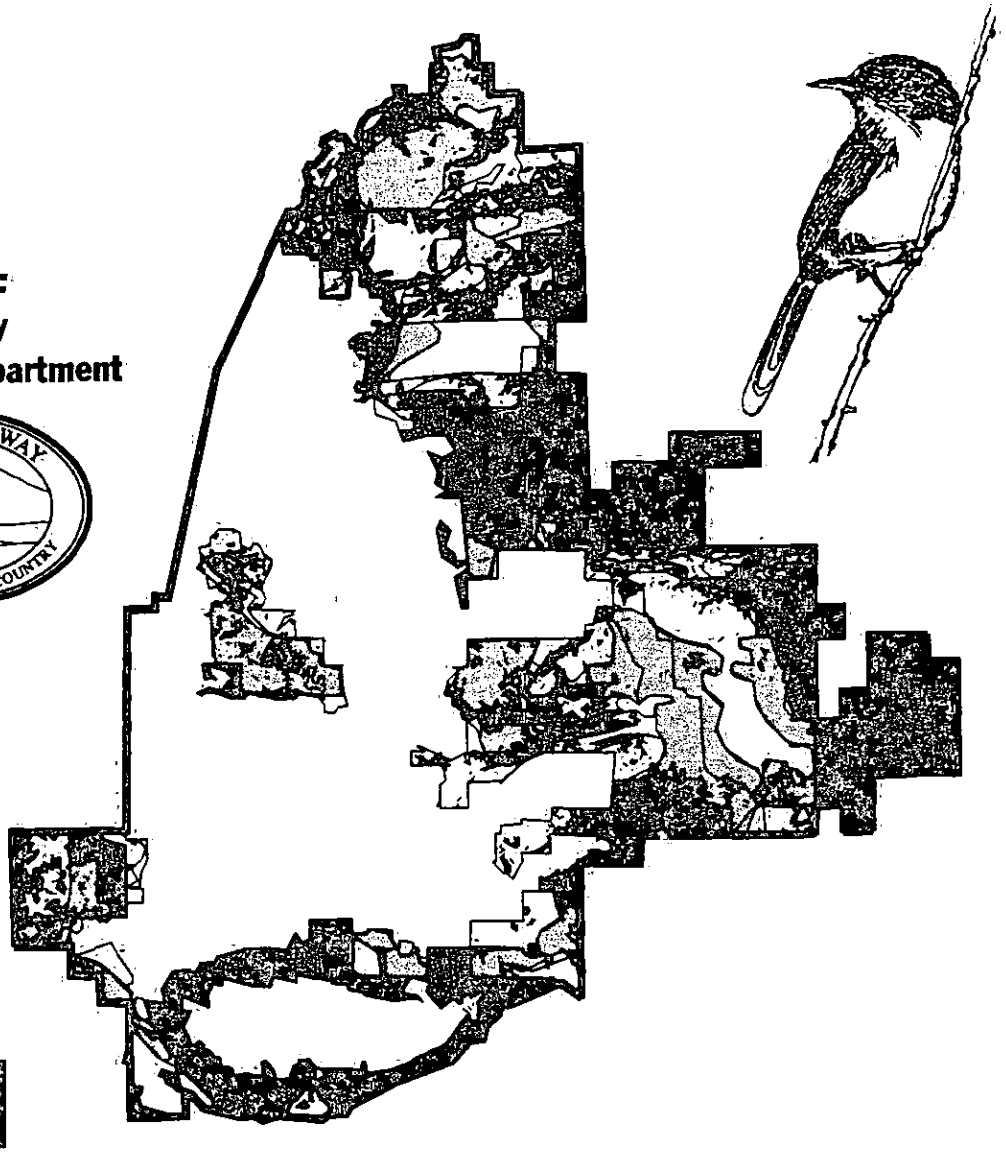
Poway Subarea Habitat Conservation Plan/ Natural Community Conservation Plan

Volume 1: Plan



Prepared for:
City of Poway
Planning Department

April 1996

OGDEN

Poway Subarea Habitat Conservation Plan/NCCP
Volume 1: Plan

Prepared for

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April 1996
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SECTION 1.0
INTRODUCTION

The Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan (hereafter, the Subarea HCP) continues the City of Poway's proactive history for protecting biologically effective open space. The California gnatcatcher (*Polioptila californica californica*) was listed as a federally threatened species in March 1993 Potential exists for additional plant and animal species native to Poway to be listed as threatened or endangered in the future. Preparation and implementation of this citywide HCP is necessary to allow for the incidental take of listed species by public projects and private projects which rely upon the City's Incidental Take/Management Authorization Permit. This Subarea HCP fulfills requirements pursuant to Section 10(a) of the federal Endangered Species Act (ESA); Sections 2081 and 2835 of the State Fish and Game Code and the California Endangered Species Act (CESA); and the State of California's Natural Communities Conservation Planning (NCCP) Act of 1991 It is also consistent with regional and subregional planning efforts within San Diego County pursuant to the NCCP Act. Collectively, these laws and planning efforts require protection and management of sufficient, interconnected habitat areas to support listed species—or "target" species that serve as indicators of ecosystem health—in exchange for allowing limited "take" of the species or its habitat. Incidental take may occur during otherwise lawful endeavors, such as development allowed under the community's adopted General Plan. The Subarea HCP also fulfills a mitigation requirement of the Scripps Poway Parkway Extension Environmental Impact Report (EIR, Ogden 1994).

The City of Poway has traditionally emphasized protection of its biological resources as a priority, thereby facilitating implementation of this plan to fulfill these mandates. Poway's General Plan, adopted in 1983, included a significant Plant and Animal Resource Conservation Element (City of Poway 1983) Intensive biological studies were subsequently performed to support Poway's General Plan update (City of Poway 1991), which stresses preservation of open space, biological resources, and the rural character of the "City in the Country" as primary goals. The General Plan update incorporated recommendations from these biological studies to ensure that preservation of effective biological open space was coordinated with the City's long-range planning goals. The Detailed Biological Assessment for the City of Poway (ERCE [Ogden] 1991a) and the Focused California Gnatcatcher Resource Study for the City of Poway (ERCE [Ogden] 1991b) provided quantitative information on biological resources within the City and its

adopted sphere of influence. These studies identified core biological resource areas, essential habitat linkages, and regional wildlife movement corridors. The City's General Plan update accordingly strengthened resource protection measures (General Plan Goals, Policies, and Implementation Strategies) and encouraged development of a City-wide system of reserves and wildlife corridors (City of Poway 1991). These measures thus established the basis for a City-wide, multi-species HCP

The Poway Subarea HCP builds upon this history and provides a blueprint for permanent protection of biologically effective, interconnected open spaces in the City of Poway It is designed to maintain regional biodiversity and ecosystem function, protect target species of sensitive plants and animals, and allow wise economic development into the City's future. As such, this HCP reflects the biological resource conservation goals, implementation strategies, and mitigation measures of the Poway General Plan as well as the objectives of the NCCP Act of 1991 It serves as a Subarea Plan as called for by the approved NCCP Process and Conservation Guidelines (November 1993) The NCCP Process and Conservation Guidelines were recognized and incorporated into the U.S. Fish and Wildlife Service's (USFWS) special 4(d) rule for the listing of the threatened California gnatcatcher. The plan is also consistent with the following subregional NCCP plans within San Diego County: the Multiple Species Conservation Program (MSCP) in southwestern San Diego County, the Multiple Habitat Conservation Program (MHCP) in northwestern San Diego County, and the County of San Diego's Multiple Habitat Conservation and Open Space Program (MHCOSP) for remaining unincorporated portions of the County

The Poway Subarea HCP was prepared at a time when these subregional plans and their respective documentation under the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) were in differing stages of development and were not officially approved by the USFWS and California Department of Fish and Game (CDFG). It nevertheless is consistent with the goals, standards and guidelines established in the subregional planning processes and with the recommended biological core areas and habitat linkages established by the Public Review Draft MSCP document, whose subregion includes the Poway subarea.

This Subarea HCP also serves as a multispecies HCP pursuant to Section 10(a)(1)(B) of the ESA, as amended in 1982. Acceptance of the plan and issuance of a Section 10(a)(1)(B) permit by the USFWS will allow for limited "take" of the listed threatened or endangered species covered by the plan, as well as other species covered by the plan that

may be listed in the future. Acceptance of the plan will likewise result in issuance of a Section 2081 Management Authorization by the CDFG for take of state-listed rare, threatened, or endangered species, and a Section 2835 Management Authorization for covered species that may be listed in the future. Without this plan, each public or private project in the City that might impact listed species would be forced to obtain individual permits from the USFWS and CDFG. With this plan, each public project and each private project that opts to comply with the HCP provisions will be permitted under the City-wide authorization, without the need for individual endangered species permits. Thus, this Subarea HCP streamlines the regulatory process and provides certainty regarding future developments within the City

Although the Poway Subarea HCP is specific to lands within Poway's jurisdiction, it is designed to facilitate interconnection of Poway's open spaces with open space areas in adjoining jurisdictions that are currently protected or are likely to be protected under subregional or subarea plans being developed by these jurisdictions. This plan also addresses some parcels outside of the City's jurisdiction, but within its Sphere of Influence (SOI), that were purchased by the City as mitigation for the Scripps Poway Parkway Extension and that will be protected as biological open space under the HCP The Subarea HCP encourages neighboring jurisdictions to aggressively protect and conserve their natural resources in coordination with the Poway Subarea HCP to realize the regional system of connected and biologically meaningful preserves called for by the NCCP and its subregional plans.

1.1 OBJECTIVES AND APPROACH

This plan serves two general functions: 1) to create a sustainable, interconnected network of habitat preserves throughout (and ultimately beyond) the City and thus maintain functioning ecosystems and viable populations of biological resources; and 2) to mitigate adverse impacts to biological resources from building the Scripps Poway Parkway Extension (County SA-780) and implementing the Poway General Plan and Paguay Redevelopment Plan (see Section 1.3). Implementing this HCP will ensure compatibility between future development and conservation in the City, while meeting the immediate mitigation requirements for building Scripps Poway Parkway and public and private projects anticipated by the Poway General Plan and the Paguay Redevelopment Plan.

The regional scope of impacts to biological resources expected from extending Scripps Poway Parkway dictates that mitigation for these impacts involve a regional conservation approach, per the Scripps Poway Parkway Extension EIR (Ogden 1994, USFWS 1994). Such an approach provides the best means for effective planning and creative mitigation for such a large-scale project. Specific open space parcels identified in the Poway Subarea HCP as having significant biological resource values are being acquired to fulfill recommended mitigation ratios for direct and indirect impacts of Parkway construction on biological habitats and species (Section 5 4). Moreover, the inclusion of these mitigation parcels in the overall subarea preserve system will mitigate cumulative impacts of the project. Thus, implementation of the Poway Subarea HCP will fully mitigate impacts to biological resources from constructing the Scripps Poway Parkway Extension.

The Poway General Plan anticipates the development of both public and private projects as described in the specific elements of the General Plan. The Paguay Redevelopment Plan (Section 1.3) mandates a wide variety of infrastructure improvement projects throughout the City, some of which will impact biological resources. Implementation of this HCP will proactively mitigate for these impacts in the most effective way, avoiding piece-meal, project-by-project mitigation requirements.

The Poway General Plan also anticipates future housing development in the rural residential portions of the City Currently, each proposal to develop on private property that potentially supports listed species requires the property owner to pursue individual permits and authorizations from the resources agencies pursuant to state and federal environmental regulations. This can be a lengthy and costly process which ends in a mitigation agreement and often an HCP for each individual project. As an option to this process, a private property owner may participate in the Poway Subarea HCP and eliminate the need for project-by-project approvals from the CDFG and USFWS.

Full implementation of the Poway Subarea HCP (creation of a final, managed preserve system) may take tens of years. Consequently, the plan provides special development requirements for protection of biological resources in the interim, as well as procedures for building the preserve system over time. The general approach is to 1) delineate along parcel boundaries a Mitigation Area (formerly called a Resource Conservation Area) that contains all significant remaining biological open space within the City of Poway; 2) delineate "cornerstone parcels" within the Mitigation Area that are currently protected as biological open space; 3) identify areas of high biological resource value (core and linkage

areas) outside of cornerstones that should be targeted for preservation; 4) provide a process for preserving areas deemed important to preserve design and function either by public acquisition or application of special development requirements; and 5) provide guidelines for land use and management in the resulting preserve system.

The plan will be implemented primarily through the City's established land use regulatory process, supplemented by new implementation regulations tailored to the plan's conservation objectives. The Poway Subarea HCP also defines mitigation requirements for development projects inside and outside of the Mitigation Area and methods for funding land acquisitions and preserve management within the Mitigation Area. Mitigation for public and private projects will include direct purchase of mitigation land in the Mitigation Area based on appropriate mitigation ratios or payments into a mitigation bank (in-lieu fees) for purchase of additional cornerstone lands within the Mitigation Area. Purchases will be targeted in areas identified in the Poway Subarea HCP as important to preserve design and function (Proposed Resource Protection Areas; Section 5.5).

The Subarea HCP and it's Implementing Agreement (IA)/CESA MOU will be incorporated by reference into City documents through amendments to the General Plan, Zoning Ordinance, and Grading Ordinance approved by the City of Poway The Poway Redevelopment Agency will adopt a resolution that approves HCP and IA/CESA MOU, and requires all Agency projects to comply with the HCP's requirements.

1.2 Relationship of the Poway Subarea HCP to Regional and Subregional Planning Efforts

The five-county region encompassing the southern California coastal sage scrub ecosystem is too large and complex for a single HCP to cover The NCCP Process and Conservation Guidelines, approved by the CDFG in November 1993 and incorporated by reference in the Section 4(d) rule by the USFWS for the gnatcatcher, therefore established a process for subregional planning within the coastal sage scrub NCCP region. Along with guidelines established during subregional planning, the NCCP guidelines further recognize the need for finer-scaled, "subarea" planning within subregions for successful preserve implementation. Implementation of the regional NCCP preserve system depends upon incremental implementation of subregional plans, which in turn depends upon incremental implementation of subarea plans.

The Poway Subarea HCP will be one of the first such subarea plans to be implemented. Poway was the first local jurisdiction within San Diego County to develop a detailed biological database using a Geographic Information System (GIS) for the purposes of resources planning. This database was a significant contribution to the MSCP database for subregional planning and was used intensively for developing this subarea plan.

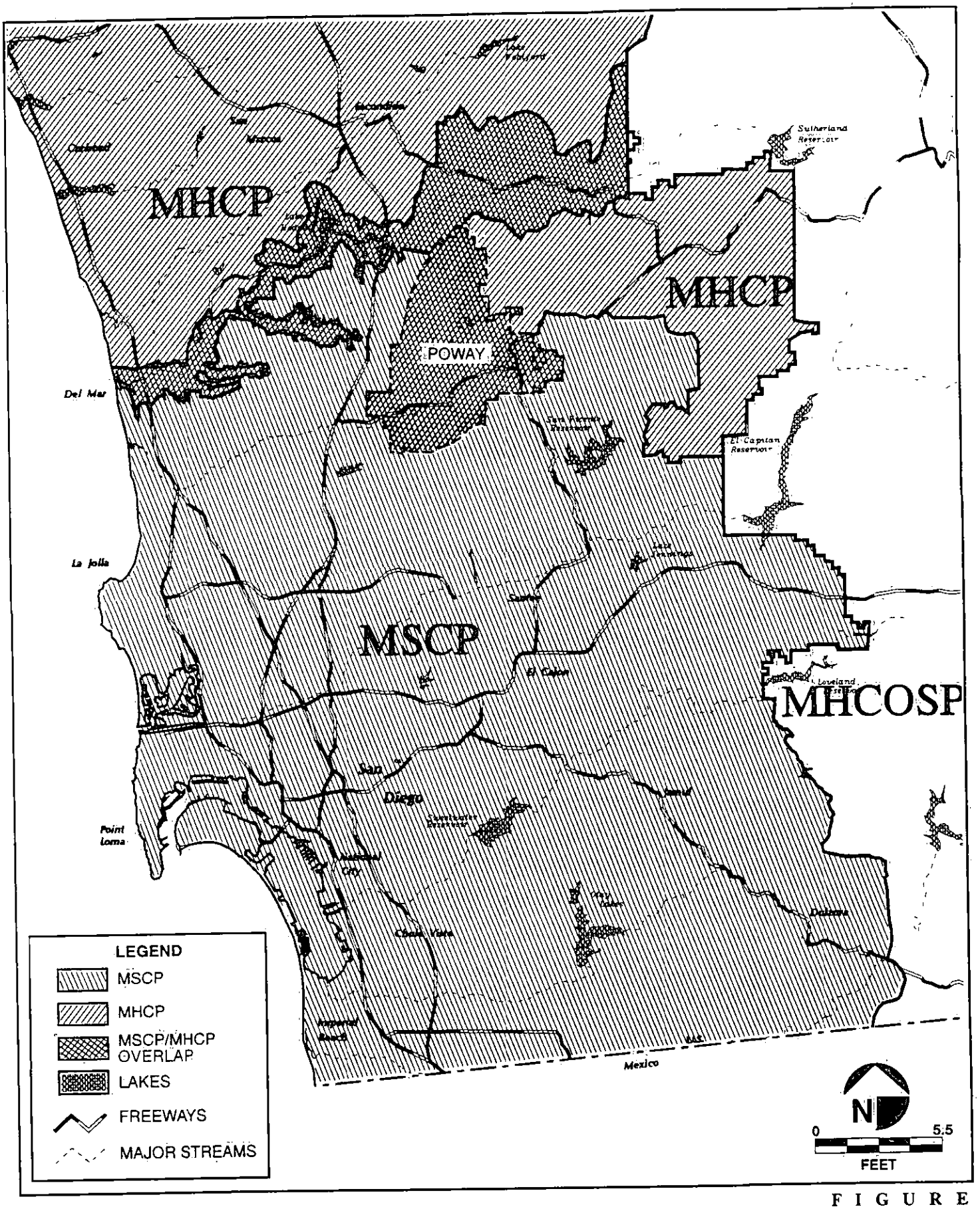
The Poway Subarea lies in an area of overlap between two subregional NCCP plan areas—the MSCP and MHCP areas (Figure 1-1)—and is officially recognized as a subarea by both plans. The various subregional plans were in differing stages of development during the preparation of the Poway Subarea HCP The MSCP was initiated earlier than the MHCP and set the precedent for subregional planning in the area. The Poway Subarea HCP consequently uses the Public Review Draft MSCP document as its guiding, or parent document. Nevertheless, approval of the Poway Subarea HCP is not contingent upon approval of the MSCP or any other subregional plan under the NCCP, although the plan adheres to guidelines established by the MSCP as well as the NCCP Process and Conservation Guidelines. It is also consistent with developing guidelines of the MHCP

The northern edge of the Poway Subarea also overlaps the Focused Planning Area (FPA) for the San Dieguito River Valley Park (SDRVP), whose plan is administered by the SDRVP Joint Powers Authority (JPA). The JPA is represented by those jurisdictions, such as the County of San Diego and the City of Poway, with lands included within the SDRVP FPA. The SDRVP FPA is roughly defined as the San Dieguito River Valley and areas within its viewshed. The objectives of the SDRVP JPA are to create and maintain an open space regional park along the San Dieguito River Valley from Julian to the coast. The Poway General Plan recognizes and coordinates with the SDRVP Appropriately, the Poway Subarea HCP is consistent with the SDRVP goals and will preserve habitat linkages with areas within the SDRVP

1.3 Relationship of the Poway Subarea HCP to the City of Poway General Plan and the Paguay Redevelopment Plan

1.3.1 Goals, Policies, and Implementation Strategies of the General Plan

The General Plan of the City of Poway is a statement of what the City's residents want for their community for the future. It allows the citizens to plan the shape of their City for the foreseeable future and to preserve and enhance those qualities they find most appealing. It



FIGURE

1-1

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Poway Subarea
Regional Location Map

accomplishes this by setting forth broad goals, translating these goals into policy statements, and specifying strategies for accomplishing the objectives of the General Plan. Among the goals stated in the General Plan is the following:

- It is the goal of the City of Poway to preserve its natural, scenic, and cultural resources for the future benefit and enjoyment of its residents and to protect biological and ecological diversity

Specific policy statements pursuant to this goal are further defined concerning scenic areas, waterways, archaeological sites, historical sites, and biological resources. Each policy statement is supported by a series of specific implementation strategies designed to achieve the goal. Sixteen implementation strategies are listed for biological resources. These 16 implementation strategies are codified as parallel mitigation measures incorporated into the FEIR for the General Plan Update, along with a 17th mitigation measure suggested for inclusion by the CDFG regarding endangered and threatened species (Appendix A).

These goals, policies, and implementation strategies (and parallel mitigation measures) of the City of Poway's General Plan provide a firm foundation for this HCP The Poway Subarea HCP builds upon this foundation by adding special development requirements and management guidelines to the General Plan. This HCP refines some of the General Plan implementation strategies to reflect ongoing data collection and analysis and the dynamic regulatory environment. In particular, recommendations for specific areas requiring preservation (Strategies 1, 2, 3, 7, 8, 13, 14), or special land use restrictions (Strategies 5, 6, 8, 15, 16) are refined and focused by the Poway Subarea HCP Furthermore, the Poway Subarea HCP fulfills the mandates of strategies requiring development of habitat management and conservation plans (Strategies 10, 11) and complying with threatened and endangered species and wetlands protection regulations (Strategy 17).

1.3.2 Incorporation of the Subarea HCP into City Planning Documents

General Plan

The Subarea HCP and IA/CESA MOU will be incorporated by reference into the City's General Plan through an amendment to the Poway General Plan. All public projects and all private projects relying on the permits granted in conjunction with the Subarea HCP will be required to be consistent with the Subarea HCP and, hence, the City's General Plan.

Because the General Plan must maintain internal consistency, each relevant General Plan element will reference the Subarea HCP as a component of the General Plan.

Municipal Code

Internal consistency must also exist between the Subarea HCP and the various components of the City's Municipal Code. This requires amendments to incorporate by reference the criteria and development requirements set forth in this Subarea HCP as included in Appendix I of this HCP

Paguay Redevelopment Plan

The Paguay Redevelopment Plan was adopted in December 1983 for the revitalization of approximately 8,200 acres (32.6 percent) of Poway's land area through public and private improvements. Specific objectives of the Paguay Redevelopment Plan focus on eliminating flood hazards, providing adequate sewer capacity, providing an adequate water system, eliminating blighted properties and redeveloping deteriorated properties, eliminating visual blight along Poway Road, eliminating traffic and circulation deficiencies, assembling lots to remove development constraints, and developing new parks and recreational facilities. The planning area includes predominantly developed land and therefore mostly excludes natural habitats important to the Subarea HCP Nevertheless, some of the projects called for by the redevelopment plan may impact biological resources (Section 5) and will require compensation mitigation (Section 7). Implementation of the Poway Subarea HCP will mitigate for these public redevelopment projects.

The updated General Plan and its program EIR were used during the preparation of an amendment to the Paguay Redevelopment Plan and its companion EIR (Evans and Associates, Inc., 1993). Pursuant to State law, the adopted Paguay Redevelopment Plan is consistent with the Poway General Plan. The Poway Redevelopment Agency will adopt a resolution that approves the HCP and IA/CESA MOU and such resolution will state that all Redevelopment Agency projects will be consistent with the requirements of the HCP and IA/CESA MOU

1.4 DELINEATING A MITIGATION AREA

On February 15, 1994, a focused planning area (FPA) was delineated by the Poway City Council to include all lands within the City whose preservation or management may contribute significantly to regional biological conservation. This preliminary FPA was subsequently refined during analyses for the preparation of this HCP to create the Mitigation Area. The resulting Mitigation Area excludes the City's sphere-of-influence (SOI) and General Plan Planning Area (GPPA), since these areas are within the jurisdiction of the County of San Diego and will be covered in the County's subarea planning. However, the SOI and GPPA contain important biological resources and contribute to the subregional biological core and linkage areas presented in the Public Review Draft MSCP document. The habitat values in these unincorporated areas were therefore considered in preparation of this HCP and are discussed in Section 5.6.

The Poway Mitigation Area is based largely on the MSCP database, particularly the MSCP Habitat Evaluation Map. The Mitigation Area includes habitat lands identified as core biological resource areas in the MSCP Plan and included in the MSCP's Multiple Habitat FPA for the Poway area. It also included some lands omitted from the Multiple Habitat FPA that nevertheless support significant habitat value and populations of target species, most notably in the Twin Peaks area of central Poway Although disjunct from core biological resource areas, Twin Peaks supports significant acreages of coastal sage scrub and other native habitats and a population of approximately 18-20 pairs of California gnatcatchers within dispersal distance of core gnatcatcher populations.

The Poway Subarea HCP Mitigation Area was delineated to include mostly large, contiguous areas of habitat, predominantly along parcel boundaries for ease of implementation. Some exceptions to using parcel boundaries occur where open space easements on partially developed parcels are contiguous with the Mitigation Area, such as on Rancho Arbolitos in the Twin Peaks area, the South Poway Planned Community, and the Old Coach Golf Estates Planned Community In these cases, open space easements were created to mitigate for development on portions of the parcels. In such cases, the dedicated open space was incorporated into the Mitigation Area for its biological value, but the developed portions of the parcels were excluded. Other exceptions to using parcel boundaries occur where a portion of a parcel was considered important to overall preserve system function, but the balance of the parcel lacked biological value. For example, a large parcel in northeastern Poway was mostly excluded from the Mitigation Area due to its

predominant land use as an avocado orchard; however, the eastern portion of the parcel supports natural chaparral and coastal sage scrub vegetation and may serve as an important link between natural habitats north and south of the orchard. The portion of the parcel supporting native vegetation was therefore included in the Mitigation Area.

Because of the large area involved in the planning process, the Poway Mitigation Area incidentally include some parcels or portions of parcels lacking natural vegetation or conservation value. Consequently, not all parcels or portions of parcels within them will be dedicated exclusively to habitat preservation. The purpose of the Mitigation Area is to delineate the geographic area within which the ultimate ("hard line") preserve system will be contained; the Mitigation Area is the area within which guidelines for preservation will apply to natural habitats, and the area subject to special development requirements and management guidelines. The final preserve system may be slightly smaller and less inclusive than the Mitigation Area, as it will be defined and implemented at a finer resolution scale. Some low-density residential housing and other low-impact developments will be allowed within the Mitigation Area in exchange for compensating mitigation and adherence to special development requirements and management guidelines. Parcels outside of the Mitigation Area will comply with the Poway Subarea HCP general development requirements and mitigation requirements as presented in Section 7.3 Mitigation for impacts to sensitive resources outside of the Mitigation Area may include payments into a land bank (in-lieu fees) to purchase properties that are recommended for inclusion in the final preserve (Section 5.5).

1.5 PLAN APPROVAL

The Poway Subarea HCP has been reviewed and approved by the USFWS and CDFG. These resource agencies will issue to the City of Poway appropriate authorizations and permits allowing incidental "take" (USFWS) and management take (CDFG) of listed species and authorization for other species that may be listed in the future. The plan is also subject to the normal NEPA/CEQA and public hearing processes required of any planning effort that would lead to an update of the City's General Plan. Although the Poway Subarea HCP is consistent with the Public Review Draft MSCP Plan and is recognized as a subarea plan by both the MSCP and MHCP, no approval of the Poway Subarea HCP is required by any regional or subregional entity

Approval of the Subarea HCP by the City of Poway will be accompanied by a General Plan Amendment, as well as amendments to all pertinent sections of the Municipal Code (e.g., Zoning Development Code, Grading Ordinance), the City Landscape Standards, and the City CEQA Implementation Procedures. An Environmental Assessment/Negative Declaration was prepared to satisfy the NEPA and CEQA requirements for these amendments, and to serve as the basis for the USFWS and CDFG determinations of permit issuance. The City held a public hearing following the public review period of the EA/Negative Declaration. The HCP and all necessary amendment approvals were considered concurrently

The approved Poway Subarea HCP will include an implementing agreement between the City, USFWS, and CDFG pursuant to the NCCP and the ESA (Appendix I) The implementing agreement details how the plan will be implemented and how each signatory will honor the overall agreement reached for the MSCP and MHCP plans. In fulfilling the requirements of these subregional plans of the NCCP, the Poway Subarea HCP also meets the requirements of the special 4(d) rule adopted by the Department of the Interior with the listing of the California gnatcatcher as a threatened species. Consequently, incidental take of the gnatcatcher or its habitat by activities allowed under the plan will not be considered a violation of Section 9 of the federal ESA. Although the Poway Subarea HCP is designed to fulfill requirements of the MSCP and MHCP, approval of the Poway Subarea HCP by the relevant agencies is in no way dependent upon approval of these or any other subregional plans.

The Poway Subarea HCP also serves as a multispecies HCP as called for under Section 10(a)(1)(B) of the federal ESA, as amended in 1982. Acceptance of this Poway Subarea HCP and issuance of a Section 10(a)(1)(B) permit by the USFWS will allow for limited "take" of the listed threatened or endangered species covered by the plan (in addition to the gnatcatcher). Other species considered adequately conserved (covered) by the plan will be automatically added to the permit if they become listed in the future. Acceptance of the plan will likewise result in issuance of a Section 2081 Management Authorization by the CDFG for take of state-listed rare, threatened, or endangered species, and a 2835 Management Authorization for species that may be listed in the future. Listed species and species for which prelisting agreements are requested pursuant to this HCP are presented in Table 1-1 and discussed in Section 8.2.

Table 1-1

SPECIES FOR WHICH SECTION 10(a) PERMITS AND 2081/2835 MANAGEMENT AUTHORIZATIONS ARE REQUESTED*

Common Name	Scientific Name	**Status
San Diego thorn-mint	*Acanthomintha ilicifolia*	C1/CE
Encinitas baccharis	*Baccharis vanessae*	PE/CE
Slender-pod jewelflower	*Caulanthus stenocarpus*	C3/CR
Lakeside ceanothus	*Ceanothus cyaneus*	C2/
Summer-holly	*Comarostaphylos diversifolia* spp. *diversifolia*	C2/
Palmer's ericameria	*Ericameria palmeri* spp. *palmeri*	C2/
San Diego barrel cactus	*Ferocactus viridescens*	C2/
Heart-leaved pitcher sage	*Lepechinia cardiophylla*	C2/
Willowy monardella	*Monardella linoides* spp. *viminea*	C2/CE
San Diego goldenstar	*Muilla clevelandii*	C2/
Narrow-leaved nightshade	*Solanum tenuilobatum*	C2/
Arroyo southwestern toad	*Bufo microscaphus californicus*	FE/SSC
California red-legged frog	*Rana aurora draytonii*	PE/SSC
Southwestern pond turtle	*Clemmys marmorata pallida*	/SSC
San Diego horned lizard	*Phrynosoma coronatum blainvillei*	C2/
Orange-throated whiptail	*Cnemidophorus hyperythrus beldingi*	C2/SSC
Granite spiny lizard	*Sceloporus orcutti*	LC
Coastal western whiptail	*Cnemidophorus tigris multiscutatus*	C2/
Silvery legless lizard	*Anniella pulchra pulchra*	C2/SSC
Coronado Island skink	*Eumeces skiltonianus interparietalis*	C2/SSC
San Diego banded gecko	*Coleonyx variegatus abbotti*	C2/
Coastal rosy boa	*Lichanura trivirgata roseofusca*	C2/
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	C2/SSC
San Diego ringneck snake	*Diadophis punctatus similis*	C2/
Two-striped garter snake	*Thamnophis hammondi*	C2/
Northern red diamond rattlesnake	*Crotalus ruber ruber*	C2/SSC
Bald eagle	*Haliaeetus leucocephalus*	FT/CE
Northern harrier	*Circus cyaneus*	/SSC
Swainson's hawk	*Buteo swainsoni*	CT/
Ferruginous hawk	*Buteo regalis*	C2/
American peregrine falcon	*Falco peregrinus*	FE/CE
Cooper's hawk	*Accipiter cooperii*	/SSC
Golden eagle	*Aquila chrysaetos canadensis*	BEPA/SSC
Southwestern willow flycatcher	*Empidonax traillii*	FE/CE

Table 1-1 (Continued)

SPECIES FOR WHICH SECTION 10(a) PERMITS AND 2081/2835 MANAGEMENT AUTHORIZATIONS ARE REQUESTED

Common Name	Scientific Name	**Status
California gnatcatcher	*Polioptila californica californica*	FT/SSC
Least Bell's vireo	*Vireo bellii pusillus*	FE/CE
California rufous-crowned sparrow	*Aimophilia ruficeps canescens*	C2/
Coastal cactus wren	*Campylorhynchus brunneicapillus couesi*	C3B/
Burrowing owl	*Athene cunicularia*	C2/SSC
Tri-colored blackbird	*Agelaius tricolor*	C2/SSC
Dulzura California pocket mouse	*Chaetodipus californicus femoralis*	C2/SSC
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	C2/SSC
American badger	*Taxidea taxus*	/SSC

*Permits Requested

- Permit for take of federally listed species under Section 10(a) and 4(d) of the Endangered Species Act.
- Management Authorization for take of state-listed species under Section 2081 of the California Fish and Game Code and the California Endangered Species Act.
- Includes prelisting permits and agreements for those species not listed as threatened or endangered by the State of California (Section 2835) or the USFWS.

