntia littoralis	coastal prickly pear							X	X	X	X	X	X
	Opuntia ×occidentalis	western pricklypear							X	X	X	X	X	X
	Opuntia oricola	pancake prickly pear		X	X			X	X	X	X	X	X	X
	Opuntia parryi	cane cholla	X	X	X		X	X	X	X	X	X	X	
	Opuntia prolifera	cholla		X	X		X	X	X	X	X	X	X	X
	Opuntia ramoisissima	diamond cholla	X	X		X								
	Opuntia ×vaseyi	mesa prickly pear							X	X	X	X	X	
	Callitrichaceae	**Water Starwort Family**												
	Callitriche marginata	California water-starwort	X	X	X		X	X	X	X	X	X	X	X
	Campanulaceae	**Bellflower Family**												
	Githopsis diffusa	bluecup	X	X	X		X	X	X	X	X			
	Lobelia dunnii							X	X	X	X			
	Nemacladus glanduliferus	thread-stem	X	X										
	Nemacladus gracilis	slender nemacladus	X	X	X									

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	Nemacladus ramossisima	Nuttall's nemacladus	X	X	X		X	X	X	X	X	X	X	
	Nemacladus sigmoideus		X	X		X								
	Triodanis biflora		X	X	X	X	X	X	X	X	X	X	X	X
	Capparaceae	**Caper Family**												
	Cleomella obtusifolia	Mohave stinkweed	X	X		X								
	Isomeris arborea	bladderpod	X	X	X	X	X	X	X	X	X	X	X	X
	Wislizenia refracta	jackass-clover	X	X		X								
	Caprifoliaceae	**Honeysuckle Family**												
	Lonicera hispidula	wild honeysuckle	X	X	X		X	X	X	X	X	X	X	X
	Lonicera interrupta	chaparral honeysuckle	X	X	X		X	X	X	X	X	X	X	X
	Lonicera subspicata	southern honeysuckle	X	X	X		X	X	X	X	X	X	X	X
	Sambucus mexicana	Mexican elderberry	X	X	X		X	X	X	X	X	X	X	X
	Symphoricarpos albus	snowberry	X	X	X			X	X	X	X	X	X	X
	Symphoricarpos mollis	creeping snowberry	X	X	X			X	X	X	X	X	X	X
	Caryophyllaceae	**Pink Family**												
	Arenaria macradenia	desert sandwort		X						X	X			
	Cardionema ramosissimum	sand mat							X					
*	*Cerastium glomeratum*	mouse-ear chickweed	X	X	X		X	X	X	X	X	X	X	X
*	*Herniaria hirsuta*								X			X	X	

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	Loeflingia squarrosa	California loeflingia	X			X			X	X	X	X	X	
	Minuartia douglasii	Douglas's sandwort	X	X	X		X	X	X	X	X	X	X	X
	Polycarpon depressum								X			X	X	
*	*Polycarpon tetraphyllum*	four-leaved allseed	X		X				X	X	X	X	X	
	Silene antirrhina		X	X	X	X	X	X	X	X	X	X	X	X
	Silene californica			X	X		X	X	X					
*	*Silene gallica*	common catchfly	X	X	X		X	X	X	X	X	X	X	X
	Silene laciniata	fringed Indian pink	X	X	X		X	X	X	X	X	X	X	X
	Silene lemmonii		X	X	X		X	X	X	X	X	X	X	X
	Silene multinervia	many-nerved catchfly	X	X	X		X	X	X	X	X	X	X	X
	Silene verecunda		X	X	X		X	X	X	X	X	X	X	
*	*Spergula arvensis*	stickwort							X	X	X	X	X	
	Spergularia atrosperma	mat sand-spurrey										X	X	
*	*Spergularia bocconii*	Boccone's sandspurrey							X	X	X	X	X	X
	Spergularia macrotheca	alkali spurrey	X	X		X			X	X	X	X	X	X
	Spergularia marina	saltmarsh sandspurrey	X	X		X			X	X	X	X	X	X
*	*Spergularia villosa*	villous sand-spurrey												X
*	*Stellaria media*	common chickweed							X	X	X	X	X	X
	Stellaria nitens	shining chickweed	X	X	X		X	X	X	X	X	X	X	X

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	Chenopodiaceae	**Goosefoot Family**												
	Allenrolfea occidentalis	iodine bush	X	X										
	Aphanisma blitoides	aphanisma							X					X
	Atriplex argentea	silverscale	X	X								X	X	
	Atriplex californica	California saltbush							X					X
	Atriplex canescens	fourwing saltbush	X	X	X	X	X	X	X	X	X	X	X	
	Atriplex confertifolia	shadscale	X	X										
	Atriplex coronata	crownscale							X			X	X	
	Atriplex coulteri	Coulter’s saltbush							X					X
	Atriplex hymenelytra	desert holly	X	X		X								
*	*Atriplex lentiformis*	big saltbush	X	X	X	X	X	X	X	X	X	X	X	
	Atriplex leucophylla								X					X
	Atriplex pacifica	south coast saltbush							X					X
	Atriplex parishii	Parish’s brittlescale							X					
	Atriplex parryi	Parry's saltbush	X	X										
	Atriplex phyllostegia	arrowscale	X	X		X								
	Atriplex polycarpa		X	X										
*	*Atriplex rosea*	tumbling oracle	X	X	X	X	X	X	X	X	X	X	X	X
*	*Atriplex semibaccata*	Australian saltbush	X	X	X	X	X	X	X	X	X	X	X	X

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	Atriplex serenana	bractscale	X	X					X					
	Atriplex spinifera	spinescale	X	X										
	Atriplex triangularis	spearscale							X					X
	Atriplex watsonii								X					X
*	*Bassia hyssopifolia*	five-hooked bassia	X	X	X	X	X	X	X	X	X	X	X	X
*	*Beta vulgaris*	beet							X			X	X	X
*	*Chenopodium album*	lamb's quarters	X	X	X	X	X	X	X	X	X	X	X	X
*	*Chenopodium ambrosioides*	Mexican tea	X	X	X		X	X	X	X	X	X	X	X
	Chenopodium berlandieri	pitseed goosefoot	X	X	X	X	X	X	X	X	X	X	X	X
*	*Chenopodium botrys*	Jerusalem oak	X	X	X	X	X	X	X	X	X	X	X	X
	Chenopodium californicum	California goosefoot	X	X	X	X	X	X	X	X	X	X	X	X
	Chenopodium fremontii		X	X				X	X					
	Chenopodium incognitum		X	X				X	X					
*	*Chenopodium macrospermum*	goosefoot							X					
*	*Chenopodium multifidum*	cut-leaved goosefoot							X				X	
*	*Chenopodium murale*	nettle-leaved goosefoot	X	X	X	X	X	X	X	X	X	X	X	X
	Chenopodium pratericola			X	X		X	X	X					
*	*Chenopodium pumilio*		X	X	X		X	X	X	X	X	X	X	
*	*Chenopodium rubrum*			X					X					

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*	*Chenopodium strictum*								X			X	X	
	Grayia spinosa			X				X	X					
*	*Halogeton glomeratus*	halogeton	X	X		X								
	Kochia californica	Mojave red sage	X	X										
*	*Kochia scoparia*	kochia	X	X		X			X			X	X	
	Krascheninnikovia lanata		X	X				X	X					
	Monolepis nuttalliana	patata	X	X	X	X	X	X	X	X	X	X	X	X
	Nitrophila occidentalis	alkali weed	X	X					X			X	X	
	Salicornia bigevolii								X					
	Salicornia europaea			X					X					
	Salicornia subterminalis		X	X					X					X
	Salicornia virginica	common pickleweed							X					X
*	*Salsola tragus*	Russian thistle	X	X	X	X	X	X	X	X	X	X	X	X
	Sarcobatus vermiculatus	greasewood	X	X		X								
	Suaeda calceoliformis	horned sea-blite	X	X	X		X		X			X	X	
	Suaeda californica	California sea-blite							X					
	Suaeda esteroa	estuary seablite							X					
	Suaeda moquinii	bush seepweed	X	X	X	X	X	X	X	X	X	X	X	X
	Suaeda taxifolia	woolly sea-blite							X					X

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	Cistaceae	**Rock-Rose Family**												
*	*Cistus ladanifer*	gum cistus		X						X	X			
	Helianthemum greenei	island rush-rose												X
	Helianthemum scoparium	peak rush-rose		X				X						
	Convolvulaceae	**Morning-Glory Family**												
	Calystegia longipes		X	X		X								
	Calystegia macrostegia	chaparral morning glory							X	X	X	X	X	X
	Calystegia malacophylla			X	X		X	X	X					
	Calystegia occidentalis		X	X	X		X	X	X	X	X	X	X	X
	Calystegia peirsonii	Peirson's morning glory	X	X	X									
	Calystegia purpurata								X					
	Calystegia soldanella	Beach morning glory							X					
*	*Convolvulus arvensis*	bindweed	X	X	X			X	X	X	X	X	X	
	Convolvulus simulans	small-flowered morning glory	X	X	X		X	X	X	X	X	X	X	X
	Cressa truxillensis	alkali weed	X	X	X	X	X	X	X	X	X	X	X	X
	Dichondra occidentalis	western dichondra							X			X	X	X
*	*Ipomoea purpurea*	common morning-glory	X	X	X		X	X	X	X	X	X	X	X
	Cornaceae	**Dogwood Family**												
	Cornus glabrata	brown dogwood	X	X	X		X	X	X	X	X	X	X	X

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Crassulaceae	**Stonecrop Family**												
Crassula aquatica	vernal pool pygmy-weed	X	X	X		X		X			X	X	X
Crassula connata	pygmy-weed	X	X	X		X	X	X	X	X	X	X	X
Dudleya abramsii	conejo dudleya	X	X	X			X	X	X	X	X	X	X
Dudleya blochmaniae								X					
Dudleya caespitosa								X					
Dudleya cymosa		X	X	X			X	X	X	X	X	X	
Dudleya densiflora	San Gabriel Mountains dudleya	X		X					X	X			
Dudleya edulis								X			X	X	
Dudleya greenei	Greene's dudleya							X					
Dudleya hassei	Catalina Island dudleya												X
Dudleya lanceolata	lance-leaved dudleya	X	X	X			X	X	X	X	X	X	
Dudleya multicaulis	many stemmed dudleya						X	X	X	X	X	X	
Dudleya pulverulenta	chalk dudleya	X	X	X		X	X	X	X	X	X	X	
Dudleya saxosa	panamint dudleya										X	X	
Dudleya verityi	Verity's dudleya							X					
Dudleya virens	bright green dudleya							X					X
Sedum spathulifolium		X	X				X	X	X	X			

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Crossomataceae	**Crossosoma Family**												
Crossosoma californicum	Catalina crossosoma												X
Cucurbitaceae	**Gourd Family**												
Cucurbita foetidissima	calabazilla	X	X	X	X	X	X	X	X	X	X	X	X
Cucurbita palmata	coyote melon	X	X	X	X	X	X	X	X	X	X	X	X
Marah fabaceus	California man-root	X	X	X		X	X	X	X	X	X	X	X
Marah horridus			X										
Marah macrocarpus	wild cucumber	X	X	X		X	X	X	X	X	X	X	X
Cuscutaceae	**Dodder Family**												
Cuscuta californica	California dodder	X	X	X		X	X	X	X	X	X	X	X
Cuscuta pentagona								X	X	X	X	X	
Cuscuta salina								X					
Datiscaceae	**Datisca Family**												
Datisca glomerata	durango root	X	X	X		X	X	X	X	X	X	X	X
Elatinaceae	**Waterwort Family**												
Elatine brachysperma	yerba fango	X	X	X	X	X	X	X	X	X	X	X	X
Elatine chilensis											X	X	
Ericaceae	**Heath Family**												
Arctostaphylos catalinae	Santa Catalina Island manzanita												X

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	Arctostaphylos gabrielensis	San Gabriel manzanita	X		X					X	X			
	Arctostaphylos glandulosa	Eastwood's manzanita	X	X	X		X	X	X	X	X	X	X	X
	Arctostaphylos glauca	bigberry manzanita	X	X	X		X	X	X	X	X	X	X	
	Arctostaphylos parryana		X	X	X		X	X		X	X			
	Comarostaphylis diversifolia	summer holly							X					
	Xylococcus bicolor	mission manzanita							X	X	X	X	X	X
	Euphorbiaceae	**Spurge Family**												
	Chamaesyce albomarginata	rattlesnake weed	X	X	X	X	X	X	X	X	X	X	X	X
*	*Chamaesyce maculata*	spotted spurge	X	X	X		X	X	X	X	X	X	X	X
	Chamaesyce melanadenia	squaw spurge	X	X	X		X	X	X	X	X	X	X	X
	Chamaesyce micromeria	sonoran sandmat	X	X		X								
	Chamaesyce ocellata	yellow sandmat	X	X	X	X	X	X	X	X	X	X	X	X
	Chamaesyce polycarpa	golondrina	X	X	X	X	X	X	X	X	X	X	X	X
	Chamaesyce serpyllifolia	thyme-leafed spurge	X	X	X	X	X	X	X	X	X	X	X	X
	Croton californicus	California croton	X	X		X			X	X	X	X	X	
	Ditaxis californica	California ditaxis	X	X		X								
	Eremocarpus setigerus	dove weed	X	X	X	X	X	X	X	X	X	X	X	X
	Euphorbia crenulata	Chinese caps	X	X	X		X	X	X	X	X	X	X	X
	Euphorbia misera	cliff spurge							X					X

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*	*Euphorbia peplus*	petty spurge	X	X	X		X	X	X	X	X	X	X	X
	Euphorbia spathulata	reticulate-seeded spurge	X	X	X		X	X	X	X	X	X	X	X
*	*Ricinus communis*	castor bean			X			X	X	X	X	X	X	
	Stillingia linearifolia	linear-leaved stillingia	X	X	X	X	X	X	X	X	X	X	X	X
	Stillingia paucidentata	toothleaf	X	X		X								
	Fabaceae	**Legume Family**												
	Amorpha californica	California false indigo	X	X	X		X	X	X	X	X			
	Amorpha fruticosa	western false indigo							X			X	X	
	Astragalus acutirostris	keel beak	X	X		X								
	Astragalus bicristatus	crested milkvetch	X		X					X	X			
	Astragalus brauntonii	Braunton's milkvetch							X	X	X	X	X	
	Astragalus didymocarpus	two-seeded milkvetch	X	X	X	X	X	X	X	X	X	X	X	X
	Astragalus douglasii	Jacumba milkvetch	X	X	X		X	X	X	X	X	X	X	X
	Astragalus gambelianus	Gambell's dwarf locoweed	X	X	X		X	X	X	X	X	X	X	X
	Astragalus layneae	layne milkvetch	X	X		X								
	Astragalus lentiginosus	freckled milkvetch	X	X	X	X	X	X	X	X	X	X	X	X
	Astragalus leucolobus	Bear Valley woollypod								X	X			
	Astragalus pachypus	Jaeger's milkvetch	X	X	X	X	X	X	X	X	X	X	X	X
	Astragalus pomonensis	Pomona rattleweed							X	X	X	X	X	

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	Astragalus tener	coastal dunes milkvetch							X					
	Astragalus trichopodus	Santa Barbara locoweed	X	X	X		X	X	X	X	X	X	X	X
	Astragulus preussi	Lancaster milkvetch	X	X		X								
	Astragulus purshii		X	X		X								
	Astragulus pycnostachyus	Ventura marsh milkvetch							X					
	Glycyrrhiza lepidota	wild licorice	X	X	X	X	X	X	X	X	X	X	X	X
	Hoita macrostachya	leather root	X	X	X		X	X	X	X	X	X	X	X
	Hoita orbicularis	round-leaved psoralea	X	X	X		X	X	X	X	X	X	X	X
*	*Lathyrus latifolius*	perennial sweet pea	X	X	X		X	X	X	X	X	X	X	X
	Lathyrus splendens	pride of California							X			X	X	
	Lathyrus vestitus		X	X	X		X	X	X	X	X	X	X	X
	Lotus argophyllus		X		X		X	X	X	X	X	X	X	X
*	*Lotus corniculatus*	birdfoot trefoil	X	X	X		X	X	X	X	X	X	X	X
	Lotus crassifolius		X	X	X		X	X	X	X	X	X	X	
	Lotus dendroideus	island broom												X
	Lotus grandiflorus	large-flowered lotus	X	X	X		X	X	X	X	X	X	X	
	Lotus hamatus	San Diego lotus							X	X	X	X	X	X
	Lotus heermannii	woolly lotus							X	X	X	X	X	
	Lotus humistratus	hill (short podded) lotus	X	X	X	X	X	X	X	X	X	X	X	X

