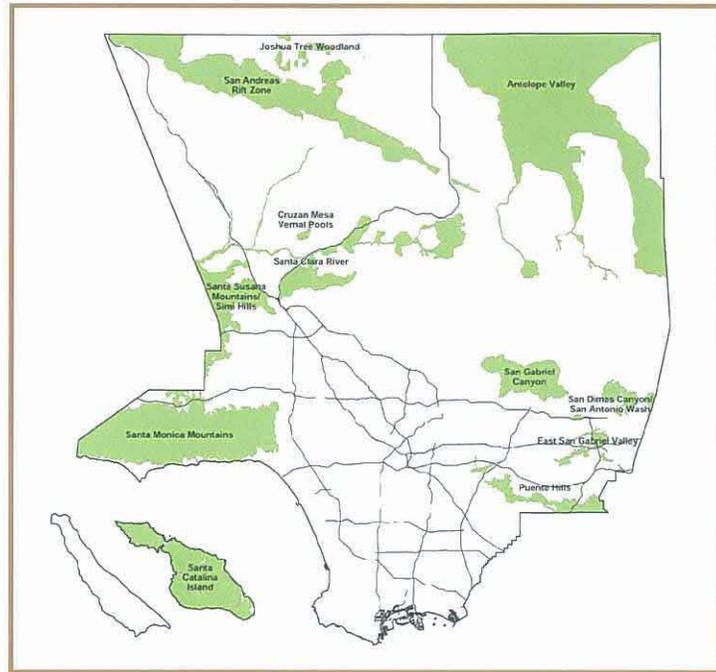


LOS ANGELES COUNTY SIGNIFICANT ECOLOGICAL AREA UPDATE STUDY 2000



BACKGROUND REPORT

Los Angeles County, California

November 2000



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.

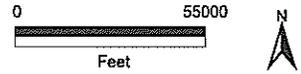


Note: The islands are not shown in their proper location.

Figure 1

**Significant Ecological Areas
Update Study 2000
Existing Boundaries**

-  Existing Significant Ecological Areas
-  Angeles National Forest



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 adjacent 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 Plant 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

<u>Criterion</u>	<u>Intent/Rationale</u>
A) The Habitat of Core Populations of Endangered or Threatened Plant or Animal Species	<p>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.</p> <p><i>Federally Endangered:</i> “any species which is in danger of extinction throughout all or a significant portion of its range ...”</p> <p><i>Federally Threatened:</i> “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”</p> <p><i>State Endangered:</i> “...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.”</p> <p><i>State Threatened:</i> “... 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.”</p>

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)

<u>Criterion</u>	<u>Intent/Rationale</u>
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	<p>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.</p> <p>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.</p>
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. Secondly, 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 aurally. 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.

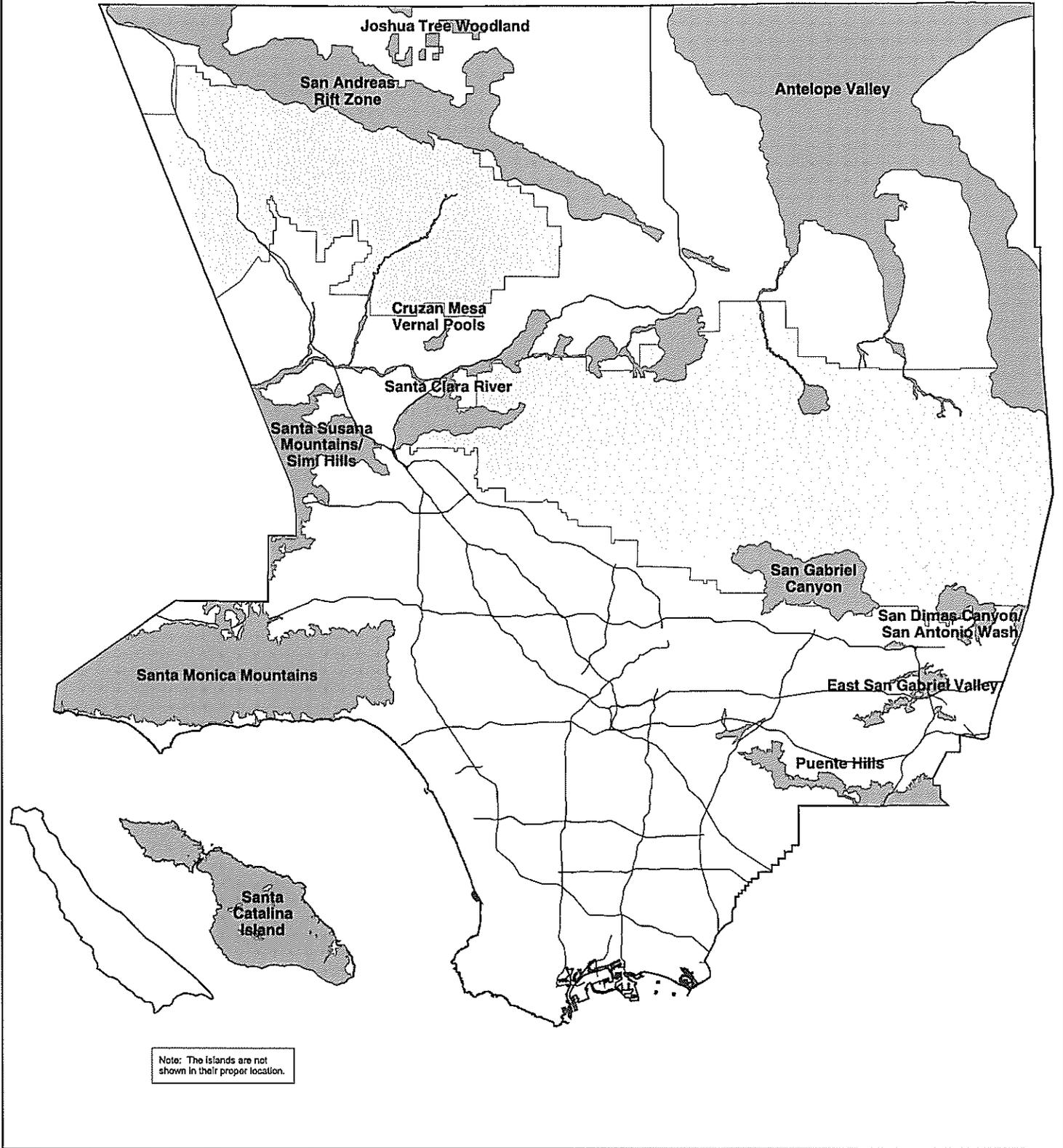


Figure 2

**Significant Ecological Areas
Update Study 2000
Proposed Boundaries**

-  Proposed Significant Ecological Areas
-  Angeles National Forest