**Status (Federal/State) as of January 1996

FE = Federally endangered.
PE = Proposed for federal listing as endangered.
FT = Federally threatened.
PT = Proposed for federal listing as threatened.
C1 = Category 1 candidate for federal listing.
C2 = Former Category 2 candidate for federal listing.
C3 = Category 3 candidate for federal listing.
CE = State endangered.
CR = State rare.
CT = State threatened.
SSC = State Species of Special Concern
LC = Local Concern

Note: Additional species may be added to this list upon collection and analysis of new data for the region.

Local Project Approval

Upon adoption of the HCP actions, the City will process public and private project approvals in the customary manner, incorporating the Poway Subarea HCP into their normal project review and approval and CEQA processes. Private property owners proposing clearing or development projects which impact plant species, wildlife species, and associated natural habitats may choose whether to comply with the adopted Poway Subarea HCP or apply for individual authorization from the CDFG and USFWS Once Poway determines that a project plan meets the requirements of the Poway Subarea HCP, the City Planning Department will prepare a check sheet on plan compliance. Project check sheets will be compiled yearly and submitted with an annual report to the wildlife agencies. The report will summarize the City's compliance with the HCP and its progress in implementing the plan and building the final preserve and will include a map and accounting of all habitat areas impacted or preserved during the report period.

Amendments to the Plan

The Poway Subarea HCP can be amended or revised at the mutual agreement of the City of Poway and the wildlife agencies, so long as the revisions further the overall biological goals and objectives of the preserve system. The Subarea HCP recognizes that an "adaptive management" approach is necessary for implementing such a complex land management plan. New information may suggest that changes in preserve boundaries, development requirements, or management actions are necessary to achieve the plan's objectives. In such cases, the City, the wildlife agencies, or affected landowners may initiate discussions regarding amendment or revision of the plan.

At the request of property owners, the Mitigation Area boundary may be revised to include properties that are currently excluded, so long as they contribute to the overall biological value of the preserve. For example, if a parcel contiguous to the existing Mitigation Area is found to support high quality habitat or covered species, the property owner may voluntarily request that the property be added to the Mitigation Area in order to qualify for onsite mitigation rather than offsite mitigation requirements (see Section 6.4). The property owner must then abide by all of the conditions and special development requirements of the HCP (Section 7.3).

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SECTION 2.0
BIOLOGICAL RESOURCES

Undeveloped habitats within Poway support diverse plant and animal communities, including significant populations of the federally threatened California gnatcatcher The Mitigation Area supports relatively large, unfragmented patches of coastal sage scrub, as well as riparian woodland, oak woodland, chaparral, and native and non-native grassland habitats. Native habitats in Poway create regionally significant landscape linkages that extend beyond the City boundaries and are crucial to the formation of a regional habitat network. These links are essential for maintaining natural gene flow and population connectivity for California gnatcatchers in northern and southern San Diego County, and represent significant movement corridors for numerous other wildlife species (ERCE [Ogden] 1991a, 1991b; Ogden 1993, 1994a).

This section summarizes information relevant to designing and managing an effective biological preserve system within Poway Detailed information on specific biological resources can be found in the references cited in Section 2.1

2.1 DATA SOURCES AND LIMITATIONS

Detailed information on the distribution, abundance, and importance of biological resources within the City was developed through the City-wide Detailed Biological Assessment (ERCE [Ogden] 1991a), the Focused California Gnatcatcher Resource Study (ERCE 1991b), and the MSCP programs (Ogden et al. 1992, 1995). This existing information is incorporated by reference and summarized briefly in this section, with additional information added as appropriate. Other information sources used in preparing the Poway Subarea HCP include biological reports prepared after the MSCP database was developed, most notably the biological information associated with the Scripps Poway Parkway project (Ogden 1994a).

The Twin Peaks area of the Mitigation Area was surveyed during preparation of this document to ascertain its relative importance to the Mitigation Area. Ogden biologists conducted focused gnatcatcher surveys of approximately 295 acres of coastal sage scrub in the Twin Peaks area over 4 days in late March and early April 1994 using standard gnatcatcher survey protocols.

The primary limitation of the current Poway database is a lack of systematic biological surveys in certain areas of the City, most notably in the northern and central sections of Poway However, the majority of the City does have at least a nominal level of survey effort, allowing extrapolation of biological values from surveyed areas to adjacent areas lacking surveys. Due to the crucial regional location of Poway and the large expanses of relatively undisturbed habitat, the majority of the City's naturally vegetated areas have been classified by the MSCP as having high or very high biological value (Ogden et al. 1993). These high value areas are included in the Mitigation Area and will be largely preserved by the plan.

2.2 VEGETATION COMMUNITIES

The City of Poway (total size about 25,000 acres) supports approximately 16,678 acres of naturally vegetated habitats, excluding open water and agricultural lands and including nearly 3,000 acres of vegetation mapped as disturbed (e.g., by brushing for approved development projects). Nearly 77 percent (12,809 acres) of the naturally vegetated habitats are included within the Mitigation Area, and 87 percent (11,880 acres) of the non-disturbed habitats are within the Mitigation Area (Table 2-1, Pocket Map 1). The Mitigation Area also contains approximately 87 percent of the coastal sage scrub habitat in the City Those sage scrub and other vegetated areas excluded from the Mitigation Area are mostly in scattered fragments surrounded by existing development, or are already disturbed or approved for development.

The majority of the Mitigation Area supports coastal sage scrub and chaparral vegetation communities (Table 2-1). Other vegetation communities in the area include native and non-native grasslands, riparian vegetation, oak woodlands, and eucalyptus woodland. Coastal sage scrub, native grasslands, oak woodlands, and riparian or other wetland habitats are considered sensitive vegetation communities by regulatory agencies and the City of Poway Although chaparral vegetation is not considered sensitive as a vegetation community type, it provides habitat for many target species of plants and wildlife and interconnects areas of sensitive vegetation as part of the natural vegetation mosaic of the area.

The majority of coastal sage scrub in the area is in a wide swath extending from the southeastern portion of the Mitigation Area, northwesterly to its northern tip. This nearly continuous swath of *Artemisia californica*-dominated coastal sage scrub, in mosaic with chaparral and other native vegetation, forms a significant link between sage scrub habitats

Table 2-1

EXTENT OF VEGETATION COMMUNITY TYPES WITHIN THE CITY OF POWAY AND THE MITIGATION AREA

Vegetation Type	Extent of Vegetation in Acres		Percent (%) in Mitigation Area
	City of Poway	Mitigation Area	
Coastal Sage Scrub	6,667.6	5,770.5	86.5
Disturbed Coastal Sage Scrub	544.8	326.1	59.9
Chaparral	4,978.1	4,616.4	92.7
Disturbed Chaparral	16.6	6.7	40.7
Coastal Sage Scrub–Chaparral Scrub	89.5	89.5	100.0
Baccharis Scrub	0.6	0.6	100.0
Coast Live Oak Woodland	262.5	225.6	86.0
Southern Coast Live Oak Forest	212.7	210.1	98.8
Disturbed Southern Coast Live Oak Forest	111.6	53 7	48.1
Eucalyptus Woodland	33.2	32.1	96.7
Southern Cottonwood Willow Riparian Forest	1 7	1 7	100.0
Coast Live Oak	0.1	0 1	100.0
Southern Sycamore Riparian Woodland	9.6	9.5	100.0
Freshwater Marsh	4 0	0.5	12.2
Disturbed Floodplain	23.1	22.7	98.3
Mulefat Scrub	12.7	8.1	63.9
Disturbed Mulefat Scrub	37.6	0.7	1.8
Southern Willow Scrub	47.6	24.9	52.3
Disturbed Southern Willow Scrub	8.1	0.0	0.0
Wet Meadow	0.4	0.4	100.0
Pond	0 1	0 1	100.0
Nonnative Grassland	578.8	418.9	72.4
Native Grassland	70.4	61.5	87 4
Disturbed Habitat	2,968.0	926.6	31.3
Agriculture	828.1	103.0	12.4
Open Water	68.8	65.0	94 4
Developed	7,424.33	330.8	4.5
TOTAL	25,000.2	13,307.6	53.2

north and south of Poway. Higher elevations east of this swath are dominated by chaparral communities. Other important areas of coastal sage scrub are found in the southern portion of the Mitigation Area around the South Poway Planned Community and Van Dam Peak, and in the central portion in the Twin Peaks area. Scattered stands of coastal sage scrub are also found in the largely urbanized areas of central and western Poway, outside the Mitigation Area. Although these habitat fragments are too small and isolated to warrant inclusion in the Mitigation Area (i.e., they add little to overall biodiversity and are unlikely to support populations of target species), they nonetheless may help facilitate gnatcatcher dispersal between larger habitat areas within the Mitigation Area (see Section 2.4).

Most of the grassland vegetation occurs in the southern portion of the Mitigation Area on the slopes between Poway Creek and the South Poway Planned Community Other notable patches of grassland occur along Highway 67 in the east. Much of the grassland in the Mitigation Area is dominated by non-native, annual grasses and weedy forbs; however, significant stands of native *Stipa* grasslands occur in the south Poway area, north of the South Poway Planned Community.

Various types of riparian vegetation, including both scrub- and oak-dominated associations, are scattered along drainages throughout the Mitigation Area, most notably along Sycamore Creek, Thompson Creek, and Green Valley Creek in the northern portion of the Mitigation Area; Rattlesnake Canyon and Warren Creek in the central portion; and Beeler Creek and Poway Creek, including its various forks, in the southern portion. Much of this vegetation is relatively undisturbed, except where creeks flow through developed areas. For example, the western portions of Poway and Beeler creeks support disturbed riparian scrub and oak riparian forest. The portion of Los Peñasquitos Creek within the southwestern corner of the Mitigation Area also supports disturbed oak riparian forest.

2.3 TARGET SPECIES

Lists of "target species" were established as part of the MSCP and MHCP processes to guide development of these multiple species preserve systems. Target species include those plants and animals known or potentially occurring in the planning region that are listed as threatened or endangered by state or federal agencies, or are likely to be listed in the future (e.g., candidate species). They also include non-sensitive species that are considered indicators of habitat quality or are otherwise important to preserve design, for

example, wide-ranging species for which habitat linkages and corridors must be maintained to ensure their survival.

A target species list was also established for the Poway Subarea HCP (Table 2-2) to ensure adequate coverage of the regional flora and fauna in the plan. The list is based on the MSCP and MHCP target species lists, excluding those species not found within Poway It also includes a few species not found on the MSCP and MHCP lists that are considered locally important habitat indicators in Poway For example, the granite night lizard, a species of local concern, requires large granite outcrops in chaparral or chaparral/coastal sage scrub communities. It is common in the rocky, upper elevations of the Mitigation Area, such as Mt. Woodson, and was chosen as a good indicator species of this scenic and important habitat type in the region.

2.3.1 Species Accounts

Detailed discussions of most of the target species can be found in the MSCP and MHCP documents and are not repeated here. The following species descriptions are for those species not found on the MSCP and MHCP lists.

Xantusia henshawii henshawii
Granite night lizard
No official sensitive status; a species of local concern

Granite night lizards are small, spotted lizards that are vertically compressed as an adaptation to crevice dwelling. They are locally common on outcrops of exfoliating granite, where they live under the rock flakes and in the narrow crevices. Night lizards are most active at dawn and dusk, but rarely stray far from their dwellings. The species is found from the coastal slope to the desert at elevations of 200-4,000 feet The primary threat to the species is the destruction of habitat by reptile collectors and development. They are common on the boulder slopes of eastern Poway, notably around Mt. Woodson.

Table 2-2

POWAY SUBAREA PLAN TARGET SPECIES LIST

Species Symbol	Common Name	Scientific Name	Status*	Group**	Habitat***
Plants					
AI	San Diego thorn-mint	*Acanthomintha ilicifolia*	C1/CE	1	G, CSS, CHP
AP	San Diego ambrosia	*Ambrosia pumila*	C2/	2	CSS, Bluff scrub
BV	Encinitas baccharis	*Baccharis vanessae*	PE/CE	1	CHP
BO	Orcutt's brodiaea	*Brodiaea orcuttii*	C2/	2	G, VP, seeps, wet meadows
CS	Slender-pod jewelflower	*Caulanthus stenocarpus*	C3/CR ****	1	burned CHP
CC	Lakeside ceanothus	*Ceanothus cyaneus*	C2/	2	CHP
CY	Summer-holly	*Comarostaphylos diversifolia spp. diversifolia*	C2/	2	CHP
DV	Variegated dudleya	*Dudleya variegata*	C2/	2	CSS
EP	Palmer's ericameria	*Ericameria palmeri ssp. palmeri*	C2/	2	Riparian (edges), CSS
FV	San Diego barrel cactus	*Ferocactus viridescens*	C2/	2	CSS
GD	Mission Canyon bluecup	*Githopsis diffusa ssp. filicaulis*	C2/	2	CSS
IH	San Diego marsh-elder	*Iva hayesiana*	C2/	2	FWM
LC	Heart-leaved pitcher sage	*Lepechinia cardiophylla*	C2/	2	CHP
ML	Willowy monardella	*Monardella linoides ssp. viminea*	C2/CE	1	RS, washes/floodchannel
MC	San Diego goldenstar	*Muilla clevelandii*	C2/	2	G, CHP (openings)
ST	Narrow-leaved nightshade	*Solanum tenuilobatum*	C2/ ****	2	CHP
Invertebrates					
HB	Hermes copper butterfly	*Lycaena hermes*	C2/	1	CSS, CHP
WC	Quino checkerspot butterfly	*Euphydryas editha quino*	PE/	1	CSS, VP, NG
Amphibians and Reptiles					
AA	Arroyo southwestern toad	*Bufo microscaphus californicus*	FE/SSC	1	CSS, CHP, near water (breeding)
WT	Southwestern pond turtle	*Clemmys marmorata pallida*	C2/SSC	2	Aquatic/Riparian
HL	San Diego horned lizard	*Phrynosoma coronatum blainvillei*	C2/SSC	2	CSS, CHP
OW	Orange-throated whiptail	*Cnemidophorus hyperythrus beldingi*	C2/SSC	1	CSS, CHP, G
GL	Granite night lizard	*Xantusia henshawi henshawi*	none	4	Granite boulders in CHP, CSS/CHP

Table 2-2 (Continued)

POWAY SUBAREA PLAN TARGET SPECIES LIST

Species Symbol	Common Name	Scientific Name	Status*	Group**	Habitat***
Birds					
BE	Bald eagle	*Haliaeetus leucocephalus*	FT/CE	1	Open Water
NH	Northern harrier	*Circus cyaneus*	--/SSC	4	G, SM, Ag
CH	Cooper's hawk	*Accipiter cooperii*	--/SSC	4	OW (breeding), RW
GE	Golden eagle	*Aquila chrysaetos*	BEPA/SSC	3	CSS,CHP,G,cliffs (breeding), Ag fields
WF	Southwestern willow flycatcher	*Empidonax traillii*	PE/CE	1	RW
CG	California gnatcatcher	*Polioptila californica*	FT/SSC	1	CSS
WB	Western bluebird	*Sialia mexicana*	none	4	OW (edges, sparse phase), G
LB	Least Bell's vireo	*Vireo bellii pusillus*	FE/CE	1	RW, RF
RP	California rufous-crowned sparrow	*Aimophilia ruficeps canescens*	C2/	2	CSS, rock outcroppings
GS	Grasshopper sparrow	*Ammodramus savannarum*	none	4	G
BZ	Bell's Sage sparrow	*Amphispiza belli belli*	C2/SSC	2	CSS, CHP
Mammals					
BB	Townsend's western big-eared bat	*Plecotus townsendii townsendii*	C2/SSC	2	Caves, crevices
CB	California mastiff-bat	*Eumops perotis californicus*	C2/SSC	2	Caves, crevices
	Dulzura California pocket mouse	*Chaetodipus californicus femoralis*	C2/SSC	2	CSS,CHP,G
	Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	C2/SSC	2	CSS,CHP,G
	Southern grasshopper mouse	*Onychomys torridus romona*	C2/SSC	2	Sparse CSS, G
BA	American Badger	*Taxidea taxus*	--/SSC	4	G
LI	Mountain lion	*Felis concolor*	--/protected	3	CSS, CHP, RW, OW
MD	Mule deer	*Odocoileus hemionus*	--/game species	3	CSS, CHP, RW, OW

Table 2-2 (Continued)

POWAY SUBAREA PLAN TARGET SPECIES LIST

*Status (Federal/State) as of January 1996
FE = Federally endangered.
PE = Proposed for federal listing as endangered.
FT = Federally threatened.
PT = Proposed for federal listing as threatened.
C1 = Category 1 candidate for federal listing.
C2 = Category 2 candidate for federal listing.
C3 = Category 3 candidate for federal listing.
BEPA = Bald Eagle Protection Act
CE = State endangered.
CR = State rare.
CT = State threatened.
SSC = State Species of Special Concern
Protected = by special state legislation

***Habitat
CSS - coastal sage scrub
CHP - chaparral
S. maritime CHP - southern maritime chaparral
G - grassland
NG - native grassland
VP - vernal pool
OW - oak woodland
RW - riparian woodland
RS - riparian scrub
RF - riparian forest
FWM - freshwater marsh
AG - agricultural

**Group
1 = All federal and state listed species, category 1 species, species proposed for listing, and NCCP target species.
2 = Former Federal category 2 species.
3 = Species important to preserve design.
4 = Habitat indicator species.

****Under consideration for deletion from the list. Taxonomic revision in latest revision of CNPS list; resources agencies reviewing status.

Note: On vegetation maps, plant codes are shown in italics and animal codes are shown in regular type.

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Chaetodipus [Perognathus] californicus femoralis
Dulzura California pocket mouse
USFWS Candidate (Category 2)

The range of this subspecies extends from north of the Santa Margarita River mouth to northern Baja California, and as far east as Dulzura in San Diego County (Hall 1981). It generally occurs in coastal sage scrub, chaparral, woodlands, and grasslands, often at the scrub-grassland interface. Much of the suitable habitat within the small range of the Dulzura California pocket mouse has been converted to urban and agricultural uses and the remainder is vulnerable to similar conversion. Dulzura pocket mice have been live-trapped in coastal sage scrub habitat north of Beeler Creek (Ogden 1994, unpublished data).

2.3.2 Abundance of California Gnatcatcher in Poway

Poway supports approximately 7,300 acres of coastal sage scrub habitat, including mixed coastal sage scrub/chaparral vegetation. Approximately 87 percent (6,186 acres) of this coastal sage scrub is found within the Mitigation Area, including all of the larger blocks of coastal sage scrub in the City A total of 177 gnatcatcher localities have been documented within Poway, approximately 85 percent of them (150) within the Mitigation Area (Ogden GIS database). Using winter gnatcatcher home range size of 29 to 41 acres (Ogden 1992) to provide a conservative measure of population density, the Poway gnatcatcher population is estimated at between 178 and 252 pairs, with 151 to 213 pairs likely to be supported in the Mitigation Area. This population is currently linked to others in the region (e.g., southeast and northwest of Poway). Consequently, this population is likely to persist given the protection afforded in this plan, provided that existing coastal sage scrub linkages with other jurisdictions are not compromised. In the Twin Peaks area, gnatcatchers were detected at a total of 19 localities, representing a minimum of 18 territories. Sage scrub habitat without documented gnatcatcher occupation could potentially support additional gnatcatcher pairs.

2.4 HABITAT LINKAGES AND WILDLIFE CORRIDORS

Linkages are habitat connections that allow for wildlife movement, recruitment, and colonization between larger blocks of contiguous habitat. Wildlife corridors are related features that can be defined as linear linkages that facilitate animal movements across the landscape or between larger habitat blocks. Linkages and corridors can be defined at

various scales. Regional wildlife corridors, defined at a landscape scale, allow for large-scale migration, dispersal between biological core areas, and genetic interchange among populations. Local corridors, defined at a finer resolution, may facilitate the daily movements of individual animals or allow dispersal and genetic exchange for less mobile species. This section addresses important regional and local linkages or corridors that should be preserved by the Poway Subarea HCP It also discusses potential "stepping stone" linkages that may aid dispersal of gnatcatchers between populations where urbanization has left fragments of sage scrub habitat between larger, intact habitat areas. These stepping stones, while not included in the Mitigation Area, may play a potential role in facilitating gnatcatcher dispersal.

The Detailed Biological Assessment (ERCE 1991) and the Poway General Plan (Poway 1991) recognize two regional wildlife corridors through Poway and into adjoining jurisdictions: 1) a north-south corridor from the San Dieguito River north of Poway to the Sycamore Canyon area south of Poway; and 2) an east-west corridor from the mountainous country around Iron Mountain and Goat Peak to Los Peñasquitos Creek, via Beeler and Poway creeks and adjoining habitats (Figure 2-1). The north-south corridor follows the predominant swath of coastal sage scrub through the Mitigation Area, and is an essential habitat linkage for California gnatcatchers, among other species (ERCE 1991). The east-west corridor facilitates movements of such large mammals as deer and mountain lions through the region; connects the eastern mountainous habitats to western lowland habitats, and ultimately to the sea via Los Peñasquitos Canyon and Torrey Pines State Reserve; and allows for dispersal of gnatcatchers between populations at Van Dam Peak in the west, around the South Poway Planned Community, and in the larger swath of sage scrub in the eastern portion of the Mitigation Area.

Regional wildlife corridors can be viewed as consisting of numerous local corridors which, together, contribute to regional habitat connectivity and wildlife movement. The Poway Subarea HCP ensures the integrity of these two regional corridors by preserving the local connections that comprise them. In some areas, local connections comprising portions of the regional corridors are constrained by encroaching development or existing land uses, thus representing "bottlenecks" in the regional corridor system (Figure 2-1) These constrained or bottleneck connections are given high priority for preservation and possible enhancement in the Poway Subarea HCP to ensure their continued viability (Section 5.5).

FIGURE 2-1

Wildlife Movement Corridors in Poway and Vicinity

OGDEN

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Some local wildlife movement may occur across "stepping stone" corridors where habitat linkages have already been fragmented by development (Figure 2-1). Scattered fragments of coastal sage scrub habitat, from less than one to greater than 20 acres in size, remain in the urbanized, western portions of Poway outside of the Mitigation Area. These fragments may facilitate dispersal by California gnatcatchers and other sensitive bird species between more substantial habitat areas in the eastern portion of the Mitigation Area and around Van Dam Peak and Twin Peaks. Thus, while these fragments may not support populations of sensitive species by themselves, they may help sustain the larger "metapopulation" of gnatcatchers in the Poway area. The effects of developing these coastal sage fragments outside of the Mitigation Area on gnatcatcher dispersal and populations are unknown. Gnatcatchers may continue to disperse to and from the Twin Peaks and Van Dam Peak areas even if the stepping stones were removed. Recent studies and observations related to gnatcatcher dispersal suggest that gnatcatchers cross developed areas to reach isolated habitat islands. At least 9 of 29 banded gnatcatchers that were resighted after banding in the Rancho San Diego area along the Sweetwater River had dispersed through highly man-modified areas (Ogden 1994c). Although maximum dispersal distances across developed areas are difficult to document, distances exceeding one half mile have been recorded between highly fragmented habitat patches on the Palos Verdes Peninsula (Atwood et al. 1994). Results of these studies are consistent with observations of gnatcatchers in habitats isolated by development on Point Loma, along Tecolote Canyon, in La Jolla, on Rattlesnake Mountain in Santee, in the Home Avenue area at I-805, and at the Home Depot site in Encinitas (P Mock, personal communication).

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SECTION 3.0
PRESERVE DESIGN CONSIDERATIONS

The Poway Subarea HCP uses the Public Review Draft MSCP Plan as a guiding document; hence, its objectives and criteria for designing and managing the preserve are consistent with those outlined in the MSCP (Ogden et al. 1995) However, important distinctions must be made when focusing down from the subregional to the subarea level of preserve planning, and general concepts of preserve design and management must be tailored to the unique conditions of each subarea. This section extracts the relevant preserve design considerations from the Public Review Draft MSCP Plan and tailors them to the particular biological, physical, and land use attributes of the Poway Mitigation Area. General theoretical considerations serving as foundations for preserve design are discussed extensively elsewhere (e.g., Ogden et al. 1995, USFWS 1994, Scientific Review Panel 1993) and are not repeated here.

Section 3.1 reviews the biological objectives of the subarea preserve. Section 3.2 summarizes some of the unique aspects of the Poway Subarea that must be considered in meeting these objectives. Section 3.3 defines some important components of preserve systems—such as core areas, linkages, and buffers—and tailors them to Poway's unique setting. Section 3 4 discusses the biological criteria by which the adequacy of the plan should be judged, based on all of the preceding considerations.

3.1 BIOLOGICAL PRESERVE OBJECTIVES

The major biological objectives of the Poway Subarea HCP are similar to those of its parent subregional plans (MSCP, MHCP):

- **Maintain functional ecosystems within the Poway Subarea.** The preserve system should be rich in regional biological diversity and maintain all extant native species in self-sustaining landscapes. The fundamental patterns and processes present and operating within natural ecosystems (e.g., habitat dispersion, ecological succession, genetic interchange, natural selection) should be maintained in perpetuity Elements of structural diversity, such as topographical relief, vegetative cover and diversity, permanent water sources, soil types, and rock outcroppings, should occur in the conditions, amounts, and patterns found in existing natural systems.

- **Maintain viable populations of target species.** The target species list for the Poway Subarea HCP was chosen to include those species considered most at risk of local or regional extirpation, as well as those that serve as "umbrella species" (Noss 1990) for others requiring similar habitats. Umbrella species are surrogates that serve as indicators of ecosystem health and the health of other species' populations, such that if the umbrella species is adequately protected, others with similar ecological requirements will benefit as well. It would be infeasible to design or manage the preserve system based on the specific requirements of all species occurring in the Mitigation Area. However, by designing and managing the preserve system and monitoring its success based on sensitive and umbrella species, the majority of species in the Mitigation Area should benefit. Thus, an objective of the Poway Subarea HCP is to provide for the long-term survival of target species to ensure continued persistence of rare species and regional biodiversity

- **Maintain functional wildlife corridors and habitat linkages within Poway as well as between Poway and adjoining jurisdictions.** Wildlife habitat patches should be linked by functional corridors to minimize problems associated with habitat fragmentation (Dickman 1987, Saunders et al. 1991, Rolstad 1991). Whenever possible, corridors should be of high quality habitat and of the same habitat type as the areas they connect. These landscape linkages are essential as pathways for genetic and demographic interchange. They are also important for facilitating daily, annual, and seasonal movements and, for some species, permitting dispersal to breeding and foraging areas. Existing linkages should be maintained within Poway, and linkages or corridors that are currently constrained (e.g., by existing development) should be prioritized for acquisition and enhancement, if necessary, to preserve or increase their value to wildlife. Where habitat linkages or corridors cross Poway's boundaries into adjoining jurisdictions, portions within Poway should be preserved and the adjoining jurisdictions should be encouraged to complete the cross-border linkages in order to create a regional preserve network.

- **Maintain the full range of vegetation communities and successional phases, with particular focus on maintaining or enhancing habitats considered rare, sensitive, or declining.** The

preserve system should include sufficient quantities of all native vegetation communities occurring within the plan area to ensure their representation and persistence in the area and to allow natural patterns of disturbance, dispersal, and succession to continue. Vegetation communities and habitat types that are rare or ecologically important should receive special protection. Remaining riparian habitats should be preserved in their entirety due to their rarity, habitat value to numerous wildlife and plant species, and use as movement corridors and habitat linkages. At least 80 percent of the remaining coastal sage scrub habitat should be preserved to protect the numerous sensitive plant and animal species dependent upon them. Some rare or sensitive habitat areas that have been degraded by past activities should be restored or enhanced, with priority given to areas in strategic locations within the preserve (e.g., constrained habitat linkages).

Two further objectives of the Poway Subarea HCP are to:

- **Preserve options for cross-border preserve design to ensure coordination of the subarea plan with adjoining subarea plans within the larger regional and subregional context.** Many ecosystem patterns and processes persist and function at larger geographic scales than can be accommodated within an area the size of Poway Hence, many of the above objectives cannot be fully met within the confines of Poway without concomitant preservation of contiguous areas in adjoining jurisdictions. For example, Poway is too small to support viable populations of some animal species if natural migration of individuals between populations in Poway and other areas became disrupted. Likewise, such ecological processes as disturbance (e.g., by fire) and successional recovery do not recognize jurisdictional boundaries, and generally operate on larger spatial and temporal scales than can be accommodated within a subarea plan.

- **Avoid checkerboard development that increases habitat fragmentation and edge effects in preserve areas.** The most viable preserves consist of large, contiguous areas with minimal edge-to-area ratios. Checkerboard development, or a pattern where development is scattered throughout otherwise open spaces, increases the edge-to-area ratio in the open space, and may lead to isolation of habitat fragments. Increased edge-to-area

ratios result in greater human intrusion and concomitant habitat degradation in preserves; greater spreading of exotic species into preserve areas; and decreases in large predators (e.g., coyotes and mountain lions) and increases in "mesopredators" (e.g., skunks, opossums and raccoons) that prey more heavily on small target species or their nests (Soule et al. 1988). Scattered housing also increases the movements of house cats, which travel across open spaces from house to house and may prey heavily on target species, particularly if larger predator populations are reduced (Spencer and Goldsmith 1994) Checkerboard development may also make habitat management more difficult in preserve areas. For example, fire management for habitat improvement becomes more difficult if scattered development increases fire safety concerns. Checkerboard development should therefore be discouraged in favor of clustered development sited adjacent to existing development to maximize the extent and contiguity of preserve areas and minimize edge effects.

3.2 Special Considerations in Poway

The Draft MSCP guidelines for subarea planning are flexible to accommodate the unique settings and characteristics of each subarea. The following factors contribute to the distinctive nature of the Poway Mitigation Area and must be considered in designing the preserve:

- **The City of Poway is largely built out.** Nearly all areas within Poway's jurisdiction that are designated for high impact development under the City's General Plan (e.g., commercial, planned community, or high density residential) have already been cleared of natural vegetation and habitat value, and nearly all of the remaining undeveloped areas are zoned for open space or low density, rural residential uses. Thus, conflicts between preservation of biological resources and existing zoning regulations and recommendations are minimized in Poway. However, checkerboard development of scattered rural residential housing could compromise preserve design in some areas under existing zoning and regulation.

- **Nearly all of the MSCP core area for Poway is in the Poway Mitigation Area.** Much of the remaining natural vegetation within Poway was delineated as core preserve area in the Public Review Draft MSCP Plan.

Nearly all of this MSCP core area is included within the Poway Mitigation Area, which also includes additional areas of natural vegetation that may be important to overall preserve function or are recognized as locally important because of the sensitive resources they support.

- **Existing protection for sensitive biological resources is already relatively strong in Poway.** Many of the City's existing plans, ordinances, and development regulations are tailored to preserve the City's natural resources by guiding development away from sensitive resources such as natural habitat and hillsides. Implementation of existing plans and ordinances, such as the City's General Plan and zoning ordinance (discussed in more detail in Section 4.0), historically minimized disturbance of sensitive biological habitat in Poway or required appropriate purchase of mitigation habitat, which represents some of the preserved cornerstone lands in the Mitigation Area. These existing plans, ordinances, and development regulations, strengthened by the special development requirements in the Poway Subarea HCP, serve as a foundation for building Poway's preserve system.

- **Poway retains a significant degree of habitat connectivity, but some linkages are constrained.** Remaining natural habitats in the Poway Mitigation Area are relatively continuous, with less fragmentation than many other jurisdictions in the MSCP and MHCP subregions. The majority of coastal sage scrub vegetation in the Mitigation Area forms an almost continuous band, in mosaic with chaparral and other habitat types, across the eastern half of the Mitigation Area. However, this swath of natural habitats is constrained by development bottlenecks, which threaten to fragment it unless key parcels are protected. Other important habitat areas, such as Twin Peaks and Van Dam Peak, are already largely isolated as large fragments; and other linkages or wildlife corridors, such as around the South Poway Planned Community and Los Peñasquitos Creek, are fragmented or constrained by surrounding development. These regional habitat linkages require further protection or enhancement to ensure the integrity of the regional preserve system.

- **Existing open-space zoning protects large acreages within the Mitigation Area, but some important habitat types and areas are under-represented.** Poway's existing zoning protects significant acreages of

native habitats under the Open Space-Resources Management (OS-RM) designation. However, these areas are dominated by chaparral, primarily at upper elevations and on steep slopes along the eastern border of the Mitigation Area. Most of the sensitive coastal sage scrub, oak woodland, and riparian vegetation is not included in publicly or privately owned preserve areas; and lower elevations and flatter slopes are under-represented in areas currently protected by existing zoning ordinances. While the publicly-owned, OS-RM parcels form a viable "spine" for a preserve system, additional areas need to be added, primarily to ensure representation of coastal sage scrub and other sensitive habitats, habitat connectivity, and habitats on lower, flatter slopes.