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Lotus micranthus								X	X	X	X	X	
Lotus oblongifolius		X	X	X	X	X	X	X	X	X	X	X	X
Lotus procumbens	low silver lotus	X	X	X	X	X	X	X	X	X	X	X	
Lotus purshianus	Spanish clover	X	X	X	X	X	X	X	X	X	X	X	X
Lotus salsuginosus	coastal lotus	X	X	X	X	X	X	X	X	X	X	X	
Lotus scoparius	deerweed	X	X	X		X	X	X	X	X	X	X	X
Lotus strigosus	strigose lotus	X	X	X	X	X	X	X	X	X	X	X	X
Lotus wrangelianus		X	X	X		X	X	X	X	X	X	X	X
Lupinus albifrons		X	X	X		X	X	X	X	X	X	X	X
Lupinus andersonii			X	X		X	X						
Lupinus benthamii	spider lupine		X										
Lupinus bicolor	miniature lupine	X	X	X		X	X	X	X	X	X	X	X
Lupinus chamissonis								X					
Lupinus concinnus	bajada lupine	X	X	X	X	X	X	X	X	X	X	X	X
Lupinus excubitus	grape soda lupine	X	X	X	X	X	X	X	X	X	X	X	X
Lupinus formosus	summer lupine	X	X	X		X	X	X	X	X	X	X	X
Lupinus hirsutissimus	stinging lupine	X	X	X		X	X	X	X	X	X	X	X
Lupinus latifolius	broad-leaved lupine	X	X	X	X	X	X	X	X	X	X	X	X
Lupinus longifolius	Watson's bush lupine	X	X	X		X	X	X	X	X	X	X	X

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	Lupinus microcarpus	chick lupine	X	X	X	X	X	X	X	X	X	X	X	X
	Lupinus nanus		X	X	X		X	X	X	X	X	X	X	X
	Lupinus odoratus	Mojave lupine	X	X		X								
	Lupinus peirsonii	Peirson's lupine	X		X			X		X	X			
	Lupinus shockleyi	desert lupine	X	X		X								
	Lupinus sparsiflorus	Coulter's lupine	X	X	X	X	X	X	X	X	X	X	X	X
	Lupinus succulentus	arroyo lupine	X	X	X		X	X	X	X	X	X	X	X
	Lupinus truncatus	collar lupine	X	X	X		X	X	X	X	X	X	X	X
*	*Medicago lupulina*	black medick	X	X	X		X	X	X	X	X	X	X	X
*	*Medicago orbicularis*	bur clover	X	X	X		X	X	X	X	X	X	X	X
*	*Medicago polymorpha*	California burclover	X	X	X		X	X	X	X	X	X	X	X
*	*Medicago sativa*	alfalfa	X	X	X		X	X	X	X	X	X	X	X
*	*Melilotus alba*	white sweetclover	X	X	X		X	X	X	X	X	X	X	X
*	*Melilotus indica*	sourclover	X	X	X		X	X	X	X	X	X	X	X
*	*Melilotus officinalis*	yellow sweet clover	X	X	X		X	X	X	X	X	X	X	X
*	*Parkinsonia aculeata*	Mexican palo verde	X	X	X		X	X	X	X	X	X	X	X
	Pickeringia montana	chaparral pea	X	X	X		X	X	X	X	X	X	X	X
	Prosopis glandulosa	mesquite	X	X		X								
	Psorothamnus arborescens	indigo bush	X	X		X								

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	Rupertia physodes								X	X	X	X	X	
	Rupertia rigida	Parish's psoralea								X	X	X	X	
	Thermopsis macrophylla	Santa Ynez false lupine	X	X	X		X	X	X	X	X	X	X	X
	Trifolium albopurpureum		X	X	X		X	X	X	X	X	X	X	X
	Trifolium ciliolatum	tree clover	X	X	X		X	X	X	X	X	X	X	X
	Trifolium depauperatum	bladder clover	X	X					X	X	X	X	X	X
	Trifolium fucatum	bull clover							X	X	X	X	X	X
	Trifolium gracilentum	pinpoint clover	X	X	X		X	X	X	X	X	X	X	X
*	*Trifolium hirtum*	rose clover	X	X	X		X	X	X	X	X	X	X	X
	Trifolium incarnatum	crimson clover	X	X	X		X	X	X	X	X	X	X	X
	Trifolium microcephalum	small-headed clover							X	X	X	X	X	X
	Trifolium obtusiflorum	creek clover	X		X			X	X	X	X	X	X	
	Trifolium variegatum	white tip clover	X	X	X		X	X	X	X	X	X	X	X
	Trifolium willdenovii	tomcat clover	X	X	X		X	X	X	X	X	X	X	X
	Trifolium wormskioldii	cow clover							X	X	X	X	X	
	Vicia americana	American vetch	X	X	X		X	X	X	X	X	X	X	X
	Vicia hassei		X	X	X		X	X	X	X	X	X	X	X
	Vicia ludoviciana								X	X	X	X	X	X
*	*Vicia villosa*	hairy vetch	X	X	X		X	X	X	X	X	X	X	X

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Fagaceae	**Oak Family**												
Quercus agrifolia	coast live oak	X	X	X		X	X	X	X	X	X	X	X
Quercus berberidifolia	scrub oak	X	X	X		X	X	X	X	X	X	X	X
Quercus chrysolepis	canyon oak	X	X	X		X	X	X	X	X	X	X	X
Quercus douglasii	blue oak	X	X	X		X	X	X	X	X			X
Quercus dumosa	coastal scrub oak						X	X	X	X	X	X	X
Quercus engelmannii	Engelmann oak	X		X		X		X	X	X	X	X	X
Quercus garryana		X	X	X		X	X	X	X	X			X
Quercus john-tuckeri	Tucker's oak	X	X	X		X	X	X	X	X	X		X
Quercus kelloggii	California black oak	X	X	X		X	X						
Quercus lobata	valley oak	X	X	X		X	X	X	X	X	X	X	X
Quercus macdonaldii	MacDonald's oak												X
Quercus tomentella	island oak												X
Quercus wislizenii	interior live oak	X	X	X		X	X	X	X	X	X	X	
Frankeniaceae	**Frankenia Family**												
Frankenia palmeri	Palmer's frankenia							X	X	X	X	X	
Frankenia salina	alkali heath	X	X		X			X	X	X	X	X	X
Garryaceae	**Silk Tassel Family**												
Garrya flavescens		X	X	X		X	X	X	X	X	X	X	X

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	VASCULAR PLANTS–Angiosperms (Dicotyledons)		SIGNIFICANT ECOLOGICAL AREAS											
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	Garrya veatchii		X	X	X		X	X	X	X	X	X	X	X
	Gentianaceae	**Gentian Family**												
	Centaurium exaltatum		X	X	X	X				X	X	X	X	X
	Centaurium venustum	canchalagua	X	X	X	X	X	X	X	X	X	X	X	X
	Eustoma exaltatum	alkali chalice							X	X	X	X	X	
	Swertia neglecta	pine green-gentian	X	X	X		X	X	X	X	X			X
	Geraniaceae	**Geranium Family**												
*	*Erodium botrys*	broad-lobed filaree	X	X	X		X	X	X	X	X	X	X	X
*	*Erodium brachycarpum*	long-beaked filaree	X	X	X		X	X	X	X	X	X	X	X
*	*Erodium cicutarium*	red-stemmed filaree	X	X	X	X	X	X	X	X	X	X	X	X
	Erodium macrophyllum			X					X	X	X	X	X	
*	*Erodium moschatum*	white-stemmed filaree	X	X	X		X	X	X	X	X	X	X	X
	Erodium texanum	texas filaree	X	X		X			X	X	X	X	X	X
	Geranium carolinianum	Carolina geranium	X	X	X		X	X	X	X	X	X	X	X
	Geranium molle		X	X	X		X	X	X	X	X	X	X	X
	Grossulariaceae	**Gooseberry Family**												
	Ribes aureum	golden currant	X	X	X		X	X	X	X	X	X	X	X
	Ribes californicum	hillside gooseberry	X	X	X		X	X	X	X	X	X	X	X
	Ribes canthariforme	mareno current								X	X	X	X	

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Ribes divaricatum	Douglas shrub							X	X	X	X	X	
Ribes indecorum	white flowering currant	X	X	X		X	X	X	X	X	X	X	X
Ribes malvaceum	chaparral currant	X	X	X		X	X	X	X	X	X	X	X
Ribes quercetorum		X	X	X	X	X	X	X	X	X	X	X	X
Ribes roezlii	Sierra gooseberry	X	X	X		X	X	X	X	X	X	X	X
Ribes speciosum	fuchsia-flowered gooseberry	X	X	X		X	X	X	X	X	X	X	X
Ribes viburnifolium	Santa Catalina Island currant										X	X	X
Hippocastanaceae	**Buckeye Family**												
Aesculus californica	California buckeye	X	X		X								
Hydrophyllaceae	**Waterleaf Family**												
Emmenanthe penduliflora	whispering bells	X	X	X		X	X	X	X	X	X	X	X
Eriodictyon crassifolium	thick-leaved yerba santa	X	X	X		X	X	X	X	X	X	X	X
Eriodictyon trichocalyx	hairy yerba santa	X	X	X				X	X	X	X	X	
Eucrypta chrysanthemifolia		X	X	X	X	X	X	X	X	X	X	X	X
Nama pusillumpum	small-leaved nama	X	X		X								
Nama stenocarpum	mud nama	X	X	X		X	X	X	X	X	X	X	X
Nemophila menziesii	baby blue eyes	X	X	X	X	X	X	X	X	X	X	X	X
Nemophila pedunculata		X	X	X		X	X	X	X	X	X	X	X
Phacelia bicolor	sticky yellow-throats	X	X		X								

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Phacelia brachyloba	short-lobed phacelia	X	X	X		X	X	X	X	X	X	X	
Phacelia cicutaria		X	X	X		X	X	X	X	X	X	X	X
Phacelia ciliata		X	X	X		X	X	X	X	X	X	X	
Phacelia crenulata	purple phacelia	X	X		X								
Phacelia davidsonii		X	X	X		X	X	X	X	X	X	X	
Phacelia distans	fern-leaf phacelia	X	X	X	X	X	X	X	X	X	X	X	X
Phacelia douglasii	Douglas's phacelia	X	X	X	X	X	X	X	X	X			X
Phacelia egena		X	X	X		X	X	X	X	X			X
Phacelia exilis	transverse range phacelia	X	X	X		X	X	X	X	X			X
Phacelia floridunda	many-flowered phacelia												X
Phacelia fremontii	yellow-throats	X	X	X		X	X	X	X	X	X	X	X
Phacelia grandiflora	large-flowered phacelia	X	X	X		X	X	X	X	X	X	X	X
Phacelia imbricata	imbricate phacelia	X	X	X		X	X	X	X	X	X	X	X
Phacelia longipes		X	X	X	X	X	X	X	X	X	X	X	X
Phacelia minor	wild canterbury-bell	X	X	X		X	X	X	X	X	X	X	X
Phacelia mohavensis	Mojave phacelia								X	X			
Phacelia parryi	Parry's phacelia	X	X	X		X	X	X	X	X	X	X	X
Phacelia ramosissima	branching phacelia	X	X	X		X	X	X	X	X	X	X	X
Phacelia stellaris	Brand’s phacelia	X	X	X		X	X	X	X	X	X	X	X

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	Phacelia suaveolens	Santiago peak phacelia							X	X	X	X	X	
	Phacelia tanacetifolia	tansy phacelia	X	X	X	X	X	X	X	X	X	X	X	
	Phacelia viscida	sticky phacelia	X	X	X		X	X	X	X	X	X	X	X
	Pholistoma auritum	blue fiesta flower	X	X	X		X	X	X	X	X	X	X	X
	Pholistoma memranaceum		X	X	X		X	X	X	X	X	X	X	X
	Pholistoma racemosum								X	X	X	X	X	X
	Turicula parryi	poodle-dog bush	X	X	X		X	X	X	X	X	X	X	X
	Hypericaceae	**St. John's Family**												
	Hypericum formosum	St. John's wort	X	X	X		X	X	X	X	X	X	X	X
	Juglandaceae	**Walnut Family**												
	Juglans californica	California black walnut	X	X	X		X	X	X	X	X	X	X	X
	Lamiaceae	**Mint Family**												
	Acanthomintha ilicifolia	San Diego thorn mint							X	X	X	X	X	
	Acanthomintha obovata	heart-leaved thorn mint	X	X	X		X	X	X	X	X	X	X	X
	Lepechinia cardiophylla	heart-leaved pitcher sage								X	X	X		
	Lepechinia fragrans	fragrant pitcher sage							X	X	X		X	X
	Lepechinia ganderi	Gander's pitcher sage								X	X	X	X	
*	*Marrubium vulgare*	horehound	X	X	X		X	X	X	X	X	X	X	X
	Mentha arvensis	field mint	X	X	X		X	X	X	X	X	X	X	X

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	Mentha pulegium	pennyroyal							X	X	X	X	X	
*	*Mentha spicata*	spearmint	X	X	X		X	X	X	X	X	X	X	X
*	*Mentha suaveolens*			X					X	X	X	X	X	
	Monardella brewerii		X	X	X		X	X	X	X	X	X	X	X
	Monardella cinerea	Gray monardella	X		X				X	X	X	X	X	
	Monardella exilis	desert pennyroyal	X	X		X								
	Monardella hypoleuca		X	X	X		X	X	X	X	X	X	X	X
	Monardella lanceolata	mustang mint	X	X	X		X	X	X	X	X	X	X	X
	Monardella linoides	flax-like monardella								X	X			
	Monardella macrantha	Hall's monardella	X	X	X		X	X	X	X	X	X	X	X
	Monardella nana	San Felipe monardella								X	X	X	X	
	Monardella viridis	rock monardella	X							X	X		X	
	Pogogyne abramsii	San Diego mesa mint					X		X	X	X	X	X	
	Pogogyne nudiuscula	otay mesa mint					X		X	X	X	X	X	
	Pycnanthemum californicum		X	X	X		X	X	X	X	X	X	X	X
	Salazaria mexicana			X										
	Salvia apiana	white sage	X	X	X		X	X	X	X	X	X	X	X
	Salvia carduacea	thistle sage	X	X	X		X	X	X	X	X	X	X	X
	Salvia columbariae	chia	X	X	X		X	X	X	X	X	X	X	X

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	Salvia dorrii		X	X	X		X	X	X	X	X	X	X	X
	Salvia leucophylla	purple sage	X	X	X		X	X	X	X	X	X	X	X
	Salvia mellifera	black sage	X	X	X		X	X	X	X	X	X	X	X
	Salvia munzii	Munz's sage										X	X	
	Salvia spathacea	hummingbird sage	X	X	X		X	X	X	X	X	X	X	X
	Satureja chandleri	San Miguel savory								X	X	X	X	
	Satureja douglasii	yerba buena	X	X	X		X	X	X	X	X	X	X	X
	Satureja mimuloides		X	X	X		X	X	X	X	X	X	X	X
	Scutellaria bolanderi	southern skullcap	X	X	X	X	X	X	X	X	X	X	X	
	Scutellaria siphocampyloides		X	X	X		X	X	X	X	X	X	X	X
	Scutellaria tuberosa	Danny's skullcap	X	X	X		X	X	X	X	X	X	X	X
	Stachys ajugoides	hedge-nettle	X	X	X	X	X	X	X	X	X	X	X	X
*	*Stachys albens*	white hedge-nettle	X	X	X		X	X	X	X	X	X	X	X
	Stachys bullata	California hedge-nettle	X	X	X		X	X	X	X	X	X	X	X
	Trichostema austromontanum	hidden lake bluecurls	X	X	X		X	X	X	X	X	X	X	X
	Trichostema lanatum	woolly bluecurls	X	X	X		X	X	X	X	X	X	X	X
	Trichostema lanceolatum	vinegar weed	X	X	X		X	X	X	X	X	X	X	X
	Lauraceae	**Laurel Family**												
	Umbellularia californica	California laurel	X	X	X		X	X	X	X	X	X	X	X

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Lennoaceae	**Lennoa Family**												
Pholisma arenarium	scaly-stemmed sandfood	X						X	X	X	X	X	
Limnanthaceae	**Meadowfoam Family**												
Limnanthes gracilis		X	X	X	X	X	X	X	X	X	X	X	X
Linaceae	**Flax Family**												
Hesperolinon micranthum	dwarf flax	X	X	X		X	X	X	X	X	X	X	X
Linium grandiflorum								X					
Loasaceae	**Loasa Family**												
Mentzelia affinis	yellow comet	X	X	X		X	X	X	X	X	X	X	X
Mentzelia albicaulis	white-stemmed blazing star	X	X	X					X	X			
Mentzelia dispersa		X	X	X		X	X	X	X	X	X	X	X
Mentzelia gracilenta		X	X	X		X	X	X	X	X	X	X	X
Mentzelia laevicaulis	giant blazing star	X	X	X	X	X	X	X	X	X	X	X	X
Mentzelia micrantha	small-flowered stick-leaf	X	X	X		X	X	X	X	X	X	X	X
Mentzelia veatchiana	blazing star	X	X	X		X	X	X	X	X	X	X	X
Petalonyx thurberi	sandpaper plant	X	X	X		X	X	X	X	X	X	X	X
Lythraceae	**Loosestrife Family**												
Ammannia coccinea	valley red-stem	X	X	X		X	X	X	X	X	X	X	X
Lythrum californicum	California loosestrife	X	X	X		X	X	X	X	X	X	X	X

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*	*Lythrum hyssopifolia*	Hyssop loosestrife	X	X	X		X	X	X	X	X	X	X	X
	Malvaceae	**Mallow Family**												
	Eremalche exilis	white desert mallow	X											
	Eremalche parryi	mallow	X	X	X		X	X	X	X	X	X	X	X
	Eremalche rotundifolia	desert five-spot	X											
	Herissantia crispa	curly herissantia										X	X	
	Lavatera assurgentiflora	malva rosa, island mallow							X	X	X	X	X	X
	Malacomamnus aboriginum	Indian Valley bush mallow							X	X	X	X	X	
	Malacothamnus clementinus	San Clemente Island bushmallow												X
	Malacothamnus davidsonii	Davidson's bushmallow						X	X	X	X	X	X	
	Malacothamnus densiflorus	many-flowered mallow										X	X	
	Malacothamnus fasciculatus	mesa bushmallow	X	X	X		X	X	X	X	X	X	X	X
	Malacothamnus fremontii		X	X	X		X	X	X	X	X			X
	Malacothamnus marrubioides		X	X	X		X	X	X	X	X			X
	Malacothamnus palmeri	Arroyo Seco bush mallow								X	X			
*	*Malva neglecta*	common mallow	X	X	X	X	X	X	X	X	X	X	X	X
*	*Malva parviflora*	cheeseweed	X	X	X			X	X	X	X		X	X
	Malvella leprosa	alkali-mallow	X	X	X	X	X	X	X	X	X	X	X	X
	Modiola caroliniana		X	X	X		X	X	X	X	X	X	X	X

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Sidalcea hickmanii	checkerbloom	X	X	X		X	X	X	X	X	X	X	X
Sidalcea malvaeflora	checker mallow		X					X					
Sidalcea neomexicana	salt spring checkerbloom	X	X	X				X	X	X	X	X	X
Sidalcea pedata	bird-footed checkerbloom								X	X			
Sphaeralcea ambigua	apricot mallow	X											
Sphaeralcea emoryi		X	X		X								
Martyniaceae	**Unicorn-Plant Family**												
Proboscidea louisianica	common unicorn-plant							X	X	X	X	X	
Myricaceae	**Wax Myrtle Family**												
Myrica californica	California wax myrtle							X	X	X	X	X	
Nyctaginaceae	**Four O'Clock Family**												
Abronia maritima	red sand-verbena							X	X	X	X	X	X
Abronia nana	dwarf abronia		X		X				X	X		X	
Abronia pogonantha	Mojave sand-verbena	X	X		X								
Abronia umbellata								X	X	X	X	X	
Abronia villosa	sand-verbena	X						X	X	X	X	X	
Mirabilis bigelovii	rough wishbone plant	X											
Mirabilis californica	California wishbone bush	X	X	X		X	X	X	X	X	X	X	X
Mirabilis multiflora			X										

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Nymphaeaceae	**Waterlily Family**												
Numphar luteum	cow lily, pond lily		X					X					
Oleaceae	**Olive Family**												
Forestiera pubescens	desert olive	X	X	X		X	X	X	X	X			X
Fraxinus dipetala	California ash	X	X	X		X	X	X	X	X	X	X	X
Fraxinus velutina	velvet ash	X	X	X	X	X	X	X	X	X	X	X	X
Onagraceae	**Evening Primrose Family**												
Camissonia bistorta	California sun cup	X	X	X		X	X	X	X	X	X	X	X
Camissonia boothii	Booth's evening primrose	X	X	X	X			X					
Camissonia californica	California evening primrose	X	X	X	X	X	X	X	X	X	X	X	X
Camissonia campestris	Mojave sun cup	X	X	X	X		X	X	X	X	X	X	X
Camissonia cheiranthifolia	Beach evening primrose							X	X	X	X	X	X
Camissonia claviformis	evening primrose	X	X		X						X	X	
Camissonia confusa		X	X	X		X	X	X	X	X	X	X	X
Camissonia graciliflora		X	X	X		X	X	X	X	X			X
Camissonia guadalupensis	San Clemente Island evening-primrose												X
Camissonia hirtella		X	X	X		X	X	X	X	X	X	X	X
Camissonia ignota		X	X	X		X	X	X	X	X	X	X	X
Camissonia intermedia	intermediate sun-cups	X	X	X		X	X	X	X	X	X	X	X

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VASCULAR PLANTS–Angiosperms (Dicotyledons)		SIGNIFICANT ECOLOGICAL AREAS											
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Camissonia lewisii	Lewis' evening primrose							X	X	X	X	X	
Camissonia micrantha	small primrose	X	X	X		X	X	X	X	X	X	X	X
Camissonia pallida		X	X		X								
Camissonia palmeri	Palmer primrose	X	X	X	X	X	X	X	X	X			X
Camissonia strigulosa	field evening primrose	X	X	X		X	X	X	X	X	X	X	X
Clarkia bottae	punchbowl godetia	X	X	X		X	X	X	X	X	X	X	X
Clarkia cylindrica	speckled clarkia		X	X		X	X	X					
Clarkia epilobioides	willow-herb clarkia	X	X	X		X	X	X	X	X	X	X	X
Clarkia purpurea	winecup clarkia	X	X	X		X	X	X	X	X	X	X	X
Clarkia rhomboidea		X	X	X		X	X	X	X	X	X	X	X
Clarkia unguiculata	elegant clarkia	X	X	X		X	X	X	X	X		X	
Clarkia xantiana		X	X	X		X	X	X	X	X			X
Epilobium brachycarpum	parched fireweed	X	X			X	X	X	X	X	X	X	X
Epilobium canum	California fuchsia	X	X	X		X	X	X	X	X	X	X	X
Epilobium ciliatum	California cottonweed	X	X	X	X	X	X	X	X	X	X	X	X
Epilobium foliosum			X										
Epilobium pygmaeum		X	X	X		X	X	X	X	X	X	X	X
Gaura coccinea	wild honeysuckle	X	X	X		X	X	X	X	X	X	X	X
Gaura sinuata	wavy-leaved gaura	X	X	X		X	X	X	X	X	X	X	X

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	Gayophytum diffusum		X	X	X	X	X	X	X	X	X	X	X	X
	Heterogaura heterandra			X										
	Ludwigia peploides	peploides	X	X	X	X	X	X	X	X	X	X		X
	Oenothera californica	California evening primrose	X	X	X		X	X	X	X	X	X	X	X
	Oenothera deltoides	basket evening primrose						X						
	Oenothera elata	evening primrose	X	X	X	X	X	X	X	X	X	X	X	X
	Oenothera primaveris	yellow-evening primrose	X											
	Orobanchaceae	**Broom-rape Family**												
	Orobanche bulbosa		X	X	X		X	X	X	X	X	X	X	X
	Orobanche californica		X	X	X		X	X	X	X	X	X	X	X
	Orobanche fasciculata	clustered broom-rape	X	X	X		X	X	X	X	X	X	X	X
	Orobanche parishii	short-lobed broom-rape	X	X	X		X	X	X	X	X	X	X	X
	Orobanche uniflora	naked broom-rape		X					X	X	X	X	X	
*	*Orobanche valida*	rock creek broom-rape	X	X	X		X	X	X	X	X	X		X
	Orobanche vallicola								X	X	X	X	X	
	Oxalidaceae	**Oxalis Family**												
	Oxalis albicans	California wood-sorrel	X	X	X		X	X	X	X	X	X	X	X
*	*Oxalis corniculata*	creeping wood-sorrel	X	X	X		X	X	X	X	X	X	X	X
	Oxalis rubra								X					

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Paeoniaceae	**Peony Family**												
Paeonia californica	California peony		X	X			X	X				X	
Papaveraceae	**Poppy Family**												
Argemone corymbosa		X	X		X								
Argemone munita	prickly poppy	X	X	X		X	X	X	X	X	X	X	X
Canbya candida	pigmy poppy	X	X		X				X	X			
Dendromecon harfordii	island tree poppy			X									X
Dendromecon rigida	bush poppy	X	X	X		X	X	X	X	X	X	X	X
Dicentra chrysantha	golden ear-drops	X	X	X		X	X	X	X	X	X	X	X
Dicentra ochroleuca		X	X	X		X	X	X	X	X	X	X	X
Eschscholzia caespitosa	poppy	X	X	X		X	X	X	X	X	X	X	X
Eschscholzia californica	California poppy	X	X	X	X	X	X	X	X	X	X	X	X
Eschscholzia minutiflora		X	X		X								
Eschscholzia ramosa	island poppy												X
Meconella denticulata		X	X	X		X	X	X	X	X	X	X	X
Papaver californicum	fire poppy	X	X	X		X	X	X	X	X	X	X	X
Papaver somniferum	opium poppy	X	X	X		X	X	X	X	X	X	X	X
Platystemon californicus	cream cups	X	X	X		X	X	X	X	X	X	X	X
Stylomecon heterophylla	orange poppy	X	X	X		X	X	X	X	X	X	X	X

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	Plantaginaceae	**Plantain Family**												
	Plantago elongata	annual coast plantain	X	X	X		X	X	X	X	X	X	X	X
	Plantago erecta	western plantain	X	X	X		X	X	X	X	X	X	X	X
*	*Plantago lanceolata*	English plantain	X	X	X		X	X	X	X	X	X	X	X
*	*Plantago major*	common plantain	X	X	X		X	X	X	X	X	X	X	X
	Plantago patagonica		X	X		X								
	Platanaceae	**Sycamore Family**												
	Platanus racemosa	western sycamore	X	X	X		X	X	X	X	X	X	X	X
	Plumbaginaccae	**Leadwort Family**												
	Limonium californicum	western marsh-rosemary							X	X	X	X	X	
	Limonium perezii								X	X	X	X	X	
	Limonium sinatum								X	X	X	X	X	
	Polemoniaceae	**Phlox Family**												
	Allophyllum divaricatum	allophyllum		X	X		X		X					
	Allophyllum gilioides	false gilia		X	X		X		X					
	Allophyllum glutinosum	blue false gilia		X	X		X	X	X					
	Collomia grandiflora		X	X	X		X	X	X	X	X	X	X	X
	Eriastrum densifolium	woolly-star flower	X	X	X	X	X	X	X	X	X	X	X	X
	Eriastrum diffusum	spreading blue mantle	X			X								

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Eriastrum eremicum	blue mantle	X			X								
Eriastrum filifolium			X					X	X	X	X	X	
Eriastrum pluriflorum	many flowered eriastrum	X	X		X								
Eriastrum sapphirinum	sapphire eriastrum	X	X	X		X	X	X	X	X	X	X	X
Eriastrum sparsiflorum			X										
Gilia achilleifolia	blue gilia			X			X	X	X	X	X	X	
Gilia aliquanta		X	X	X	X				X	X			
Gilia angelensis	angel gilia	X	X	X		X	X	X	X	X	X	X	X
Gilia australis		X	X	X		X	X	X	X	X	X	X	X
Gilia brecciarum		X	X	X		X	X	X	X	X			X
Gilia cana	gilia	X	X		X								
Gilia capitata	blue field gilia	X	X	X		X	X	X	X	X	X	X	X
Gilia caryifolia	caraway-leaved gilia										X	X	
Gilia clivorum	hillside gilia	X	X	X		X	X	X	X	X	X		X
Gilia diegensis		X	X	X					X	X	X	X	
Gilia hutchinsifolia	desert pale gilia	X	X		X								
Gilia latiflora	broad flowered gilia	X	X		X								
Gilia leptomeria	sand gilia	X											
Gilia malior		X	X		X								

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Gilia micromeria	small flowered gilia	X											
Gilia minor	dwarf gilia	X	X		X								
Gilia nevinii	Nevin's gilia			X									X
Gilia ochroleuca		X	X	X	X				X	X			
Gilia sinuata	gilia	X	X		X		X						
Gilia splendens	splendid gilia		X					X			X	X	
Ipomopsis tenuifolia	slender-leaved ipomopsis										X	X	
Leptodactylon californicum	prickly phlox	X	X	X		X	X	X	X	X	X	X	X
Linanthus aureus	golden gilia	X	X		X								
Linanthus bigelovii		X	X	X		X	X	X	X	X			X
Linanthus breviculus		X	X	X	X				X	X			
Linanthus ciliatus	whisker brush	X	X	X		X	X	X	X	X	X	X	X
Linanthus concinnus	San Gabriel linanthus	X		X					X	X			
Linanthus dianthiflorus	ground-pink	X	X	X		X	X	X	X	X			X
Linanthus dichotomus	evening snow	X	X	X		X	X	X	X	X	X	X	X
Linanthus floribundus	Santa Rosa Mountains linanthus	X		X					X	X	X	X	
Linanthus liniflorus	flax-flowered linanthus	X	X	X	X	X	X	X	X	X	X	X	X
Linanthus orcuttii	Orcutt's linanthus								X	X		X	
Linanthus parryae	sand blossom	X	X	X	X	X	X	X	X	X	X	X	X

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Linanthus parviflorus	coast baby-star	X	X	X		X	X	X	X	X	X	X	X
Linanthus pygmaeus		X	X	X		X	X	X	X	X	X	X	X
Loeseliastrum matthewsii	desert calico	X	X		X								
Loeselliastrum schottii	little sunbonnets	X	X		X								
Navarretia atractyloides	holly-leaved navarretia	X	X	X		X	X	X	X	X			X
Navarretia fossalis	spreading navarretia	X	X	X		X	X	X	X	X	X	X	X
Navarretia hamata	hooked navarretia	X	X	X		X	X	X	X	X	X	X	X
Navarretia jaredii	paso robles navarretia	X	X	X		X	X	X	X	X	X	X	X
Navarretia peninsularis	Baja navarretia	X	X	X	X	X	X	X	X	X	X	X	X
Navarretia prostrata	prostrate navarretia							X	X	X	X	X	
Navarretia pubescens								X					
Phlox gracilis		X	X	X	X	X	X	X	X	X	X	X	X
Polygalaceae	**Milkwort Family**												
Polygala cornuta	Fish's milkwort	X	X	X		X	X	X	X	X	X	X	
Polygonaceae	**Buckwheat Family**												
Centrostegia thurberi	Thurber's spineflower	X	X	X	X	X	X	X	X	X	X	X	X
Chorizanthe blakleyi	Blakley's spineflower	X	X	X		X	X	X	X	X	X		X
Chorizanthe brevicornu	brittle spineflower	X	X		X								
Chorizanthe fimbriata	fringed spineflower										X	X	

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Chorizanthe parryi		X	X	X		X	X	X	X	X		X	X
Chorizanthe polygonoides	long-spined spineflower	X	X	X		X	X	X	X	X	X	X	X
Chorizanthe procumbens	prostrate spineflower	X	X	X		X	X	X	X	X	X	X	X
Chorizanthe rigida	rigid spiny-herb	X	X		X								
Chorizanthe spinosa	Mohave spineflower	X	X		X								
Chorizanthe staticoides	turkish rugging		X	X			X	X					
Chorizanthe watsonii	Watson's spineflower	X	X		X								
Chorizanthe xanti	spineflower	X	X	X		X	X	X	X	X			X
Dodecahema leptoceras	slender-horned spineflower	X	X	X		X	X	X	X	X			X
Eriogonum angulosum	angle-stem skeletonweed	X	X								X	X	
Eriogonum baileyi	Bailey skeletonweed	X	X	X	X	X	X	X	X	X			X
Eriogonum brachyanthum	wild buckwheat	X	X		X		X						
Eriogonum cinereum	ashy-leaved buckwheat							X	X	X	X	X	
Eriogonum cithariforme			X					X					
Eriogonum crocatum	conejo buckwheat							X					
Eriogonum davidsonii		X	X	X		X	X	X	X	X	X	X	X
Eriogonum deflexum	skeletonweed	X	X		X				X	X			
Eriogonum elongatum	wand buckwheat	X	X	X	X	X	X	X	X	X	X	X	X
Eriogonum fasciculatum	California buckwheat	X	X	X	X	X	X	X	X	X	X	X	X

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Eriogonum foliosum	leafy buckwheat								X	X	X	X	
Eriogonum giganteum	St. Catherine's lace												X
Eriogonum gracile	slender woolly buckwheat	X	X	X	X	X	X	X	X	X	X	X	X
Eriogonum gracillium	slender skeletonweed	X	X	X		X	X	X	X	X			
Eriogonum grande	island buckwheat												X
Eriogonum inerme		X	X	X		X	X	X	X	X			
Eriogonum inflatum	desert trumpet	X	X		X								
Eriogonum kennedyi	southern mountain buckwheat	X	X	X		X	X	X	X	X			X
Eriogonum maculatum	Spotted buckwheat	X	X	X		X	X	X	X	X			X
Eriogonum microthecum	San Bernardino buckwheat	X	X	X	X	X	X	X	X	X	X	X	X
Eriogonum mohavense	Mohave skeletonweed	X	X		X								
Eriogonum nidularium	bird's nest buckwheat	X	X		X								
Eriogonum nudum		X	X	X	X	X	X	X	X	X	X	X	X
Eriogonum ordii		X	X	X		X	X	X	X	X			X
Eriogonum ovalifolium	Cushenbury buckwheat								X	X			
Eriogonum parishii		X	X	X		X	X	X	X	X	X	X	X
Eriogonum parvifolium								X	X	X	X	X	
Eriogonum plumatella	flat topped perennial buckwheat	X	X		X								
Eriogonum pusillum	yellow turbans	X	X	X	X	X	X	X	X	X			X