3.3 BIOLOGICAL PRESERVE COMPONENTS

For preserve design and management, shifting from the regional (NCCP) and subregional (MSCP) realms to subarea planning requires careful refinement of scale issues. Definitions of such basic preserve concepts as core area, habitat linkage, and buffer zone may vary with scale. For example, a core preserve area delineated at the subregional scale may include some disturbed habitat areas having little biological value when viewed at the subarea scale. Before describing biological criteria for preserve design in the Poway Subarea HCP, this section attempts to clarify some of these issues of preserve component scale and to define preserve terminology used in this document.

3.3.1 Core Preserve Areas

According to the Public Review Draft MSCP Plan (Ogden et al. 1995),

> Core areas are defined as areas supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be mitigated elsewhere.

Furthermore, core areas "should be the basis for designing the preserve system boundaries" as part of the subarea planning process.

The MSCP delineated 16 core biological resource areas (also known as core areas). Some of the core areas are immediately contiguous, and others are connected by more tenuous "constrained habitat linkages" (see below). Nearly all of the Poway Mitigation Area is included within core area 11 (Central Poway/San Vicente Reservoir/North Poway) of the

MSCP Thus, at the subregional scale, nearly all of the Poway Mitigation Area consists of one core area. However, core areas can also be delineated at a finer resolution within the Mitigation Area to focus on its most sensitive habitats or on areas deemed essential for achieving the plan's biological goals.

The Preserve Analysis and Preserve Design Maps (Pocket Maps 2 and 3) illustrate core and linkage areas in the Poway Subarea Mitigation Area. For this document, core areas are defined as contiguous blocks of habitat larger than 200 acres that support one or more of the following: 1) predominantly coastal sage scrub vegetation, 2) unique or exceptional examples of nonsensitive habitats that are relatively undisturbed, or 3) generally nonsensitive habitat areas that support large numbers or diversity of target species. Thus, although most of the core areas delineated in the Poway Subarea HCP contain predominantly coastal sage scrub communities, the large, relatively undisturbed areas of boulder-strewn chaparral in eastern Poway are also recognized as core areas due to their diversity of wildlife, support of target species (e.g., granite night lizard, golden eagle, mountain lion, Encinitas baccharis), and role in contributing to overall ecosystem function. Some areas of coastal sage scrub or otherwise sensitive or unique habitat areas are not included as core areas, mostly due to severe edge effects. For example, some of the narrow "peninsulas" of sage scrub surrounded by development along the eastern edge of urban Poway may contribute to the total population of gnatcatchers and other sage-scrub dependent species, but they represent "dead end" linkages and are highly susceptible to indirect impacts from adjoining developed areas. Loss of these fragmented areas of sage scrub would not severely jeopardize the objectives of the Poway Subarea HCP

Publicly owned lands in the Mitigation Area that are chiefly devoted to protection of biological resources are termed "cornerstone lands." Cornerstone lands are not synonymous with core areas, although some cornerstones in the Poway Mitigation Area protect core areas or portions of core areas (see Section 5 1).

3.3.2 Habitat Linkages

Linkages are habitat connections that allow for wildlife movement, recruitment, and colonization between core areas. As used in the MSCP, linkages are regional in extent and consist primarily of undeveloped corridors through urbanized areas that interconnect the MSCP core areas. However, linkages can be defined at the finer resolution of a subarea plan as well, for example, to form connections between habitat patches through otherwise

disturbed habitat areas. Linkages may also exist between habitats in the Mitigation Area and habitats in adjoining jurisdictions. In this document, habitat linkage is used as a general term that can operate at any scale, thus including local habitat linkages and wildlife movement corridors (e.g., within the Mitigation Area), as well as regional linkages and corridors (e.g., between core areas in adjoining Mitigation Areas). Pocket Maps 2 and 3 illustrate the biological core and linkages recognized in the Poway Subarea HCP

3.3.3 Wildlife Corridors

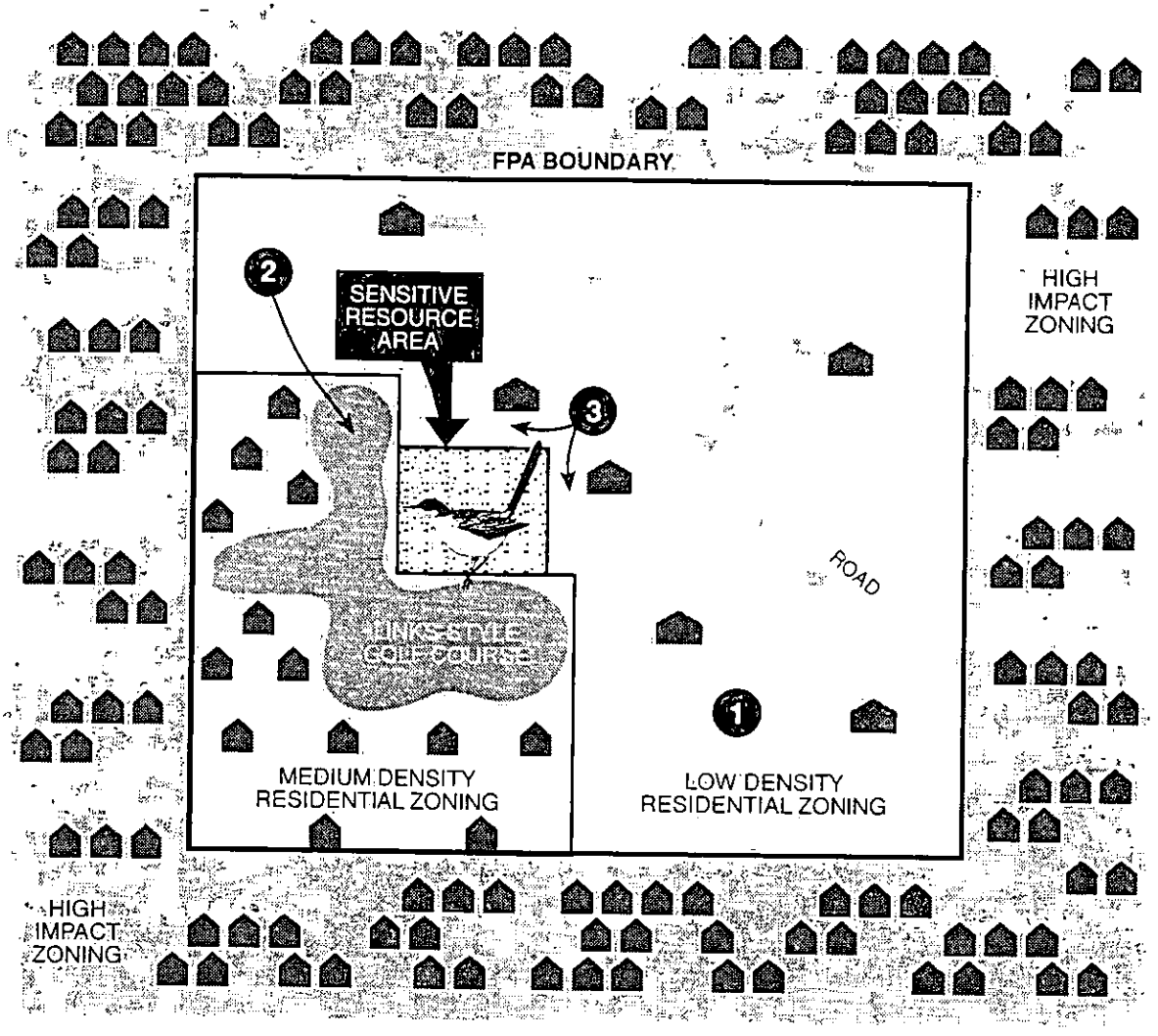
Wildlife corridors are more-or-less linear vegetational or topographic features that facilitate movement of wildlife from one large habitat patch to another, or between habitat and geographically discrete resources, such as water Although the term wildlife corridor is often used synonymously with habitat linkage, corridors represent a subset of linkages in that linkages can include any habitat connections, while corridors are generally considered narrow linkages that serve as pathways or funnels through which animals travel from one place to another.

Corridors, like linkages, can be arbitrarily divided into regional and local scales. Regional corridors link two or more large areas of natural open space and are necessary to maintain demographic and genetic exchange between populations residing in these distinct areas. Movements through regional corridors would consist primarily of migration or dispersal by an animal to a new home range. Local corridors allow resident animals access to necessary resources (such as food, water, and den sites) within their daily home ranges.

In the Poway area, wildlife corridors consist primarily of canyons or drainages that facilitate movement of larger mammals, such as deer and mountain lions, through disturbed, developed, or otherwise inappropriate habitats. Corridors may also be along ridgetops where deer, coyotes, mountain lions and other animals develop trails.

3.3.4 Buffers

"Buffers are land areas that border preserves and provide a transition from human disturbances in developed areas and the protected preserve habitats" (Ogden et al. 1995). Buffer concepts can be viewed at three spatial scales, which correspond loosely with three levels of land use planning or ordinance mechanisms (Figure 3-1). All three scales are included in the discussion of buffers in the Public Review Draft MSCP Plan, without



1. **Zoning Buffer** - Surrounds preserve cornerstones with low density rural residential zoning and conservation overlay
2. **Land-Use Buffer** - Places low-impact land uses between sensitive resource areas and higher impact land uses
3. **Minimum Set-Back Buffer** - Proposes set-back guidelines between development footprints and sensitive resource areas

OGDEN

Buffer Concepts Applied to the Poway Subarea HCP

FIGURE 3-1

explicit differentiation. However, it is important to clearly define these scales in the subarea plan because of differences in how they are implemented in the land use planning and approval process.

At the grossest scale, buffers can be viewed as areas adjacent to biological preserves that are zoned for relatively low-impact land uses, thus providing a transition from high human disturbances in developed areas to low disturbance in the preserve habitats. The primary mechanism for implementing buffers at this scale is land use zoning. Nearly all (about 83 percent) of the land in the Poway Mitigation Area not zoned as open space is zoned for rural residential land uses. Therefore, much of the Poway preserve system already qualifies as "buffer" surrounding the preserve cornerstones under existing zoning. Creation of the preserve system with this plan will strengthen the protection of biological resources offered by the current zoning.

The second level of buffer protection is implemented during the specific planning process and consists of siting specific, compatible land uses between biological open space and relatively higher impact land uses. For example, links-style golf courses or other open space recreation areas can be sited between residential areas and preserve areas in planned community development zones. The Old Coach Estates planned community development, which has been approved, uses this buffer strategy A links-style golf course that retains much of the native vegetation is planned between residential housing areas and nearby open spaces supporting sensitive biological resources. This buffered mosaic of open space and links course forms an important habitat linkage in the northern portion of the Mitigation Area. Few other opportunities exist in the Poway Mitigation Area for this type of buffering, since most areas zoned for high impact development are already built out, and cornerstone parcels are already buffered by low impact zoning as described in the preceding paragraph.

The third level of buffer protection is implemented during the site planning and approval process, primarily through the use of set-back guidelines. These are distances that specific types of activities or developments should be set back from sensitive biological resources regardless of whether they are in a preserve cornerstone or a zoned buffer area. The Public Review Draft MSCP provides a table of recommended buffer zones (set-back distances) for the protection of wildlife habitat and linkages for various types of adjacent land uses and recreational activities. It further points out that actual delineation of such set-backs should be based on site-specific investigations of such factors as vegetation types, topography,

expected amount of human disturbance, and the specific biological resources that are being protected. Existing zoning ordinances in Poway define some setback distances and allow flexibility in determining appropriate, site-specific set-back distances to mitigate impacts to sensitive resources. The special development requirements created with this plan (Section 7.3) re-emphasize these set-back guidelines for developments and activities near sensitive areas within the Mitigation Area, yet still allow the Planning Department sufficient flexibility to account for site-specific factors.

3.4 BIOLOGICAL PRESERVE CRITERIA

Based on the above objectives, considerations, and definitions, the Poway Subarea HCP is designed to satisfy the following biological criteria. If these criteria are met by the preserve system, it will have met the objectives of the NCCP and MSCP, as well as the specific subarea objectives defined above.

- **Preserve 95-100 percent of habitats on each cornerstone as biological open space.** Existing cornerstone lands serve as a foundation for the eventual preserve system and protect large areas of sensitive resources, including riparian and coastal sage scrub habitats and important linkages and corridors. They represent an opportunity to protect biological resources within the Mitigation Area with minimal disruption of planned or potential development. Additional cornerstones shall be added to the Mitigation Area through public acquisition. Land uses incompatible with biological resource conservation shall be prohibited in cornerstone lands.

- **Preserve at least 80 percent of natural habitats in the Mitigation Area outside of cornerstone lands as biological open space.** The balance of the Mitigation Area outside of publicly owned or privately owned open space is zoned for rural residential housing, with a small proportion zoned for planned community or planned residential development. Rural residential housing areas serve as buffers between cornerstone lands and more intensively impacted areas. Maximum buildout of these areas, based on existing zoning ordinances and steep slope restrictions, is projected to remove up to about 24 percent of remaining habitats (assuming City water is extended into all rural areas; see Section 4.4). Special development requirements created for this plan shall reduce this impact to less than 20 percent. Portions of these rural

residential areas will also be purchased as mitigation for public and private projects and incorporated into the preserve as additional cornerstones, thereby further reducing development impacts in the Mitigation Area.

- **Minimize development in coastal sage scrub in the Mitigation Area, ensuring at least 90 percent preservation outside of cornerstone lands.** Given the overall target of 80 percent preservation of natural habitats outside of cornerstone lands, land uses planned on parcels within the Mitigation Area shall be sited so as to avoid impacts to coastal sage scrub to the extent feasible. The goal shall be to preserve at least 90 percent of the extant coastal sage scrub within the Mitigation Area (outside of cornerstones), particularly in larger contiguous blocks. Buildout on rural residential lands in the Mitigation Area is projected to preserve approximately 78 percent to 89 percent of the coastal sage scrub based on the special development requirements (see Section 4 4). Purchase or dedication of some rural residential parcels as additional cornerstone lands is expected to increase this percentage to over 90 percent.

- **Preserve 98 percent of existing riparian habitats and oak woodlands and ensure no net loss of these habitats in the Mitigation Area through restoration or enhancement.** Existing ordinances protect riparian habitats along major natural streams identified in the Natural Resources Element of the Poway General Plan. The Poway Subarea HCP provides stream management guidelines for these riparian habitats, including setbacks of all developments from riparian areas. Development within the 100-year floodway shall be prohibited, and public access to natural creeks and channels shall not result in negative impacts to their riparian value. Individual specimens or stands of trees considered locally sensitive, including native oaks and sycamores as well as mature eucalyptus trees, shall not be removed without a permit from the City In the event that impacts to riparian habitats or native trees are unavoidable, they shall be compensated by replacement or enhancement elsewhere in the Mitigation Area at a mitigation ratio of no less than 3 1 for acreage of habitat remaining and 2:1 replacement at maturity of individual trees removed.

- **Preserve key linkages and corridors within the Mitigation Area that are currently afforded inadequate protection by existing constraints and ordinances.** The above criteria should ensure adequate protection of biological resource values throughout the majority of the Mitigation Area. However, some key core and linkage areas may lack sufficient protection from development or fragmentation. Areas of high biological value and at high risk of loss or fragmentation are identified as Proposed Resource Protection Areas (PRPAs) in Section 5.5 High priority PRPAs shall be targeted for acquisition as additional publicly owned biological open spaces and managed to preserve or enhance their wildlife value.

- **Preserve populations of target plant species, historical eagle nest areas, and other localized resources.** Known locations of high priority target plant species should be preserved. Traditional golden eagle nesting areas, and nesting areas for other raptor species, should be contained in cornerstone lands and/or buffered from residential development to protect their value.

The Public Review Draft MSCP Biological Preserve Design Checklist for Subarea Plans gives a target of at least 70-80 percent preservation of the core biological resource areas and linkages identified in the MSCP, with higher preservation targets in the most sensitive or critical locations. The above criteria for the Poway Subarea HCP exceed this target, as the Poway Mitigation Area includes all MSCP-identified core habitats within its jurisdiction and strives to preserve 95-100 percent of portions, and at least 80 percent of the balance, of these core habitats.

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SECTION 4.0
LAND USE CONSIDERATIONS

As discussed in Section 1.4, the Mitigation Area is a geographic area within which the ultimate preserve system will be contained. As such, the Mitigation Area includes lands that are already preserved as biological open space and lands zoned for development. This section discusses the existing land use designations and future development potential within the Mitigation Area in relation to its function in preserving biological resource values.

4.1 EXISTING PLANS, ORDINANCES, AND REGULATIONS

Many of the City's existing plans, ordinances, and development regulations are tailored to preserve the City's natural resources by guiding development away from sensitive resources, such as natural habitat and hillsides. These existing documents form the foundation of the Poway Subarea HCP The City also addresses the existing federal and state environmental requirements within various relevant City documents and in conjunction with the normal development application review process. The existing relevant City requirements include the following:

1 Goals, policies, and strategies of the Poway General Plan, including the Poway Detailed Biological Assessment and the Natural Resources Element.

2 Regulations contained in the Poway Municipal Code concerning subdivisions, excavation, grading, drainage and watercourses, flood damage prevention, health and safety, and zoning.

3 Poway City Council Resolution No. P-90-89 adopting an interim replacement standard as mitigation for coastal sage scrub and the gnatcatcher

4 Poway Ordinance 283 requiring voter approval of land use changes if such changes would increase the density or intensify the use permitted in the rural residential.

5 Poway City Council Ordinance No. 345, adopted in November 1991, which added regulations and permit requirements for clearing and grubbing to the City's grading ordinance.

6 The State NCCP Enrollment Agreements of 1992 (Local Jurisdiction and Land Owner) approved by the City Council, and the related Ongoing Multi-Species Planning Agreement of March 1993 approved by the resource agencies.

7 City Council Resolution No. 94-058 establishing a policy concerning removal of coastal sage scrub and implementing the interim strategy of the State NCCP Guidelines/USFWS special 4(d) rule.

8 Poway City Council Ordinance No. 437 (Storm Water Management and Discharge Control Program) which implements pollutant control measures in compliance with the Federal Clean Water Act.

9 The City's Procedures for the Implementation of CEQA and the Poway Master Environmental Assessment.

10 The applicable environmental mitigation measures contained in the certified Final Program EIRs for the Poway General Plan Update (November 1991) and the Amendment to the Paguay Redevelopment Plan (March 1993).

11 The fire control, slope erosion control, irrigation, planting, maintenance, and open space requirements/guidelines of the City Landscape Standards.

12 The certified Final EIR and approved mitigation monitoring program for the Scripps Poway Parkway East extension project.

13 The applicable conditions of approval, mitigation measures, and associated monitoring program approved by the City for other public and private projects.

4.2 EXISTING GENERAL PLAN LAND USE AND ZONING

Approximately 14 land use and zoning designations are represented in the Poway Mitigation Area (Figure 4-1). Table 4-1 summarizes the existing designations within the Mitigation Area by acres and percent. Although development is allowed within the Mitigation Area in these designations, existing regulations as discussed above, along with

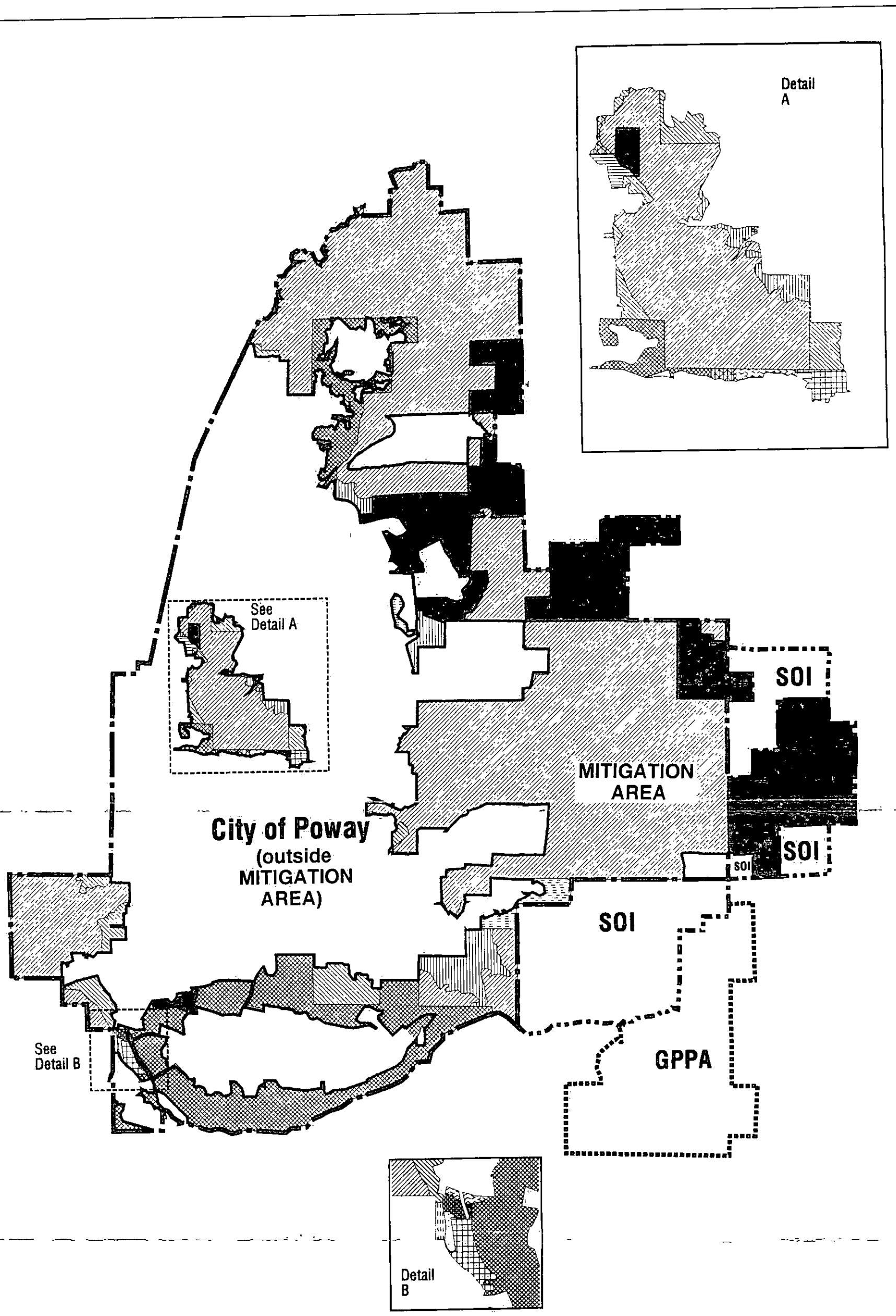


FIGURE 4-1

Land Use Zones Within the Mitigation Area

OGDEN

Table 4-1

LAND USE AND ZONING DESIGNATIONS REPRESENTED IN MITIGATION AREA

Designation	Allowable Densities	Acres	Percent (%) of Mitigation Area
Rural Residential A (RR-A)	1 DU/4, 8, 20, 40 AC	8,033.8	60.37
Rural Residential B (RR-B)	1 DU/2, 4, 8 AC	342.5	2.57
Rural Residential C (RR-C)	1 DU/1, 2, 4 AC	383.8	2.88
Residential Single Family (RS-2)	1-2 DU/AC	46.4	0.35
Residential Single Family (RS-4)	3-4 DU/AC	13.3	0 10
Residential Single Family (RS-7)	4-8 DU/AC	19 4	0 15
Residential Apartment (RA)	12-20 DU/AC	7.3	0 05
Commercial General (CG)		5 7	0.04
Mobile Home Park (MHP)	8 DU/AC	6.5	0.05
Planned Residential Development (PRD)		118 6	0 89
Planned Community (PC)		1,607 0	12.08
Open Space-Recreation (OS-R)		132.6	0.99
Open Space-Resource Management (OS-RM)		2,578.2	19.32
Hospital Campus (HC)		10 6	0.08
TOTAL		13,307 0	100.00

DU = Dwelling Unit
AC = Acre (net)
Source: Poway Comprehensive Plan, 1991

the general and specific development requirements discussed in Section 7.0, will guide development away from those lands that are biologically sensitive.

Approximately 2,578 acres of land within the Mitigation Area are designated as Open Space-Resource Management (OS-RM). These lands are publicly-owned and most are designated as "cornerstone lands" of the subarea HCP The OS-RM zone is intended for areas supporting valuable natural resources. These include mountainous areas, prominent ridges, riparian areas, wildlife corridors, areas of high biological value, areas with geologic hazards, and areas with valuable historic and prehistoric resources. The OS-RM designations in the Mitigation Area will remain as preserved open space. Any land acquired by the City or designated as biological mitigation areas will be rezoned as OS-RM on an annual basis to ensure their protection in perpetuity

A majority of the Mitigation Area, almost 8,800 acres, consists of the Rural Residential (RR) zones A, B, and C. These three designations allow very low density residential development based on the slope-density formula contained within the Poway General Plan and Zoning Ordinance. Under existing regulations, residential development is not permitted on land greater than 45 percent slope, nor may the steeply sloped land be used to calculate the number of units permitted in an RR-designated parcel. The density formula is applied to the parcel's net acres based on the designation and average slope of the parcel as required by the City's zoning ordinance. The purpose of these three rural residential designations is to reserve areas for very low density residential uses with minimum lots sizes ranging from 1 to 40 acres.

The Mitigation Area includes three project areas designated under the Poway General Plan as Planned Community (PC). These areas include sensitive habitat that is critical to the long-term biological conservation value and function of the Poway Subarea HCP Habitat conservation within these planned community areas has been required by the Planned Community approval documents as follows.

Old Coach Golf Estates Planned Community This project is located north of Espola Road and adjacent to Old Coach Road. The project has been approved for residential estate lots, a 27-hole championship golf course, and biological open space. The biological open space includes dedicated public lots, dedicated private easements, the riparian corridors of Sycamore Creek and Thompson Creek, and areas protected for sensitive plant species and archaeological/historical resources. In addition, native habitat will be integrated into the

links-style golf course design. Development in this planned community area will be in accordance with the adopted conditions of approval and environmental mitigation measures.

Rancho Arbolitos Planned Community This project area is the remaining undeveloped portion of an existing residential subdivision located in the southwest corner of Twin Peaks Mountain. Protected biological resources are within open space easements dedicated to the City of Poway Development of this project area will be in accordance with adopted conditions of approval and environmental mitigation measures.

South Poway Planned Community This project area is located in the southernmost section of the Mitigation Area and includes the approved South Poway Business Park, the Calmat Poway mineral resource extraction plant, and the surrounding existing and planned open space and residential uses. Protected biological resources are located within the areas of the planned community designated as "natural open space" and "open space (1 DU)." The existing Calmat Poway plant has a certified, final subsequent EIR, an approved Conditional Use Permit, and an associated Reclamation Plan. An approved mitigation measure requires that the reclamation plan include a coastal sage scrub habitat restoration plan.

Other land use and zoning designations represented at a lesser extent within the Mitigation Area include open space-recreation (OS-R), residential single family (RS) designations, residential apartment (RA), commercial general (CG), mobile home park (MHP), planned residential development (PRD), and hospital campus (HC). Combined, these designations only represent approximately 2.70 percent of the total Mitigation Area. These designations allow a greater intensity of development than the RR designations; however, the value of these areas as biological resource areas and open space linkages is important to the overall function of the Mitigation Area. Development in these areas is allowed, although existing regulations limit development as described in Section 4 4 of this Subarea HCP. Private projects are subject to the City's existing environmental restrictions and wildlife permit regulations enforced by the USFWS and CDFG Property owners may opt to avoid the permit regulations by participating in this Subarea HCP If private property owners participate in the Subarea HCP, development in these areas will occur consistent with the conservation objectives and development requirements contained in this Subarea HCP Otherwise, property owners will develop under existing regulations.

4.3 CONSTRAINED LANDS

Historically, the eastern portion of Poway has remained primarily undeveloped as the flatter, more accessible portion of the City encountered the most growth. In accordance with Poway's General Plan, the City's growth has occurred away from the more environmentally sensitive portions of the City largely existing in the rural hillsides. The City has made a conscious effort to limit development within the eastern edge of the City due to the environmental constraints present in this area. These constraints include steep topography, sensitive biological habitat, lack of potable water, and lack of other infrastructure (e.g., access). Most of these areas are included in the Mitigation Area and will remain primarily undeveloped due to these constraints. However, some development is permitted in the Mitigation Area under the existing zoning as described in Section 4 4 below

4.4 LEVEL OF POTENTIAL BUILDOUT ON PRIVATE LANDS

Under the existing General Plan land uses and zoning, the Mitigation Area would potentially support 1,100 dwelling units in the Rural Residential designated areas at varying densities if City water is extended to all portions of the Mitigation Area. The RR designated areas represent approximately 66 percent of the total Mitigation Area (and approximately 82 percent of the Mitigation Area excluding the OS-RM zoned lands) and contain a majority of the coastal sage scrub. To calculate the potential buildout in the Mitigation Area and, conversely, the amount of preservation expected within the Mitigation Area, the City's slope density formula was applied to the parcels designated RR.

Figure 4-2 is the slope-density formula for RR-designated areas per the General Plan. As shown in Figure 4-2, the density of rural residential designated parcels is based on the particular land use category (RR-A, RR-B, RR-C), the average slope of the parcel of land, and, in the case of RR-A, the availability of City water. Since the Subarea HCP assumed City water could eventually be extended to the Mitigation Area, a density of one dwelling unit per 4, 8, and 20 acres, depending on average slope, was assumed for the RR-A designated parcels in the Mitigation Area to determine potential buildout. The density for RR-B designated parcels is one dwelling per unit for 2, 4, and 8 acres depending on average slope, and RR-C, one dwelling unit per 1, 2, and 4 acres.

LAND USE CATEGORY	SLOPE			
	0-15%	15-25%	25-45%	45+%
RR-A With City Water Available Without City Water Available	1 DU per 4 net acres 1 DU per 20 net acres	1 DU per 8 net acres 1 DU per 20 net acres	1 DU per 20 net acres 1 DU per 40 net acres	No credit No credit
RR-B With City Water Available	1 DU per 2 net acres	1 DU per 4 net acres	1 DU per 8 net acres	No credit
RR-C With City Water Available	1 DU per 1 net acre	1 DU per two net acres	1 DU per 4 net acres	No credit

To compute slope the following formula shall be used:

$$\frac{(CL \times I \times S)}{NA}$$

Where:
CL = Length of Contours
I = Contour Interval
S = Scale of Map
NA = Net Area in Square Feet

SOURCE: Poway Comprehensive Plan

OGDEN

Rural Residential Land Use Densities and Slope Density Formula

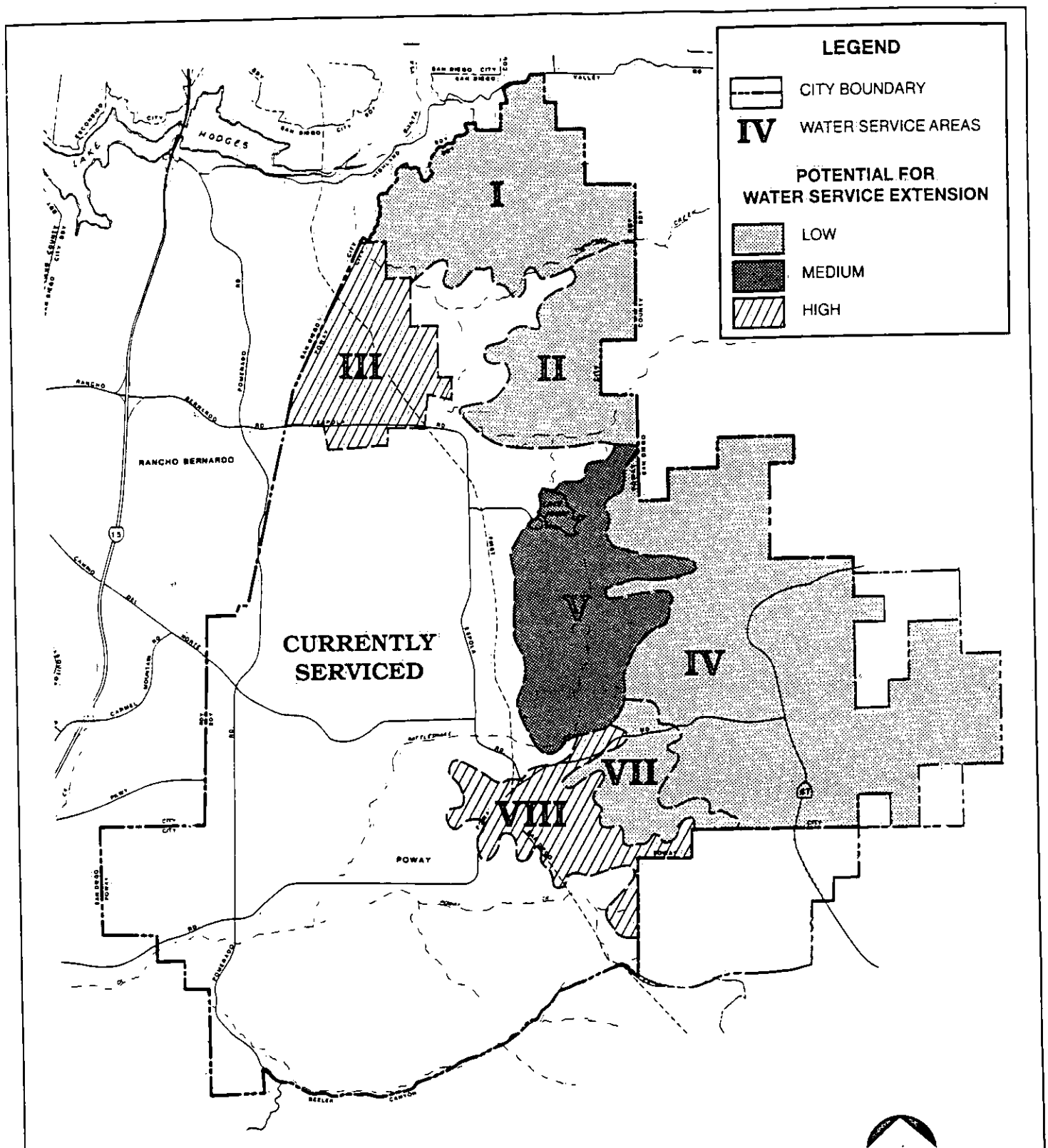
FIGURE 4-2

To calculate the amount of potential preserve area in the Mitigation Area, two buildout scenarios were identified. The first scenario assumed full participation by private property owners in the Subarea HCP This scenario used a habitat removal factor of 2 acres per allowable lot, per the special development requirements in this HCP, to calculate the approximate amount of disturbance within the RR designations of the Mitigation Area necessary to accommodate development. Pocket Map 2 represents the average amount of preservation throughout a majority of the Mitigation Area based on a buildout of approximately 1,100 dwelling units and a maximum of 2 acres of habitat removal per allowable lot.