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Eriogonum reinforme	kidney skeletonweed	X	X		X								
Eriogonum roseum		X	X	X		X	X	X	X	X			X
Eriogonum saxatile		X	X	X		X	X	X	X	X	X	X	X
Eriogonum thurberi		X	X		X				X	X	X	X	
Eriogonum trichopes	little trumpets	X	X	X	X	X	X	X	X	X			X
Eriogonum umbellatum		X	X	X	X	X	X	X	X	X	X	X	X
Eriogonum viridescens	leafy stem buckwheat	X	X	X	X	X	X	X	X	X			X
Eriogonum wrightii		X	X	X		X	X	X	X	X	X	X	X
Goodmania luteola	golden goodmania	X	X		X								
Lastarriaea coriacea		X	X	X		X	X	X	X	X	X	X	X
Mucronea californica	California spineflower	X	X	X		X	X	X	X	X	X	X	X
Mucronea perfoliata	punctured bract	X	X	X		X	X	X	X	X			X
Nemacaulis denudata	coast woolly heads	X	X	X		X	X	X	X	X	X	X	X
Oxytheca caryophylloides	chickweed oxytheca	X	X	X		X	X	X	X	X	X		
Oxytheca parishii	Abram's oxytheca	X	X	X		X	X	X	X	X			
Oxytheca perfoliata	red saucers	X	X		X								
Oxytheca trilobata		X	X	X		X			X	X	X	X	
Polygala cornuta	Fish's milkwort	X	X	X		X	X	X	X	X	X	X	
Polygonum amphibium	water smartweed	X	X	X		X	X	X	X	X	X	X	X

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*	*Polygonum arenastrum*	common knotweed	X	X	X	X	X	X	X	X	X	X	X	X
*	*Polygonum argyrocoleon*	knotweed	X	X	X	X	X	X	X	X	X	X	X	X
	Polygonum hydropiperoides	water pepper	X	X	X		X	X	X	X	X	X	X	X
	Polygonum lapathifolium	willow-weed	X	X	X	X	X	X	X	X	X	X	X	X
	Polygonum punctatum	perennial smartweed	X	X	X	X	X	X	X	X	X	X	X	X
	Pterostegia drymarioides	California thread-stem	X	X	X	X	X	X	X	X	X	X	X	X
	Rumex acetosella	sheep sorrel	X	X	X		X	X	X	X	X	X	X	X
*	*Rumex conglomeratus*	whorled dock	X	X	X		X	X	X	X	X	X	X	X
*	*Rumex crispus*	curly dock	X	X	X	X	X	X	X	X	X	X	X	X
	Rumex hymenosepalus	desert rhubarb	X	X	X	X	X	X	X	X	X	X	X	X
	Rumex kerneri								X	X	X	X	X	
	Rumex maritimus	golden dock	X	X	X	X	X	X	X	X	X	X	X	X
*	*Rumex pulcher*	Fiddle rock	X	X	X	X	X	X	X	X	X	X	X	X
	Rumex salicifolius	willow dock	X	X	X		X	X	X	X	X	X	X	X
	Portulacaceae	**Purslane Family**												
	Calandrinia breweri	Brewer's calandrinia	X	X	X		X	X	X	X	X	X	X	
	Calandrinia ciliata	red maids	X	X	X		X	X	X	X	X	X	X	X
	Calandrinia maritima	seaside calandrinia			X				X	X	X	X	X	X
	Calyptridium monandrum	common calyptridium	X	X	X		X	X	X	X	X	X	X	X

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	Scientific Name	**Common Name**	**AV**	**SA**	**SC**	**JT**	**CM**	**SS**	**SM**	**SG**	**SD**	**ES**	**PH**	**CI**
	Claytonia exigua		X	X	X		X	X	X	X	X	X	X	
	Claytonia lanceolata	Peirson's spring beauty	X		X					X	X			
	Claytonia parviflora		X	X	X		X	X	X	X	X	X	X	X
	Claytonia perfoliata	miner's lettuce	X	X	X		X	X	X	X	X	X	X	X
	Claytonia rubra			X										
	Lewisia brachycalyx	short-sepaled lewisia								X	X	X	X	
	Lewisia rediviva	bitter root	X	X	X		X	X	X	X	X			
	Portulaca halimoides	desert portulaca	X	X	X		X	X	X	X	X	X	X	X
*	*Portulaca oleracea*	common purslane	X	X	X	X	X	X	X	X	X	X	X	X
	Primulaceae	**Primrose Family**												
	Adrosace elongata	California androsace		X					X	X	X	X	X	
*	*Anagallis arvensis*	scarlet pimpernel	X	X	X		X	X	X	X	X	X	X	X
	Centunculus minimis	common chaffweed							X	X	X	X	X	
	Dodecatheon clevelandii		X	X	X		X	X	X	X	X	X	X	X
	Samolus parviflorus	water-pimpernel, brookweed	X	X	X		X	X	X	X	X			
	Ranunculaceae	**Buttercup Family**												
	Aquilegia formosa	columbine	X	X	X		X	X	X	X	X	X	X	
	Camissonia lewisii	Lewis's evening-primrose			X					X	X	X	X	
	Clematis lasiantha	pipestems	X	X	X		X	X	X	X	X	X	X	X

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Clematis ligusticifolia	virgin's bower	X	X	X	X	X	X	X	X	X	X	X	X
Clematis pauciflora	ropevine	X	X	X		X	X	X	X	X	X	X	X
Delphinium cardinale	scarlet larkspur	X	X	X		X	X	X	X	X	X	X	X
Delphinium hesperium	Cuyamaca larkspur								X	X	X	X	
Delphinium inopinum	unexpected larkspur								X	X			
Delphinium parishii	desert larkspur	X	X	X		X	X	X	X	X			
Delphinium patens		X	X	X		X	X	X	X	X	X	X	X
Delphinium variegatum	royal larkspur												X
Isopyrum occidentale		X	X	X		X	X	X	X	X			
Myosurus minimus	little mousetail		X			X		X					
Populus fremontii	cottonwood	X					X						
Ranunculus aquatilis		X	X	X		X	X	X	X	X	X	X	
Ranunculus californicus	California buttercup	X	X	X		X	X	X	X	X	X	X	X
Ranunculus cymbalaria		X	X		X			X					
Ranunculus hebecarpus		X	X	X		X	X	X	X	X	X	X	
Ranunculus repens								X	X	X	X	X	
Thalictrum fendleri		X	X	X		X	X	X	X	X	X	X	
Resdaceae	**Mignonette Family**												
Oligomeris linifolia	narrow-leaved oligomeris	X	X	X		X	X	X	X	X	X	X	X

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Rhamnaceae	**Buckthorn Family**												
Ceanothus arboreus	Catalina ceanothus												X
Ceanothus crassifolius	hoary leaf ceanothus	X	X	X		X	X	X	X	X	X	X	
Ceanothus cuneatus	buck brush	X	X	X		X	X	X	X	X	X	X	X
Ceanothus greggii	desert California lilac	X	X	X		X	X	X	X	X	X	X	
Ceanothus integerrimus	deer brush	X	X	X		X	X	X	X	X	X	X	
Ceanothus leucodermis	chaparral whitethorn	X	X	X		X	X	X	X	X	X	X	
Ceanothus megacarpus	big-podded ceanothus												X
Ceanothus oliganthus	hairy ceanothus	X	X	X		X	X	X	X	X	X	X	
Ceanothus spinosus	green bark ceanothus	X	X	X		X	X	X	X	X	X	X	
Ceanothus tomentosus	woolly-leaved ceanothus						X	X	X	X	X	X	
Ceanothus verrucosus	wart-stemmed ceanothus						X	X	X	X	X	X	
Rhamnus californica	California coffeeberry	X	X	X		X	X	X	X	X	X	X	X
Rhamnus crocea	spiny redberry	X	X	X		X	X	X	X	X	X	X	X
Rhamnus ilicifolia	holly-leaf redberry	X	X	X		X	X	X	X	X	X	X	X
Rhamnus pirifolia	island buckthorn												X
Rhamnus tomentella		X	X	X		X	X	X	X	X	X	X	X
Rosaceae	**Rose Family**												
Adenostoma fasciculatum	chamise	X	X	X		X	X	X	X	X	X	X	X

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Adenostoma sparsifolium	red shanks	X	X	X		X	X	X	X	X	X	X	
Amelanchier utahensis	Utah service-berry	X	X	X		X	X	X	X	X	X	X	X
Aphanes occidentalis	western lady's mantle	X	X	X		X	X	X	X	X	X	X	X
Cercocarpus betuloides	birch-leaf mountain-mahogany	X	X	X		X	X	X	X	X	X	X	X
Cercocarpus traskiae	Catalina Island Mountain-mahogany												X
Heteromeles arbutifolia	toyon	X	X	X		X	X	X	X	X	X	X	X
Heteromeles arbutifolia macrocarpa	toyon	X	X	X		X	X	X	X	X	X	X	X
Holodiscus discolor	oceanspray	X	X	X		X	X	X	X	X			X
Horkelia cuneata								X	X	X		X	
Horkelia truncata	ramona horkelia								X	X	X	X	
Lyonothamnus floribundus	Santa Catalina Island ironwood												X
Potentilla anserina	sticky cinquefoil							X	X	X	X	X	
Potentilla glandulosa	cinquefoil	X	X	X		X	X	X	X	X	X	X	X
Potentilla multijuga	ballona cinquefoil							X					
* *Prunus dulcis*	almond		X										
Prunus emarginata	bitter cherry	X	X	X		X	X	X	X	X	X	X	
Prunus fasciculata	desert almond	X	X	X		X	X	X	X	X	X	X	
Prunus ilicifolia	holly-leaved cherry	X	X	X		X	X	X	X	X	X	X	X
Prunus virginiana	western choke-cherry	X	X	X		X	X	X	X	X	X	X	X

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	Purshia tridentata	antelope bush	X	X	X		X	X	X	X	X	X	X	
	Rosa californica	California wild rose	X	X	X		X	X	X	X	X	X	X	X
	Rosa gymnocarpa	wild rose						X		X	X	X	X	
*	*Rubus discolor*		X	X	X		X	X	X	X	X	X	X	X
	Rubus glaucifolius	Cuyamaca raspberry		X								X	X	
	Rubus ursinus	California blackberry	X	X	X		X	X	X	X	X	X	X	X
	Rubiaceae	**Madder Family**												
	Galium andrewsii		X	X	X		X	X	X	X	X	X	X	X
	Galium angustifolium	shrubby bedstraw	X	X	X		X	X	X	X	X	X	X	X
*	*Galium aparine*	goose grass	X	X	X		X	X	X	X	X	X	X	X
	Galium californicum	Cone Peak bedstraw	X	X	X		X	X	X	X	X	X	X	
	Galium catalinense	Santa Catalina bedstraw												X
	Galium cliftonsmithii	Santa Barbara bedstraw	X	X	X		X	X	X					
	Galium grande	San Gabriel bedstraw	X		X			X		X	X			
	Galium hallii	nodding bedstraw	X	X	X		X	X	X	X	X			
	Galium jepsonii	Jepson’s bedstraw	X		X			X		X	X			
	Galium johnstonii	Johnston’s bedstraw	X		X			X		X	X			
	Galium nuttallii	San Diego bedstraw	X	X	X		X	X	X	X	X	X	X	X
*	*Galium parisiense*	wall bedstraw		X										

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Galium porrigens	climbing bedstraw	X	X	X		X	X	X	X	X	X	X	X
Sherardia arvensis								X	X	X	X	X	
Salicaceae	**Willow Family**												
Populus balsamifera	black cottonwood	X	X	X			X	X	X	X	X	X	X
Populus fremontii	Fremont's cottonwood	X	X	X			X	X	X	X	X	X	X
Populus tremuloides	quaking aspen								X	X			
Salix exigua	sandbar willow	X	X	X			X	X	X	X	X	X	X
Salix goodingii	black willow	X	X				X	X	X	X		X	
Salix laevigata	red willow	X	X	X			X	X	X	X	X	X	X
Salix lasiolepis	arroyo willow	X	X	X			X	X	X	X	X	X	X
Salix lucida	shining willow	X	X	X			X	X	X	X	X	X	X
Saururaceae	**Lizard's-Tail Family**												
Anemopsis californica	yerba mansa	X	X	X	X			X	X	X		X	
Saxifragaceae	**Saxifrage Family**												
Boykinia occidentalis		X	X	X		X	X	X	X	X			
Boykinia rotundifolia	round-leaved boykinia	X	X	X		X	X	X	X	X	X	X	
Heuchera abramsii	Abram’s alumroot	X		X			X		X	X			
Heuchera brevistaminea	wiggins (Mount Laguna alumroot)										X	X	
Heuchera elegans	urn-flowered alumroot	X		X			X		X	X			

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Heuchera rubescens	San Diego county alumroot		X								X	X	
Jepsonia malvaefolia	island jepsonia												X
Jepsonia parryi	mesa saxifrage							X	X	X	X	X	
Lithophragma affine	woodland star	X	X	X		X	X	X	X	X	X	X	X
Lithophragma bolanderi		X	X	X					X	X			
Lithophragma heterophyllum	saxifrage		X	X		X	X	X					
Lithophragma parviflorum		X	X	X		X	X	X					
Ribes californicum	hillside gooseberry	X	X	X		X	X	X	X	X	X	X	
Ribes speciosum	fuchsia flowered gooseberry	X	X	X		X	X	X	X	X	X	X	
Saxifraga californica	California saxifrage	X	X	X		X	X	X	X	X	X	X	X
Scrophulariaceae	**Figwort Family**												
Antirrhinum coulterianum	white snapdragon	X	X	X		X	X	X	X	X	X	X	
Antirrhinum kelloggii		X	X	X		X	X	X	X	X	X	X	X
Antirrhinum multiflorum		X	X	X		X	X	X	X	X			
Antirrhinum nuttallianum	Nuttall's snapdragon	X	X	X		X	X	X	X	X	X	X	X
Castilleja affinis	coast paintbrush	X	X	X		X	X	X	X	X	X	X	X
Castilleja chromosa	Indian paintbrush		X				X						
Castilleja densiflora	dense-flowered owl's-clover	X	X	X		X	X	X	X	X	X	X	X
Castilleja exserta	purple owl's-clover	X	X	X		X	X	X	X	X	X	X	X

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Castilleja foliolosa	woolly Indian paintbrush		X					X					X
Castilleja lasiorhyncha	San Bernardino Mountains owl's clover										X	X	
Castilleja linariifolia		X	X	X	X	X	X	X	X	X			
Castilleja minor			X					X			X	X	X
Castilleja montigena	Heckard's Indian paintbrush								X	X			
Castilleja plagiotoma	Mojave Indian paintbrush	X	X	X	X	X	X	X	X	X			
Castilleja subinclusa		X	X	X		X	X	X	X	X			
Collinsia bartsiifolia	lowland Chinese houses	X	X		X								
Collinsia callosa		X	X	X		X	X	X	X	X			
Collinsia childii		X	X	X		X	X	X	X	X	X	X	
Collinsia heterophylla	Chinese houses	X	X	X		X	X	X	X	X	X	X	X
Collinsia parryi	Collinsia	X	X	X		X	X	X	X	X			
Collinsia parviflora	blue-eyed Mary	X	X	X		X	X	X	X	X			X
Cordylanthus eremicus	desert bird's beak								X	X			
Cordylanthus filifolius	dark-tipped bird's beak						X						
Cordylanthus maritimus	alkali bird's beak	X						X	X	X	X	X	
Cordylanthus rigidus	thread-leaved bird's-beak	X	X	X		X	X	X	X	X	X	X	X
Galvezia speciosa	showy island snapdragon												X
Keckiella antirrhinoides		X	X		X						X	X	

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Keckiella breviflora	small-leaved penstemon	X	X	X		X	X	X	X	X			
Keckiella cordifolia	heart-leaved penstemon	X	X	X		X	X	X	X	X	X	X	X
Keckiella ternata		X	X	X		X	X	X	X	X	X	X	X
* *Kickxia elatine*	fluellin	X	X	X		X	X	X	X	X	X	X	X
* *Kickxia spurria*	fluellin	X	X	X		X	X	X	X	X	X	X	X
Linaria canadensis	blue toadflax	X	X	X		X	X	X	X	X			
Mimulus androsaceus		X	X	X		X	X	X					
Mimulus aurantiacus	orange bush monkey-flower	X	X	X		X	X	X	X	X	X	X	X
Mimulus brevipes	wide-throated monkey-flower	X	X	X		X	X	X	X	X	X	X	X
Mimulus cardinalis	scarlet monkey-flower	X	X	X		X	X	X	X	X	X	X	X
Mimulus clevelandii	Cleveland's bush monkey-flower										X	X	
Mimulus constrictus	orange bush monkey-flower	X	X	X		X	X						
Mimulus floribundus		X	X	X		X	X	X	X	X	X	X	X
Mimulus fremontii	fremont monkeyflower	X	X	X		X	X	X	X	X	X	X	X
Mimulus guttatus	common monkey-flower		X	X			X	X				X	
Mimulus latidens			X					X	X	X	X	X	
Mimulus parishii		X	X	X		X	X	X	X	X	X	X	X
Mimulus pilosus	miminanthe	X	X	X		X	X	X	X	X	X	X	X
Mimulus rubellus	red monkeyflower	X											

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Mimulus traskiae	Santa Catalina Island monkey-flower												X
Orobanche bulbosa		X	X	X		X	X	X	X	X	X	X	X
Orobanche fasciculata	clustered broom-rape	X	X	X		X	X	X	X	X	X	X	X
Orobanche parishii		X	X	X		X	X	X	X	X	X	X	X
Pedicularis densiflora	Indian warrior	X	X	X		X	X	X	X	X	X	X	X
Penstemon californicus	California beardtongue								X	X	X	X	
Penstemon centranthifolius	scarlet bugler	X	X	X		X	X	X	X	X	X	X	X
Penstemon clevelandii	San Jacinto beardtongue										X	X	
Penstemon grinnelli		X	X	X		X	X				X		
Penstemon heterophyllus	foothill penstemon		X	X				X				X	
Penstemon labrosus		X	X	X		X	X	X	X	X	X	X	
Penstemon rostriflorus		X	X	X		X	X	X	X	X	X	X	X
Penstemon spectabilis	royal penstemon	X	X	X		X	X	X	X	X	X	X	
Penstemon thurberi	Thurber’s beardtongue	X	X		X				X	X	X	X	
Scrophularia californica	California figwort	X	X	X		X	X	X	X	X	X	X	X
Scrophularia villosa	Santa Catalina figwort												X
* *Verbascum thapsus*	woolly mullein	X	X	X		X	X	X	X	X	X	X	X
* *Verbascum virgatum*	wand mullein	X	X	X		X	X	X	X	X	X	X	X

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	VASCULAR PLANTS–Angiosperms (Dicotyledons)		SIGNIFICANT ECOLOGICAL AREAS											
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	Solanaceae	**Nightshade Family**												
*	*Datura stramonium*	jimson weed	X	X	X		X	X	X	X	X	X	X	X
	Datura wrightii	jimson weed	X	X	X		X	X	X	X	X	X	X	X
	Lycium andersonii	wolfberry	X	X	X		X	X	X	X	X	X	X	
	Lycium brevipes	Santa Catalina Island desert-thorn							X	X	X	X	X	X
	Lycium californicum	California box-thorn							X	X	X	X	X	X
	Lycium cooperi	peachthorn	X	X		X								
	Lycium hassei	Santa Catalina Island desert thorn							X	X	X		X	X
	Lycium parishii	Parish's desert-thorn							X	X	X	X	X	
	Nicotiana attenuata	coyote tobacco	X	X	X	X	X	X		X	X	X	X	
	Nicotiana bigelovii	Wallace's tobacco			X									
*	*Nicotiana glauca*	tree tobacco	X	X	X		X	X	X	X	X	X	X	X
	Nicotiana quadrivalvis	Wallace's tobacco	X	X	X		X	X	X	X	X	X	X	X
	Petunia parviflora	wild petunia							X	X	X	X	X	
	Solanum americanum	small-flowered nightshade	X	X	X		X	X	X	X	X	X	X	X
	Solanum douglasii	Douglas' nightshade	X	X	X	X	X	X	X	X	X	X	X	X
*	*Solanum elaeagnifolium*	white horse-nettle	X	X	X	X	X	X	X	X	X	X	X	X
	Solanum nigrum	black nightshade	X											
	Solanum parishii	Parish's nightshade	X	X	X		X	X	X	X	X	X	X	X

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*	*Solanum rostratum*	buffalo berry							X	X	X	X	X	
*	*Solanum sarrachoides*	hairy nightshade							X	X	X	X	X	
	Solanum umbelliferum	blue witch	X	X	X		X	X	X	X	X	X	X	X
	Solanum wallacei	Wallace's nightshade												X
	Solanum xanti	chaparral nightshade	X	X	X		X	X	X	X	X	X	X	X
	Sterculiaceae	**Cacao Family**												
	Fremontodendron californicum		X	X	X		X	X	X	X	X	X	X	X
	Fremontodendron mexicanum	Mexican flannelbrush								X	X	X	X	
	Tamaricaceae	**Tamarisk Family**												
*	*Tamarix aphylla*	athel	X	X					X	X	X	X	X	
*	*Tamarix chinensis*	tamarisk	X	X		X			X	X	X	X	X	
*	*Tamarix parviflora*	small-flowered tamarisk	X	X		X			X	X	X	X	X	
*	*Tamarix ramosissima*	Mediterranean tamarisk	X	X	X	X	X	X	X	X	X			
	Urticaceae	**Nettle Family**												
	Hesperocnide tenella	western nettle	X	X	X		X	X	X	X	X	X	X	X
	Parietaria hespera	western pellitory	X	X	X		X	X	X	X	X	X	X	X
	Soleirolia soleirolii	Baby's tears							X	X	X	X	X	
	Urtica dioica	giant creek nettle	X	X	X		X	X	X	X	X	X	X	X
	Urtica holosericea	stinging nettle	X	X	X		X	X	X	X	X	X	X	X

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*	*Urtica urens*	dwarf nettle	X	X	X		X	X	X	X	X	X	X	X
	Valerianaceae	**Valerian Family**												
	Plectritis ciliosa	long-spurred plectritis	X	X	X		X	X	X	X	X	X	X	X
	Verbenaceae	**Vervain Family**												
	Phyla lanceolata		X	X		X			X	X	X	X	X	
	Phyla nodiflora								X	X	X	X	X	
	Verbena lasiostachys	western verbena	X	X	X		X	X	X	X	X	X	X	X
	Verbena menthifolia	mint-leaved verbena						X	X	X	X	X	X	
	Verbena robusta	verbena						X						
	Violaceae	**Violet Family**												
	Viola aurea	golden violet	X	X		X				X	X			
	Viola pedunculata	johnny-jump-up	X	X	X		X	X	X	X	X	X	X	X
	Viola pinetorum	grey-leaved violet	X	X	X		X	X	X					
	Viola purpurea		X	X	X		X	X	X	X	X	X	X	X
	Viscaceae	**Mistletoe Family**												
	Arceuthobium occidentale	foothill pine dwarf mistletoe	X	X	X		X	X	X					
	Phoradendron californicum	desert mistletoe	X	X		X								
	Phoradendron densum	dense mistletoe	X	X	X		X	X	X	X	X	X	X	
	Phoradendron macrophyllum	big leaf mistletoe	X	X	X		X	X	X	X	X	X	X	

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Phoradendron villosum	oak mistletoe	X	X	X		X	X	X	X	X	X	X	
Vitaceae	**Grape Family**												
Vitis girdiana	desert wild grape	X	X	X		X	X	X	X	X	X	X	X
Zygophyllaceae	**Caltrop Family**												
Larrea tridenta		X	X		X								

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	Alismataceae	**Water-Plantain Family**												
	Alisma plantago-aquatica	water plantain	X	X	X		X	X	X	X	X	X	X	X
	Echinodorus berteroi		X	X	X		X	X	X	X	X	X	X	X
	Sagittaria sanfordii	Sanford's arrowhead							X	X	X	X	X	
	Cyperaceae	**Sedge Family**												
	Carex alma		X	X	X		X	X	X	X	X	X	X	
	Carex barbarae								X	X	X	X	X	
	Carex diandra		X	X	X		X	X	X	X	X	X	X	X
	Carex fracta		X	X	X		X	X	X	X	X	X	X	
	Carex lanuginosa	woolly sedge	X	X	X	X				X	X			
	Carex multicaulis		X	X	X		X	X	X	X	X	X	X	
	Carex praegracilis	clustered field sedge	X	X	X		X	X	X	X	X	X	X	X
	Carex schottii		X	X	X		X	X	X	X	X	X	X	
	Carex senta	rough sedge	X	X	X		X	X	X	X	X	X	X	X
	Carex spissa	San Diego sedge							X	X	X	X	X	
	Carex triquetra	triangular-fruited sedge	X	X	X		X	X	X	X	X	X	X	X
*	*Cyperus difformis*	variable nutsedge	X	X	X		X	X	X	X	X	X	X	X
	Cyperus eragrostis	tall cyperus	X	X	X		X	X	X	X	X	X	X	X
	Cyperus erythrorhizos	red-rooted cyperus	X	X	X	X	X	X	X	X	X	X	X	X

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	Cyperus esculentus	yellow nut-grass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Cyperus involucratus*	umbrella-plant							X	X	X	X	X	
	Cyperus niger	brown cyperus							X	X	X	X	X	
	Cyperus odoratus	coarse cyperus							X	X	X	X	X	
*	*Cyperus rotundus*	purple nutsedge							X	X	X	X	X	
	Eleocharis acicularis	needle-stemmed spikerush	X	X	X		X	X	X	X	X	X	X	X
	Eleocharis macrostachya		X	X	X	X	X	X	X	X	X	X	X	X
	Eleocharis montevidensis	Argentine spike-rush	X	X	X		X	X	X	X	X	X	X	X
	Eleocharis parishii		X	X	X		X	X	X	X	X	X	X	X
	Eleocharis parvula	small spike-rush	X	X		X								
	Eleocharis radicans		X	X	X		X	X	X	X	X	X	X	X
	Scirpus acutus	hard-stemmed bulrush	X	X	X		X	X	X	X	X	X	X	X
	Scirpus americanus	winged three-square	X	X	X		X	X	X	X	X	X	X	X
	Scirpus californicus	California bulrush	X	X					X	X	X	X	X	
	Scirpus cernuus	California clubrush							X	X	X	X	X	
	Scirpus maritimus	river bulrush	X	X	X		X	X	X	X	X	X	X	X
	Scirpus microcarpus	small-fruited bulrush	X	X	X		X	X	X	X	X	X	X	X
	Scirpus pungens	common threesquare	X	X					X	X	X	X	X	
	Scirpus robustus	Pacific coast bulrush							X	X	X	X	X	

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Iridaceae	**Iris Family**												
Sisyrinchium bellum	blue-eyed-grass	X	X	X		X	X	X	X	X	X	X	X
Juncaceae	**Rush Family**	**7**	**1**	**4**	**2**	**5**	**6**	**3**	**8**	**8**	**12**	**9**	**10**
Juncus acutus	spiny rush							X	X	X	X	X	X
Juncus balticus	wire rush	X	X	X		X	X	X	X	X	X	X	X
Juncus bufonius	toad rush	X	X	X		X	X	X	X	X	X	X	X
Juncus dubius	mariposa rush										X	X	X
Juncus duranii	Duran's rush	X		X					X	X		X	
Juncus effusus	bog rush	X	X	X		X	X	X	X	X	X	X	X
Juncus macrophyllus	long-leaved rush	X	X	X		X	X	X	X	X			
Juncus mexicanus	Mexican rush	X	X	X		X	X	X	X	X	X	X	X
Juncus oxymeris	pointed rush	X	X	X		X	X	X	X	X			
Juncus patens		X	X	X		X	X	X	X	X	X	X	X
Juncus phaeocephalus var. *paniculatus*								X	X	X	X	X	
Juncus rugulosus	wrinkled rush	X	X	X		X	X	X	X	X	X	X	
Juncus textilis	Indian rush	X	X	X		X	X	X	X	X	X	X	X
Juncus torreyi		X	X	X		X	X	X	X	X	X	X	X
Juncus xiphioides	iris-leaved rush	X	X	X		X	X	X	X	X	X	X	X

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Juncaginaceae	**Arrow-Grass Family**												
Triglochin concinna	arrow-grass		X					X	X	X	X	X	
Lemnaceae	**Duckweed Family**												
Lemna gibba	inflated duckweed	X	X	X		X	X	X	X	X	X	X	X
Lemna minor		X	X	X		X	X	X	X	X	X	X	X
Lemna trisulca		X	X					X			X	X	
Wolfiella lingulata	Mud-midget							X	X	X	X	X	
Liliaceae	**Lily Family**												
Allium burlewii		X	X	X	X	X	X	X	X	X	X	X	X
Allium campanulatum		X	X	X	X	X	X	X	X	X	X	X	X
Allium fimbriatum		X	X	X	X	X	X	X	X	X	X	X	X
Allium fimbriatum var. *mohavense*	Mojave fringed onion	X	X	X	X	X	X	X	X	X	X	X	X
Allium haematochiton	red-skinned onion	X	X	X		X	X	X	X	X	X	X	
Allium howellii		X	X	X		X	X	X	X	X			
Allium lacunosum		X	X	X	X	X	X	X	X	X	X	X	
Allium munzii	Munz's onion							X			X	X	
Allium parishii	Parish's onion	X	X		X								
Allium peninsulare	peninsular onion	X	X	X		X	X	X	X	X	X	X	X
Allium praecox	early onion	X	X	X		X	X	X	X	X	X	X	X

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	Androstephium breviflorum	small-flowered androstephium	X	X		X								
*	*Asparagus officinalis*	garden asparagus	X	X	X		X	X	X	X	X	X	X	X
	Bloomeria crocea	common goldenstar	X	X	X		X	X	X	X	X	X	X	
	Brodiaea filifolia	three-leaved brodiaea							X			X	X	X
	Brodiaea jolonensis	dwarf brodiaea	X	X	X		X	X	X	X	X	X	X	X
	Brodiaea orcuttii	Orcutt's brodiaea										X	X	
	Calochortus albus	fairy lantern	X	X	X		X	X	X	X	X			
	Calochortus catalinae	Catalina mariposa lily							X	X	X	X	X	X
	Calochortus clavatus	yellow mariposa lily	X	X	X		X	X	X	X	X			
	Calochortus dunni	Dunn's mariposa lily								X	X	X	X	
	Calochortus invenustus	slender mariposa lily	X	X	X		X	X	X	X	X	X	X	X
	Calochortus kennedyi	slender mariposa lily	X	X	X	X	X	X	X	X	X			
	Calochortus palmeri	Palmer's mariposa lily	X	X	X		X	X	X	X	X			
	Calochortus plummerae	Plummer's mariposa lily							X	X	X	X	X	
	Calochortus splendens	lilac mariposa lily	X	X	X		X	X	X	X	X	X	X	X
	Calochortus striatus	alkali mariposa lily	X	X		X								
	Calochortus venustus		X	X	X		X	X	X	X	X			
	Calochortus weedii	intermediate flowered mariposa lily	X	X	X		X	X	X	X	X	X	X	
	Chlorogalum parviflorum	small-flowered amole							X	X	X	X	X	

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Chlorogalum pomeridianum	soap plant	X	X	X		X	X	X	X	X	X	X	X
Chlorogalum purpureum									X	X			
Dichelostemma capitatum	blue dicks	X	X	X	X	X	X	X	X	X	X	X	X
Fritillaria biflora	chocolate lily	X	X	X		X	X	X	X	X	X	X	X
Lilium humboldtii	Humboldt lily	X	X	X			X	X	X	X	X	X	
Lilium parryi	lemon lily	X	X	X					X	X			
Muilla coronata	crowned muilla	X	X		X				X	X			
Muilla maritima	common muilla	X	X	X		X	X	X	X	X	X	X	X
Nolina parryi	Parry's nolina	X	X	X		X	X	X	X	X	X	X	X
Yucca brevifolia		X	X		X								
Yucca whipplei	Our Lord’s candle	X	X	X		X	X	X	X	X	X	X	X
Zigadenus brevibracteatus	desert zigadene	X	X		X								
Zigadenus fremontii	Fremont's star-lily	X	X	X		X	X	X	X	X	X	X	X
Orchidaceae	**Orchid Family**												
Epipactis gigantea	stream orchid	X	X	X		X	X	X	X	X	X	X	
Piperia leptopetala		X	X	X		X	X	X	X	X	X	X	
Platanthera leucostachys	white-flowered bog-orchid	X	X	X		X	X	X	X	X	X	X	X
Poaceae	**Grass Family**												
Achnatherum coronatum	giant needlegrass	X	X	X		X	X	X	X	X	X	X	X