The second buildout scenario (Minimal Participation Preserve Analysis) assumed minimal participation of private property owners in the Subarea HCP and assumed that all privately owned parcels will be built out according to existing grading allowances in the General Plan (instead of the 2 acre factor).

For both buildout scenarios, an important factor when considering the buildout of the Mitigation Area is the potential extension of potable water facilities into the Mitigation Area. For this Subarea HCP, a worst case approach is presented, which assumes that water facilities would be extended into the entire Mitigation Area sometime in the future. The availability of City water would increase the allowable densities within the Rural Residential land use designations as shown in Figure 4-2. However, the feasibility of extending water facilities into the Mitigation Area varies by geographic area and other factors and may, in reality, never occur in some areas of the Mitigation Area. Figure 4-3 ranks the potential for extending water facilities into the Mitigation Area. The ranking is based on an analysis of the maximum potential water demand and ultimate water system presented in the City's adopted Water Master Plan (City of Poway 1987). The analysis was prepared by senior staff of the Engineering Services Department capital improvement project division.

According to the Water Master Plan, extending water system facilities out to the service areas shown in Figure 4-3 would require funding and construction of several required water system capital improvements such as pump stations, reservoirs, and extensive water transmission pipe lines. The cost of these improvements is estimated at between $10,000 to over $35,000 per allowable lot, which may make extension of the required improvements economically infeasible. The service areas with the highest potential for water service extension are service areas III and VIII, since these areas are already partially



SOURCE: Boyle Engineering Corp., 1987
NOTE: Service areas not shown are included in the currently serviced area.

FIGURE 4-3

Potential Expansion Areas to the City Water System

developed with City water systems and have a greater development potential. These areas are also adjacent to the developed portion of Poway Other service areas that require more extensive facilities and capital outlay, such as in the more remote service areas I, II, IV, and VII, may never receive City water service. These remote areas are significantly constrained by rugged topography, geological formations such as granitic underburden and substantial rock outcroppings, geotechnical hazards, and sensitive habitats that would necessitate costly mitigation due to the linear nature of the required improvements. In addition, as habitat lands are purchased within the Mitigation Area for permanent preservation, the cost to fund a water system extension increases per dwelling unit or legal lot, further reducing the economic feasibility of such extension. This Subarea HCP, however, considers the possibility of water service to the entire Mitigation Area. One of the important measures included within the Implementing Agreement/Management Authorization and the HCP requires that the City cooperatively plan such potential water system extensions with the USFWS, CDFG, and affected property owners. This cooperative planning effort will ensure that development resulting from potential water system extensions into the rural residential service areas, as depicted in Figure 4-3, will not preclude the permanent preservation of core habitat and covered species.

To determine the potential amount of habitat disturbance represented by buildout of 1,100 dwelling units in the Mitigation Area and thus the amount of habitat preservation (mainly coastal sage scrub), an analysis for each scenario was performed. For the first buildout analysis (called "minimal participation scenario" and depicted in Table 4-2 and Pocket Map 2), calculations were based on the following allowable grading formula from the Poway General Plan:

> The maximum allowable area of the lot that may be graded for driveway, residence and accessory functions is determined by the degree of average natural slope as follows:

Average Slope	Graded Area Per Lot or Dwelling Unit*
0 - 14 9	Entire lot
15 - 19 9	50% or 35,000 ft^2 (0.80 ac), whichever is greater
20 - 24.9	20% or 25,000 ft^2 (0.57 ac), whichever is greater
25 - 44.9	10% or 20,000 ft^2 (0.46 ac), whichever is greater
45+	No grading or development permitted and no developable acreage credit given

*Sensitive biological or other environmental constraints may require the application of stricter standards

Table 4-2

EXISTING AND PROJECTED VEGETATION ON RURAL RESIDENTIAL LANDS WITHIN THE MITIGATION AREA

Vegetation Type	Extent of Vegetation in Acres At Buildout of General Plan[a]				
		"Minimal Participation Scenario[b]"		"Full Participation Scenario[c]"	
	Existing (100%)	Acres	% Preserved	Acres	% Preserved
Coastal Sage Scrub (includes disturbed)	4,280.67	3,738.90	87%	3,866.25	90%
Riparian and other Wetlands	460.73	460.73	100%	460.73	100%
Other Habitat	3,496.08	2,225.60	64%	2,209 02	63%
TOTAL	8,237 48	6,425.24	78%	6,536.00	79%

a Based on maximum buildout potential in rural residential zones, assuming extension of water facilities to all of Mitigation Area.

b Assumes maximum allowable removal of vegetation based on existing grading allowances of Poway Grading Ordinance; assumes no private landowners participate in HCP

c Assumes 2 acres maximum of vegetation removal per allowable lot; assumes all private landowners participate in HCP

In general, the existing grading ordinance allows for greater ground disturbance on larger and flatter parcels than allowed under the HCP, and less disturbance on smaller, steeper parcels.

The second analysis (the "full participation scenario") calculated the potential disturbance within the Mitigation Area using 2 acres of disturbance per allowable lot, as required by the special development requirements contained in this plan. For both scenarios, sensitive habitat was used to accommodate the amount of allowable disturbance per allowable lot only if an insufficient amount of non-sensitive habitat was available to accommodate it.

Table 4-2 presents the results of the percent preservation calculations for the minimal and full participation scenarios within the Rural Residential zoned lands. Overall preservation under the full participation would be 79 percent of the vegetation (6,536 acres) About 90 percent of coastal sage scrub and 63 percent of non-sensitive habitat types would be preserved in achieving the overall preservation level of 79 percent. Riparian and other wetland habitats are assumed to be 100 percent protected based on existing local, state, and federal wetlands protection regulations.

In comparison, 78 percent of the vegetation (6,425 acres) would be preserved under the minimal participation, an increase of 111 acres allowable vegetation removal over that expected under full participation scenario. About 87 percent of the coastal sage scrub and 64 percent of non-sensitive habitats would be preserved assuming minimal landowner participation. Thus, despite the modest increase (111 acres) in vegetation impacts expected under the minimal participation scenario, overall preservation of natural vegetation within the Mitigation Area would remain high (6,425 acres; 78% of existing) in rural residential areas, especially for coastal sage scrub

Section 7.0 of this plan describes the special development requirements and other mechanisms that will be used to implement this level of protection.

4.5 Gaps in Protection for Biological Resources

In evaluating the analysis represented in Pocket Map 2, some areas of the Mitigation Area would be relatively disturbed through development under the current land use designations. These areas consist mainly of small rural residential designated parcels that probably cannot

accommodate both residential development and biological protection or that are designated for more intensive development. These areas are discussed in greater detail in Section 5 4 Some of them represent core or key linkage areas that would be threatened by development. Because the existing land use designations and City development requirements may not offer sufficient biological protection, these areas may represent "gaps" in protection that should be filled by the Poway Subarea HCP Section 7.5 describes these areas as Proposed Resource Protection Areas (PRPAs) that should be priorities for acquisition as additional open space.

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SECTION 5.0
PROPOSED MITIGATION AREA AND PRESERVE LANDS

Pocket Map 3 presents the preserve design for the Poway Subarea HCP. It illustrates the Biological Core and Linkage Area (BCLA) within the Mitigation Area, along with the various preserve components designed to protect it:

- existing cornerstone lands (95-100 percent preserve areas);
- other publicly or privately owned open space areas (80-100 percent preserve areas);
- slopes greater than 45 percent (100 percent preserve areas);
- the balance of the rural residential area within the BCLA (approximately 80 percent preserve area);
- the balance of the rural residential area outside of the BCLA (approximately 50 percent preserve area); and
- Proposed Resource Protection Areas, or areas targeted for acquisition to increase their level of protection.

The BCLA is that portion of the mitigation area considered most essential to maintaining biological resource values and therefore of highest priority for protection and management. All areas within the Mitigation Area that participate in the Subarea HCP will be subject to the special development requirements of the HCP, which limit impacts to biological resources. However, areas outside of the BCLA are of lesser biological sensitivity and hence may be more heavily impacted by development (up to 50% removal of habitat averaged over all such areas). The HCP encourages clustering of development in these areas outside of the BCLA in order to achieve lower development impacts within the BCLA (up to 20% removal of habitat averaged over all such areas). Areas designated as PRPAs are at risk of greater impacts under existing zoning and constraints (refer to Pocket Map 2 and Section 4.5) and hence are targets for acquisition. Acquisition of PRPAs is encouraged through the offsite compensation mitigation requirements for public or private projects or through the Resource Conservation Area Acquisition Fund (Section 7.6).

The ultimate preserve system will be built around "preserve cornerstone lands." Cornerstone lands are large blocks of land (at least 40 acres) that are zoned as OS-RM or are otherwise protected as biological open space. These cornerstones are to be linked in a matrix comprised of parcels to be acquired or otherwise conserved by special development

requirements or easements. These mechanisms will restrict land use and management in the matrix to those activities deemed compatible with preserve goals. The matrix around the cornerstone lands currently contains scattered, mostly small, open space parcels that are already afforded varying degrees of protection. The plan will consolidate this protection and will precipitate the addition of more biological open space areas to better link the cornerstones and other open space areas into a viable preserve system.

Existing constraints on development within the Mitigation Area include current zoning regulations, presence of steep slopes, and lack of water sources, as detailed in Section 4.0. The majority (83 percent) of non-cornerstone parcels within the Mitigation Area are zoned RR and are intended for low to very low density (one dwelling unit per acre to one dwelling unit per 20 acres) residential development, and other uses that are complimentary to rural residential neighborhoods (e.g., low impact recreational uses) Such uses are conditionally compatible with biological preserve areas according to the Public Review Draft MSCP guidelines (Ogden et al. 1993). Steep slopes (45 percent and greater) and lack of water supplies further limit housing density and distribution in much of the Mitigation Area.

Special development restrictions in the Mitigation Area will further restrict land use and management activities on participating parcels and will ensure compatibility of development within the RR zone with the biological objectives of the preserve (Section 7.3) If privately owned parcels identified as essential to preserve system integrity will be insufficiently conserved by existing constraints and the HCP, efforts shall be made to acquire them as publicly owned cornerstone lands or to secure conservation easements that ensure their preservation. In this way, their function as biologically effective open space can best be preserved.

Section 5 1 describes the existing cornerstone lands, Section 5.2 describes other significant open space lands with varying degrees of protection, and Section 5.3 discusses the conservation strategy for the balance of the Mitigation Area. Section 5 4 describes the specific parcels to be used to mitigate impacts of the Scripps-Poway Parkway (and other public projects). Section 5.5 identifies additional lands considered essential to preserve integrity and function that may not be adequately protected by zoning overlays and therefore are considered priorities for acquisition or dedication as biological open space. The balance of this section discusses the relationship of the Poway Subarea HCP to adjoining conservation plans (Section 5.6).

5.1 PRESERVE CORNERSTONE LANDS

Cornerstone lands are large (greater than 40-acre) blocks of land on which biological resources are currently afforded substantial protection. Cornerstones form the foundation of the Poway Subarea preserve system, which will be effectively linked by additional biological open space designations and restrictions on development outside of cornerstones. The existing cornerstone lands are described below, with emphasis on the biological resources they support and how they fit into the larger scheme of the overall preserve system. They are coded in green on the preserve design map (Pocket Map 3).

5.1.1 Blue Sky-Mount Woodson Cornerstone

The Blue Sky-Mount Woodson Cornerstone is the largest (1,574 acres) and most diverse of the preserve cornerstones. It is assembled from a number of contiguous parcels that are devoted to preservation of biological resources under various ownerships and managers (Figure 5-1) This highly valuable cornerstone includes lands managed by the CDFG (Blue Sky Ecological Reserve), lands deeded to the City of Poway by the Bureau of Land Management (BLM) as biological open space, a parcel purchased by Caltrans as mitigation for an offsite project, various parcels purchased by the Poway Municipal Water District surrounding Lake Poway, and several parcels purchased by the City of Poway as mitigation for the Scripps Poway Parkway Extension project. Together, these contiguous parcels protect resources ranging from the top of Mount Woodson down the slopes and valleys of the Green Valley Creek watershed, past Lake Poway to Sycamore Creek. Vegetation in this landscape varies from chaparral studded with large granite boulders, through large expanses of coastal sage scrub, to oak woodlands and riparian habitats along Warren, Green, and Sycamore Creeks. This cornerstone also affords possibilities for habitat linkages with other nearby cornerstones and non-cornerstone areas supporting significant biological resources. Pertinent information about each of the land areas comprising this cornerstone is detailed below

Blue Sky Ecological Reserve

Blue Sky Ecological Reserve is 470 acres of public land purchased jointly by the City of Poway, CDFG, County of San Diego, and Heritage Hills Country Club. It is managed as a habitat reserve by the CDFG. Vegetation on the Reserve is dominated by coastal sage

scrub, along with significant stands of southern coast live oak forest, coast live oak woodland, and southern willow scrub along Green Valley Creek.

Surveys have detected approximately 6 California gnatcatcher pairs in the reserve. At least five different species of raptors occur in the area, including red-shouldered hawk, Cooper's hawk, black-shouldered kite, American kestrel, and red-tailed hawk (PSBS 1979, 1981). Other target species noted or expected on the property are rufous-crowned sparrow, San Diego horned lizard, orange-throated whiptail, two-striped garter snake, bobcat, and mule deer At least two sensitive plant species also occur along Green Valley Creek: San Diego sagewort and Engelmann oak (PSBS 1979, 1981). Some sensitive annual plant species may also occur.

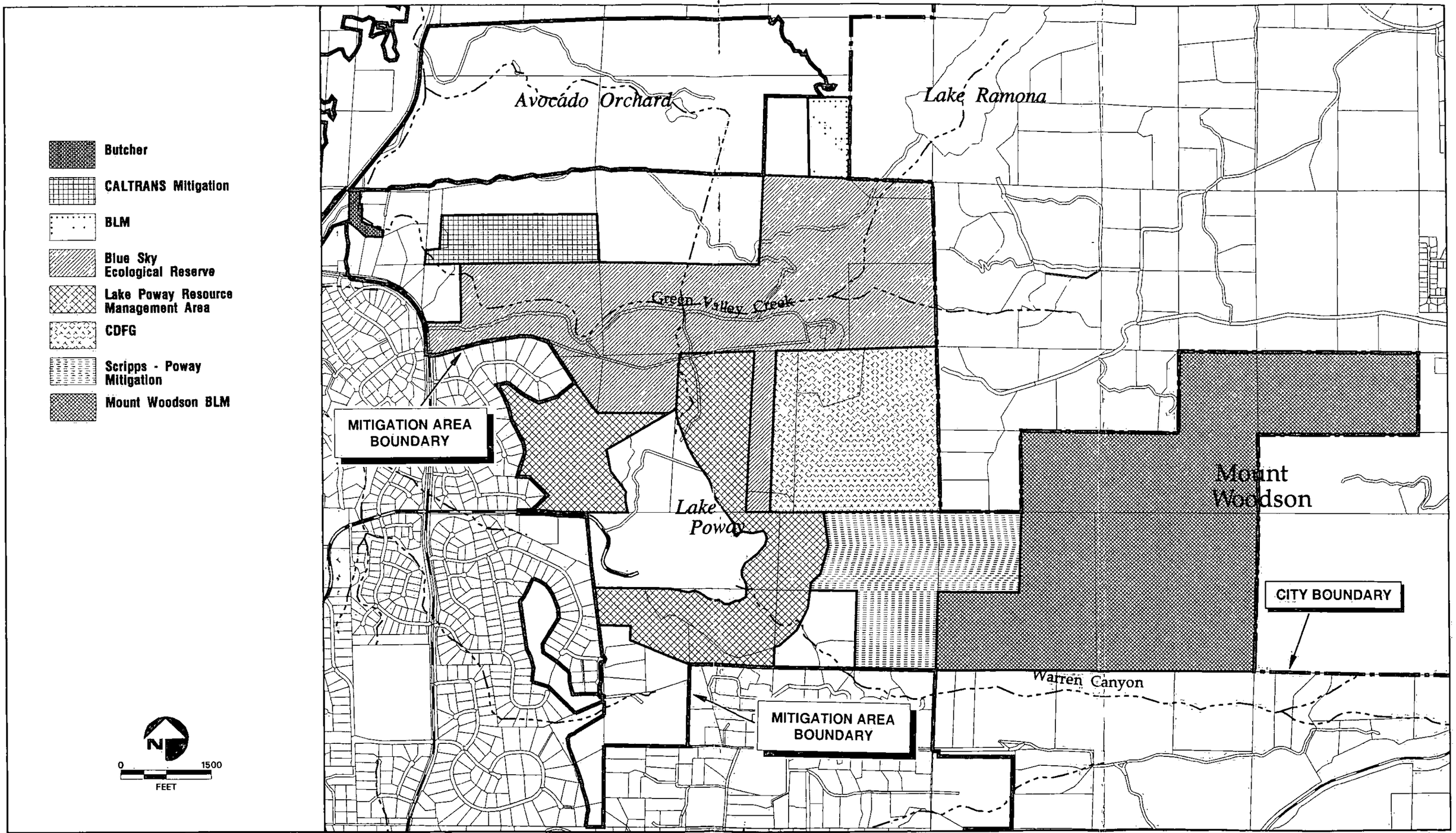
Blue Sky Ranch was given the highest priority for preservation in the Detailed Biological Assessment for the City of Poway (ERCE 1991a) and in the Focused California Gnatcatcher Resource Study for the City of Poway (ERCE 1991b) The area was also ranked as high to very high quality habitat for preservation in the Public Review Draft MSCP habitat evaluation model.

Caltrans Mitigation Parcel

A parcel of approximately 50 acres adjacent to the northwest corner of Blue Sky Ecological Reserve was purchased as biological open space by Caltrans to mitigate for a highway project. This parcel is managed jointly with Blue Sky by the CDFG. It is dominated by coastal sage scrub, with some chaparral and a small amount of oak riparian forest. Its addition to the cornerstone contributes to connectivity between Blue Sky Ecological Reserve and habitats along Sycamore Creek. It was ranked primarily as very high quality habitat by the Public Review Draft MSCP habitat evaluation model.

Butcher Parcel

The Butcher property, about 1,000 feet west of the Caltrans mitigation parcel, was purchased by the City of Poway as a mitigation for the Scripps Poway Parkway Extension project. Although somewhat disjunct from the bulk of the Blue Sky-Mount Woodson Cornerstone, the Butcher property provides a partial connection to open space areas of northwestern Poway via Sycamore Creek and adjoining habitats. Remaining private parcels between the Butcher property and the Caltrans mitigation parcel are being targeted



OGDEN

Lands Comprising the Blue Sky - Mount Woodson Cornerstone

FIGURE

5-1

for acquisition to consolidate this portion of the cornerstone and protect this already constrained habitat linkage (Section 5.5). For this reason, the Butcher Parcel is considered part of the Blue Sky-Mount Woodson Cornerstone in the Poway Subarea HCP

Although small (4.5 acres), the Butcher parcel is important to habitat connectivity and wildlife movement between the Blue Sky-Mount Woodson Cornerstone and habitat areas in northern Poway and the San Pasqual Valley Vegetation on the parcel is dominated by southern coast live oak riparian forest and disturbed coastal sage scrub. The property is surrounded by avocado groves and low density residential development that effectively block wildlife movement through the surrounding area. The disturbed coastal sage scrub could be restored to further enhance its use for wildlife. This property was identified in the Detailed Biological Assessment (ERCE 1991a) as an important property for preservation. Despite its small size, this area is designated as very high quality habitat by the Public Review Draft MSCP habitat evaluation model.

Former BLM Parcel

A 20-acre parcel adjacent to the northeastern corner of Blue Sky Ecological Reserve was deeded to the City of Poway by the BLM in 1986. Almost completely covered by boulder-strewn chaparral, the parcel lies on the western aspect of a prominent north-south ridge running from Blue Sky Ecological Reserve to Mount Beatrice and overlooking a large avocado orchard to the west and Lake Ramona to the east. This ridgeline comprises a north-south movement corridor running between the avocado orchard and development around Lake Ramona. The area was ranked primarily as moderate value habitat by the Public Review Draft MSCP habitat evaluation model.

Lake Poway Resource Management Area

For this document, the Lake Poway Resource Management Area is defined as those parcels or portions of parcels immediately surrounding Lake Poway that are designated as OS-RM (Open Space-Resource Management). Lake Poway, including land immediately west of the lake and land within 1,000 feet surrounding the lake (totaling 127 acres), are zoned as OS-R (Open Space-Recreation). OS-R designation supports active recreational uses, which are not compatible with a cornerstone. The Lake itself supports boating, fishing, and other recreational activities, and the park area at the west end of the lake is developed for ball parks, picnicking, and other recreational uses. For these reasons, those portions of

the Lake Poway lands zoned as OS-R are omitted from the Blue Sky-Mount Woodson Cornerstone, even though they may contribute valuable resources to the cornerstone by their proximity The balance of parcels and portions of parcels surrounding Lake Poway are zoned as OS-RM, support significant biological resources, and are included as part of the cornerstone. These areas, totaling roughly 220 acres, are contiguous with Blue Sky Ecological Reserve to the north, and the Scripps Poway Parkway Mitigation parcels (which connect to Mount Woodson) to the east. Furthermore, while eastern margins of the Lake are not officially part of the cornerstone due to their OS-R designation, their inaccessibility and support of significant biological resources do contribute to the overall value of the cornerstone.

The area surrounding Lake Poway is primarily high quality *Artemisia californica*-dominated coastal sage scrub and chaparral (Table 5-1). The vegetation is primarily undisturbed and at this time there is very little access to habitat areas around Lake Poway except for the developed western shore. Sensitive species known from the area include California gnatcatcher and San Diego horned lizard. The lake is a major water source and supports some water-dependent species not found elsewhere in Poway The lake may occasionally be used by Bald eagles for foraging, and it provides one of the few potentially suitable habitat areas for southwestern pond turtle. Larger mammals, including mule deer, bobcat, and coyote, also make extensive use of the area as a foraging, watering, and movement area. At least two sensitive plant species occur in the area: the San Diego sagewort occurs in a few locations along the drainage that flows into Lake Poway; and rush-like bristleweed occurs on the slopes above the northwest corner of Lake Poway Engelmann oak may also occur in the oak woodlands.

The area around Lake Poway was given the highest priority for preservation in the Detailed Biological Assessment for the City of Poway (ERCE 1991a) and in the Focused California Gnatcatcher Resource Study for the City of Poway (ERCE 1991b). The area was also ranked as high to very high quality habitat for preservation by the Public Review Draft MSCP habitat evaluation model.

Mount Woodson BLM Lands

This portion of the cornerstone encompasses about 518 acres of natural open space on the western and northern slopes of Mount Woodson. It is nearly covered by southern mixed chaparral, although it also supports nearly 15 acres of coast live oak woodland. The

Table 5-1

EXTENT OF VEGETATION COMMUNITY TYPES WITHIN THE CORNERSTONE AREAS

Vegetation Type	Extent of Vegetation in Acres								
	Mount Beatrice	Lower Sycamore Creek	Rock Haven	Iron Mountain	Blue Sky/ Mount Woodson	Rattlesnake Canyon	South Poway	Van Dam	Total
Coastal Sage Scrub	19.8	61 1		21.2	457.6	57.5	268.0	119 1	1004.3
Disturbed Coastal Sage Scrub					2.1		17 7	0.9	20.7
Chaparral	183.3		243.4	844.2	926.3	14.0	57 7	20.3	2,289.2
Coastal Sage Scrub–Chaparral Scrub							0.9		0.9
Coast Live Oak Woodland		0 7	0.2		31.2		0 1		32.2
Southern Coast Live Oak Forest		20.2			77.2	4 4			101.8
Disturbed Southern Coast Live Oak Forest		0.5					3.2		3.7
Southern Sycamore Riparian Woodland		1.6							
Eucalyptus Woodland							2.8		2.8
Freshwater Marsh							0.5		0.5
Mulefat Scrub					0.5				0.5
Southern Willow Scrub		0.4			1.5		0.3		2.2
Nonnative Grassland					5.2		104.1		109.3
Native Grassland							28.0		28.0
Disturbed Habitat		4.3		<0.1	15 1		92.4	1.2	113.0
Agriculture	<0.1				3.9				4.0
Open Water							1 1		1 1
Developed		<0 1			3.0		59.6	0.2	62.8
TOTAL	203.1	88.8	243.6	865.4	1,523.6	75.9	636.2	141 7	3,778.3

Note: Numbers may not sum to totals as shown, due to rounding.

topography is steep, and numerous large granitic boulders cover the slopes. The site is bounded on all sides by natural open space.

Part of a golden eagle territory has been documented at the east end of the site. Other target species expected onsite include Coronado Island skink in the oak woodland and granite night lizard in the abundant rock outcroppings. A variety of raptors probably use the large open space rock outcroppings for foraging and nesting, and deer and mountain lion undoubtedly use the area. This area was predominantly rated as low quality habitat, with some areas of high to very high quality habitat, by the Public Review Draft MSCP habitat evaluation model.

Scripps Poway Parkway Mitigation Parcels

These two contiguous parcels, totaling 140 acres, were purchased by the City of Poway as mitigation for the Scripps Poway Parkway Extension project during 1994 Adding this acreage filled a gap between public open space in the Lake Poway-Blue Sky area and the Mount Woodson area, thereby consolidating these formerly disjunct open space areas into one large, contiguous cornerstone. The 140-acre area supports a mixture of chaparral, coastal sage scrub, and oak woodland in the watershed draining the west flank of Mount Woodson into Lake Poway Target species observed there include orange-throated whiptail, California gnatcatcher, mountain lion, and mule deer This area was rated mostly as moderate quality habitat, grading into high quality habitat on the west, by the Public Review Draft MSCP habitat evaluation model.

5.1.2 Lower Sycamore Creek Cornerstone

This 88-acre cornerstone was purchased by the San Dieguito River Valley Park Joint Powers Authority (see Section 1.2) as open space. Located along Sycamore Creek shortly before it enters the San Dieguito River Valley, this cornerstone supports mainly coastal sage scrub, oak riparian forest, oak woodland, and riparian scrub. Target species observed on the property include California gnatcatcher and San Diego horned lizard. Its location provides a crucial link in the regional wildlife movement corridor and habitat linkage that flows through Poway along Sycamore Creek into biological habitats in the San Dieguito River Valley. It is contiguous on the east with open space easements set aside as mitigation for the Old Coach Golf Estates development. A 40-acre parcel immediately south of the cornerstone also supports significant biological resources and is currently undeveloped.

Lands immediately north of the cornerstone support large contiguous areas of coastal sage scrub on relatively steep slopes. The majority of these slopes adjacent to the cornerstone are greater than 45 percent, and hence cannot be developed per existing City regulations. These undevelopable steep slopes effectively add acreage to this already important preserve cornerstone, and link it ultimately with undeveloped habitat in the Highland Valley area near the northern tip of Poway The lower Sycamore Creek area was mostly rated as very high quality habitat by the Public Review Draft MSCP habitat evaluation model.

5.1.3 Mount Beatrice Cornerstone

Located in northeastern Poway, this former BLM holding was deeded to the City of Poway in 1986. It is zoned as OS-RM and contains approximately 203 acres of natural open space on Mount Beatrice. The vegetation on the cornerstone is primarily chamise and southern mixed chaparral (Table 5-1) with patches of coastal sage scrub in the southwest corner. The site is currently surrounded by natural open space and represents the northern end of a habitat linkage around the eastern edge of the large avocado orchard in the area. The east slope of Mount Beatrice drops down to Lake Ramona. The northwestern corner of the cornerstone dips into the Thompson Creek valley in an area being targeted for further habitat acquisition by this HCP (Section 5.5).

Orange-throated whiptail and two pair of California gnatcatchers have been observed in the coastal sage scrub on the property (Ogden 1991). Other species of interest likely to occur there include coastal western whiptail, San Diego horned lizard, red-diamond rattlesnake, rufous-crowned sparrow, mountain lion, and mule deer The abundance of large granite boulders and outcrops provide good habitat for the granite night lizard.

The habitat value on the site was ranked by the Public Review Draft MSCP habitat evaluation model as low on the upper chaparral-covered slopes to high in the coastal sage scrub habitats. Nevertheless, the strategic location of this parcel makes it a valuable cornerstone for the preserve. It provides part of a continuous habitat link along the eastern boundary of Poway that serves as an upland alternative to the Sycamore Creek habitat linkage and movement corridor farther west.

5.1.4 Rock Haven Cornerstone

This is another former BLM parcel deeded to the City in 1986 and zoned as OS-RM. This approximately 244-acre parcel is located midway between Iron Mountain and Mount Woodson on a steep, rocky hill south of Warren Canyon. Its northern portion crosses Highway 67 and includes a section of Warren Creek. The primary habitat on the site is chaparral. Slopes onsite are steep, bouldery and densely vegetated. Rock Haven Spring is located south of Highway 67 on the north-facing slope. The parcel includes part of the linkage through Warren Canyon, which connects the Vallecito area of eastern Poway with the Santa Maria Valley to the east.

Encinitas baccharis (*Baccharis vanessae*) has been documented over 1.93 acres on north-facing slopes at the eastern edge of the parcel. The large tracts of open space onsite could be utilized by golden eagle and other raptors for foraging. Granite night lizards and other reptiles are probably abundant in the boulders. Northwestern San Diego pocket mouse probably survives in the more open chaparral areas. This area generally rated as low value habitat by the Public Review Draft MSCP habitat evaluation model due to the predominance of chaparral. It nevertheless adds significantly to the preserve system by its strategic location, boulder habitats, and support of target species.

5.1.5 Rattlesnake Canyon

The 76-acre Rattlesnake Canyon Cornerstone lies on slopes rising east from Rattlesnake Canyon. Rattlesnake Creek flows through the western portion of the property Vegetation is mostly *Artemisia californica*-dominated coastal sage scrub with some chaparral, southern coast live oak riparian forest, and mulefat scrub (Table 5-1). The vegetation is currently mostly undisturbed, with a few dirt trails used for horseback riding. Much of the surrounding area is also natural open space.

This cornerstone lies partly within the Rattlesnake Creek Resource Conservation Area (RCA). Target wildlife species expected onsite include California gnatcatcher; southern California rufous-crowned sparrow, orange-throated whiptail, San Diego horned lizard, red-diamond rattlesnake, and mule deer One sensitive plant species, San Diego sagewort, is reported from Rattlesnake Canyon. Some sensitive annual plant species may also occur there.

Rattlesnake Canyon is one of the areas identified in the Detailed Biological Assessment for the City of Poway (ERCE 1991a) and in the Focused California Gnatcatcher Resource Study for the City of Poway (ERCE 1991b) as an important wildlife corridor link, and as a priority area for acquisition because it is within the Mitigation Area. Rattlesnake Canyon also has a high to very high habitat value rating by the Public Review Draft MSCP habitat evaluation model.

The City of Poway has proposed to use a portion of Rattlesnake Creek as a detention basin. The structure would be approximately 140 to 175 feet high; but the location and the exact dimensions are unknown at this time. If the City does use this site for a detention basin it would decrease the area's value as a cornerstone land.

5.1.6 Iron Mountain Cornerstone

Iron Mountain dominates this 865-acre cornerstone comprising the extreme eastern corner of Poway Rugged slopes are covered with a vast stand of chamise chaparral. The southwest corner of the site supports a stand of coastal sage scrub. This scrub is generally very dense and has a diverse species composition.

Golden eagles maintain a territory at the north end of the site, and these and other raptors use the site as a foraging ground. Potential species of special interest occurring on the site, especially in the coastal sage scrub, include orange-throated whiptail, coastal western whiptail, red diamond rattlesnake, Southern California rufous-crowned sparrow, and Bell's sage sparrow Mule deer populate the chaparral, and granite night lizards are probably abundant in the boulders. Sensitive plants recorded in the area include Encinitas baccharis, Orcutt's brodiaea, dense reed grass, and Ramona horkelia. Much of this cornerstone was rated as moderate value habitat by the Public Review Draft MSCP habitat evaluation model, but lower slopes included high and very high value habitats due to support of sensitive vegetation types and target species.

5.1.7 South Poway Cornerstone

This 636.2-acre cornerstone consists of a series of parcels surrounding the South Poway Planned Community and Business Park. Some parcels are currently designated as open space to mitigate for development of the planned community or other projects. To the north is Poway Creek, bordered by residential and commercial development. Residential

development also borders the western parcels and is scattered at lower densities along Beeler Canyon to the south. The cornerstone parcels are interspersed with parcels designated as Open Space (1 du) (one dwelling unit) by the South Poway Community Specific Plan. A single dwelling unit may be built on each parcel with the remainder permanently protected as open space. This designation affectively buffers the adjacent cornerstone.

The steep south-facing slopes south of the planned community are dominated by coastal sage scrub with intermixed chaparral. The north side of the cornerstone supports coastal sage scrub on its somewhat gentler slopes, along with large grassland areas. Beeler Canyon, forming the southern boundary of the cornerstone, supports a variety of largely disturbed riparian vegetation types, including riparian scrub, riparian oak woodland, and cobbly floodchannels. Most of the natural vegetation in this cornerstone was rated as very high value habitat by the Public Review Draft MSCP habitat evaluation model.

Wildlife species known from the area include San Diego horned lizard, orange-throated whiptail, California gnatcatcher, southern California rufous-crowned sparrow, Dulzura California pocket mouse and mule deer The area also provides foraging habitat for raptors. Populations of two sensitive plants, San Diego barrel cactus and mesa moss occur in the area, with the greatest densities scattered along the southern slope of the site and along the northern border in coastal sage scrub. The clay soils occurring on the northern portion of the cornerstone support native *Stipa* grasslands, which represent much of the remaining *Stipa* grassland in Poway A number of sensitive plants are restricted to clay substrates and have a high potential to occur in this area.

Portions of the South Poway Planned Community cornerstone are within the Metate Road and Beeler Mountain Resource Conservation Areas (RCA). The Metate Road RCA represents a large tract of relatively intact native grassland.

The greatest value of this cornerstone may be in preserving an essential east-west habitat link and wildlife corridor Remaining natural habitats around the South Poway Planned Community represent the only remaining links between the extensive open areas to the east and Los Peñasquitos Canyon, and ultimately to Torrey Pines Preserve on the Pacific Ocean. Beeler Canyon is recognized as an important east-west wildlife movement corridor. Portions of this linkage are already severely constrained by development and habitat disturbance and may require some enhancement in the future. The Calmat Poway mineral

resource extraction plant along Beeler Canyon operates on a Conditional Use Permit that requires reclamation of native vegetation communities, including a coastal sage scrub restoration plan, following the life of the extraction activities. Thus, although the Calmat parcel is currently highly disturbed, it eventually should add to the value of the cornerstone as wildlife habitat.

5.1.8 Van Dam Cornerstone

This parcel was purchased by Caltrans as mitigation land. It lies on the eastern side of Van Dam Peak, near the western extreme of Poway and the Mitigation Area, in an area rated as very high habitat quality by the MSCP Approximately 85 percent of the site supports *Artemisia*-dominated or *Salvia mellifera*-dominated coastal sage scrub (120 of 142 total acres), with most of the balance in chaparral. The coastal sage scrub supports approximately 16 California gnatcatcher pairs. Orange-throated whiptails and San Diego horned lizards have also been observed there. Van Dam Peak is completely surrounded by development. Nevertheless, it represents a significant biological open space area, in part because it is relatively close to other open space areas and may be part of a "stepping stone linkage" in the region. California gnatcatchers and other birds may disperse among Van Dam Peak, Twin Peaks, South Poway Planned Community, and the more continuous habitat areas in eastern Poway Van Dam Peak may also comprise part of a constrained or stepping stone linkage with Los Peñasquitos Canyon and habitat areas west of Poway Thus, although this cornerstone is partially isolated, it makes a notable contribution to the preserve system because it supports a significant population of gnatcatchers and perhaps other target species, and it occupies a strategic location in the regional preserve system.

5.2 Other Open Space Parcels

The Mitigation Area includes a variety of other parcels designated as publicly or privately owned open space. These are mostly too small or currently are afforded insufficient resource protection to warrant status as cornerstones. Nevertheless, some are significant for the resources they support and their strategic locations within the preserve system, and some may become cornerstones with added resource protection. The more important of these open space parcels are discussed briefly below Table 5-2 summarizes acreages of vegetation types within all lands designated as natural resource areas, exclusive of cornerstone lands. These properties are coded in blue-green on the preserve design map

Table 5-2

EXTENT OF VEGETATION COMMUNITY TYPES WITHIN OTHER PUBLICLY AND PRIVATELY OWNED OPEN SPACE AREAS

Vegetation Type	Extent of Vegetation in Acres
Coastal Sage Scrub	804.2
Disturbed Coastal Sage Scrub	43.9
Chaparral	250 1
Disturbed Chaparral	3 0
Coastal Sage Scrub-Chaparral Scrub	87 0
Coast Live Oak Woodland	9 3
Southern Coast Live Oak Forest	45.5
Disturbed Southern Coast Live Oak Forest	0 9
Eucalyptus Woodland	2.1
Southern Sycamore Riparian Woodland	8 0
Disturbed Floodplain	22.6
Native Grassland	30 9
Mulefat Scrub	1 9
Southern Willow Scrub	3 7
Nonnative Grassland	44.0
Disturbed Habitat	99.8
Agriculture	3.5
Open Water	60.3
Developed	81 9
TOTAL[a]	1,600.5

[a] Numbers may not sum to total due to rounding errors.

(Pocket Map 2). They collectively are considered to be afforded 80 percent to 100 percent preservation for analytical purposes.

5.2.1 Sanrex Parcel

The Sanrex property straddles the southern boundary of Poway and includes the headwaters of the north and south forks of Poway Creek. It is administered as a land mitigation bank by The Environmental Trust (TET). Approximately 342 acres of the property are located within the City, with the balance of the property (approximately 500 acres) lying southeast of Poway in County jurisdiction, but within the City's sphere of influence (SOI).

The portion of the site within the City includes a deep, steep-sided box canyon supporting a mosaic of coastal sage scrub, chaparral, and oak woodland. The upper slopes are dry and littered with boulders and rock outcroppings, while alluvial soils and streambeds cover the valley floor The canyon drains into an annual stream that becomes the north fork of Poway Creek. Much of the valley floor is densely vegetated with chaparral and scrub The vegetation on the slopes is generally more open and consists of coastal sage scrub and an open chaparral-scrub mix. The site supports approximately five pairs of California gnatcatchers and is part of a core habitat area for this species. Other target wildlife species known from the site include golden eagle, rufous-crowned sparrow, San Diego horned lizard, and orange throated whiptail. Slender-pod jewelflower has been found in the area, and Palmer's ericameria is scattered near the bottom of the canyon. The Sanrex property is part of a broad habitat linkage between eastern Poway and extensive open space areas south and east of Poway, such as the Sycamore Canyon/Clark Canyon area and San Vicente Reservoir It is contiguous with the open space easements near the planned detention basin on the north Fork of Poway Creek (see below). The property currently enjoys a degree of protection due to the abundance of steep slopes (the majority of the site is steeper than 45 percent) and its management as a mitigation bank.

The portion of the Sanrex property lying outside of Poway in county jurisdiction also supports significant biological resources. It is covered by a vast mosaic of undisturbed coastal sage scrub and chaparral communities. Large numbers of gnatcatchers have been observed in the area, as well as numerous orange-throated whiptail lizards, San Diego horned lizards, and rufous-crowned sparrows. Northern harriers and golden eagles have also been observed, and slender-pod jewelflower is scattered throughout chaparral on the

property Most of the Sanrex property was rated as very high value habitat by the Public Review Draft MSCP habitat evaluation model.

The status of the Sanrex property as a habitat mitigation bank provides a high degree of security for the onsite biological resources. TET has a contractual agreement with the landowner to manage the property as open space and to assist in administrating the purchase of parcels on it for mitigation credit for offsite projects. The property is protected by easements until a legal parcel is sold, at which time title is transferred to TET, thus protecting it in perpetuity However, until portions of the property are purchased and protected in perpetuity for biological preservation, they do not meet the definition of a cornerstone as defined in this document (publicly owned land dedicated to biological resource preservation). For this reason the Poway Subarea HCP considers the portion of the Sanrex property within the Mitigation Area as a significant biological open space property, but not a cornerstone. Nevertheless, the ultimate fate of the Sanrex property is probably conversion to a new cornerstone through the mitigation banking process. For analytical purposes, the property is considered to be 80-100 percent preserved at the present.

5.2.2 Old Coach Golf Estates Open Spaces

Approximately 250 acres of open space are planned to remain with the development of the Old Coach Golf Estates (OCGE) planned community in northern Poway The project has been approved for residential estate lots and a 27-hole championship golf course. The open spaces include dedicated public lots (61.6 acres), dedicated private easements in residential lots, and larger undeveloped portions between links of the golf course. Public trails and some links will be maintained through some of these open space areas. This mix of active and passive open space affords varying degrees of protection for biological resources. Although the total area in open space is relatively large, the varying amount of protection afforded by this mix of public and private open spaces preclude this area from meeting the criteria of a cornerstone land. However, for purposes of analysis, no more than 20 percent of the native vegetation in the OCGE open space area would be removed for improvement related to the golf course.

Habitats in these open spaces include oak riparian forest, sycamore riparian woodland, dense oak woodland, non-native grassland, and coastal sage scrub. The riparian communities are well developed along Sycamore Creek and serve as an important wildlife

movement corridor Narrower and less continuous riparian communities are also found along Thompson Creek, which may serve as a movement corridor from the area near the Mount Beatrice Cornerstone to Sycamore Creek. The northern bubble of proposed development north of Sycamore and Thompson Creeks, which was previously brushed, is surrounded primarily by coastal sage scrub. This sage scrub is continuous with a large, mostly undeveloped expanse of sage scrub that reaches well beyond the OCGE development to the northern tip of Poway and beyond. Upland habitats along either side of Sycamore Creek also support coastal sage scrub that is occupied by gnatcatchers, especially west of the creek. The OCGE open spaces are connected at their southern tip with the Blue Sky-Mount Woodson Cornerstone via a constrained habitat linkage through the Butcher property They are also contiguous with the Lower Sycamore Creek Cornerstone along their western edge. Most of the OCGE open space area was rated as very high value habitat by the Public Review Draft MSCP habitat evaluation model.

A 27-hole, links-style golf coarse is approved in the southern half of the area, and throughout the already brushed (ruderal) areas in the development bubble omitted from the Mitigation Area in the northern portion. An approved design for the course retains much of the existing habitat intact in the southern portion. Riparian habitats along the creek will be protected, although details of a creek crossing for the golf cart pathway are yet to be designed.

Despite fragmentation from the approved development and golf course, and expected indirect impacts to biological resources in remaining habitats, the OCGE open spaces should continue to serve as a significant habitat area, regional habitat linkage, and wildlife movement corridor Particular emphasis shall be placed on discouraging any further encroachment into this already constrained corridor by development. Remaining sage scrub habitats surrounding the development bubble north of Sycamore Creek should serve as a buffer between the development and more extensive sage scrub in adjacent offsite areas.

5.2.3 North Fork, Poway Creek Resource Area

This area of existing undeveloped open space is zoned for Planned Residential Development (PRD). It lies along the North Fork of Poway Creek between existing residential development and the Sanrex mitigation bank property As one of the infrastructure improvement projects called for by the Paguay Redevelopment Plan, the City

is planning a flood control detention basin in this area, just upstream from where the North Fork of Poway Creek enters the existing residential area. The size and design of the detention basin is currently unknown, and the area estimated for inundation has been excluded from the Mitigation Area. The balance of the property, within the Mitigation Area, will be dedicated as permanent biological open space once the details of the flood control basin are established. At that time its status may be changed to that of a cornerstone. In the meantime, the property is considered significant open space expected to be 80-100 percent preserved, depending upon final design of the detention basin.

The property supports primarily chaparral on its northern half and coastal sage scrub on its southern half. Oak woodland and disturbed oak riparian forest are found along the creek channel. Orange-throated whiptails and San Diego horned lizards have been observed on the property, and the coastal sage scrub may support gnatcatchers, although none have been reported. Gnatcatchers have been observed on adjacent properties. Most of this property was rated as high to very high habitat value by the Public Review Draft MSCP habitat evaluation model.

This property occupies a significant location relative to regional habitat linkages and movement corridors. It is part of the presently wide linkage between eastern Poway and the South Poway Cornerstone, east of where this linkage becomes highly constrained by existing development. Given that the entire Sanrex property is ultimately preserved, loss of this North Fork Poway Creek open space area to development would not greatly disrupt regional habitat connectivity. However, preservation of this property would be insurance against the possible loss of habitat in the Sanrex property. Addition of this property to the preserve will also add incrementally to total biological resources in the preserve, and would help buffer impacts of existing development in southeastern Poway from the valuable core resource area currently centered on the Sanrex property. The area proposed for construction of the detention basin is not essential to maintaining connectivity, as it is immediately adjacent to development that already creates a dead end to wildlife movement. The Poway Subarea HCP recommends that the North Fork Poway Creek Resource Area be converted to cornerstone status (100 percent preservation) upon completion of the detention basin project.

5.2.4 South Poway Specific Plan Open Space

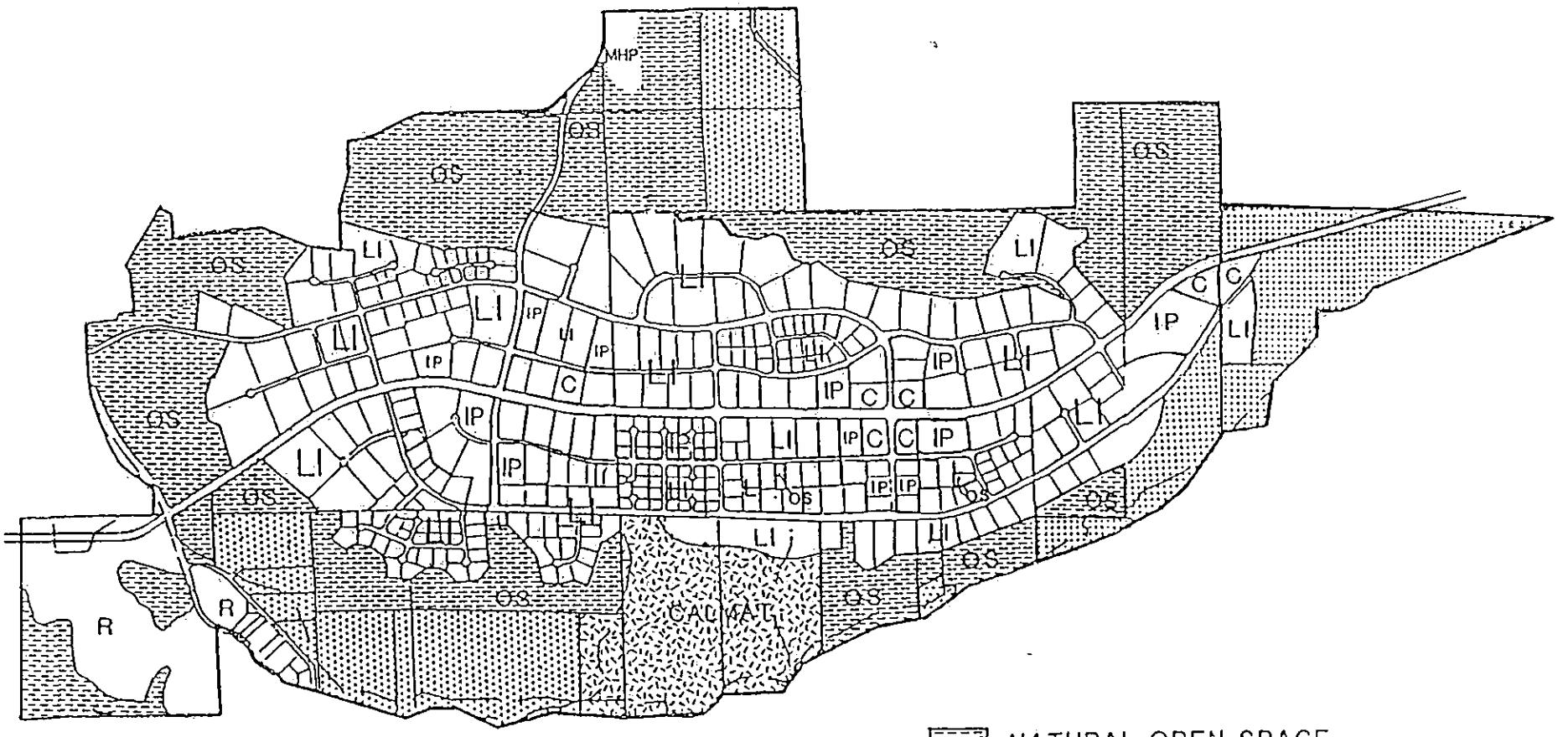
Parcels comprising the South Poway Cornerstone (Section 5 1 7) are interspersed with parcels designated as Natural Open Space or Open Space (1 du). These parcels, totaling 566.5 acres, are collectively referred to as the South Poway Specific Plan Open Space. This area is shown on Figure 5-2. The Open Space (1 du) land use designation is intended as an area for very low density single-family residential development. Parcels designated as Open Space (1 du) are impacted by two or more of the following factors: unstable soils, landslides, creek/floodway channels, steep and visually prominent hillside areas. In order to avoid potential adverse impacts in the areas of soils and geology, hydrology and visual quality, residential development for these areas are restricted to one living unit per existing parcel or one dwelling unit per 40 acres and most of the lot is to be left in its natural state.

The South Poway Specific Plan Open Space supports over 300 acres of coastal sage scrub, 32 acres of native grassland, and a mosaic of other sensitive and non-sensitive native habitats. Together with the South Poway Cornerstone it helps form east-west habitat linkages and a wildlife movement corridor along Beeler Canyon. Sensitive species found in this area include gnatcatchers, Orcutt's brodiaea, rufous-crowned sparrow, San Diego barrel cactus, and San Diego horned lizard.

The South Poway Specific Plan Open Space is considered at least 80 percent protected under existing designations. The Open Space (1 du) parcels may support one dwelling unit each, but the remainder of the parcel must be maintained by an open space easement. Together, these parcels create a significant block of open space adding to the value of the South Poway Cornerstone and connecting it with more extensive open spaces to the east.

5.3 Conservation Strategy for Balance of the Mitigation Area

Under existing zoning and ordinances, potential maximum buildout on rural residential lots throughout the Mitigation Area is estimated to remove approximately 21 to 22 percent of natural habitats in the Mitigation Area outside of the cornerstone lands (assuming City water is extended throughout the Mitigation Area and depending on participation level from private property owners) (see Section 4 4). Table 4-2 in Section 4 4 of this HCP summarizes the expected future vegetation composition if the Mitigation Area becomes fully built out. The Poway Subarea HCP creates a Mitigation Area where conservation efforts



SOURCE: City of Poway Resolution No. 92-010

FIGURE 5-2

South Poway Specific Plan Open Space

OGDEN

will be focused and where special development requirements will apply to public projects and to private projects approved in reliance upon the City's Incidental Take/Management Authorization permit. These provisions will ensure compatibility of development within the RR zone with the biological objectives of the preserve. The combination of existing development regulations and the Subarea HCP is expected to steer impacts away from sensitive habitats and into non-sensitive vegetation communities. This section discusses these provisions in general relative to biological preservation goals in the Mitigation Area. Details of the implementation provisions are presented in Section 7.0.

Among other provisions, the implementation of the special development requirements will limit the development footprint to a total of 2 acres per allowable lot (for participating private landowners), thereby ensuring preservation of more natural habitat than would be allowed under existing ordinances and regulations. In addition, development footprints must avoid impacts to sensitive vegetation communities to the extent feasible. Developments should be sited preferentially in already disturbed habitats or non-sensitive habitats, such as non-native grassland or chaparral, unless so doing otherwise compromises overall preserve design.

5.3.1 Specific Property Considerations

Appendices of this HCP includes two recent biological survey reports for the Liguori Ranch and the adjacent John Liguori property These reports were submitted by the property owners just prior to the public review period of the EA/IS, Poway Subarea HCP, and Companion IA documents. The site biologist, Vincent Scheidt, performed a detailed survey and Analysis of Habitat Values and Recommendations for both properties. The recommendations and complete text and graphics of said survey reports are fully incorporated into the Poway Subarea HCP and pocket maps, as approved by City Staff, CDFG, and USFS on August 7, 1995

Recommendations

The following recommendations as contained in the survey reports have been included in the HCP and pocket maps.

1 Liguori Ranch Property –

As depicted on Figure 2 of the related survey report, the following areas shall be considered for future development purposes: Agricultural Area, Weedy and Ruderal, or Barren and Eucalyptus Woodland. All other areas onsite containing high habitat values and slopes of 45 percent and above are included within the Biological Linkage and Core Area (BCLA) and should be retained as high biological value open space at the time development applications are considered by the City

2 John Liguori Property –

As depicted on Figure 2 of the related survey report, the following areas shall be considered for development purposes. Non-native Grasslands and Successional Sage Scrub. All other areas of the property should be retained within the BCLA, as defined under number one above concerning the Liguori Ranch Property

5.3.2 Avocado Orchard/Sycamore Creek Property

The Ed Malone property, which currently supports an avocado orchard on the east side of Sycamore Creek, occupies a strategic location in the preserve system despite disturbance to onsite biological resources by agricultural activity Although the Poway Subarea HCP does not restrict ongoing agricultural activities, special development considerations shall be addressed if and when any development proposal for the property is submitted. In the event that all or part of the property is proposed to be taken out of agricultural use and converted to urban, residential, or other uses, such development shall be sited and clustered so as to minimize impacts to remaining native vegetation and maximize the width of wildlife movement corridors and habitat linkages on and adjacent to the property Habitat enhancement shall also be encouraged for the riparian and disturbed sage scrub habitats at the western end of the property This location is further addressed as a Proposed Resource Protection Area (PRPA 6) in Section 5.5, below

5.4 MITIGATION FOR SCRIPPS POWAY PARKWAY AND OTHER PUBLIC PROJECTS

This Subarea HCP provides the mitigation plan for obtaining a Section 10(a) permit from USFWS and a 2081 Management Authorization from CDFG. These authorizations are

required to implement the Paguay Redevelopement Plan, the City's Capital Improvement Program (CIP), the Scripps Poway Parkway extension, and any other public projects planned by the City or potentially proposed in the future. Participation in the Subarea HCP for private property owners is also an option to Section 10(a) permits and management authorizations from the USFWS and CDFG Table 5-3 provides a list of the public projects currently planned or proposed by the City for which this HCP is written.

5.5 PROPOSED RESOURCE PROTECTION AREAS

The gap analysis (Section 4.5) reveals areas in the Mitigation Area where existing constraints and restrictions provide insufficient protection of resource values in core and linkage areas. The resource conservation overlay will provide additional protection, yet some essential parcels, such as remaining undeveloped parcels in a constrained habitat linkage, may require public purchase and management as biological open space. Other parcels should be acquired as cornerstone lands to avoid fragmentation in core biological resource areas. Areas that warrant consideration for acquisition as public open space are discussed below Future studies and changes in conditions within the Mitigation Area may reveal other areas deserving of study or acquisition as additional cornerstones or habitat areas. Thus, this preliminary list is not definitive; the Poway Subarea HCP must allow flexibility and adaptive management in the evolution of the final preserve.

Areas targeted for acquisition to further protect biological core and linkage areas are called Proposed Resource Protection Areas (PRPAs). They are called out by identification numbers on the Preserve Design pocket map (Pocket Map 3).

PRPAs are not drawn exclusively along parcel boundaries. They represent approximate areas within which existing land use restrictions and the special development requirements presented in Section 7 may not afford sufficient protection to biological resources. Where political or parcel boundaries represent logical boundaries for the PRPA, they were drawn thus. Otherwise, PRPA boundaries are generally defined along vegetation boundaries or topographic features. For example, core coastal sage scrub areas that are subject to fragmentation are generally included in PRPAs. Conversely, slopes of 45 percent or greater are generally excluded from PRPAs even if they support sensitive resources, because under the special development requirements these steep slope areas are off-limits to development, and are therefore not considered at risk.

Table 5-3

PROPOSED PUBLIC PROJECTS

Project's Within Mitigation Area	Project's Outside Mitigation Area
I. Flood Control	**I. Flood Control**
N. Fork Poway Creek Detention Basin	Midland Road Stormdrain (Ph. II)
S. Fork Poway Creek Detention Basin	Poway Creek (Claire to W Poway
Flood Plain Re-mapping	Los Olivos Drainage
Rattlesnake Creek Detention Basin	Poway Creek (Garden Rd. to Claire)
S Fork Poway Creek	Pomerado Creek
Beeler Creek Bridge	Pomerado Creek Detention Basin
Stage Stop Storm Drain	Avenida Florencia Drainage
	Budwin Lane Drainage
II. Traffic Circulation	**II. Traffic Circulation**
Poway Road	Espola Road
North City Parkway (SR 56)	Oak Knoll Road
Scripps Poway Parkway East	Community Road
Sycamore Canyon Road	Mass Transit (Light Rail)
	Pomerado Road
	Garden Road
	Pomerado Bike Lanes
III. Local Roads	**III. Local Roads**
Welton Lane	Icarus Lane
Old Pomerado Road	Mountain Road
Stowe Drive	Crocker Road
	York Avenue
	Stagestop Drive
	Golden Way
	Adah Lane
	Vista View Drive
	Edgemoor Street
	Olive Tree Lane
	Hilltop Circle
	Melody Lane
	Oak Knoll Road
	Putney Road
	Tarascan Drive
	Tierra Bonita
	Twin Peaks Place
	Adrian Street
	Bernadotte Lane
	Northcrest Lane
	Street Striping
IV. Sewer System	**IV. Sewer System**
Midland	Sagewood Drive
	Poway Creek
	Adah Lane
	Claire Drive
	Pebble Canyon Area
V. Water System	
Montauk Reservoir	
0.6 MG Tank	
1.0 MG Tank	
South Poway Reclaimed Water Lines	
VI. Public Facilities	
Restaurant/Conference Center	
VII. Parks and Recreation Facilities	
Bikeways	
Blue Sky Ranch Parking Lot	
Municipal Golf Course	
Pedestrian and Bicycle Paths	
Equestrian Paths	
Trail/Linear Park	
VIII. Public Facilities - Other Agencies	
School Facilities Upgrade	
Hospital Campus Improvements	
Palomar College Satellite	

Table 5-3 (Continued)

PROPOSED PUBLIC PROJECTS

Project's Within Mitigation Area	Project's Outside Mitigation Area
	V. Water System
	Claire Drive
	Espola Transmission Main
	Espola Transmission North
	Humo Drive
	Northcrest Crosstie
	Olive Grove/Edgemoor
	Pebble Canyon Road
	Tierra Bonita Road 24"
	Tierra Bonita/Norwalk
	Vista View Drive
	Welton Lane
	1.25 MG Tank and Pump Station
	Reclaimed Water Lines
	Reclaimed Water Reservoir
	Welton/Woodgate
	VI. Public Facilities
	City Hall
	Sheriff's Sub-station
	Operations Center Landscaping
	Operations Center Expansion
	Relocating Fire Administration
	Fire Station #4
	Water Plant Landscaping
	VII. Parks and Recreation Facilities
	Los Arbolitos Park
	Neighborhood Park
	Silverlake Park
	Old Poway Park Phase IV
	Soccer Complex
	Valley School Field Improvements
	VIII. Public Facilities - Other Agencies
	Regional Justice Facilities

PRPA delineation also considered the boundaries of areas mapped and discussed in the Conservation Element of the San Diego County General Plan Amendment as Resource Conservation Areas (RCAs; County of San Diego 1980) and important biological resource areas as discussed in the City's Natural Resources Element of their General Plan (City of Poway 1991) Prior to the incorporation of the City of Poway, the County delineated RCAs to identify approximate areas known to support sensitive biological resources. RCAs have since been used as a planning tool by the City of Poway. All RCAs were listed by identification number and discussed in the Detailed Biological Assessment for the City of Poway (ERCE [Ogden] 1991). Each RCA overlapping with a PRPA is identified as appropriate in the PRPA descriptions that follow

Each PRPA consists of a contiguous area that is relatively homogeneous in terms of biological value and risk of loss to development. In a few cases, PRPAs were subdivided because portions of the area differed significantly in value or risk. For example, PRPA 13a includes the central swath of sage scrub along the north-south regional linkage in eastern Poway Fragmentation by rural residential development here would be more detrimental than fragmentation in outlying portions of the PRPA (13b), which, while detrimental, would not disconnect the regional linkage.

5.5.1 Acquisition Priorities

PRPAs were delineated based on their value to the preserve system and potential risks of loss to development. These factors were used to rate PRPAs into three categories representing their priority as potential off-site mitigation areas for projects mitigating in Poway, or for allocating in-lieu mitigation fees or other resources towards acquisition of preserve lands.

Preservation Value

Although all PRPAs represent areas important to preserve function because they support sensitive biological resources, habitat linkages, or wildlife movement corridors, some are more important than others. The preservation value of each PRPA was therefore rated, relative to other PRPAs, based on its importance to the function of the final preserve, as follows:

- High: areas that support concentrations of target species, large contiguous blocks of sensitive vegetation communities, or essential habitat linkages or wildlife movement corridors and within which development or other impacts would *irreparably damage preserve design and could not be mitigated.*

- Medium: areas that support sensitive habitats, target species, or habitat linkages that are *important to preserve design, but their loss or partial loss could be at least partially mitigated elsewhere in the preserve* Examples include coastal sage scrub habitats peripheral to core areas, or habitat linkages for which alternative linkages exist in the event the first is lost.

- Low: areas that support sensitive resources of lesser importance to preserve design than high or low value PRPAs. Preservation of low value PRPAs may add incrementally to total reserve size and resources, but loss of these areas would not unduly damage overall preserve function.

It must be emphasized that the preserve value ratings compare PRPAs to each other for their relative importance to overall preserve design. They are not rankings of regional habitat quality *per se.* A PRPA may support high quality coastal sage scrub and target species, yet be rated as low priority compared to other PRPAs whose preservation is more important due to strategic locations. Thus, preservation value ratings don't necessarily match habitat evaluation ratings based on regional analyses. Nevertheless, the PRPA preserve value rankings were compared with the results of two existing regional analyses from the MSCP (Ogden et al. 1995): the gnatcatcher habitat evaluation model and the composite habitat evaluation model. Both models rate areas from no value to very high value habitat, based on different premises (value to gnatcatchers *vs* value to all MSCP target species). Because nearly all of the Poway Mitigation Area is rated as high to very high habitat value by one or both of these models, these results alone are insufficient for making more detailed priority rankings for preservation within the Mitigation Area. Thus, the preservation value rating for the PRPAs reflects a finer scaled analysis, which takes into account the strategic location of each PRPA.

Risk of Loss Rating

Existing constraints, laws, and ordinances offer significant protection for biological resources in Poway Nevertheless, some areas of high biological resource value are at risk

of loss in the face of these restrictions. Flatter areas of coastal sage scrub in the rural residential zone could become fragmented by scattered housing construction, and already constrained habitat linkages and wildlife corridors could become further degraded by direct or indirect impacts of nearby development.

PRPAs were therefore rated as to the relative risk of loss of biological resource value under existing constraints:

- A low rating indicates that the existing and proposed constraints on development, perhaps coupled with physical constraints on the potential for development, offer sufficient protection for biological resource values within the PRPA. For example, slopes of 45 percent or greater are considered at low risk, because development is prohibited on them by the special development requirements. Generally, parcels on which potential build-out would impact less than 5 percent of the native vegetation (95-100 percent preservation) are considered at low risk.

- Medium-risk PRPAs are partially protected by existing and proposed constraints, but may suffer some less than complete loss of important resource values. For example, PRPAs in which the potential buildout analysis (Section 4 4) indicates that 5 to 20 percent of the native vegetation could be removed (and 80 to 95 percent preserved intact) are considered at moderate risk via incremental loss, fragmentation effects, and indirect impacts. Medium-risk PRPAs may retain populations of sensitive species or serve as habitat linkages and movement corridors after buildout, but their overall value to the preserve system would be reduced. These losses may be mitigable within the Mitigation Area.