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	Achnatherum diegoense	San Diego county needle grass										X	X	X
	Agrostis exarata		X	X	X		X	X	X	X	X	X	X	X
	Agrostis gigantea		X	X	X		X	X	X	X	X	X	X	X
	Agrostis pallens	leafy bentgrass	X	X	X		X	X	X	X	X	X	X	X
*	*Agrostis stolonifera*	redtop	X	X	X		X	X	X	X	X	X	X	
*	*Agrostis viridis*	water bent	X	X	X	X	X	X	X	X	X	X	X	X
*	*Ammophila arenaria*	european beachgrass							X					
*	*Andropogon glomeratus* var. *scabriglumis*	southwestern bushy bluestem	X	X	X		X	X	X	X	X	X	X	X
	Aristida adscensionis	six-weeks three-awn	X	X	X	X	X	X	X	X	X	X	X	X
	Aristida purpurea	parish threeawn	X	X	X	X	X	X	X	X	X	X	X	X
*	*Arundo donax*	giant reed	X		X				X	X	X	X	X	
*	*Avena barbata*	slender wild oat	X	X	X	X	X	X	X	X	X	X	X	X
*	*Avena fatua*	wild oat	X	X	X	X	X	X	X	X	X	X	X	X
*	*Avena sativa*	cultivated oat	X	X	X		X	X	X	X	X	X	X	X
	Bothriochloa barbinodis	cane bluestem	X	X	X		X	X	X	X	X	X	X	X
	Brachypodium distachyon	false-brome							X	X	X	X	X	X
*	*Bromus arenarius*		X	X	X	X	X	X	X	X	X	X	X	X
	Bromus arizonicus		X	X		X			X	X	X	X	X	X
	Bromus carinatus	California brome	X	X	X	X	X	X	X	X	X	X	X	X

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	Scientific Name	Common Name	AV	SA	SC	JT	CM	SS	SM	SG	SD	ES	PH	CI
*	*Bromus catharticus*	rescue grass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Bromus diandrus*	ripgut grass	X	X	X	X	X	X	X	X	X	X	X	X
	Bromus grandis		X	X	X		X	X	X	X	X	X	X	
*	*Bromus hordeaceus*	soft chess	X	X	X		X	X	X	X	X	X	X	X
	Bromus laevipus		X	X	X		X	X	X	X	X	X	X	
*	*Bromus madritensis*	foxtail chess	X	X	X	X	X	X	X	X	X	X	X	X
	Bromus marginatus			X										
*	*Bromus mollis*	soft brome						X						
	Bromus orcuttianus	brome	X	X	X		X	X	X	X	X	X	X	
*	*Bromus tectorum*	cheat grass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Bromus trinii*	Chilean chess	X	X	X	X	X	X	X	X	X	X	X	X
*	*Cenchrus longispinus*	mat sandbur	X	X		X			X	X	X	X	X	
*	*Chloris gayana*	Rhodes grass							X	X	X	X	X	
*	*Chloris virgata*	fingergrass	X	X		X			X	X	X	X	X	
*	*Cortaderia jubata*								X					
*	*Cortaderia selloana*	pampas grass							X	X	X	X	X	
*	*Crypsis schoednoides*	swamp grass	X	X	X		X	X	X	X	X	X	X	X
*	*Crypsis vaginiflora*		X	X	X		X	X	X	X	X	X	X	X
*	*Cynodon dactylon*	Bermuda grass	X	X	X	X	X	X	X	X	X	X	X	X

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*	*Dactylis glomerata*	orchard grass	X	X	X		X	X	X	X	X	X	X	X
	Deschampsia danthonioides	annual hairgrass	X	X	X		X	X	X	X	X	X	X	X
*	*Digitaria ischaemum*								X	X	X	X	X	
*	*Digitaria sanguinalis*	hairy crabgrass							X	X	X	X	X	
	Dissanthelium californicum	california dissanthelium												X
	Distichlis spicata	saltgrass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Echinochloa crus-galli*	barnyard grass	X	X	X	X	X	X	X	X	X	X	X	X
	Elymus elymoides	squirreltail	X	X	X	X	X	X	X	X	X	X	X	
	Elymus glaucus	blue wildrye	X	X	X	X	X	X	X	X	X	X	X	X
	Elymus multisetus	big squirreltail	X	X	X	X	X	X	X	X	X	X	X	X
	Elymus stebbinsii	wheatgrass	X	X	X		X	X	X	X	X	X	X	X
*	*Erastgrostis barrelieri*		X	X	X		X	X	X	X	X	X	X	X
*	*Erastgrostis cilianensis*	stink grass	X	X	X	X	X	X	X	X	X	X	X	X
	Erastgrostis pectinacea		X	X	X	X	X	X	X	X	X	X	X	X
*	*Festuca arundinacea*	tall fescue	X	X	X		X	X	X	X	X	X	X	X
*	*Festuca pratensis*	meadow fescue	X	X	X		X	X	X	X	X	X	X	X
*	*Gastridium ventricosum*	nit grass	X	X	X		X	X	X	X	X	X	X	X
	Hordeum brachyantherum	meadow barley	X	X	X	X	X	X	X	X	X	X	X	X
	Hordeum depressum	alkali barley	X	X	X	X	X	X	X	X	X	X	X	X

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	Hordeum intercedens	vernal barley	X	X	X		X	X	X	X	X	X	X	X
	Hordeum jubatum	foxtail barley	X	X	X	X	X	X	X	X	X	X	X	X
	Koeleria macrantha	June grass	X	X	X		X	X	X	X	X	X	X	X
*	*Lamarckia aurea*	goldentop	X	X	X	X	X	X	X	X	X	X	X	X
	Leptochloa uninervia	Mexican sprangletop	X	X	X		X	X	X	X	X	X	X	X
	Leymus cinereus	alkali rye	X	X	X		X	X	X	X	X		X	
	Leymus condensatus		X	X	X	X	X	X	X	X	X	X	X	X
	Leymus condensatus	giant wild rye	X	X	X	X	X	X	X	X	X	X	X	X
	Leymus triticoides	beardless wild rye	X	X	X		X	X	X	X	X	X	X	X
*	*Lolium temulentum*	darnel	X	X	X		X	X	X	X	X	X	X	X
	Melica imperfecta	coast range melic	X	X	X	X	X	X	X	X	X	X	X	X
	Melica stricta		X	X	X		X	X	X	X	X			X
	Monanthochloe littoralis								X	X	X	X	X	X
	Muhlenbergia appressa	appressed muhly												X
	Muhlenbergia asperifolia	scratch grass	X	X	X	X	X	X	X	X	X	X	X	X
	Muhlenbergia californica	california muhly	X		X				X	X	X	X	X	
	Muhlenbergia microsperma	littleseed muhly	X	X	X	X	X	X	X	X	X	X	X	X
	Muhlenbergia rigens	deergrass	X	X	X		X	X	X	X	X	X	X	X
	Nassella cernua	nodding needlegrass	X	X	X		X	X	X	X	X	X	X	X

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	Nassella lepida	small-flowered needlegrass	X	X	X		X	X	X	X	X	X	X	X
	Nassella pulchra	purple needlegrass	X	X	X		X	X	X	X	X	X	X	X
	Orcuttia californica	California orcutt grass	X	X	X		X	X	X	X	X	X	X	X
	Panicum capillare	witchgrass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Panicum miliaceum*	broom corn millet	X	X	X		X	X	X	X	X	X	X	X
*	*Parapholis incurva*	sickle grass							X	X	X	X	X	X
*	*Paspalum dilatatum*	dallis grass	X	X	X	X	X	X	X	X	X	X	X	X
	Paspalum distichum	knotgrass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Pennisetum clandestinum*	kikuyu grass							X	X	X	X	X	
*	*Pennisetum setaceum*	fountain grass		X					X	X	X	X	X	
*	*Phalaris aquatica*	Harding grass		X					X	X	X	X	X	
*	*Phalaris canariensis*	canary grass			X				X	X	X	X	X	
*	*Phalaris minor*	Mediterranean canary grass	X	X	X		X	X	X	X	X	X	X	X
*	*Phalaris paradoxa*		X	X	X		X	X	X	X	X	X	X	X
*	*Piptatherum miliaceum*	smilo grass		X					X	X	X	X	X	X
*	*Poa annua*	annual bluegrass	X	X	X	X	X	X	X	X	X	X	X	X
	Poa atropurpurea	San Bernardino blue grass								X	X	X	X	
*	*Poa palustris*	fowl bluegrass	X		X				X	X	X			
*	*Poa pratensis*	Kentucky bluegrass	X	X	X	X	X	X	X	X	X	X	X	X

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	Poa secunda	Malpais bluegrass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Polypogon interruptus*	ditch beard grass	X	X	X	X	X	X	X	X	X	X	X	X
*	*Polypogon monspeliensis*	annual beard grass	X	X	X	X	X	X	X	X	X	X	X	X
	Puccinellia simplex	alkali grass	X	X		X								
*	*Schismus arabicus*	Arabian grass	X	X		X								X
*	*Schismus barbatus*	Mediterranean schismus	X	X	X		X	X	X	X	X	X	X	X
	Setaria gracilis		X	X		X			X	X	X	X	X	
*	*Setaria pumila*	yellow bristle grass	X	X		X			X	X	X	X	X	
*	*Setaria viridis*		X	X	X		X	X	X	X	X	X	X	X
*	*Sorghum halepense*	Johnsongrass	X	X	X		X	X	X	X	X	X	X	X
	Sphenopholis obtusata	prairie wedge grass							X	X	X	X	X	
	Sporobolus airoides	alkali sacaton	X	X	X		X	X	X	X	X	X	X	X
*	*Sporobolus indicus*	smutgrass							X	X	X	X	X	
*	*Stenotaphrum secundatum*	St. Augustine grass							X	X	X	X	X	
*	*Vulpia bromoides*	false brome fescue	X	X	X		X	X	X	X	X	X	X	X
	Vulpia microstachys	Pacific fescue	X	X	X		X	X	X	X	X	X	X	X
*	*Vulpia myuros*	fescue	X	X	X	X	X	X	X	X	X	X	X	X
	Vulpia octoflora	hairy six-weeks fescue	X	X	X	X	X	X	X	X	X	X	X	X

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Potamogetonaceae	**Pondweed Family**												
Potamogeton crispus	Crispate-leaved pondweed	X	X	X	X			X	X	X	X	X	X
Potamogeton foliosus	leafy pondweed	X	X	X	X	X	X	X	X	X	X	X	X
Potamogeton nodosus	long-leaved pondweed	X	X		X			X	X	X	X	X	
Potamogeton pectinatus	fennel-leaf pondweed	X	X	X	X	X	X	X	X	X	X	X	X
Ruppia maritima	ditch-grass							X	X	X	X	X	X
Typhaceae	**Cattail Family**												
Typha angustifolia	narrow-leaved cattail							X	X	X	X	X	
Typha domingensis	slender cattail	X	X	X	X	X	X	X	X	X	X	X	X
Typha latifolia	broad-leaved cattail	X	X	X	X	X	X	X	X	X	X	X	X
Zannichelliaceae	**Horned-Pondweed Family**												
Zannichellia palustris	horned pondweed	X	X	X	X	X	X	X	X	X	X	X	X
Zosteraceae	**Eel-Grass Family**												
Phyllospadix scouleri	surf-grass							X	X	X	X	X	
Phyllospadix torreyi	surf-grass							X	X	X	X	X	
Zostera marina	eel-grass							X	X	X	X	X	X

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	FISH		SIGNIFICANT ECOLOGICAL AREAS											
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	Gasterosteidae Family	**Stickleback Family**												
	Gasterosteus aculeatus aculeatus	fully armored three-spine stickleback						X						
	Gasterosteus aculeatus microcephalus	partly armored three-spine stickleback							X					
	Gasterosteus aculeatus williamsoni	unarmored three-spine stickleback			X									
	Ictaluridae Family	**Catfish Family**												
*	*Ictalurus nebulosus*	brown bullhead		X	X				X	X	X	X		
*	*Ictalurus punctatus*	channel catfish		X	X				X	X	X	X		
	Poeciliidae Family	**Livebearer Family**												
*	*Gambusia affinis*	mosquitofish	X	X	X	X	X	X	X	X	X	X	X	
	Cottidae Family	**Sculpin Family**												
	Cottus asper	prickly sculpin			X									
	Gobiidae Family	**Goby Family**												
	Eucyclogobius newberryi	tidewater goby							X					X
	Salmonidae Family	**Trout and Salmon Family**												
	Oncorhynchus mykiss iridius	steelhead rainbow trout							X					
	Oncorhynchus mykiss	rainbow trout		X				X	X	X	X	X		

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	Embiotocidae Family	**Surfperch Family**												
	Hysterocarpus traski	tuleperch		X										
	Centrarchidae Family	**Sunfish Family**												
*	*Micropterus salmoides*	largemouth bass		X	X			X	X	X	X	X		
*	*Lepomis macrochirus*	bluegill		X	X			X	X	X	X	X		
*	*Lepomis cyanellus*	green sunfish		X	X			X	X	X	X	X		
*	*Pomoxis annularis*	white crappie							X			X		
*	*Pomoxis nigromaculatus*	black crappie							X			X		
	Castostomidae Family	**Sucker Family**												
	Catostomus santaanae	Santa Ana sucker			X			X		X	X	X		
	Cyprinidae Family	**Minnow Family**												
*	*Cyprinus carpio*	carp								X	X	X		
*	*Notemigonus crysoleucas*	golden shiner			X									
*	*Pimephales promelas*	fathead minnow			X				X					
	Gila orcutti	arroyo chub		X	X			X	X	X	X			
	Rhinichthys osculus	speckled dace			X					X	X			

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AMPHIBIANS		SIGNIFICANT ECOLOGICAL AREAS											
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Salamandridae	**Newts**												
Taricha torosa torosa	Coast Range newt			X		X	X	X	X	X		X	
Plethodontidae	**Lungless Salamanders**												
Ensatina eschscholtzi eschscholtzi	Monterey salamander	X	X	X		X	X	X	X	X		X	
Ensatina eschscholtzi crocreater	Yellow-blotched salamander								X	X			
Aneides lugubris	arboreal salamander	X	X	X		X	X	X	X	X	X	X	
Batrachoseps nigriventris	black-bellied slender salamander	X	X	X		X	X	X	X	X	X	X	
Batrachoseps pacificus	Pacific slender salamander						X	X	X	X	X	X	X
Batrachoseps pacificus major	garden slender salamander								X	X	X	X	
Batrachoseps stebbinsi	Tehachapi slender salamander		X										
Pelobatidae	**Spadefoot Toads**												
Spea hammondii	western spadefoot						X	X	X	X	X	X	
Bufonidae	**True Toads**												
Bufo boreas halophilus	California toad	X	X	X		X	X	X	X	X	X	X	
Bufo punctatus	red-spotted toad	X											
Bufo microscaphus californicus	Arroyo southwestern toad	X	X										
Hylidae	**Tree Frogs**												
Hyla cadaverina	California treefrog	X	X	X		X	X	X	X	X	X	X	
Hyla regilla	Pacific treefrog	X	X	X	X	X	X	X	X	X	X	X	X

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	Ranidae	**True Frogs**												
	Rana aurora draytonii	California red-legged frog			X				X					
	Rana boylii	Foothill yellow-legged frog		X						X	X			
	Rana muscosa	Mountain yellow-legged frog	X							X	X			
*	*Rana catesbeiana*	bullfrog	X	X	X	X	X	X	X	X	X	X	X	X
	Pipidae	**Tongueless Frogs**												
*	*Xenopus laevis*	African clawed frog	X	X	X		X	X	X	X	X	X	X	X

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REPTILES		SIGNIFICANT ECOLOGICAL AREAS											
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Emydidae	**Box and Water Turtles**												
Clemmys marmorata pallida	southwestern pond turtle	X	X	X		X	X	X	X	X	X	X	
Testudinidae	**Land Tortoises**												
Gopherus agassizii	desert tortoise	X											
Gekkonidae	**Geckos**												
Coleonyx variegatus abbotti	San Diego banded gecko	X		X		X	X	X	X	X	X	X	
Iguanidae	**Iguanid Lizards**												
Dipsosaurus dorsalis	desert iguana	X											
Sceloporus magister uniformi	yellow-backed spiny lizard	X											
Gambelia wislizenii wislizenii	large-spotted leopard lizard	X											
Crotaphytus insularis bicinctores	Great Basin collared lizard	X											
Sauromalus obesus obesus	western chuckwalla	X											
Callisaurus draconoides draconoides	common zebra-tailed lizard	X											
Uma scoparia	Mojave fringe-toed lizard	X											
Sceloporus occidentalis biseriatus	Great Basin fence lizard	X	X	X	X	X	X	X	X	X	X	X	
Sceloporus graciosus vandenburgianus	southern sagebrush lizard	X	X										
Uta stansburiana	side-blotched lizard		X	X	X	X	X	X	X	X	X	X	
Urosaurus graciosus graciosus	western brush lizard	X											
Phrynosoma coronatum blainvillei	San Diego coast horned lizard	X		X		X	X	X	X	X	X	X	