- High-risk PRPAs are those where existing and proposed constraints are clearly insufficient to protect important resource values. Examples of high-risk PRPAs are areas where the potential buildout analysis indicates that more than 20 percent of the habitat could be removed and fragmented, or that highly sensitive resources, wildlife movement corridors, or habitat linkages could be disrupted by allowable activities. These losses could not be mitigated within the Mitigation Area.

Acquisition Priority

The acquisition priority for each PRPA is based on both the preservation value and the risk of loss rating. In general, the lower of the preservation value or the risk of loss rating determines the overall acquisition priority for a PRPA. Thus:

- High priority PRPAs are those 1) containing resources, including habitat linkages or movement corridors, that are essential to the preserve system (high value) and 2) are at high risk of loss under existing and proposed zoning, ordinances, and guidelines (high risk). Loss of resources within these PRPAs due to development could not be adequately mitigated elsewhere in the Mitigation Area. High priority PRPAs should be studied immediately for methods of preserving their biological value. Key parcels should be targeted for public acquisition.

- Medium priority PRPAs are those that 1) contain resources important to the preserve system, and that 2) are at medium risk of loss. Loss of resources in medium priority PRPAs would be detrimental to overall preserve value, but are incremental losses that are at least partly mitigable. Medium priority PRPAs should be studied to clarify their biological values and to determine whether they will be adequately preserved without public acquisition. Public acquisition should be considered as opportunities arise or if studies indicate inadequate protection exists for particular parcels.

- Low priority PRPAs are those that 1) may contain resources important to the preserve system, but that 2) are relatively abundant within the Mitigation Area or are at relatively low risk of loss. Loss of resources in low priority PRPAs may be detrimental to overall preserve value, but are either unlikely to occur or are incremental losses that could be mitigated elsewhere in the Mitigation Area. Low priority PRPAs should be studied when opportunities for acquisition arise within them, such as when land within a low priority PRPA is offered as mitigation for offsite development. Otherwise, use of in-lieu fees or other limited resources to purchase property in low priority PRPAs should not be considered if higher priority options exist.

The following section discusses the attributes of each of the PRPAs and rates each for its preservation value, the risk to this value under existing levels of protection, and its priority for acquisition to enhance protection. Where PRPAs overlap the County RCAs, the RCAs are identified by number Where appropriate, the results of the MSCP California gnatcatcher and composite habitat quality evaluation models are also presented (Ogden et al. 1995)

The California gnatcatcher habitat evaluation model developed for the MSCP is consistent with the evaluation process developed by the Scientific Review Panel (SRP 1993) for determining the long-term conservation value of land for the coastal sage scrub NCCP The model rates habitats from no value to very high value for long-term conservation of gnatcatchers based on patch size, vegetation composition, connectivity, slope, elevation, and climatic zone. Much of the coastal sage scrub habitat in Poway rates as very high value by this model, with higher and steeper elevation areas varying down to moderate habitat value. Many of the PRPAs contain predominantly very high quality habitat based on this model. In the following discussions, model results are presented only for those PRPAs not rated as predominantly very high quality habitat by this model.

The composite habitat evaluation model considers other sensitive habitats and target species in addition to coastal sage scrub and gnatcatchers in rating areas for their regional importance in the MSCP study area. Thus, such areas as wetland habitats, wildlife movement corridors, and areas of clay soils may rate as high or very high habitat value using this model. Nearly all PRPAs contain predominantly very high quality habitat based on this model. Again, only results for PRPAs not rated as predominantly very high quality by this model are presented in the following discussion.

Table 5-4 summarizes the acquisition priority information discussed in this section.

PRPA 1

This area supports coastal sage scrub on relatively flat slopes adjacent to the San Dieguito River Valley and the corresponding Mitigation Area for the San Dieguito River Park (SDRP). It also contains oak riparian woodland. It is relatively undisturbed and known to support a number of California gnatcatcher pairs. Flatter coastal sage areas are currently underrepresented in protected areas, such as cornerstone lands and areas of 45 percent or greater slopes. PRPA 1 is immediately adjacent to coastal sage on non-developable

Table 5-4

ACQUISITION PRIORITY RANKINGS FOR PROPOSED RESOURCE PROTECTION AREAS[1]

PRPA	Priority[2]	Preservation Value[3]	Risk[4]	Comments
1	Medium	Medium	Medium	Although development could impact portions of the area, the linkage should remain functional.
2	Medium	Medium	Medium	Relatively flat coastal sage scrub, moderate risk of fragmentation.
3	Medium	Medium	High	Relatively flat coastal sage scrub, high risk of fragmentation.
4a	**High**	**High**	**High**	**Constrained sage scrub linkage; target parcel(s) for purchase.**
4b	Medium	Medium	Medium	Thompson Creek riparian; probably degradation from adjoining development.
5	Low	Medium	Low	Edge affected sage scrub and riparian. May buffer existing open space preserves.
6	Medium	Medium	Medium	Coastal sage scrub and oak riparian forest fragmented by avocado orchard. Effectively widens the Sycamore Creek corridor
7	Low	Medium	Low	Constrained linkage and movement corridor through chaparral Consider acquisition if risk increases.
8	**High**	**High**	**High**	**Highly constrained linkage; target parcel(s) for purchase.**
9	Low	Low	High	Edge affected. Would connect small, isolated easements to cornerstone. Consider acquisition if available.

Table 5-4 (Continued)

ACQUISITION PRIORITY RANKINGS FOR PROPOSED RESOURCE PROTECTION AREAS[1]

PRPA	Priority[2]	Preservation Value[3]	Risk[4]	Comments
10	Medium	Medium	Medium	Scenic value in addition to gnatcatcher habitat.
11	Medium	High	Medium	Important gnatcatcher habitat. at moderate risk of fragmentation.
12	Medium	Medium	Medium	Many small parcels may not be developable; consider opportunistic purchases.
13a	**High**	**High**	**High**	**Very important sage scrub core and linkage at high risk of fragmentation. Target for acquisition.**
13b	Medium	Medium	High	Important sage scrub habitat at periphery of essential linkage (11a). High risk of fragmentation.
14	Medium	Medium	Medium	Alternative sage scrub linkage and buffer to cornerstones. Some risk of fragmentation.
15	Medium	Medium	Medium	Valuable connection from sage scrub to Iron Mountain. Linkage may be fragmented but functional after buildout.
16	**High**	**High**	**High**	**Important linkage; consider purchase to allow restoration following construction of Scripps Poway Parkway extension.**
17a	**High**	**High**	**High**	**Target for acquisition to widen coastal sage scrub linkage.**
17b	Medium	Medium	High	Edge effected. Consider for acquisition as buffer

Table 5-4 (Continued)

ACQUISITION PRIORITY RANKINGS FOR PROPOSED RESOURCE PROTECTION AREAS[1]

PRPA	Priority[2]	Preservation Value[3]	Risk[4]	Comments
18	**High**	**High**	**High**	**Restoration needed; part of regional linkage/corridor.**
19	Medium	High	Medium	Consider acquisitions to add to existing cornerstone, maintain linkages.
20	Low	High	Medium	Part of regional core and linkage; currently managed as a habitat mitigation bank but not 100% protected.

1 These priority rankings were developed based on available information and are subject to revision as new information warrants.

2 Priority for acquisition. High = target parcels for acquisition as essential portions of preserve; Medium = study for acquisition opportunities as important additions to preserve; Low = consider parcels for acquisition as opportunities are presented, but not at the expense of protecting higher priority parcels.

3 Preservation Value: High = biological resources, including linkages or corridors, whose loss would irreparably damage preserve design and could not be mitigated; Medium = biological resources onsite are important to preserve design, but their loss may be partially mitigable elsewhere in the preserve; Low = loss of biological resources onsite would not disrupt overall preserve function.

4 Risk of loss of onsite resources: High = existing zoning, ordinances, and guidelines are insufficient to protect the onsite biological resources; Medium = existing zoning, ordinances and guidelines offer partial protection to onsite resource values; Low = existing zoning, ordinances and guidelines sufficiently protect onsite resource values.

45 percent or greater slopes, and includes scattered oak woodlands in County RCA 55 Protecting this area would add to the value of this larger block of habitat and help ensure connectivity to the SDRP Limited development of rural residences may degrade the biological resources, but would probably not sever the linkage.

PRPA 2

PRPA 2 is also adjacent to the SDRP Mitigation Area, supports coastal sage on relatively flat slopes, and is part of a much larger block of coastal sage scrub supporting California gnatcatchers and other sensitive species. It is relatively undisturbed, is contiguous with significant riparian oak vegetation, and forms part of an important linkage between the Poway Subarea Mitigation Area and the SDRP Mitigation Area. PRPA 2 is included in County RCAs 56 and 69 It is at low to moderate risk of fragmentation by rural residential development.

PRPA 3

PRPA 3 represents a large (approximately 360 acres), relatively flat area of coastal sage scrub immediately north of the Old Coach Golf Estates Planned Community Although partly disturbed by a variety of dirt roads and trails, this area warrants further study as a potential cornerstone. In addition to coastal sage scrub that is known to support orange-throated whiptails, the area contains some oak woodlands and grasslands and is surrounded on most sides by non-developable slopes of greater than 45 percent. The area could be fragmented by rural residential development under current constraints.

PRPA 4a

This area represents a constrained linkage through coastal sage scrub and riparian oak woodland east of the Old Coach Golf Estates. Existing, scattered housing has fragmented the coastal sage linkages in the vicinity Protection of a few key parcels here might ensure that further development, allowed under existing zoning, would not sever this already constrained linkage. Remaining parcels in this area should be targeted for acquisition and restoration to maintain the linkage.

PRPA 4b

This PRPA primarily represents the riparian vegetation and adjoining coastal sage scrub and chaparral communities along Thompson Creek. Although it scores low as gnatcatcher habitat, this area rates very high using the composite habitat evaluation model. Riparian vegetation is off limits to development, but houses in adjacent chaparral could degrade habitat quality in the area, which includes County RCA 57

PRPA 5

This 37-acre parcel is immediately adjacent to the existing Lower Sycamore Creek Cornerstone and the Old Coach Golf Estates open space areas. It supports coastal sage scrub, riparian woodland, and a variety of sensitive species, but it is surrounded on three sides by existing development and is therefore highly edge-affected. Under the special development requirements (Section 7) this parcel could support one dwelling unit, or a maximum of 2 acres of vegetation removal, which would degrade biological value slightly more. This area deserves consideration for acquisition as a buffer for the existing cornerstone and open spaces only if it is readily available and acquisition would not use resources better applied to higher priority parcels.

PRPA 6

This PRPA, lying between the large avocado orchard and Old Coach Golf Estates, supports oak riparian forest, coastal sage scrub, and disturbed and developed habitats. Its primary benefit to the preserve system is in widening and buffering the habitat linkage and wildlife movement corridor along Sycamore Creek through this already constrained area. PRPA designation for this area encourages any future development on this property to be clustered in areas not currently supporting native vegetation, such as in the existing avocado orchard. Restoration or enhancement in the remaining native habitat areas of PRPA 6 should be considered.

PRPA 7

This area represents a constrained linkage and wildlife movement corridor. The large avocado orchard in this vicinity funnels wildlife movements around it either to the west (along Sycamore Creek) or the east, along a prominent ridge through PRPA 7 The

ridgetop may represent a movement corridor for mountain lions, deer, and other animals. PRPA 7 also represents a chaparral and coastal sage scrub habitat linkage between the Mount Beatrice Cornerstone and the Blue Sky–Mount Woodson cornerstone. Although only rated as low quality habitat by the regional habitat evaluation models, this PRPA deserves consideration for acquisition to preserve this linkage if there is an increased risk of its disruption.

PRPA 8

One or more undeveloped parcels in this area are considered essential to preserving the habitat linkage between Blue Sky Ecological Reserve and habitats to the north via Sycamore Creek and the Old Coach Golf Estates open space areas. The Butcher property (see Section 5 1 10) was purchased by the City of Poway as mitigation to help preserve this highly constrained linkage and movement corridor. Other parcels in PRPA 8, between the Butcher property and Blue Sky Ecological Reserve, should be targeted for acquisition to ensure the integrity of this connection.

PRPA 9

This area of approximately 60 acres lies between the Blue Sky–Mount Woodson cornerstone and two biological open space easements south of Lake Poway It is covered by coastal sage scrub and supports some gnatcatchers. However, it is highly edge-affected by surrounding development and has some disturbance onsite. As a result it is rated only as moderate quality habitat by both regional habitat evaluation models. This area is therefore low to medium priority for acquisition. Preserving it would add incrementally to protected sage scrub habitat, would help buffer the large cornerstone, and would tie in existing open spaces supporting coastal sage scrub. However, this PRPA should only be acquired if readily available and so long as it does not take resources from higher priority PRPAs.

PRPA 10

This is an area of relatively gentle, coastal sage and chaparral covered slopes in the southern and western portions of Twin Peaks. It is contiguous with existing open space easements for the Rancho Arbolitos Planned Community that also support coastal sage scrub Together, PRPA 10 and the existing open space area support approximately

17 gnatcatcher pairs (Ogden, unpublished 1994 data). This PRPA overlays with the Twin Peaks RCA (County RCA 59). It was rated as moderate value gnatcatcher habitat and high value multiple species habitat by the two regional habitat evaluation models. Under current zoning, PRPA 10 could be fragmented by rural residential housing. Thus, this area deserves some consideration for further protection to maintain the Twin Peaks gnatcatcher population. Other areas of gnatcatcher habitat on Twin Peaks are steeper, and are less likely to be fragmented by housing development than would PRPA 10.

PRPA 11

This PRPA north and west of Rattlesnake Canyon represents a relatively flat area of coastal sage scrub that supports large numbers of gnatcatchers and other sensitive species. It is part of the County-designated Rattlesnake Canyon Mitigation Area (County RCA 62) and was identified as an important biological resource area in the Poway Detailed Biological Assessment (ERCE 1991). Because the area mostly lies on slopes of less than 45 percent it could be partially built out and moderately fragmented according to its zoning as RR-A. Relatively flat coastal sage scrub areas are under-represented in current cornerstones and other protected areas. This PRPA also represents the closest significant area of gnatcatcher habitat to Twin Peaks and may support a source population for Twin Peaks.

PRPA 12

This PRPA lies along the lower portions of Rattlesnake Creek. It consists primarily of steep slopes supporting coastal sage scrub and chaparral, with oak riparian forest along the creek. The area was zoned for residential development by the County of San Diego before the City of Poway was incorporated, and is subdivided into many small parcels (average approximately one acre). While the potential buildout analysis based on zoning and parcel size indicates that the area could be largely developed, existing constraints due to slopes and sensitive vegetation types make this highly unlikely Many of the parcels will probably not be developed and may be available at reasonable cost as additional biological open space within the Mitigation Area.

PRPA 13a

This high priority PRPA contains the central swath of coastal sage scrub habitat connecting north to south through Poway Protecting this important core and linkage area is essential

to the Poway Subarea HCP Habitat in this PRPA is predominantly coastal sage scrub on relatively gentle slopes. It is known to support gnatcatchers, and is part of a larger area of contiguous sage scrub. The precise boundaries of PRPA 13a could be adjusted based upon further study, so long as the contiguity of sage scrub habitat is kept substantially intact and free of development between the Blue Sky–Mount Woodson Cornerstone and the Sanrex property Under existing and proposed constraints on development, this area could be moderately to heavily fragmented by rural residential housing. Parcels in this area should be targeted for acquisition to protect this essential core and linkage habitat.

PRPA 13b

PRPA 13b includes two areas of predominantly sage scrub on either side and immediately adjacent to PRPA 13a. These areas support a number of target species, including healthy populations of gnatcatchers. Under existing development constraints, these areas could be moderately to heavily fragmented by rural residential housing. They are medium priority areas for acquisition to minimize detrimental effects of this potential fragmentation. Adding parcels in PRPA 13b to the preserve system would buffer the essential north-south sage scrub linkage (PRPA 13a) and add valuable core habitat. The western portion of this PRPA also connects with the Rattlesnake Canyon Cornerstone to the west.

PRPA 14

PRPA 14 lies east of State Highway 67 at the base of Iron Mountain and steep slopes north of Iron Mountain. It provides a buffer to the Iron Mountain and Rock Haven Cornerstones, adds a band of coastal sage scrub bordering along already protected chaparral vegetation, and provides an alternative north-south linkage for gnatcatchers to that defined by PRPA 13a. Effectively, designating this area as a PRPA helps focus attention on clustering development close to Highway 67, and away from the already protected areas, on several large parcels lining the east side of the highway Otherwise, the sage scrub in this area could become moderately fragmented by scattered residential housing in the foothills bordering the cornerstones.

PRPA 15

PRPA 15 lies between the east side of Highway 67 and the Iron Mountain Cornerstone. It supports predominantly coastal sage scrub habitat occupied by gnatcatchers. San Diego

horned lizards and slender-pod jewelflower have also been observed there. This PRPA is at relatively low risk of fragmentation under existing and proposed development requirements. Similar areas north and south of this PRPA are already highly fragmented by housing development and agriculture, increasing the importance of this area to maintaining the linkage between the high elevation chaparral habitats to the east and the lower, sage-scrub dominated landscape to the west. Parcels in this area should be considered for acquisition to maintain an unfragmented connection.

PRPA 16

This PRPA contains a constrained coastal sage scrub linkage connecting the large open space areas in the eastern portion of the Mitigation Area with those surrounding the South Poway Planned Community A narrow band of coastal sage scrub, constricted by existing development and habitat disturbance, links larger areas east and west of the Sanrex property This coastal sage scrub linkage supports at least one sensitive plant species, slender-pod jewelflower A variety of sensitive species are found in the broader areas it connects, including San Diego barrel cactus, San Diego horned lizard, and California gnatcatcher Further development or habitat disturbance in the area could sever this important linkage and wildlife movement corridor. Under current development restrictions this area could be moderately to highly fragmented by rural residential housing.

PRPA 17a

This area adjoins the South Poway Planned Community Cornerstone in an area already constrained by adjacent development. It supports coastal sage scrub known to be occupied by gnatcatchers and San Diego barrel cactus. This PRPA is part of a partially fragmented habitat linkage north of the planned community Parcels within the PRPA are zoned for RR-C, and could be largely developed under this designation, further degrading the linkage. Parcels in this area should be targeted for acquisition and restoration to help buffer the cornerstone and preserve the function of the coastal sage scrub linkage.

PRPA 17b

This portion of PRPA 17 supports similar resources and similar risks as PRPA 17a, but is more removed from the existing cornerstone, is not known to support as many sensitive resources, and may be more edge affected. Acquiring parcels in this area would add

incrementally to the existing resources in the preserve and help buffer the South Poway Cornerstone. However, it is of lower priority than PRPA 17a for the above reasons.

PRPA 18

This highly constrained and disturbed area is nevertheless important to overall preserve function and thus of high priority It represents a "weak link" in the highly fragmented and constrained regional habitat linkage and wildlife movement corridor connecting through the South Poway Cornerstone to Van Dam Peak and Los Peñasquitos Canyon Preserve, west of Poway The northern half of this PRPA is an island of coastal sage scrub and chaparral that is contiguous with a portion of the Public Review Draft MSCP proposed preserve area in the City of San Diego. It is considered a "stepping stone linkage" connecting sage scrub habitat in the South Poway Cornerstone and Van Dam Peak. The southern half of the PRPA supports oak riparian woodland in County RCA 64 This habitat is currently highly disturbed by human activities and a portion of it is currently being restored to mitigate for impacts of the Scripps Poway Parkway Extension on wetlands and oaks. A mobile home park currently exists under the canopy of the mature oak trees in the floodplain of Beeler Creek. Other residences lie on either side of the riparian woodland, which also supports a small city Park. This riparian strip once functioned as an important wildlife movement corridor Its current utility is marginal at best for deer, mountain lions, or other target species, due to human impacts. The City of Poway is planning to relocate the mobile home park out of the flood plain of Beeler Creek. This area should be protected and restored as soon as feasible.

PRPA 19

This area occupies the eastern and southern flanks of Van Dam Peak and is adjacent to the existing Van Dam Cornerstone It supports mostly high quality sage scrub habitat that supports numerous gnatcatchers as well as other target species. The area is currently at low to moderate risk of fragmentation, but given the already somewhat isolated nature of Van Dam Peak, any further fragmentation could be highly detrimental to the function of this core gnatcatcher population, as well as to the regional linkage in this area. Parcels in PRPA 19 should be considered for acquisition to add to the existing cornerstone and help maintain the "stepping stone linkage" with the South Poway Cornerstone.

PRPA 20

PRPA 20 comprises that portion of the Sanrex property lying within the City of Poway It forms part of the broad biological core area that remains largely intact from southeastern Poway to Sycamore Canyon County Park and Sycamore Valley Ecological Reserve. The Sanrex property supports a high quality mosaic of coastal sage scrub and chaparral and a wide variety of sensitive species. The property is currently at relatively low risk of development due to existing land use constraints (steep slopes) and its management as a land mitigation bank. However, this biologically valuable property is not 100% protected until the land is purchased for habitat preservation. This would add a valuable cornerstone to the regional preserve system. Because of the high biological value and availability of property in this PRPA, public acquisition within the Sanrex property is encouraged by the Subarea HCP

5.6 Relationship to Adjoining Conservation Plans

To facilitate regional conservation planning, Poway must maintain habitat linkages with conserved or likely to be conserved habitat areas in nearby jurisdictions and attempt not to foreclose on future linkage options. The key linkage areas between Poway and adjacent jurisdictions are shown on Figure 2-1 and are summarized below. The Poway Mitigation Area includes all of these linkages and targets inadequately protected linkages for preservation.

City of Santee

The City of Santee lies south of Poway and is separated from Poway by portions of the City of San Diego and County of San Diego. Habitats in Santee support significant populations of sensitive resources, particularly on Fanita Ranch, and are recognized as a core habitat for California gnatcatchers. The primary habitat linkage between Poway and Fanita Ranch in Santee is through lands under County jurisdiction, via Sycamore and Clark canyons. Sycamore Valley Ecological Reserve and Sycamore Canyon Regional Park, which are dedicated biological open space areas, encompass much of the Clark Canyon linkage.

City of San Diego

There are three linkages between Poway and habitat areas in the City of San Diego:

- Between Beeler Canyon and Los Peñasquitos Canyon through the Saber Springs development;
- Between Beeler Canyon and west Sycamore Canyon through lands owned by General Dynamics and NAS Miramar; and
- Between north Poway and San Pasqual Valley, including San Dieguito River Valley Park.

All three linkages are important to regional preserve design. The Beeler Canyon-Los Peñasquitos linkage is highly constrained by existing development and should be a priority for preservation and enhancement. The Beeler Canyon-Sycamore Canyon linkage is largely protected by current or future land use restrictions in the area. The north Poway-San Pasqual Valley linkage is fairly intact, includes some open-space designations and large areas in the Mitigation Area zoned for low density rural residential housing, and is partly covered by slopes in excess of 45 percent. Some areas of relatively flat coastal sage scrub that could become fragmented under existing constraints have been designated as PRPAs 1 and 2 to help preserve this linkage.

County of San Diego

There are three important linkage areas between Poway and lands within County jurisdiction:

- Warren Canyon between Lake Poway and Rock Haven,
- A coastal sage scrub linkage between southeastern Poway and San Vicente Reservoir; and
- Clark Canyon through Sycamore Canyon Regional Park and Sycamore Valley Ecological Reserve.

These three linkages are relatively intact. Clark Canyon is somewhat disturbed by existing housing, and the linkage is constrained by the presence of State Highway 67 No wildlife underpass exists along Highway 67, so that animals risk being hit by vehicles when they cross. The coastal sage scrub linkage in southeastern Poway is also constrained by the presence of Highway 67 and associated housing and other development. Nevertheless, sufficient connectivity remains between patches of coastal sage scrub to make this a viable linkage between large coastal sage areas in Poway and in County jurisdiction near San Vicente Reservoir and beyond. The linkage through the Sycamore Canyon/Clark Canyon area is a mosaic of coastal sage scrub and chaparral with scattered areas of disturbance or development of rural residential housing. It represents a relatively broad landscape linkage for a wide variety of wildlife.

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SECTION 6.0
LAND USE AND MANAGEMENT

Acquiring lands or creating "paper preserves" by drawing lines on maps is only the first step in creating an effective preserve system. Land use guidelines and management practices must be implemented on these properties to ensure their effectiveness in maintaining biodiversity and populations of sensitive resources. This section discusses the land use restrictions and management practices that shall be implemented within the cornerstone preserve areas and within the balance of the Mitigation Area outside of cornerstones.

A variety of land uses may be compatible with biological conservation within the Mitigation Area, and compatibility of certain land uses may vary with location within the preserve system. For example, passive recreational activities such as hiking and nature study are compatible with biological core areas. Conversely, active recreational facilities such as campgrounds, playing fields, or golf courses are incompatible in core areas, although they may be compatible with buffers or linkages between core areas. Urban or dense suburban development is incompatible within any portion of the preserve system. In general, land uses within the cornerstone lands shall be more restricted than land uses on private lands in the conservation overlay zone. Likewise, management activities for biological conservation and restoration are likely to be more intensive in cornerstone lands than in the balance of the Mitigation Area.

These guidelines are based largely on the land use and management activities recommended by the MSCP for lands in and adjacent to preserves. However, the Poway Subarea HCP guidelines are specifically tailored to the existing physical, biological, and land use conditions in the City of Poway They are therefore necessarily more detailed and specific than are the MSCP guidelines. Section 6.1 summarizes land uses generally permitted within the Mitigation Area, Sections 6.2 and 6.3 address the specific land use and management activities recommended within cornerstone lands and outside of cornerstone lands, respectively Finally, Section 6.4 discusses studies that are recommended to supplement and maintain the information base to effectively manage the preserve system and monitor its success. Where appropriate, recommendations discussed herein are included in the implementation language for the general and special development requirements presented in Section 7

6.1 General Land Use Restrictions within the Mitigation Area

As discussed in Section 3.3, shifting from regional and subregional planning scales to subarea planning requires refinement of definitions. The MSCP core preserve areas are defined as large, mostly undisturbed areas of native habitat that contain a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere. Core preserve areas should be managed primarily for the long-term sustainability of biological resources, which restricts land uses on them to relatively low impact activities. Of the 15 land uses analyzed in the MSCP Plan, five are considered conditionally compatible with core preserves: passive recreation, grazing, low density residential housing, utilities, and water facilities (Table 6-1). In addition to these land uses, some agricultural uses are conditionally compatible in linkage areas; and a wider variety of land uses are compatible with buffers (Table 6-1).

For the Poway Subarea HCP, cornerstone lands are set aside to protect biological resource values in core and linkage areas. Land uses permitted on cornerstones are similar to those permitted in MSCP core and linkage areas, but are somewhat more restrictive in that grazing and low density residential development are precluded to further protect biological resources (Table 6-1). In order for potentially impactive land uses (e.g., utilities and water projects) to be considered conditionally compatible in cornerstones, they must meet the biological goals and objectives of this program. Specifically, projects considered conditionally compatible should 1) incur minimal impacts; 2) be sited to avoid sensitive biological resources; 3) mitigate any impacts through a combination of onsite mitigation and offsite compensation/mitigation within the PRPAs; and 4) fall within the 5 percent total allowable cornerstone acreage impact guidelines. Removal of greater than 5 percent of the natural vegetation on any cornerstone may be acceptable only if offsite compensation and mitigation are sufficient to provide a net benefit to the overall biological preserve system, as mutually agreed to by the City of Poway, the CDFG, and the USFWS

Land uses outside of the cornerstone are less restricted than those on cornerstones. Nevertheless, they are more restricted than those considered conditionally compatible with MSCP buffer areas because military uses and commercial, industrial, and landfill developments are not allowed within the Poway Mitigation Area (Table 6-1). Mineral extraction is also generally excluded from the Mitigation Area, with the exception of ongoing operations under approved conditional use permits (CUPs), which require restoration of natural habitats following mineral extraction.

Table 6-1

GENERAL COMPATIBILITY OF LAND USES AND MANAGEMENT ACTIVITIES WITHIN AND ADJACENT TO PRESERVES[1]

	MSCP			Poway Subarea HCP	
Land Use	Core Preserve	Linkage	Buffer	Cornerstone	Mitigation Area[3]
Active Recreation	I	I	CC	I	CC
Passive Recreation	CC	CC	CC	CC	CC
Agriculture	I	CC	CC	I	CC
Grazing	CC	CC	CC	I	CC
Low Density Residential	CC	CC	CC	I	CC
High Density Residential	I	I	I	I	I
Commercial	I	I	CC	I	I
Industrial	I	I	CC	I	I
Utilities	CC	CC	CC	CC	CC
Landfills	I	I	CC	I	I
Water Projects	CC	CC	CC	CC	CC
Transportation	I	I	CC	I	CC
Mineral Extraction	I	I	CC	I[2]	I[2]
Military Use	I	I	CC	I	I
Worker Camps	I	I	CC	I	I

1 CC = Conditionally Compatible Use. Some restrictions consistent with biological goals; however, the level of intensity and cumulative impacts should be addressed.
I = Incompatible Use.
See text for further discussion.

2 The existing Calmat Poway Mineral Extraction activities shall be allowed to continue within the South Poway Cornerstone, subject to its conditional use permit (CUP) restrictions, which require coastal sage scrub restoration according to the approved reclamation plan of the CUP

3 Subject to special development requirements (Section 7.0).

Thus, high impact land uses shall be mostly excluded from the Poway Mitigation Area, including lands outside of cornerstones. However, some high impact uses (e.g., active recreation, agriculture) shall be permitted on a case-by-case basis in restricted portions of the Mitigation Area outside of cornerstone lands, subject to the permit review process. This review shall ensure that the proposed activity is compatible with biological goals of the preserve and follows HCP land use restrictions and management recommendations (see Section 7).

6.2 Land Use and Management in Cornerstone Lands

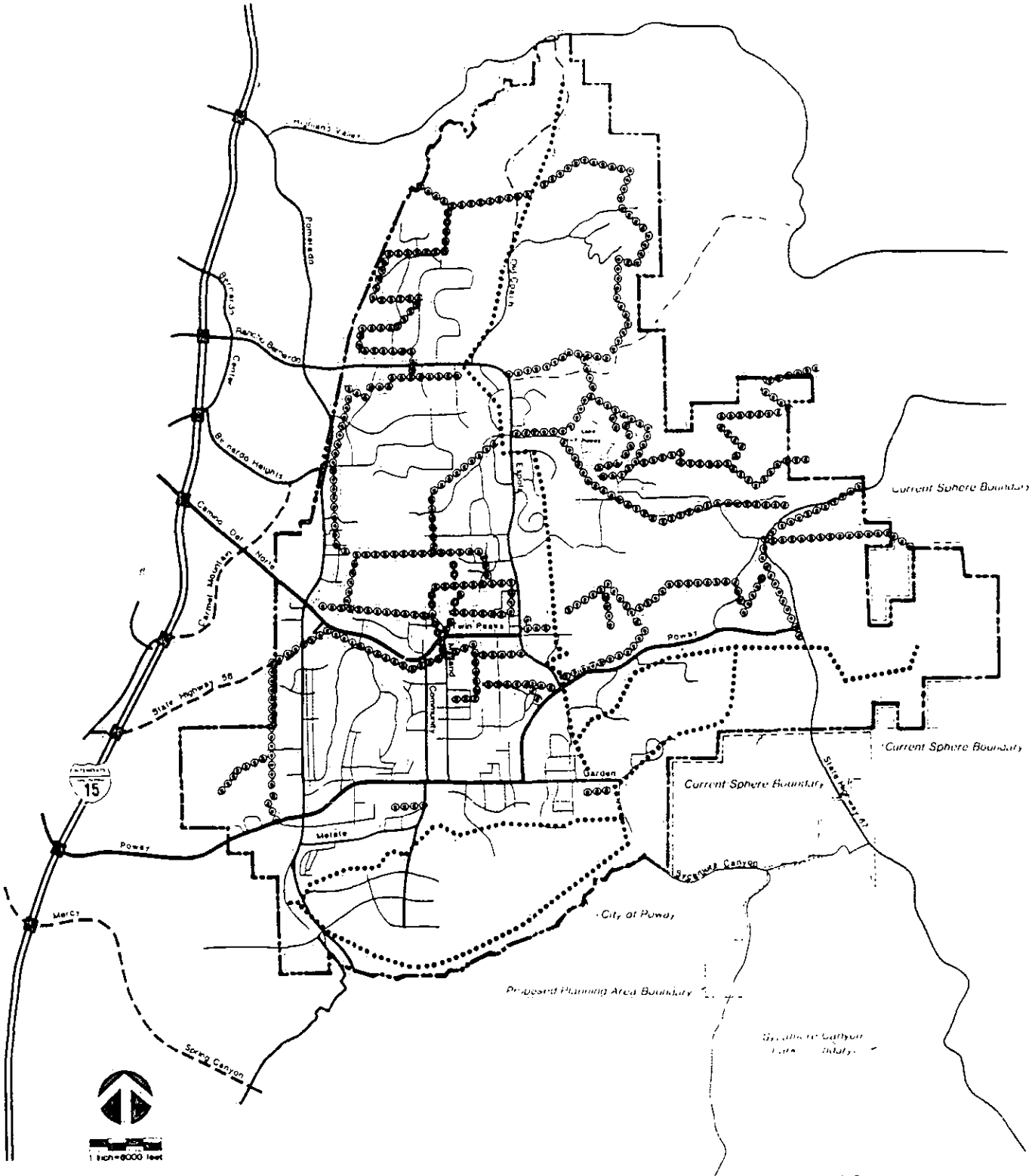
Cornerstone lands are large areas of open space with significant protection for the biological resources they support. The majority of existing cornerstone lands are designated as OS-RM in the Poway General Plan and Zoning Ordinance. Cornerstone lands outside of the OS-RM zone also offer significant protection to biological resources via easements or other measures. The following sections summarize the land uses and management activities recommended on cornerstone lands to ensure achievement of the biological goals of the Poway Subarea HCP

6.2.1 Compatible Land Uses

Land uses currently allowed by the Poway General Plan and Zoning Ordinance within OS-RM areas include passive recreation and agriculture. Currently, no agricultural uses occur within cornerstones. With the implementation of the Poway Subarea HCP, future agricultural development shall also be precluded from cornerstones to preserve existing biological habitats. Thus, land uses within cornerstones shall mostly be limited to such passive recreational activities as hiking, nature study, and horseback riding on existing and planned regional trails (Figure 6-1). Some water projects and limited utility projects may be necessary within cornerstones, subject to guidelines and restrictions of the Poway Subarea HCP These projects will be evaluated on a case by case basis to ensure maximum compatibility with biological resource goals.

6.2.2 Management Activities

Management on many of the cornerstones shall be minimal, consisting primarily of enforcing land use restrictions. Enforcement of off-road vehicle restrictions, no-hunting



SOURCE: City of Poway General Plan 1990.

FIGURE

Planned Regional and Hiking Trails

6-1

regulations, and other existing ordinances or regulations may be sufficient management for some cornerstones, such as the Iron Mountain and Mount Beatrice cornerstones. Other cornerstones may require more active management to achieve their biological potential as part of the preserve system. For example, the South Poway Cornerstone is constrained by adjacent development and disturbed habitat areas. Some of these adjacent disturbed areas are likely to require active habitat restoration or enhancement to protect or improve their value as habitat linkages and wildlife movement corridors.

The following sections discuss general management issues and recommendations, all or a portion of which may apply within a particular cornerstone. General guidelines are summarized from the MSCP Plan (Ogden et al. 1995). General guidelines are followed by recommended management actions and priorities. These priorities shall guide management decisions regarding implementation schedules, given budgetary and scheduling constraints. Management action summaries are followed by more specific recommendations for each cornerstone, based on existing data. Specific recommendations for a given cornerstone may need to be expanded or modified based on new information collected during implementation of this plan, or as a result of changing conditions within or adjacent to a cornerstone.

6.2.2.1 Fire Management

Management Issues

Fire management can focus on two potentially different objectives. achievement of biological resources goals and hazard reduction for humans and their property Biological resources goals recognize that fire is a natural process in ecosystems. These goals include maintaining or restoring specific species; rejuvenating vegetation communities; creating vegetation mosaics that favor increased animal species diversity; providing habitat for species characteristic of early post-fire landscapes; and controlling exotic plant species invasions. Fire management can also affect restoration of disturbed habitats and site hydrology, which will directly impact habitat value for wildlife.

Fire management for human hazard reduction involves reducing fuel loads in areas where fire may threaten human safety or property, and suppressing fires once they have started. Provision for access of fire suppression equipment and personnel is important to achieving safety goals.

Cornerstones will be managed both for biological resources needs and for safety considerations. Although the primary role of cornerstones is biological conservation, some cornerstones are somewhat remote from development. The existence of scattered rural housing and communities within a half mile or less of all cornerstones, coupled with high fire potential in these areas, mandate that human safety also be considered in cornerstone management. Furthermore, resources available for active fire management to achieve specific biological goals are limited in Poway, thus precluding such active management measures as prescribed burning in the Mitigation Area. For these reasons, fire management practices in the cornerstone lands need to be based primarily on the risks of uncontrolled wild fire in proximity to developed areas. Biological goals should nevertheless be incorporated into fire management measures to the extent feasible.

The Poway Municipal Code includes a weed abatement ordinance, which follows the fire protection management measures currently accepted by the CDFG. The City Landscape Standards were recently revised (10/5/94) relative to fire management, with updated guidelines for building design, materials, setbacks, selective thinning and removal zones for vegetation surrounding buildings, and use of fire retardant plantings. These revised standards have not yet been fully reviewed and adopted by the City The standards will be reviewed and modified as necessary for consistency with both the biological resources goals of the Poway Subarea HCP and safety standards of the Poway Department of Safety Services.

Methods for Fire Management

Prescribed burning is often the best method for achieving biological resources goals in natural areas. However, the City of Poway lacks the personnel, resources, and experience necessary to carry out a prescribed burning program. The small amount of prescribed burning that is performed in San Diego County is conducted by the California Department of Forestry (CDF), which has no authority to conduct prescribed burning in local responsibility areas like Poway. For these reasons, mechanical means of fuel reduction are recommended where appropriate, and no prescribed burning is recommended in the Poway Subarea HCP

Mechanical fuel control measures generally include chopping, crushing, disking and chaining, removal, and herbicides. Additional methods of value in smaller areas include

mowing, trimming, and hand clearing. In general, chopping and crushing are the recommended methods based on biological and fuel reduction values and safety concerns (Table 6-2). Although not yet used in Poway, crushing with a device called a "sheep's foot" may be an alternative form of fuel control in some situations. The sheep's foot consists of a large roller with cleats that crushes standing vegetation to ground level. This technique has fewer adverse biological impacts than alternatives such as complete removal of vegetation or use of herbicides, but typically requires the use of a track-driven bulldozer which could damage habitat areas.

Table 6-2

SUMMARY OF ALTERNATIVE FIRE MANAGEMENT METHODS[1]

	Prescribed Burning	Crushing	Mechanical Chopping	Disking/ Chaining	Removal	Herbicide
Biological Value	H	M	M	L	L	L
Fuel Control Value	H	M	M	M	H	L
Recommended	N[2]	Y	Y	N	N	N

1 H = High value; M = Moderate value; L = Low value; Y = Yes; N = No.
2 Not practical in the City of Poway due to lack of resources and experience, as well as safety concerns.

Management Recommendations

1. Review Existing and Proposed Fire Management Guidelines

Existing and proposed fire management guidelines should be reviewed for consistency with biological resources goals of the Poway Subarea HCP. For cornerstone lands on which existing fire management measures are inadequate to achieve both biological and safety goals, prepare fire management plans with the aid of the Poway City Fire Department, and in conjunction with any guidelines that may be forthcoming from the Wildland/Urban

Interface Task Force of the San Diego County Fire Chiefs Association. Integrate the fire management plans with biological elements of cornerstone lands management, including habitat restoration/revegetation, erosion control, and sensitive species preservation (Refer to Appendix A for an outline of a Fire Management Plan). In most cases, no change to existing fire management practices should be required. The USFWS and CDFG have already developed inspection and permit programs to work with the City of Poway and other local agencies in performing weed abatement and fire management practices. Cornerstone lands that are considered high fire hazard areas will, for the most part, be exempt from fuel modification or firebreak issues pertinent to more urbanized portions of the Mitigation Area, according to Section 51184 of the Bates Bill (AB 337) Fire management plans for these areas should focus on identifying potential fuel reduction zones or firebreak locations, as well as access routes for fire equipment in the event of wildland fires that pose safety concerns. To the degree feasible, fuel reduction zones, firebreaks, and access routes should be sited to avoid sensitive biological resources. Furthermore, firebreaks should be sited to maximize the biological benefits of fire on the natural vegetation (e.g., at the top or bottom of a slope rather than across a slope). Existing firebreaks (e.g., natural ridge lines, roads, fire roads) should be used to the degree feasible. Fuel reduction zones and firebreaks should be limited to non-sensitive habitats to the degree feasible. Removal of coastal sage scrub habitat should be minimized. Fire is part of the natural life cycle of the coastal sage scrub and chaparral ecosystems and burning of native habitats and sensitive species locations is considered biologically beneficial, however, direct disturbance of these same resources by trampling (e.g., vehicles) or surface disturbance (e.g., clearing for firebreaks) can result in adverse impacts. Any reductions in habitat due to clearing must conform to the 5 percent allowable habitat loss per cornerstone area, and all fire management plans should be reviewed for consistency with the biological goals and objectives of this program.

In addition to development of the above-mentioned fire management plans, the City of Poway should consider participation in regional wildland fire management planning, as outlined in the Report of the Wildland/Urban Interface Task Force for Orange County (1994). The purpose of this type of planning is to avoid catastrophic fires that result from fuel buildup adjacent to urban areas, while allowing for habitat management. Although the Orange County planning effort focuses on prescribed burning to satisfy fire safety and ecological concerns, other fuel modification treatments would be acceptable to achieve similar results. The proposed Orange County program relies on a GIS database to develop and monitor fire management planning on a long-term basis. Should the City of Poway

participate in such a program in the future, data collection efforts, implementation, and monitoring should be prioritized, with high potential fire areas located within the wildland/urban interface receiving the most immediate attention. Key components of such a program are listed below

2. Develop a Detailed Fire Management Plan

- Document fire history by evaluating the natural and current fire regime (fire frequency, seasonal timing, intensity, type, size, etc.). Estimation of fire regime can be made by an experienced ecologist or fire manager through extrapolation from comparable sites and existing information from California Department of Forestry and Fire Protection incident reports, aerial photos, newspaper accounts, and anecdotal accounts.

- Prepare a vegetation analysis and fire regime survey of the cornerstone lands, including fuel loading, fuel structure or arrangement, fuel type, age of the vegetation, sources of ignition, influence of previous or current management, occurrence of sensitive habitats and species. This information could be usefully displayed and analyzed through GIS overlays.

- Prioritize areas for fuel management.

3 Implement and Monitor the Plan

- Maintain a data base that tracks habitat type burned, date, areal extent, severity, and weather conditions. Fire management plans must maintain an experimental approach, since great variability exists in the duration of fire-free intervals in natural habitats. The fire management plan should monitor the effects of persistently long and short fire intervals on community composition, sensitive species distribution, age structure, and regeneration patterns.

Management Actions

1 For each cornerstone area requiring a fire management plan, prioritize areas for fuel management and develop specific fire management measures.

Purpose: For biological resource management and safety issues.

Priority: High.

Timing: Upon approval of the Poway Subarea HCP and designation of the Mitigation Area. Areas with the greatest safety concerns should receive the highest priority

Maintenance: Potential fuel reduction zones, firebreaks, and access routes plans should be reviewed and modified periodically, based on vegetative conditions.

2 Continue fuel reduction program.

Purpose: For biological resource management and safety issues.

Priority: High to Medium.

Timing: Ongoing.

Maintenance: A program of regular inspection and assessment should be implemented as part of the overall Mitigation Area management, and should be prioritized according to fire history, existing conditions, fire potential of the area or habitat of concern, and public safety issues.

Specific Cornerstone Guidelines

Table 6-3 summarizes priorities for fire management objectives on each cornerstone. The following discussions describe the fire setting and management objectives for each in more detail. In general, a natural fire regime is desirable for cornerstones that are removed from urban areas and have low human safety considerations, so long as the probability of wildfire spreading beyond the cornerstone into developed areas is low This is particularly true if the recent fire history indicates that a relatively natural fire regime exists. Cornerstones closer to urbanized areas will require more intensive fire management activities for hazard reduction (e.g., South Poway and Van Dam Peak).

Habitat types can be divided into two groups: low fire potential and high fire potential. In low fire potential habitats, fire usually plays a minor role in the natural disturbance regime (e.g., riparian habitats). Low fire potential habitats may require active protection from frequent fire disturbance or they will be gradually degraded. High fire potential habitats are usually dependent on fire for regeneration over time, although changing the normal burn cycle can result in vegetation type conversions. High fire potential habitats include coastal

Table 6-3

PRELIMINARY PRIORITIZATION OF FIRE MANAGEMENT OBJECTIVES FOR CORNERSTONE LANDS

Objectives	Cornerstone [1,2]							
	BS-MW	LSC	RC	RH	MB	IM	SP	VD
Potential Biological Objectives								
Natural burns for habitat/species restoration	L	L	L	L	L	L	M	L
Natural burns for maximizing species diversity	L	L	L	L	L	L	M	L
Fire control for species protection	L	L	L	L	L	L	M	M
Fire control for habitat maintenance	L	L	L	L	L	L	M	M
Ensure that fire control access avoids sensitive species, to the degree feasible	H	H	M	M	M	M	H	H
Potential Safety Objectives								
Fuel reduction	M	M	L	L	L	L	H	H
Ensure adequate access for fire control purposes	H	H	L	L	L	L	H	H

1 Cornerstone areas: BS-MW = Blue Sky-Mount Woodson; LSC = Lower Sycamore Creek; RC = Rattlesnake Canyon; RH = Rock Haven; MB = Mount Beatrice; IM = Iron Mountain; SP = South Poway; VD = Van Dam Peak.

2 Prioritization of fire management objectives: L = Low priority; M = Medium priority; H = High priority

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sage scrub, chaparral, oak woodlands, grasslands, and eucalyptus woodland. Fire regime may be especially important where sensitive species or habitats are found.

Blue Sky - Mount Woodson Cornerstone

This large cornerstone contains a number of high potential fire habitats (coastal sage scrub, chaparral, oak woodlands, and grassland). Engelmann oak occurs within the reserve, and could be adversely affected by a destructive fire. The reserve is bordered by high density residential areas to the west. The limited access and steep topography of the area further combine to increase the probability of a destructive fire. For these reasons, fire management in the Blue Sky - Mount Woodson Cornerstone focuses on both biological resources and human safety issues.

Rattlesnake Canyon Cornerstone

This cornerstone area supports a mixture of low and high fire potential habitats, with riparian and oak associations along Rattlesnake Creek, and coastal sage scrub and chaparral on slopes surrounding the creek. This cornerstone is somewhat separated from residential areas to the west and north by the slopes surrounding the creek, but is contiguous with open space to the east and south. The Rattlesnake Canyon cornerstone fire management plan will focus on safety issues.

Mount Beatrice Cornerstone

This cornerstone is covered almost entirely by high potential fire habitats (e.g., chamise chaparral, southern mixed chaparral, and coastal sage scrub). Fire management will focus primarily on biological issues, including maintaining habitat for sensitive species and linkage connections. To the degree feasible, a natural fire regime is desirable on this cornerstone if fire can be kept from spreading to adjacent residential areas.

Iron Mountain Cornerstone

This large cornerstone is covered almost entirely by chaparral, a high potential fire habitat. It is relatively remote from human habitations except for rural residences near its western boundary To the degree feasible, a natural fire regime is desirable on this cornerstone if fire can be kept from spreading to adjacent residential areas.

Rock Haven Cornerstone

This cornerstone is covered almost entirely by chaparral, a high potential fire habitat. It is relatively remote from human habitations except for some scattered rural residences. To the degree feasible, a natural fire regime is desirable on this cornerstone if fire can be kept from spreading to adjacent residential areas.

South Poway Cornerstone

This cornerstone area supports both low (e.g., riparian, riparian oak woodland, floodchannels) and high (e.g., coastal sage scrub, chaparral, grasslands) potential fire habitats. It surrounds commercial development, and is surrounded by residential development to the north, south, and west; commercial development to the north; and open space to the east. The greatest value of this cornerstone area is in preserving an east-west habitat link and wildlife corridor between open space areas to the east and Los Peñasquitos Canyon and coastal areas to the west.

The fire management plan for the South Poway cornerstone will focus primarily on safety issues due to the great amount of edge with existing development.

Lower Sycamore Creek Cornerstone

This cornerstone supports both high fire potential (coastal sage scrub) and low fire potential (riparian) vegetation communities. The high fire potential habitats boarder broadly on developed residential areas. Thus, fire management in this cornerstone will focus on human safety

Van Dam Cornerstone

The Van Dam cornerstone supports primarily coastal sage scrub and chaparral, both high potential fire habitats. It is surrounded by residential development. The fire management plan for the Van Dam cornerstone will therefore focus on safety issues.

6.2.2.2 Habitat Restoration and Revegetation

Management Issues

Ecosystems are often degraded through a combination of natural and human-induced processes that may reduce habitat values to wildlife, particularly when disturbance occurs over extended periods of time or in areas disjunct from natural sources of recolonization. Revegetation/restoration is the process of re-establishing or enhancing historic biological functions and values to degraded habitats. Restoration methods range from active landscaping to passive management. Generally, labor-intensive restoration methods involving active landscaping take less time to achieve biological goals but at greater cost than more passive management techniques, such as fencing to limit further disturbance. Even passive techniques such as fencing, however, need to be assessed on a case by case basis to ensure that they do not inhibit other management activities, such as access for fire control. This section focuses on active landscaping methods for revegetation/restoration in the preserve cornerstones.

Active revegetation/restoration projects rely on techniques that encourage natural regeneration or use intensive horticultural methods such as planting, seeding, transplanting, and salvaging. The source of seeds and plants used for such projects has tremendous genetic implications. Non-local planting stock can introduce novel, undesirable, or maladapted genotypes into the ecosystem. Use of non-local stock may also result in mortality or problems with growth and reproduction. Thus, active restoration programs should use propagules from sources in proximity to the restoration site.

Management Recommendations

Active restoration is not expected to be required over large areas of cornerstones, and resources in the City of Poway for funding restoration projects are limited. However, revegetation and restoration in key areas can be accomplished as mitigation for public or private projects that disturb native vegetation either within or outside of the Mitigation Area. Projects that remove native vegetation, whether inside or outside of the Mitigation Area, should mitigate for these impacts by some combination of offsite protection of lands and revegetation/ restoration of lands within the Mitigation Area. If revegetation/restoration is included in the mitigation plan, a detailed restoration management plan shall be prepared according to the outline presented in Appendix C and the following guidelines:

1 Evaluate and Prioritize Biological Restoration Needs

- Evaluate restoration needs using the preserve biological management goals as a guideline. Section 5 1 discusses existing habitat values and restoration needs on the cornerstones and can serve as a foundation. Document the type of restoration needed and the acreages affected. Restoration priorities may include habitat enhancement, increased habitat connectivity, increased areal extent of habitat, or reduction of threats from invasive species. In some cases, restoration or enhancement may be designed to improve the value of a movement corridor for target species by increasing vegetative cover or screening the corridor from nearby human influences.

2. Evaluate Restoration Feasibility

- Identify and prioritize potentially restorable areas based on biological objectives and processes. In accordance with the regulatory agencies, develop clear criteria to identify disturbed habitats not expected to recover naturally Table 5-3 of the Detailed Biological Assessment for the City of Poway lists and describes areas potentially suitable for enhancement or restoration, and can be used to develop restoration priorities. In general, disturbed nonnative and cultivated habitats will have the highest restoration priority, followed by disturbed native habitats.

- Evaluate potentially restorable areas based on the level of effort and cost needed to restore them as functional habitat. Cost estimates should include implementation and monitoring efforts.

- Assess existing site quality, site access, adjacent land use, difficulty of achieving restoration goals, and cost of available restoration techniques appropriate to the site conditions.

- Assess the physical factors of the restoration sites, including topography, slope, aspect, elevation, drainage, soils, hydrologic regime, and climatic regime.

- Assess existing biological conditions, past management practices, and sources of disturbance.

- Collect reference data from an adjacent or nearby habitat in good condition to serve as a planning guide and as a subsequent comparison with monitoring data from the restoration site.

3 Develop Mitigation Plans for Proposed Restorations

- Develop a conceptual mitigation plan, followed by formal plans and specifications for those areas in which active landscaping methods (installation or maintenance) are proposed. Identify restoration goals and objectives, restoration design criteria, project management and implementation responsibilities, scheduling constraints, planting materials, equipment constraints, evaluation criteria, and remedial measures. Most restoration plans will be a combination of long-term management changes combined with more active landscaping where feasible. Conceptual and detailed restoration plans and specifications should be prepared by a qualified restorationist with several years of experience in restoration design and implementation in southern California.

- Develop formal construction documents that address the specific responsibilities and authorities of applicable personnel (e.g., the land manager, contractors, monitors, etc.). Specifications should include all pertinent conditions, coordination requirements, schedules, warranty periods, protected areas, and restricted activities. These plans will be installed by a registered landscape contractor, although volunteer help may be used if correctly supervised.

- Specify seed and plant procurement procedures a year in advance of actual planting. Do not allow species substitutions unless approved by the project restorationist. Integrate genetic conservation considerations (Center for Plant Conservation 1991, Brown and Briggs 1991) into procurement specifications.

- Require exotic plant control and debris removal prior to restoration planting and during establishment of the plantings. Exotic plant control specifications should describe techniques, target species, safety precautions, and compliance with

laws and regulations. Such specifications must be developed by a licensed pest control advisor if chemical controls are recommended.

- Utilize mycorrhizal fungi, where appropriate. A mutualistic relationship exists between plant roots and mycorrhizae. Certain plant species benefit from increased ability to take up nutrients and withstand drought when mycorrhizae are present. This relationship is essential to the growth and longevity of many natural plant communities. Site disturbances, especially the removal or disturbance of the top soil layers, can cause mycorrhizae to die out on a site. Weed invasion can further lower mycorrhizal presence in the soil. Mycorrhizal inoculation of the soil will reintroduce the fungi to sites where it has been lost. Such inoculation can be accomplished through planting inoculated container plants or the introduction of litter, duff, or soil from an infected site. The best source of mycorrhizal fungi is salvaged topsoil taken from an infected site, although the fungi can be killed if the soils are stored improperly Topsoils may also contain other essential ecosystem components such as humus and soil fauna.

- Specify irrigation necessary to establish restoration plantings. Irrigation operation specifications should also include system maintenance and coverage monitoring. Irrigation of restoration projects differs from conventional landscaping where irrigation is provided indefinitely In restoration projects, the goal is to aid plant establishment to the point that the plants become self-sufficient on natural sources of precipitation. Some types of restoration may not need irrigation.

- Delineate site protection measures both during construction and afterward during the establishment period. Protection may include the use of fences, flagging, signs, trails, patrols, and other barriers. Protection of the site often requires management of offsite resources and contaminants, drainage, exotic plant species, vandalism, and trash.

- Establish maintenance standards to ensure restoration success. Intensive maintenance at least once a month during the first two years after planting is usually required and may include irrigation, weed control, debris removal, replanting, reseeding, staking, erosion control, fertilization, pest control, and

site protection. Maintenance should be conducted until the plants have demonstrated that they can sustain themselves (generally 3-5 years) without significant maintenance such as irrigation or weeding.

4 Develop a Monitoring Program

- Where any active landscaping is necessary to accomplish restoration goals, provide clearly defined contractor education and construction monitoring programs to ensure proper installation and maintenance and to protect sensitive resources adjacent to the restoration area.

- Establish long-term biological and horticultural monitoring programs following restoration landscaping. An experienced restoration biologist/horticulturist should conduct the monitoring and file regular reports.

  - Biological monitoring: Collect field data to assess whether project goals are being met, including species composition, mortality of plantings, cover at different vegetation levels, species distribution and diversity, and wildlife monitoring. Collect similar data from reference sites for comparison.

  - Horticultural monitoring: Supervise the actions of the maintenance contractor and recommend remedial actions to ensure proper erosion control, debris removal, weed and pest control, irrigation scheduling and cessation, and protective fencing.

- Specify performance standards by which the restoration will be judged. These are usually developed from a combination of existing reference site data and prior measurements in other restoration endeavors. Design monitoring of restoration sites to supply data to evaluate these standards. Develop remedial measures in advance of project implementation should performance standards not be met.

Management Actions

Evaluate and prioritize restoration needs and feasibility, develop and implement detailed restoration plans, and monitor restoration areas.

Purpose: To restore biological functions and values to degraded habitats.

Priority: Medium.

Timing: Restoration areas should be identified and prioritized upon approval of the Poway Subarea HCP; restoration efforts should be implemented in appropriate seasons as part of mitigation plans for specific public and private projects.

Maintenance: Restoration areas need to be intensively monitored on a short-term basis (e.g., 5 years), then inspected as part of the general cornerstone lands assessment, on a long-term basis.

Specific Cornerstone Guidelines

None of the cornerstones require intensive restoration efforts at this time. Restoration needs may, however, be identified on cornerstones at a later date.

6.2.2.3 Erosion Control

Management Issues

Erosion is promoted by the combination of erodible soils, steep slopes, soils with low water-holding capacity, sparse to no vegetation, and hydrologic condition of the soils. Erosion can be aggravated by human disturbance and fire-control activities. Erosion hazards to biological resources include pollution and sedimentation of important water sources, such as Lake Poway, and the loss of vegetative cover from landslides. The City of Poway's Grading Ordinance has detailed requirements for erosion control plans.

Management Recommendations

1 Identify and Prioritize Erosion Areas

- Map all areas of moderate to severe erosion within and adjacent to the cornerstone lands.

- Determine causes of erosion and current or potential adverse or beneficial effects on habitat within the cornerstone lands.

- Rank identified erosion areas according to threats to biological resources within the cornerstone lands. Include an assessment of cost for erosion control measures.

2. Develop Erosion Control Plans

- Develop and implement an erosion control plan for high priority erosion control areas. In general, this will include establishing physical features to slow surface flow and dampen initial precipitation impact, and revegetation of eroded surfaces for long-term protection. In steep areas, rock areas, and areas of high storm flow, permanent rock/concrete revetments may be required to stabilize undesirable erosive forces.

3 Address Slope Stabilization and Surface Drainage

- Prepare contingency native seeding plans for highly erosive areas temporarily disturbed by fire.

- Prohibit bare surface grading for fire control on slopes or buffer areas adjacent to the cornerstone lands. Ensure that all techniques implemented for fire control leave (or replace) adequate vegetation cover to prevent surface erosion.

- Ensure that all areas ripped for revegetation are adequately stabilized by either a binder or straw cover after planting to minimize surface erosion.

- Ensure that no new surface drainage is directed into the cornerstone lands.

Management Actions

Identify erosion areas that threaten biological resources within the cornerstones, and develop and implement erosion control plans.

Purpose: To minimize adverse impacts to biological resources within the cornerstone lands from erosion.

Priority: High.

Timing: Upon approval of the Poway Subarea HCP

Maintenance: Erosion control plans should be reviewed and updated periodically, based on site conditions. All new development projects should be reviewed for compliance with erosion control measures.

Specific Cornerstone Guidelines

The cornerstones that are more remote from human disturbances should not require intensive erosion control measures, with possible exceptions in the event of fires that remove vegetative cover In the event of a large, destructive fire, implement contingency slope stabilization plans using seeding with native plant material. Cornerstones supporting more disturbed habitats or likely to receive more intensive human uses may require more proactive erosion control measures, as addressed below

Rattlesnake Canyon

The City of Poway has proposed a small detention basin along the creek. The city shall prepare an erosion control plan for this cornerstone that covers native seeding of slopes following fire, water quality effects to the creek from slope erosion, and sedimentation/siltation/water diversion associated with the detention basin.

South Poway Cornerstone

Erosion could adversely affect lands within this cornerstone through 1) runoff from development adjacent to Scripps Poway Parkway and 2) disturbed areas on slopes. Loss of habitat or sensitive plant populations from landslides and sedimentation, siltation, and pollution effects on riparian habitat in Beeler Canyon are potential impacts. The city shall develop an erosion control plan in concert with the restoration plan for this area.

Van Dam Cornerstone

This cornerstone area supports undisturbed native habitat on slopes that are not excessively steep. However, existing trails throughout the area may contribute to erosion. Subsequent landslides could potentially result in additional vegetation losses. Prepare a slope stabilization plan that focuses on native seeding for this area to be implemented in the event

of a large fire. Reduce or eliminate the use of some trails by vehicles, pedestrians, and horses to encourage natural revegetation and reduction of erosion potential.

Lower Sycamore Creek Cornerstone

Urban runoff from the adjacent development could adversely affect water quality and vegetation along Sycamore Creek. Review existing erosion control plans for the adjacent developments for adequacy and update and enforce them as necessary

6.2.2.4 Landscaping Restrictions

Management Issues

Landscaping (i.e., the introduction of native or nonnative plant species around developed areas) is often in direct conflict with biological objectives. Of particular concern are 1) the introduction of nonnative, invasive plant species that can displace native species in natural communities; 2) horticultural regimes (irrigation, fertilization, pest control, and pruning) that alter site conditions in natural areas, thereby promoting shifts in species composition from a native to a nonnative flora; and 3) genetic contamination from the introduction of native cultivars not collected onsite or in proximity to the site.

Management Recommendations

Because cornerstone lands are designated as biological open space, active landscaping should be absent or minimal. However, where landscaping may be required, or where problems are anticipated in cornerstones due to landscaping in nearby developed areas, the following guidelines shall be followed.

1 Control Exotic Plant Species

- Prohibit the use of nonnative, invasive plant species in landscaping palettes in cornerstone lands or for new public projects within 200 feet of a cornerstone. This includes container stock and hydroseeded material. Have all landscaping plans reviewed by a qualified biologist or native plant horticulturist prior to project approval to determine that appropriate species are used. Table 8-3 of the MSCP Resources Document (Ogden et al. 1995) lists invasive exotics that

generally would be prohibited (a few of the species in Table 8-3 may be used in limited applications, whereas others should never be used). Additional species may be added to this list.

- Revegetate areas of exotic species removal with species appropriate to the biological goals of the cornerstone.

2. Monitor Horticultural Regimes

- Control irrigation of landscaping material adjacent to (within 200 feet of) the cornerstone lands to prevent runoff into the cornerstone lands. Irrigation runoff alters conditions in natural areas that are adapted to xeric (dry) conditions, thereby promoting establishment of nonnative plants and displacement of native species. In addition, irrigation runoff can carry pesticides into natural areas, adversely affecting both plants and wildlife.

- Monitor and limit, to the degree feasible, fertilization of ornamental plants on all public areas draining into the cornerstone lands, to reduce excess nitrogen runoff to areas of native vegetation. Excess nitrogen is detrimental to plant mycorrhizal growth and fosters exotic weed invasion. Initiate fertilizer management programs that apply the minimal amount of fertilization required for all public horticultural areas adjoining the cornerstone lands.

- Limit ornamental pest control activities adjacent to the cornerstone lands, to the degree feasible.

3 Avoid Genetic Contamination

- Genetic contamination of native plant species can be avoided by prohibiting the introduction of cultivars or native species from different geographic regions. If these introductions are similar enough genetically to native species in the cornerstone lands, then cross-breeding or hybridization could occur Although it is impossible to predict the outcome of mixing different genetic stock, a potential result would be a reduction in the fitness of native species through the introduction of maladapted genotypes. For this reason, all stock introduced into cornerstone lands that has the potential for breeding with native species already

present onsite shall be propagated from material collected in the vicinity Because many plants can cross-breed over some distance via wind- or animal-pollination, this restriction shall apply to landscaped, public areas throughout the Mitigation Area, rather than only areas within or adjacent to the cornerstone lands. Special attention should be given to the elimination of native plant landscaping cultivars of coastal sage scrub and chaparral species taken from central or northern California locations, or from islands off the coast of southern California.

Management Actions

Control exotic plant species, horticultural regimes, and genetic contamination of native species through review of landscaping palettes and design.

Purpose:	Prevent habitat degradation and displacement or contamination of native species by nonnative species.
Priority:	High.
Timing:	Should be initiated upon approval of the Poway Subarea Plan and adoption of the Mitigation Area.
Maintenance:	A program of regular plan review and field inspection (as feasible) should be implemented as part of the Mitigation Area management. All new development projects should be reviewed for compliance with landscaping restriction measures.

Specific Cornerstone Guidelines

Landscaping on the cornerstones should occur only as part of an approved habitat restoration plan. Only those cornerstones likely to experience problems due to landscaping practices are discussed below

Blue Sky - Mount Woodson Cornerstone

Potential landscaping concerns in this cornerstone include the possible introduction of native stock from outside the area as part of any restoration effort. Review revegetation/restoration plans to ensure compliance with landscaping guidelines regarding native plant stock.

South Poway Cornerstone

Because of its proximity to residential and commercial areas, this cornerstone area is subject to habitat degradation by 1) the introduction of nonnative, invasive plant species, 2) horticultural regimes that are not compatible with the maintenance of native vegetation, and 3) genetic contamination through the introduction of native cultivars from outside the area. Management actions for this area should include strict review of plant palettes and landscaping design for all new commercial or public developments; guidelines on irrigation and other horticultural practices adjacent to open space areas, and guidelines on the introduction of native plant stock into the area. Restoration efforts in this cornerstone can also be a source for introduction of native cultivars from outside the area. Review revegetation plans to ensure compliance with landscaping guidelines regarding native plant stock.