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Phrynosoma coronatum frontale	California horned lizard	X	X	X	X		X	X	X	X		X	
Phrynosoma platyrhinos calidiarum	southern desert horned lizard	X											
Xantusiidae	**Night Lizards**												
Xantusia vigilis vigilis	common night lizard	X					X						
Xantusia riversiana	island night lizard												X
Scincidae	**Skinks**												
Eumeces skiltonianus skiltonianus	Skilton skink			X			X	X	X	X		X	
Eumeces gilberti rubricaudatus	western red-tailed skink						X	X	X	X			
Teiidae	**Whiptail Lizards**												
Cnemidophorus tigris tigris	Great Basin whiptail	X											
Cnemidophorus tigris multiscutatus	Coastal whiptail		X	X	X	X	X	X	X	X	X	X	
Anguidae	**Alligator Lizards**												
Elgaria multicarinatus webbi	San Diego alligator lizard		X	X			X	X	X	X	X	X	
Anniellidae	**California Legless Lizards**												
Anniella pulchra pulchra	silvery legless lizard		X	X			X	X	X	X	X	X	
Leptotyphlopidae	**Slender Blind Snakes**												
Leptotyphlops humilis	western blind snake	X	X	X	X	X	X	X	X	X	X	X	
Boidae	**Boas**												
Charina bottae umbratica	southern rubber boa		X										

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Lichanura trivirgata gracia	desert rosy boa	X			X								
Lichanura trivirgata roseofusca	Coastal rosy boa		X	X			X	X	X	X		X	
Colubridae	**Colubrid Snakes**												
Diadophis punctatus modestus	San Bernardino ringneck snake			X			X	X	X	X	X	X	X
Diadophis punctatus similis	San Diego ringneck snake											X	X
Phyllorhynchus decurtatus perkinsi	western spotted leaf-nosed snake	X							X	X			
Coluber constrictor mormon	western yellow-bellied racer		X	X				X					
Masticophis flagellum piceus	red coachwhip	X	X	X	X	X	X	X	X	X	X	X	
Masticophis lateralis lateralis	Chaparral whipsnake	X	X	X			X	X	X	X	X	X	
Salvadora hexalepis virgultea	Coast patch-nosed snake		X	X	X	X	X	X	X	X		X	
Arizona elegans occidentalis	California glossy snake											X	
Pituophis cantenifer annectens	San Diego gopher snake		X	X			X	X	X	X	X	X	
Pitouphis cantenifer deserticola	Great Basin gopher snake	X			X								
Lampropeltis getula californiae	California kingsnake	X	X	X	X	X	X	X	X	X	X	X	
Lampropeltis zonata parvirubra	San Bernardino Mountain kingsnake						X		X	X			
Lampropeltis zonata pulchra	San Diego Mountain kingsnake							X					
Rhinocheilus lecontei lecontei	western long-nosed snake	X	X	X	X	X	X	X	X	X	X	X	
Thamnophis sirtalis infernalis	California red-sided garter snake			X			X	X					
Thamnophis hammondii	two-striped garter snake	X	X	X		X	X	X	X	X			X

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Chionactis occipitalis occipitalis	Mojave shovel-nosed snake	X											
Tantilla planiceps	California black-headed snake			X			X	X				X	
Trimorphodon biscutatus vandenburghi	California lyre snake	X	X	X			X	X	X	X			
Hypsiglena torquata	night snake	X	X	X	X	X	X	X	X	X	X	X	
Viperidae	**Vipers**												
Crotalus ruber ruber	northern red diamond rattlesnake											X	
Crotalus mitchellii pyrrhus	southwestern speckled rattlesnake	X							X	X			
Crotalus cerastes cerastes	Mojave Desert sidewinder	X											
Crotalus scutulatus scutalatus	Mojave green rattlesnake	X											
Crotalus viridis helleri	southern pacific rattlesnake		X	X			X	X	X	X	X	X	

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Gaviidae	**Loons**												
Gavia stellata	red-throated loon												X
Gavia arctica	Pacific loon												X
Gavia immer	common loon												X
Podicipedidae	**Grebes**												
Podilymbus podiceps	pied-billed grebe		X					X			X		X
Podiceps auritus	horned grebe		X					X			X		X
Podiceps nigricollis	eared grebe		X					X			X		X
Aechmophorus clarkii	Clark's grebe		X					X			X		X
Aechmophorus occidentalis	western grebe		X					X			X		X
Pelecanidae	**Pelicans**												
Pelecanus erythrorhynchos	American white pelican	X											X
Pelecanus occidentalis californicus	California brown pelican							X			X		X
Phalacrocoracidae	**Cormorants**												
Phalacrocorax auritus	double-crested cormorant	X	X					X	X	X	X		X
Phalacrocorax penicillatus	Brandt's cormorant												X
Phalacrocorax pelagicus	pelagic cormorant												X

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Ardeidae	**Herons**												
Botaurus lentiginosus	American bittern	X	X				X	X	X	X	X		
Ixobrychus exilis hesperis	western least bittern	X	X	X				X	X	X	X		
Ardea herodias	great blue heron	X	X	X			X	X	X	X	X	X	X
Ardea alba	great egret	X	X	X			X	X	X	X	X	X	X
Egretta thula	snowy egret	X	X	X			X	X	X	X	X	X	X
Bubulcus ibis	cattle egret	X	X	X			X	X	X	X	X	X	X
Butorides striatus	green heron	X	X	X			X	X	X	X	X		X
Nycticorax nycticorax	black-crowned night-heron	X	X	X			X	X	X	X	X		X
Threskiornithidae	**Ibises**												
Plegadis chihi	white-faced ibis	X						X	X	X	X		
Anatidae	**Waterfowl**												
Anser albifrons	greater white-fronted goose	X		X				X			X		
Branta bernicla	brant	X						X			X		
Branta canadensis	Canada goose	X	X	X			X	X	X	X	X	X	X
Chen caerulescens	snow goose	X		X				X			X		
Aix sponsa	wood duck			X				X			X		
Anas crecca	green-winged teal	X	X	X			X	X	X	X	X	X	X
Anas platyrhynchos	mallard	X	X	X			X	X	X	X	X	X	X

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Anas acuta	northern pintail	X	X	X			X	X	X	X	X	X	X
Anas discors	blue-winged teal	X	X	X			X	X	X	X	X	X	X
Anas cyanoptera	cinnamon teal	X	X	X			X	X	X	X	X	X	X
Anas clypeata	northern shoveler	X	X	X			X	X	X	X	X	X	X
Anas strepera	gadwall	X	X	X			X	X	X	X	X	X	X
Anas americana	American wigeon	X	X	X			X	X	X	X	X	X	X
Anas penelope	Eurasian wigeon	X	X	X			X	X	X	X	X	X	X
Aythya valisineria	canvasback	X	X	X				X	X	X	X		
Aythya americana	redhead	X	X	X			X	X	X	X	X	X	X
Aythya collaris	ring-necked duck	X	X	X			X	X	X	X	X	X	X
Aythya marila	greater scaup		X					X					X
Aythya affinis	lesser scaup		X					X					
Melanitta nigra	black scoter							X					X
Melanitta perspicillata	surf scoter							X					X
Melanitta fusca	white-winged scoter							X					X
Bucephala clangula	common goldeneye	X	X	X			X	X	X	X	X	X	X
Bucephala albeola	bufflehead	X	X	X			X	X	X	X	X	X	X
Lophodytes cucullatus	hooded merganser		X					X			X		X
Mergus merganser	common merganser		X					X			X		X

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Mergus serrator	red-breasted merganser												X
Oxyura jamaicensis	ruddy duck	X	X	X			X	X	X	X	X	X	X
Cathartidae	**New World Vultures**												
Cathartes aura	turkey vulture	X	X	X	X	X	X	X	X	X	X	X	X
Gymnogyps californicus	California condor		X										
Accipitridae	**Hawks**												
Elanus leucurus	white-tailed kite	X	X	X		X	X	X	X	X	X	X	X
Pandion haliaetus	osprey	X	X	X			X		X	X	X		X
Haliaeetus leucocephalus	bald eagle	X	X					X	X	X	X		X
Circus cyaneus	northern harrier	X	X	X	X	X	X	X	X	X	X	X	X
Accipiter striatus	sharp-shinned hawk		X	X	X		X	X	X	X	X	X	X
Accipiter cooperii	Cooper's hawk		X	X	X		X	X	X	X	X	X	X
Accipiter gentilis	northern goshawk		X						X	X	X		
Buteo lineatus	red-shouldered hawk		X	X			X	X			X	X	X
Buteo swainsoni	Swainson's hawk	X	X	X	X		X	X	X	X		X	
Buteo jamaicensis	red-tailed hawk	X	X	X	X		X	X	X	X	X	X	
Buteo regalis	ferruginous hawk	X	X	X	X		X				X	X	
Buteo lagopus	rough-legged hawk	X			X			X					
Aquila chrysaetos	golden eagle	X	X	X	X	X	X	X	X	X	X	X	

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	Falconidae	**Falcons**												
	Falco sparverius	American kestrel	X	X	X	X	X	X	X	X	X	X	X	
	Falco columbarius	merlin	X	X	X			X	X	X	X	X	X	
	Falco mexicanus	prairie falcon	X	X	X	X	X	X	X	X	X	X	X	
	Falco peregrinus anatum	American peregrine falcon	X	X	X				X	X	X			X
	Phasianidae	**Pheasants and Quails**												
*	*Phasianus colchicus*	ring-necked pheasant		X										
	Callipepla californica	California quail	X	X	X	X	X	X	X	X	X	X	X	
	Oreortyx pictus	mountain quail		X				X		X	X			
	Rallidae	**Rails and Gallinules**												
	Rallus longirostris leripes	light-footed clapper rail			X				X					
	Rallus limicola	Virginia rail		X	X			X	X					
	Porzana carolina	sora		X	X			X	X					X
	Gallinula chloropus	common moorhen	X	X	X			X	X	X	X	X		X
	Fulica americana	American coot	X	X	X			X	X			X		X
	Charadriidae	**Plovers**												
	Pluvialis squatarola	black-bellied plover	X	X					X					X
	Charadrius alexandrinus nivosus	western snowy plover	X						X					X
	Charadrius montanus	mountain plover	X	X										

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Charadrius semipalmatus	semipalmated plover							X					X
Charadrius vociferus	killdeer	X	X	X	X	X	X	X	X	X	X	X	X
Haematopodidae	**Oystercatchers**												
Haematopus bachmani	black oystercatcher							X					X
Recurvirostridae	**Stilts and Avocets**												
Himantopus mexicanus	black-necked stilt	X					X	X	X	X	X		X
Recurvirostra americana	American avocet	X					X	X	X	X	X		X
Scolopacidae	**Sandpipers**												
Tringa melanoleuca	greater yellowlegs		X				X	X					X
Tringa flavipes	lesser yellowlegs		X				X	X					X
Catoptrophorus semipalmatus	willet												X
Heteroscelus incanus	wandering tattler												X
Actitis macularia	spotted sandpiper	X	X	X			X	X	X	X			X
Numenius phaeopus	whimbrel												X
Numenius americanus	long-billed curlew												X
Limosa fedoa	marbled godwit												X
Arenaria interpres	ruddy turnstone												X
Arenaria melanocephala	black turnstone												X
Aphriza virgata	surfbird												X

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Calidris canutus	red knot												X
Calidris alba	sanderling												X
Calidris mauri	western sandpiper												X
Calidris minutilla	least sandpiper												X
Calidris alpina	dunlin												X
Limnodromus griseus	short-billed dowitcher												X
Limnodromus scolopaceus	long-billed dowitcher												X
Gallinago gallinago	common snipe	X	X	X				X					X
Phalaropus tricolor	Wilson's phalarope												X
Phalaropus lobatus	red-necked phalarope												X
Laridae	**Gulls and Terns**												
Chidonias niger	black tern	X											
Larus philadelphia	Bonaparte's gull												X
Larus heermanni	Heermann's gull												X
Larus delawarensis	ring-billed gull	X						X	X	X	X	X	X
Larus californicus	California gull	X						X	X	X	X	X	X
Larus argentatus	herring gull	X						X	X	X	X	X	X
Larus occidentalis	western gull	X						X	X	X	X	X	X
Sterna caspia	Caspian tern							X					X

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	Sterna forsteri	Forster's tern							X					X
	Sterna antillarum browni	California least tern							X					
	Rynchops niger	black skimmer												X
	Alcidae	**Auks, Murres, and Puffins**												
	Uria aalge	common murre												X
	Synthliboramphus hypoleucus	Xamtus' murrelet												X
	Ptychoramphus aleuticus	Cassin's auklet												X
	Cerorhinca monocerata	Rhinoceros auklet												X
	Columbidae	**Pigeons and Doves**												
*	*Columba livia*	rock dove	X	X	X			X	X	X	X	X	X	X
	Columba fasciata	band-tailed		X	X			X	X				X	
*	*Streptopelia chinensis*	spotted dove										X		
	Zenaida macroura	mourning dove	X	X	X	X	X	X	X	X	X	X	X	X
	Columbina passerina	common ground-dove	X											
	Cuculidae	**Cuckoos and Roadrunners**												
	Geococcyx californianus	greater roadrunner	X		X			X	X				X	
	Tytonidae	**Barn Owls**												
	Tyto alba	barn owl		X	X			X	X	X	X	X	X	X

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Strigidae	**True Owls**												
Otus kennicottii	western screech-owl		X	X			X	X					
Bubo virginianus	great horned owl	X	X	X			X	X	X	X	X	X	X
Glaucidium gnoma	northern pygmy-owl						X						
Athene cunicularia hypugea	burrowing owl	X	X	X	X	X	X	X	X	X	X	X	X
Strix occidentalis occidentalis	spotted owl	X	X	X					X	X			
Asio flammeus	short-eared owl	X					X	X			X	X	X
Asio otus	long-eared owl	X	X	X			X	X	X	X	X	X	
Aegolius acadicus	northern saw-whet owl	X	X						X	X			
Caprimulgidae	**Goatsuckers**												
Chordeiles acutipennis	lesser nighthawk			X									
Chordeiles minor	common nighthawk		X				X	X	X	X			
Phalaenoptilus nuttallii	common poorwill	X	X	X			X	X	X	X	X		
Apodidae	**Swifts**												
Cypseloides niger	black swift							X	X	X			
Chaetura vauxi	Vaux's swift	X	X	X			X		X	X	X	X	
Aeronautes saxatalis	white-throated swift	X	X	X	X		X	X	X	X	X	X	X
Trochilidae	**Hummingbirds**												
Archilochus alexandri	black-chinned hummingbird		X	X			X	X	X	X	X	X	X

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Calypte annae	Anna's hummingbird		X	X			X	X	X	X	X	X	X
Calypte costae	Costa's hummingbird		X	X			X	X	X	X	X	X	X
Stellula calliope	Calliope hummingbird		X				X		X	X			
Selasphorus rufus	rufous hummingbird			X			X	X	X	X	X	X	
Selasphorus sasin	Allen's hummingbird			X			X	X	X	X	X	X	X
Alcedinidae	**Kingfishers**												
Ceryle alcyon	belted kingfisher		X	X			X	X	X	X			X
Picidae	**Woodpeckers**												
Melanerpes formicivorus	acorn woodpecker		X	X			X	X	X	X	X	X	X
Melanerpes lewisi	Lewis’s woodpecker		X				X						
Sphyrapicus ruber	red-breasted sapsucker			X			X	X				X	
Sphyrapicus thyroideus	Williamson’s sapsucker		X										
Picoides scalaris	ladder-backed woodpecker	X											
Picoides nuttallii	Nuttall's woodpecker		X	X			X	X	X	X		X	X
Picoides pubescens	downy woodpecker		X	X			X	X	X	X		X	X
Picoides villosus	hairy woodpecker		X	X			X	X	X	X		X	X
Colaptes auratus	northern flicker	X	X	X	X	X	X	X	X	X		X	X
Tyrannidae	**Tyrant Flycatchers**												
Contopus cooperi	olive-sided flycatcher		X	X			X	X	X	X		X	

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Contopus sordidulus	western wood-pewee		X	X			X	X	X	X		X	
Empidonax wrightii	gray flycatcher			X									
Empidonax traillii ssp.	willow flycatcher	X	X						X	X	X	X	
Empidonax traillii extimus	southwestern willow flycatcher		X	X			X	X	X	X	X	X	
Empidonax oberholseri	dusky flycatcher			X									
Empidonax hammondii	Hammond's flycatcher			X									
Empidonax difficilis	Pacific-slope flycatcher		X	X			X	X	X	X	X	X	
Emidonax traillis brewsteri	little willow flycatcher	X	X										
Pyrocephalus rubinus	vermillion flycatcher						X						
Sayornis nigricans	black phoebe	X	X	X			X	X	X	X	X	X	X
Sayornis saya	Say's phoebe			X			X	X				X	
Myiarchus cinerascens	ash-throated flycatcher	X	X	X	X	X	X	X	X	X	X	X	X
Tyrannus vociferans	Cassin's kingbird	X	X	X	X	X	X	X	X	X	X	X	
Tyrannus verticalis	western kingbird	X	X	X	X	X	X	X	X	X	X	X	
Alaudidae	**Larks**												
Eremophila alpestris actia	horned lark	X		X	X		X	X	X	X	X	X	
Hirundinidae	**Swallows**												
Progne subis	purple martin						X	X	X	X	X	X	
Tachycineta bicolor	tree swallow			X			X					X	

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Tachycineta thalassina	violet-green swallow		X	X			X	X	X	X	X	X	X
Stelgidopteryx serripennis	northern rough-winged swallow		X	X			X	X	X	X	X	X	X
Petrochelidon pyrrhonota	cliff swallow		X	X			X	X	X	X	X	X	X
Hirundo rustica	barn swallow		X	X			X	X	X	X	X	X	
Riparia riparia	bank swallow	X						X	X	X			
Corvidae	**Jays and Crows**												
Cyanocitta stelleri	Steller's jay		X						X	X			
Aphelocoma californica	western scrub-jay		X	X			X	X	X	X	X	X	X
Gymnorhinus cyanocephalus	Pinyon jay		X										
Corvus brachyrhynchos	American crow		X	X			X	X	X	X	X	X	
Corvus corax	common raven	X	X	X	X	X	X	X	X	X	X	X	X
Paridae	**Titmice**												
Poecile gambeli	mountain chickadee		X						X	X			
Baeolophus inornatus	oak titmouse		X	X			X	X	X	X	X	X	
Remizidae	**Verdins**												
Auriparus flaviceps	verdin	X											
Aegithalidae	**Bushtits**												
Psaltriparus minimus	bushtit	X	X	X	X	X	X	X	X	X	X	X	X

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Sittidae	**Nuthatches**												
Sitta canadensis	red-breasted nuthatch		X										
Sitta carolinensis	white-breasted nuthatch		X	X			X	X	X	X		X	
Sitta pygmaea	pygmy nuthatch		X										
Certhiidae	**Creepers**												
Certhia americana	brown creeper		X	X					X	X			
Troglodytidae	**Wrens**												
Campylorhynchus brunneicapillus couesi	coastal cactus wren							X	X	X	X	X	
Salpinctes obsoletus	rock wren	X	X	X			X	X	X	X			
Catherpes mexicanus	canyon wren		X	X			X	X	X	X			
Thryomanes bewickii	Bewick's wren		X	X			X	X	X	X	X	X	
Thryomanes bewickii catalinae	Catalina Bewick's wren												X
Troglodytes aedon	house wren		X	X			X	X	X	X	X	X	
Cistothorus palustris	marsh wren		X	X			X	X			X		
Cinclidae	**Dippers**												
Cinclus mexicanus	American dipper		X										
Regulidae	**Kinglets**												
Regulus satrapa	golden-crowned kinglet	X	X	X			X	X				X	
Regulus calendula	ruby-crowned kinglet	X	X	X			X	X			X	X	X

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Sylvidae	**Old World Warblers, Gnatcatchers**												
Polioptila caerulea	blue-gray gnatcatcher			X			X	X				X	
Polioptila californica californica	coastal California gnatcatcher			X		X	X	X	X	X	X	X	
Turdidae	**Thrushes**												
Myadestes townsendi	Townsend's solitaire		X										
Catharus ustulatus	Swainson's thrush		X	X			X	X	X	X		X	X
Catharus guttatus	hermit thrush		X	X			X	X	X	X		X	X
Turdus migratorius	American robin		X	X			X	X	X	X		X	X
Ixoreus naevius	varied thrush							X					
Sialia currucoides	mountain bluebird		X						X	X			
Sialia mexicana	western bluebird		X	X			X	X	X	X	X	X	X
Muscicapidae	**Wrentits**												
Chamaea fasciata	wrentit		X	X			X	X	X	X	X	X	X
Mimidae	**Thrashers**												
Mimus polyglottos	northern mockingbird	X	X	X	X	X	X	X	X	X	X	X	X
Toxostoma crissale	Crissal thrasher	X											
Toxostoma lecontei	Le Conte’s thrasher	X	X		X								
Toxostoma redivivum	California thrasher	X	X	X	X		X	X	X	X	X	X	

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	Motacillidae	**Pipits**												
	Anthus rubescens	American pipit		X	X			X	X	X	X	X	X	
	Bombycillidae	**Waxwings**												
	Bombycilla cedrorum	cedar waxing		X	X			X	X	X	X	X	X	
	Ptilogonatidae	**Silky Flycatchers**												
	Phainopepla nitens	phainopepla	X	X	X	X		X	X	X	X	X	X	
	Laniidae	**Shrikes**												
	Lanius ludovicianus	loggerhead shrike	X	X	X	X	X	X	X	X	X	X	X	X
	Sturnidae	**Starlings**												
*	*Sturnus vulgaris*	European starling	X	X	X	X	X	X	X	X	X	X	X	
	Vireonidae	**Vireos**												
	Vireo bellii pusillus	least Bell's vireo		X	X			X	X	X	X	X	X	
	Vireo cassini	Cassin's vireo						X	X				X	
	Vireo huttoni	Hutton's vireo						X	X			X	X	
	Vireo gilvus	warbling vireo		X	X			X	X			X	X	
	Vireo vicinior	gray vireo	X	X				X						
	Porulidae	**Wood Warblers**												
	Vermivora celata	orange-crowned warbler			X			X	X				X	
	Vermivora peregrina	Tennessee warbler						X						

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Vermivora ruficapilla	Nashville warbler			X			X	X				X	
Vermivora virginae	Virginia warbler		X		X		X		X	X			
Dendroica petechia brewsteri	yellow warbler		X	X			X	X	X	X	X	X	X
Dendroica coronata	yellow-rumped warbler	X	X	X	X		X	X			X	X	
Dendroica nigrescens	black-throated gray warbler			X			X	X				X	
Dendroica townsendi	Townsend's warbler			X			X	X				X	
Dendroica occidentalis	hermit warbler			X			X	X				X	
Oporornis tolmiei	MacGillivray's warbler			X			X	X				X	
Geothlypis trichas	common yellowthroat	X	X	X			X	X	X	X	X	X	
Wilsonia pusilla	Wilson's warbler			X			X	X				X	
Icteria virens	yellow-breasted chat		X	X			X		X	X	X	X	X
Cardinalidae	**Cardinals**												
Pheucticus melanocephalus	black-headed grosbeak			X			X	X				X	
Guiraca caerulea	blue grosbeak		X	X			X				X	X	X
Passerina amoena	lazuli bunting		X	X			X	X			X	X	X
Thraupidae	**Tanagers**												
Piranga rubra	summer tanager			X			X	X	X	X			
Piranga ludoviciana	western tanager			X			X	X				X	

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Emberizidae	**Emberizids**												
Pipilo chlorurus	green-tailed towhee	X	X						X	X			
Pipilo crissalis	California towhee			X			X	X				X	X
Pipilo maculatus	spotted towhee		X	X			X	X	X	X	X	X	
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow		X	X		X	X	X	X	X	X	X	X
Spizella passerina	chipping sparrow			X			X					X	
Spizella breweri	Brewer's sparrow						X						
Spizella atrogularis	black-chinned sparrow						X					X	
Pooecetes gramineus	vesper sparrow			X									
Chondestes grammacus	lark sparrow			X			X	X				X	
Amphispiza bilineata	black-throated sparrow		X				X						
Amphispiza belli	sage sparrow						X					X	
Amphispiza belli belli	Bell’s sage sparrow		X	X	X	X	X	X	X	X		X	
Passerculus sandwichensis	savannah sparrow			X								X	
Passerculus sandwichensis beldingi	Belding’s savannah sparrow							X					
Ammodramus savannarum	grasshopper sparrow	X											
Passerella iliaca	fox sparrow			X			X	X				X	
Melospiza melodia	song sparrow		X	X			X	X	X	X	X	X	

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Melospiza lincolnii	Lincoln's sparrow			X			X	X				X	
Zonotrichia atricopilla	golden-crowned sparrow			X			X	X				X	
Zonotrichia leucophrys	white-crowned sparrow		X	X			X	X	X	X	X	X	
Zonotrichia querula	Harris' sparrow						X						
Junco hyemalis	dark-eyed junco		X	X			X	X			X	X	
Icteridox	**Blackbirds**												
Agelaius phoeniceus	red-winged blackbird	X	X	X			X	X	X	X	X	X	X
Agelaius tricolor	tricolored blackbird	X	X	X			X	X	X	X	X		
Sturnella neglecta	western meadowlark		X	X			X	X	X	X	X	X	X
Xanthocephalus xanthocephalus	yellow-headed blackbird		X				X						
Euphagus cyanocephalus	Brewer's blackbird		X	X			X	X			X	X	X
Quiscalus mexicanus	great-tailed grackle								X	X	X		
Molothrus ater	brown-headed cowbird		X	X			X	X	X	X	X	X	X
Icterus bullockii	Bullock's oriole		X	X			X	X	X	X	X	X	X
Icterus cucullatus	hooded oriole		X	X			X	X	X	X	X	X	X
Icterus parisorum	Scott's oriole	X			X								
Fringillidae	**Finches**												
Carpodacus purpureus	purple finch			X			X					X	
Carpodacus cassinii	Cassin's finch		X	X			X		X	X	X		

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	Carpodacus mexicanus	house finch	X	X	X	X	X	X	X	X	X	X	X	X
	Loxia curvirostra	red crossbill		X										
	Carduelis pinus	pine siskin	X	X	X			X	X	X	X	X	X	
	Carduelis psaltria	lesser goldfinch		X	X			X	X	X	X	X	X	X
	Carduelis lawrencei	Lawrence's goldfinch			X			X	X				X	
	Carduelis tristis	American goldfinch	X	X	X			X	X	X	X	X	X	X
	Passeridae	**Old World Sparrows**												
*	*Passer domesticus*	house sparrow	X	X	X	X	X	X	X	X	X	X	X	X

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	Didelphidae	**New World Opossums**												
*	*Didelphis virginiana*	Virginia opossum	X	X	X	X	X	X	X	X	X	X	X	
	Soricidae	**Shrews**												
	Sorex ornatus	ornate shrew			X			X	X				X	
	Sorex ornatus willetti	Santa Catalina shrew												X
	Notiosorex crawfordi	desert shrew	X		X	X								
	Talpidae	**Moles**												
	Scapanus latimanus	broad-footed mole		X	X		X	X		X	X	X	X	
	Scapanus latimanus occultus	broad-handed mole							X					
	Phyllostomidae	**Leaf-Nosed Bat Family**												
	Macrotus californicus	California leaf-nosed bat		X	X	X		X						
	Vespertilionidae	**Evening Bats**												
	Antrozous pallidus pacificus	pallid bat		X	X			X	X	X	X	X	X	X
	Corynorhinus (=Plecotus) townsendii pallescens	pale big-eared bat						X						X
	Myotis californicus californicus	California myotis			X			X	X				X	
	Myotis ciliolabrum	small-footed myotis								X	X			
	Myotis evotis evotis	long-eared myotis			X					X	X		X	
	Myotis leibii	small-footed myotis			X								X	
	Myotis lucifugus	little brown myotis			X								X	

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Myotis occultus (=Myotis lucifugus occultus)	occult little brown bat (AKA Arizona myotis)						X	X					
Myotis thysanodes	fringed myotis	X		X					X	X		X	
Myotis volans	long-legged myotis	X		X			X	X	X	X		X	
Myotis yumanensis	Yuma myotis (AKA San Joaquin myotis)		X	X			X	X	X	X		X	
Lasiurus borealis	red bat			X								X	
Lasiurus cinereus	hoary bat			X				X				X	
Lasiurus cinereus	hoary bat	X	X										
Pipistrellus hesperus	western pipistrelle			X			X	X				X	
Eptesicus fuscus	big brown bat			X			X	X				X	
Euderma maculatum	spotted bat		X	X	X		X	X					
Plecotus townsendii pallescens	Townsend's big-eared bat		X	X			X	X	X	X		X	
Corynorhinus (=Plecotus) townsendii townsendii	Townsend’s western big-eared bat	X	X				X	X	X	X		X	
Molossidae	**Free-Tailed Bats**												
Tadarida brasiliensis	Brazilian free-tailed bat			X								X	
Tadarida brasiliensis mexicana	guano bat						X	X					
Tadarida femorosacca	pocketed free-tailed bat			X								X	
Eumops perotis californicus	western mastiff bat		X	X	X		X	X	X	X	X	X	

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Leporidae	**Hares and Rabbits**												
Lepus californicus bennettii	San Diego black-tailed jackrabbit			X			X	X	X	X	X	X	
Sylvilagus audubonii	desert cottontail			X			X					X	
Sylvilagus audubonii sanctdiegi	Audobon's cottontail						X	X					
Sylvilagus bachmani	brush rabbit			X			X	X				X	
Sciuridae	**Squirrels**												
Tamias merriami	Merriam's chipmunk		X				X						
Ammospermophilus leucurus	white-tailed antelope squirrel	X			X								
Spermophilus beecheyi nesioticus	California ground squirrel	X	X	X	X		X	X	X	X	X	X	
Spermophilus mohavensis	Mohave ground squirrel	X	X		X								
Sciurus griseus	western gray squirrel			X				X				X	
Geomyidae	**Pocket Gophers**												
Thomomys bottae	Botta's pocket gopher	X	X	X			X	X	X	X	X	X	
Heteromyidae	**Pocket Mice and Kangaroo Rats**												
Perognathus alticola inexpectatus	white-eared pocket mouse		X		X								
Perognathus inornatus inornatus	San Joaquin pocket mouse	X											
Perognathus longimembris brevinasus	Los Angeles pocket mouse			X			X	X	X	X	X	X	
Perognathus longimembris pacificus	Pacific little pocket mouse		X			X							
Chaetodipus californicus	California pocket mouse			X			X	X				X	

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MAMMALS		SIGNIFICANT ECOLOGICAL AREAS											
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Chaetodipus fallax	San Diego pocket mouse								X	X		X	
Chaetodipus penicillatus	desert pocket mouse	X											
Dipodomys agilis	Pacific kangaroo rat			X			X	X				X	
Dipodomys heermanni	Heermann's kangaroo rat						X						
Dipodomys merriami	Merriam's kangaroo rat								X	X			
Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat		X	X					X	X			
Muridae	**Mice, Rats, and Voles**												
Reithrodontomys megalotis	western harvest mouse			X				X				X	
Reithrodontomys megalotis catalinae	western harvest mouse						X						
Peromyscus boylei	brush mouse			X			X	X					
Peromyscus californicus	California mouse			X								X	
Peromyscus californicus insignis	California parasitic mouse						X	X					
Peromyscus crinitus	canyon mouse			X									
Peromyscus eremicus	cactus mouse							X				X	
Peromyscus maniculatus catalinae	deer mouse			X			X	X				X	
Peromyscus truei	pinon mouse						X						
Onychomys torridus ramonia	southern grasshopper mouse		X	X	X	X	X		X	X			
Neotoma fuscipes	dusky-footed woodrat			X			X	X				X	
Neotoma fuscipes riparia	riparian woodrat								X	X		X	X

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	Neotoma lepida	desert woodrat	X											
	Neotoma lepida intermedia	San Diego desert woodrat	X	X	X	X		X	X	X	X	X	X	
*	*Rattus norvegicus*	Norway rat			X									
*	*Rattus rattus*	black rat			X									
*	*Mus musculus*	house mouse			X				X				X	
	Microtus californicus	California vole			X			X	X				X	
	Canidae	**Wolves and Foxes**												
	Canis latrans	coyote	X	X	X	X	X	X	X	X	X	X	X	X
	Vulpes velox	kit fox	X		X									
*	*Vulpes fulva*	red fox			X			X						
	Urocyon littoralis catalinae	island fox												X
	Urocyon cinereoargenteus	gray fox		X	X			X	X	X	X	X	X	
	Ursidae	**Bears**												
	Ursus americanus	black bear	X	X	X					X	X			
	Otariidae	**Eared Seals**												
	Zalophus californianus	California sea lion												X
	Phocidae	**Hair Seals**												
	Phoca vitulina	harbor seal												X
	Mirounga angustirostris	northern elephant seal												X

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	Procyonidae	**Raccoons**												
	Bassariscus astutus octarus	ringtail cat		X	X			X	X	X	X			
	Procyon lotor	raccoon	X	X	X	X	X	X	X	X	X	X	X	
	Mustelidae	**Weasels, Skunks, and Otters**												
	Mustela frenata	long-tailed weasel		X	X			X	X	X	X		X	
	Taxidea taxus	American badger		X	X			X	X	X	X		X	
	Spilogale gracilis	western spotted skunk	X	X	X			X	X	X	X		X	
	Mephitis mephitis	striped skunk	X	X	X	X	X	X	X	X	X	X	X	
	Felidae	**Cats**												
	Felis concolor	mountain lion		X	X			X	X	X	X		X	
	Felis rufus	bobcat		X	X			X	X	X	X		X	
	Suidae	**Pigs**												
*	*Sus scrofa*	wild pig		X										
	Cervidae	**Deer**												
	Odocoileus hemionus	mule deer	X	X	X	X		X	X	X	X	X	X	
	Bovidae	**Bison, Goats, and Sheep**												
	Capra hircus	goat												X
	Ovis canadensis	bighorn sheep								X	X			
	Bison bison	bison												X

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