Van Dam Cornerstone

The Van Dam Cornerstone lies adjacent to existing residential areas, and is therefore subject to habitat degradation from the introduction of nonnative, invasive plant species and native plant stock from outside the area. Because it will be difficult to regulate plantings in established residential areas, periodically monitor this cornerstone area for undesirable plant invasions. Review any new commercial or public development in the area to ensure compliance with landscaping guidelines.

Lower Sycamore Creek Cornerstone

This cornerstone lies adjacent to existing residential areas, and is therefore subject to habitat degradation from the introduction of nonnative, invasive plant species and native plant stock from outside the area. Because it will be difficult to regulate plantings in established residential areas, periodically monitor this cornerstone area for undesirable plant invasions.

6.2.2.5 Recreation/Public Access

Management Issues

Passive recreational activities (e.g., hiking, bird watching) are anticipated within the cornerstone lands and are generally compatible with reserve biological goals. In general, passive activities pose a significant threat to biological resources only when the level of recreational use becomes too intense. Authorized or unauthorized active recreational activities such as picnicking, equestrian use, and mountain biking may also occur in or adjacent to the cornerstone lands. These activities are conditionally compatible with biological objectives. Most active recreational uses require some additional level of development, such as access roads, parking lots, service facilities, maintenance buildings, and landscaping, and these facilities are generally more harmful to biological resources than the activities they support. Specific issues associated with recreational activities are outlined below

Passive Uses

Activities such as hiking and bird watching have far less profound impacts than motorized sports and those which require clearing and habitat conversion. Passive uses, however, can also generate noise and litter Pedestrian trails are vulnerable to erosion, particularly around switchbacks on steep slopes where people might attempt shortcuts. Heavily used trails may become rutted and are vulnerable to gullying during storm events. Hikers may also trample vegetation off the trails. Public access is appropriate in selected areas of the cornerstone lands to allow entry to recreational areas and promote understanding and appreciation of the natural resources. Excessive or uncontrolled access, however, can result in habitat degradation through trampling and erosion (e.g., along trails), and disruption of breeding and other critical wildlife functions at certain times of the year

Day Use

Construction of picnic areas removes wildlife habitat and can lead to habitat fragmentation and isolation of plant and animal populations. There is also increased human access to surrounding habitats and increased garbage and noise. Support facilities associated with day use areas (access roads, parking lots, service facilities, maintenance buildings, and landscaping) can further impact biological resources.

Equestrian Use

Equestrian use in the cornerstone lands will be limited to horseback riding along the existing trail system and along trails approved as part of the Poway trails plan. Construction of horse trails and horseback riding can increase soil erosion if the trails are not carefully sited and managed.

Mountain Biking

Mountain bikes can affect water quality (through erosion and sedimentation) and result in habitat trampling and degradation. Mountain bike use should be restricted to appropriate areas as discussed below

Management Recommendations

Recreational use of the cornerstone lands should be consistent with the protection and enhancement of biological resources. Existing recreational facilities should be managed to promote the maintenance of habitat value surrounding these facilities.

1 Follow Guidelines for Future Recreational Expansion in the Cornerstone Lands

- Determine appropriate levels of activity within the cornerstones, depending on the resources to be protected, season, and successional stage. Determine allowable types and use intensities of activities by analyzing management objectives, visitor perceptions and attitudes, and the impact of any development and use on natural resources. Refer to the MSCP Resource Document (Ogden et al. 1995) for a list of factors that should be taken into consideration.

- Avoid construction or excessive recreational activities on highly erosive soils or implement appropriate erosion control measures (Section 6.2.2.3).

- Ensure proper drainage of roads and parking areas to prevent erosion.

- Use native species for landscaping at the edges of the cornerstone lands, and avoid the use of nonnative invasive plant species.

- Locate roads, trails, and other recreational use areas away from sensitive or high value biological areas.

- Require dust, erosion, and noise controls on new recreational construction.

- Require lighting use restrictions consistent with existing City lighting guidelines within 200 feet of the cornerstone boundary Direct lighting in adjacent areas away from the cornerstone.

2. Develop a Recreation Plan or Review Existing Plans for Compliance

- Identify opportunities and constraints to future recreational use development and for monitoring existing recreational activities that are consistent with biological reserve goals.

- Concentrate facilities in disturbed areas or lower quality habitats away from sensitive plant populations or sensitive breeding areas.

- Develop design standards for new trail construction that address the avoidance of sensitive species, unique habitats, erosion control, and developed access to major features.

- Establish a recreational area patrol to regulate use of the cornerstones.

- Emphasize the use of "fire-safe" native plants in landscaping along cornerstone edges. Prohibit the use of invasive exotics, and adopt an exotic plant control plan.

- Require any recreational construction projects to control dust, noise, and erosion, and to adhere to seasonal and time-of-day restrictions.

3 Specific Recreational Activities

- Passive Uses

  - Limit or restrict passive uses in critical wildlife areas during the breeding season, as determined appropriate.

  - Follow guidelines provided below under Public Access to minimize adverse effects of passive recreation, such as trampling vegetation and erosion.

  - Provide litter control measures, such as closed garbage cans and recycling bins, at access points for the cornerstones.

- Day Use

  - Site picnic areas or other day use facilities at the edges of the cornerstone lands or in buffer zones.

  - Collect garbage frequently and instruct day users not to feed wildlife.

- Equestrian Use

  - Prohibit horses in riparian areas. Construct trails away from riparian or other sensitive habitat. Provide alternative sources of water, where possible.

  - Mulch trail surfaces to minimize erosion. Do not use materials for trail mulch that are a source of seed of invasive exotic species. Prohibit use of eucalyptus chips that could suppress native plant growth adjacent to trails.

  - Limit equestrian use to specified trails that are wider than foot trails (minimum 8 feet wide) to prevent trail edge disturbance and on grades no greater than 25 percent. If trails become degraded due to heavy use, rotate or limit use during certain seasons to minimize further degradation.

- Prohibit corrals, arenas, stables, and other associated equestrian facilities within cornerstone lands. Locate staging areas for trail heads adjacent to existing roads and away from sensitive resource areas.

- Mountain Biking

  - Limit mountain bike trails to areas not highly susceptible to erosion and out of wetlands and other sensitive areas.

  - Construct trails wider than foot trails (minimum 6 feet) to prevent trail edge disturbance and on grades no greater than 25 percent.

  - Rotate bike use by closing trails periodically to prevent trail degradation if a problem develops.

  - Construct barriers to restrict access to sensitive areas.

  - If use becomes so heavy that problems arise (e.g., trail degradation and erosion), develop an access control system and require permits.

4 Public Access

- Public access of the cornerstone lands should also be consistent with the protection and enhancement of biological resources. Monitor existing access areas to ensure that they do not degrade or inhibit biological values, and prioritize future access areas for protection of biological resources.

  - Seasonally restrict access to certain trails if deemed necessary to prevent disturbance of breeding activities.

  - Close unnecessary trails to minimize biological impacts. Abandon and revegetate steep eroding trails.

  - Locate new trails away from sensitive resources or restrict their use.

- Construct trails to any prominent features or viewpoints that are likely to attract hikers, thereby preventing extensive trampling and compaction.

- Install waterbreaks on steep trails to prevent accelerated runoff and erosion.

- Establish patrols to identify trail maintenance needs, garbage, vandalism, and habitat degradation. Continue the City's existing Adopt-a-Trail program.

Management Actions

1 Review existing recreational use areas and recreational expansion proposals within cornerstone lands. Develop/modify recreation plan(s) to minimize impacts to biological resources within the cornerstones and to be consistent with this subarea plan.

Purpose: To maintain biological values while allowing for recreational use in selected cornerstone land areas.

Priority: High.

Timing: Should be reviewed following approval of the Poway Subarea HCP. Existing recreational activities should be assessed or developed on an ongoing basis, as needed.

Maintenance: A program of regular monitoring should be implemented by the cornerstone lands manager(s) to assess the effects of recreational activities on biological resources. The manager(s) should make recommendations and implement short- or long-term remedial actions, as appropriate.

2 Review existing access areas and assess future access areas to ensure that they do not inhibit biological functions or degrade biological values within the cornerstone lands.

Purpose: To maintain biological functions (e.g., breeding, nesting, roosting) and prevent habitat degradation or loss of key sensitive plant species from trampling or erosion by controlling access into sensitive biological resource areas.

Priority: High.

Timing: Should be reviewed upon approval of the Poway Subarea HCP and updated thereafter based on monitoring results.

Maintenance: Access points and trails should be periodically inspected and monitored by the cornerstone lands manager(s) to ensure that their use is not adversely affecting key biological resources.

Specific Cornerstone Guidelines

Some cornerstones are expected to receive minimal use and no future improvements for recreational use. Some cornerstones support existing trails and related facilities, and additional trails are expected under the Poway trail plan. Only those cornerstones on which other significant recreational impacts are expected are discussed below

Blue Sky - Mount Woodson Cornerstone

This cornerstone currently supports passive recreational use. The Blue Sky Ecological Reserve experiences moderate visitation by hikers, nature lovers, and educational groups. Mount Woodson is actively used by hikers, rock climbers, and other outdoor enthusiasts. Current and future recreational uses should be reviewed for compliance with the guidelines above Of particular concern are 1) siting trails and access points to avoid sensitive biological resource areas, to the degree feasible; 2) installing erosion control measures, fencing, and garbage cans to avoid or minimize habitat degradation; 3) adhering to landscaping restrictions (Section 6.2.2.4) regarding the use of nonnative, invasive plant species and native plant stock; and 4) restricting domestic pets within the cornerstone. Review and update existing signs as appropriate at access points to educate the public about preserve objectives and use restrictions.

Mount Beatrice, Rock Haven, and Iron Mountain Cornerstones

All of these former BLM parcels currently support a community or regional trail system, or such a system is planned for these lands. Assess existing or future trails and access points for 1) avoiding sensitive biological resource areas, to the degree feasible; 2) adequate placement of erosion control measures, fencing, and garbage cans to avoid or minimize habitat degradation; and 3) appropriate signage (Section 6.2.2.6).

South Poway Cornerstone

This cornerstone supports a regional trail system, which should be assessed for 1) avoidance of sensitive biological resource areas, to the degree feasible (e.g., populations of sensitive plant species and native grasslands); 2) adequate placement of erosion control measures, fencing, and garbage cans to avoid or minimize habitat degradation, and 3) appropriate signage (Section 6.2.2.6). Select access points to this cornerstone to minimize disturbances to biological resources and erosion potential.

Van Dam Cornerstone

This cornerstone supports a community trail system, which should be assessed for 1) avoidance of sensitive biological resource areas, to the degree feasible (e.g., populations of sensitive plant species and native grasslands); 2) adequate placement of erosion control measures, fencing, and garbage cans to avoid or minimize habitat degradation; and 3) appropriate signage (Section 6.2.2.6). Close any unnecessary (or unofficial) trails through this area. Select access points to this cornerstone to minimize disturbances to biological resources and erosion potential.

6.2.2.6 Fencing, Signage, and Lighting

Management Issues

Fencing plays an important role in the use of the landscape by humans, domestic animals, and wildlife. Because of landscape use patterns resulting from the erection of fencing, vegetation cover is differentially affected in its growth, vigor, and species composition. Fencing can inhibit the encroachment of some domestic animals into the Mitigation Area. Conversely, wildlife movement patterns and even survival can be dramatically affected by fencing when it prevents animals from following normal movement routes or accessing critical food or water supplies, or when it guides animal movement onto roads.

Interpretation plays an important role in ensuring success of the preserve system. For example, signs and pamphlets educate, provide direction, restrict access, and promote the sensitive use of natural areas by humans. An understanding of the natural environment, the species that inhabit it, and the importance of preserving it will enhance both the public's

support for the Mitigation Area and their cooperation with land managers in maintaining the integrity of the Mitigation Area.

Lighting provides a safer environment for humans around developed areas during the night and evening hours. Artificial lighting, however, can be detrimental to wildlife use of adjacent reserve areas, particularly for nocturnal species where it may disrupt movement and use of otherwise suitable habitat.

Management Recommendations

1 Fencing

- Eliminate unnecessary fencing from interior reserve areas. Dismantle existing fencing inside cornerstone boundaries except in areas where 1) fences limit roadkills; 2) fencing discourages off-trail use by humans that is likely to cause habitat degradation; 3) fencing is necessary to ensure or protect erosion control or revegetation efforts, or protect native vegetation during construction, 4) protection of particularly sensitive resources is required (e.g., small populations of sensitive plants); 5) existing development occurs within the cornerstone and has associated domestic animals; and 6) public safety is an issue.

- Select fencing that best accomplishes access control with minimal wildlife interference. Fencing to control human use of an area should generally be a minimum of 5-6 feet high to be successful. Fences within or at the boundary of the cornerstone should consist of 3 or 5-strand barbed wire, which does not significantly impede wildlife movement. Welded-wire, tall wooden fences, or stone walls are all potentially suitable at the perimeter of human use areas to restrict human and domestic pets from the cornerstone area.

2. Signage

- Provide educational brochures, interpretive centers, and signs to educate the public about the resources and goals of the Mitigation Area and cornerstone lands.

- Establish signs for access control and education at the periphery of cornerstone areas that are open to human access. Post signs to prohibit firearms and pets.

- Use limited signage for educational nature trails.

- Limit the use of signs to attract attention to sensitive species, since such designation may invite disturbance of their habitat.

- Use temporary signs to indicate habitat restoration or erosion control areas.

- Use barriers and informational signs to discourage shortcuts.

3 Lighting

- Eliminate lighting in or adjacent to the cornerstone lands except where essential for roadway, facility use, and safety and security purposes.

- Use low pressure sodium illumination sources. Do not use low voltage outdoor or trail lighting, spot lights, or bug lights. Shield light sources adjacent to the cornerstone so that the lighting is focused downward.

- Incorporate a buffer zone between the edge of lighted areas and the cornerstone. Fuel management zones that may be required could be considered part of the buffer zone. Buffer zone width could vary with lighting intensity, lighting type, use of shields, and topography Minimum buffers of 100 feet are recommended if all recommendations above are incorporated into the lighting plan.

Management Actions

1 Eliminate unnecessary fencing from interior cornerstone areas and establish fencing in selected areas at the edge of the cornerstone.

Purpose: To encourage wildlife movement within the cornerstone area; control human and domestic pet access into the cornerstone; limit roadkills;

prevent erosion, protect revegetation efforts and small populations of sensitive plants; and public safety issues.

Priority: High to Medium.

Timing: As appropriate during implementation of the Poway Subarea HCP

Maintenance: A program of regular inspection and maintenance should be implemented. This will include repair of any damage from vandalism or other causes.

2 Develop and expand the interpretation program through educational brochures, interpretive centers, and signs.

Purpose: To educate the public about the resources and goals of the Mitigation Area, and to promote understanding and appreciation of the natural environment.

Priority: Medium

Timing: Should be developed upon approval of the Poway Subarea Plan and designation of the Mitigation Area.

Maintenance A program of periodic maintenance should be implemented to update interpretive brochures and signs.

3 Maintain habitat quality by minimizing indirect impacts from lighting.

Purpose: To maintain breeding populations of key species, thereby maintaining population and ecosystem viability

Priority: Medium.

Timing: Should be implemented upon approval of the Poway Subarea HCP and designation of the Mitigation Area; review on an ongoing basis, as needed.

Maintenance: A program of regular monitoring of key wildlife populations should be implemented to assess population viability and impacts from adjacent development; new development should be subject to lighting guidelines, as outlined above.

Specific Cornerstone Guidelines

Only those cornerstones with potentially significant issues related to fencing, signage, and lighting are addressed specifically below

Blue Sky - Mount Woodson Cornerstone

Design fencing in this cornerstone to inhibit access to the preserve area by domestic animals associated with adjacent residential development, inhibit nighttime access by humans, and protect any restoration/revegetation areas.

Update the current interpretive program at the reserve, as appropriate, to educate the public about the goals and objectives of the Mitigation Area. Review and update signage, as appropriate, for educational purposes and to prevent habitat degradation or impacts to sensitive wildlife populations.

Review lighting within the reserve for compliance with cornerstone guidelines, as outlined above.

Rattlesnake Canyon Cornerstone

Remove any existing fencing within this cornerstone area to allow wildlife movement to the northeast. Current threats from domestic animals are limited, due to the lack of development in this area.

Signage in this cornerstone should be minimal, because the area is not expected to receive a high level of human access compared to other cornerstone areas. However, appropriate signage may be established for access control, firearm and pet control, and education at the periphery of this cornerstone area.

Mount Beatrice Cornerstone

This cornerstone is surrounded by open space, although the southern connection is a constrained linkage. Any necessary fencing in this parcel should be designed to encourage wildlife movement to the north, east, and west, and to funnel wildlife into the appropriate linkage area to the south.

Rock Haven Cornerstone

Rock Haven Cornerstone is surrounded by open space with scattered residential dwellings. Highway 67 bisects the northern portion of this parcel. Fencing issues in this parcel include maintaining wildlife movement to the southeast and northwest, respectively, and minimizing wildlife mortalities along Highway 67

This parcel is not expected to receive a high level of human use due to its location and relatively poor access. Nonetheless, appropriate signage should be erected at the periphery of this area for access control, firearm and pet control, and educational purposes.

Iron Mountain Cornerstone

The Iron Mountain Cornerstone is surrounded by open space. Remove any existing fencing in this parcel to allow wildlife movement in all directions.

This parcel is expected to receive a fair amount of human use due to its location and inclusion in the Iron Mountain preserve. Hiking trails are already in place in this area. Erect appropriate signage at the periphery of this area for access control, firearm and pet control, and educational purposes. Additional signage may be provided along trails for educational purposes.

South Poway Cornerstone

This cornerstone surrounds the South Poway Planned Community and Business Park, and is bordered by residential and commercial development. This area functions as an essential east-west habitat link and wildlife corridor Fencing issues include 1) encouraging east-west wildlife movements, 2) limiting access to the preserve by domestic pets; and 3) limiting habitat degradation from excessive pedestrian use.

Because of its proximity to development, this cornerstone is expected to receive a relatively high degree of human use. Erect appropriate signage at the periphery of this area for access control, firearm and pet control, and educational purposes. Because of the configuration of this cornerstone, multiple signage points may be required. Additional signage may be

provided along trails for educational purposes, to indicate habitat restoration or erosion control areas, and to encourage use of trails.

Review and modify as appropriate lighting in adjacent development for compliance with the lighting guidelines outlined above.

Lower Sycamore Creek Cornerstone

This cornerstone lies adjacent to residential development to the south. It forms part of a major regional wildlife movement corridor along Sycamore Creek. Remove any existing fences within the cornerstone to allow free wildlife movement. Erect fences around the southern periphery to discourage access by humans and domestic animals.

Because of the relatively small size of this area and its greater susceptibility to adverse impacts from humans, use of this area for recreational purposes should be discouraged or at least limited to designated trails. Erect appropriate signage at the periphery of this area for access control, firearm and pet control, educational purposes, and to encourage use of trails, as appropriate. Construct barriers to exclude vehicular traffic, while allowing pedestrian/equestrian access onto designated trails.

Review lighting in adjacent development for compliance with the lighting guidelines outlined above, and modify it where appropriate.

Van Dam Cornerstone

This cornerstone lies adjacent to open space to the west, and residential development to the north, south, and east. Two major roads, Pomerado Road and Poway Road, are in proximity to the east and south, respectively This area functions as a steppingstone linkage between lands to the north and south. Wildlife movement within this cornerstone should be encouraged, whereas movement beyond the boundaries (i.e., into the adjacent residential areas) should be discouraged through the placement of appropriate fences.

Because of the relatively small size of this area and its greater susceptibility to adverse impacts from humans, discourage use of this area for recreational purposes, at least limiting use to designated trails. Erect appropriate signage at the periphery of this area for access control, firearm and pet control, educational purposes, and to encourage use of trails, as

appropriate. Erect barriers to exclude vehicular traffic, while allowing pedestrian/equestrian access onto designated trails.

Review and modify as appropriate lighting in adjacent development to comply with the lighting guidelines outlined above.

6.2.2.7 Predator and Exotic Species Control

Management Issues

Maintaining healthy populations of target species can be complicated by imbalances in the ecological web due to the presence of exotic species or increases in populations of native predators or nest parasites. Exotic species, including feral and domestic animals and nonnative, weedy plants, often lack natural ecological controls on their populations and may thrive under conditions created and maintained by human development. Nonnative species may therefore out-compete desirable native species. Nonnative predators, particularly house cats, may also prey intensively on native small animal species, reducing or even extirpating some populations.

Native predators may also exert unnatural pressure on prey populations if the normal predator-prey balance is upset by human development. For example, reduction or elimination of such large predators as coyotes and mountain lions by habitat fragmentation may greatly increase populations of small to medium-sized predators ("mesopredators"; Soulé et al. 1988). These mesopredators (e.g., skunks, raccoons, and foxes) may then greatly reduce populations of such prey as songbirds and rodents. Similarly, human influences often result in increases in brown-headed cowbirds (*Molothrus ater*), which lay their eggs in nests of other songbirds, resulting in lowered reproductive output in such species as the California gnatcatcher.

This section discusses problems created by exotic species and ecological imbalances that may occur in preserves, and presents some means of minimizing these adverse effects.

Exotic Predators

Domestic cats and dogs may have adverse impacts on wildlife in preserves. Although dogs are generally not effective predators on most of the target species, their presence may alter

the movements and other behaviors of target species and thereby indirectly impact their populations. Dogs may chase and harass deer and other wildlife, and may reduce use of movement corridors by mountain lions, bobcats, and other species.

House cats, whether truly feral (wild living) or free-roaming domestic animals (at least partly supported by humans) kill large numbers of small prey animals (Spencer and Goldsmith 1994, Churcher and Lawton 1987, Bradt 1949, George 1974, Liberg 1984). Where coyotes are abundant, house cats that survive tend to remain close to houses, and their impacts on wild prey are mostly limited to areas within a few hundred feet of houses (Spencer and Goldsmith 1994). Neutering of male cats and spaying of females tends to reduce long distance movements (Spencer unpubl. data) and may also minimize impacts of cat predation in open space preserves. More importantly, neutering and spaying minimize increases in cat populations in wild areas. Belling of cats may reduce their effectiveness as predators on some species; however, even cats wearing bells kill many birds, mammals and reptiles via ambush techniques (Spencer unpubl. data). Keeping cats indoors during at least the first 6 months of life (when they learn killing behaviors; Caro 1980, Martin and Bateson 1988) may reduce their impacts on native wildlife populations. Ideally, keeping cats indoors at all times should be recommended adjacent to preserves for sensitive prey species.

Native Mesopredators

In general, large native predators, such as coyotes and mountain lions, do not have detrimental impacts on populations of sensitive species. Increases in smaller predators (e.g., foxes, skunks, and raccoons) that prey on nests and young animals or are effective predators on small birds, mammals and reptiles, are more likely to imperil populations of target species. Such mesopredators often survive in unnaturally large numbers near urban areas due to reductions in their natural predators (e.g., coyotes and mountain lions) and increases in human food sources (e.g., garbage) that supplement their natural diets. The most effective control on mesopredator populations is to maintain larger predators in the preserve. Minimizing human food subsidies to these mesopredators (e.g., limiting access to garbage) may also be beneficial.

Cowbirds

Brown-headed cowbirds are notorious brood parasites that have increased throughout the western U.S. with increases in agriculture and urbanization. They are often associated with livestock raising areas. Cowbirds lay their eggs in the nests of other songbirds, and their hatchlings almost invariably out-compete their nest-mates for the food brought by the host parents. The common result is that the non-cowbird offspring fail to survive. Consequently, high populations of cowbirds can greatly reduce the reproductive output of some songbird species and have been implicated in reductions in populations of such sensitive species as the California gnatcatcher and least Bell's vireo (Atwood 1990, SANDAG 1990). Cowbird trapping programs often prove highly successful in reversing this trend in local areas (SANDAG 1990).

Exotic Plants

Exotic or nonnative, invasive plant species pose a particular threat to native vegetation. These species often lack ecological controls on their population expansion or they thrive under conditions created and maintained by human development (e.g., cultivated or landscaped areas, urban runoff areas) For these reasons, exotic plant species may aggressively out-compete native plants. Many exotics do not provide appropriate food or cover for wildlife species that depend upon the native vegetation they are replacing. Highly invasive exotic plant species can therefore degrade habitat quality for native wildlife.

Management Recommendations

Feral and Domestic Animal Control

- Document evidence of feral or domestic animal use in the cornerstone lands.

- Establish an education program for homeowners regarding responsible pet ownership. The program should encourage 1) keeping pets indoors, especially at night; 2) having pets neutered or spayed to reduce unwanted reproduction and long-range wanderings; 3) belling of cats to reduce their effectiveness as predators; 4) discouraging release of unwanted pets into the wild; 5) keeping dogs on leashes when walking them on trails in cornerstone lands.

- Fence areas between selected cornerstone lands and adjacent housing to keep pets out of particularly sensitive areas.

- Establish a feral animal removal program for cornerstone lands.

Cowbird Trapping Program

- Document and monitor the extent of cowbird parasitism on target species nests in cornerstone lands.

- If necessary, establish a cowbird trapping program to increase nesting success of target species affected by cowbird parasitism.

Native Predator Control

- Monitor population levels of selected native predators (bobcat, coyote, mountain lion).

- Institute an educational program to explain the role and necessity of large native predators within the ecosystem and the need to protect them from disturbance.

- If key native predator species are extirpated from the cornerstone lands, initiate a program to control mesopredators (grey fox, skunks, raccoon, and opossum).

Exotic Plant Control

- Prioritize areas for exotic species control based on aggressiveness of invasive species and degree of threat to the native vegetation. Refer to the MSCP Resource Document (Section 8.0) (Ogden et al. 1995) for a list of exotic plant species that could threaten native habitats.

- Eradicate species based on biological desirability and feasibility

- Use an integrated pest management approach, i.e., use the least biologically intrusive control methods, at the most appropriate period of the growth cycle, to achieve the desired goals.

- Consider both mechanical and chemical methods of control. Only herbicides compatible with biological goals should be used. Only licensed pest control advisers are permitted to make specific pest control recommendations.

- Properly dispose of all exotic plant materials that are removed from cornerstone lands (e.g., in offsite facilities).

- Revegetate exotic weed removal areas with species appropriate to biological goals.

Management Actions

1 Control feral and domestic animal populations within the cornerstone lands.

Purpose: To maintain natural wildlife populations in the Mitigation Area.
Priority: High.
Timing: Initiate monitoring and control upon approval of the Poway Subarea HCP and designation of the Mitigation Area; continue on an ongoing basis, as needed.
Maintenance: A program of regular to periodic monitoring and control should be implemented that focuses on control of feral and domestic animal populations. Education of the public regarding methods to discourage feral and domestic animals should be included as part of the control program.

2 Monitor predator populations and take corrective actions (e.g., control of mesopredators such as raccoons and opossums), as necessary

Purpose: To maintain the predator-prey balance in the cornerstone, thereby maintaining viable populations of key wildlife species.
Priority: Medium.
Timing: Initiate monitoring and control upon approval of the Poway Subarea Plan and designation of the Mitigation Area; continue on an ongoing basis, as needed.

Maintenance: A program of regular to periodic monitoring should be implemented as part of the overall management of the cornerstone lands areas.

3 Eradicate/control invasive, exotic plant species in or adjacent to the cornerstones.

Purpose: To prevent habitat degradation and displacement of native species by nonnative species.

Priority: High.

Timing: Identify areas of concern and implement control actions upon approval of the Poway Subarea Plan and designation of the Mitigation Area; continue on an ongoing basis, as needed.

Maintenance: A program of periodic monitoring and maintenance should be implemented by the Reserve manager(s); exotic species control will be a long-term process.

Specific Cornerstone Guidelines

Only those cornerstones expected to experience potentially significant impacts due to exotic species and introduced predators are discussed in detail below

Blue Sky - Mount Woodson Cornerstone

Assess the feral animal population within this cornerstone, and implement control measures, as appropriate, including (but not limited to) trapping, barriers to inhibit access, and educational materials for adjacent homeowners. Erect signage requiring dogs to be on leashes within the cornerstone area. Initiate a long-term monitoring program for predators; control nonnative predators, as appropriate.

Rock Haven Cornerstone

The Rock Haven Cornerstone lies adjacent to Highway 67 in an area where extensive slope cuts have been made due to road construction, and the nonnative plant species, Spanish broom (*Spartium junceum*), has become established. This species is invasive, is spreading into the adjacent chaparral, and may be displacing native plant species. Initiate a vigorous eradication program for this species on the cornerstone.

South Poway Cornerstone

Assess the feral animal population within this cornerstone, and implement control measures, as appropriate, including (but not limited to) trapping, barriers to inhibit access, and educational materials for adjacent homeowners. Erect signage requiring dogs to be on leashes within the cornerstone area. Initiate a long-term monitoring program for predators; control nonnative predators, as appropriate.

Lower Sycamore Creek Cornerstone

Assess the feral animal population within this cornerstone, and implement control measures, as appropriate, including (but not limited to) trapping, barriers to inhibit access, and educational materials for adjacent homeowners. Erect fencing along the southern boundaries and signage requiring dogs to be on leashes within the cornerstone area. Initiate a long-term monitoring program for predators; control nonnative predators, as appropriate.

Van Dam Cornerstone

Assess the feral animal population within this cornerstone, and implement control measures, as appropriate, including (but not limited to) trapping, barriers to inhibit access, and educational programs/brochures for adjacent homeowners. Erect signage requiring dogs to be on leashes within the cornerstone area. Initiate a long-term monitoring program for predators; control nonnative predators, as appropriate.

6.3 Land Use and Management in Noncornerstone Lands

The majority of lands in the Mitigation Area are zoned for low-density rural residential development. Existing constraints, guidelines, and ordinances, including the General Plan goals, strategies, and mitigation measures, offer a degree of protection to sensitive biological resources in these areas. On private lands where landowners opt to participate in the HCP, implementation of additional special development requirements (Section 7) will increase this level of protection. Private acreage within the Mitigation Area that is eventually dedicated as open space (as mitigation for development both inside and outside of the Mitigation Area) will require various forms and amounts of management actions to preserve or enhance their biological value to the overall preserve system.

6.3.1 Compatible Land Uses

Land uses are generally less restricted in portions of the Mitigation Area outside cornerstones than inside cornerstones (see Table 6-1). Most notably, low-density rural residential housing will be allowed throughout much of the Mitigation Area, subject to special development requirements for landowners opting to participate in the HCP (Section 7). Other land uses considered conditionally compatible within non-cornerstone lands are agriculture, grazing, active recreation, and transportation. However, these activities are expected to be minor in extent and under existing regulations are subject to review and development requirements to ensure preservation of biological values. For private parcels where landowners opt to participate in the HCP, additional restrictions may apply For example, conversion of areas to agricultural uses shall be subject to the 2-acre total footprint restriction (including buildings, access, landscaping, etc.) of the special development requirements.

6.3.2 Management Activities

The following sections discuss general management issues and recommendations for lands within the Mitigation Area but outside of cornerstone lands. For private lands, these recommendations apply mainly to those that voluntarily participate in the HCP, although they may also serve as guidelines for other projects. General guidelines are summarized from the MSCP Resource Document (Ogden et al. 1995). Refer to that document for a full discussion of management issues and recommendations. General recommendations are followed by more specific recommendations for some areas where existing data allow Specific recommendations cannot be derived at this time for many parcels, due to lack of site-specific information. However, the adaptive management approach allows for development of specific management plans for areas within the Mitigation Area as new information is obtained.

6.3.2.1 Fire Management

Management Issues

Because non-cornerstone lands within the Mitigation Area will support some human housing, fire management in these areas will necessarily be more oriented towards safety

concerns than cornerstone lands, especially if they support high fire potential habitats and abut high density development. In such areas, safety concerns take precedence over biological issues. Nonetheless, maintaining the biological integrity of open space in non-cornerstone lands is an objective of the Mitigation Area, and should be considered during hazard reduction efforts, to the degree feasible. For the most part, existing fire management actions will continue, modified as feasible to accommodate biological resources goals according to the following guidelines.

Management Recommendations

Develop Fire Management Plans

- Develop fire management plans for non-cornerstone lands that support sensitive biological resources (species and habitats) and border high density residential areas. Refer to Section 6.2.2.1 for specific guidelines on fire management plans. The fire management plan(s) in non-cornerstone lands shall focus on identifying high fire potential habitats utilizing standard fire control measures (e.g., creating fire lines to prevent the spread of fire to adjacent habitats) and developing fire fighting procedures (including access routes) that maximize safety considerations while minimizing unnecessary impacts to biological resources.

Fuel Control

- Review the draft revised City Landscape standards (10/5/94) pertaining to building design, materials, and setbacks; selective thinning and removal zones; and fire retardant plantings for consistency with biological resources goals of the Poway Subarea HCP and safety concerns by the Poway Department of Safety Services. Refine and implement the standards. Additional standard fire management practices for new development in San Diego County will be contained in a forthcoming Memorandum of Understanding (MOU) between the resource agencies and San Diego County Fire Chief's Association.

- Contain fuel control around rural residences within the 2-acre maximum limit per dwelling unit.

- Develop fuel breaks and low-fuel loads along the interface between cornerstone and non-cornerstone lands, particularly in non-cornerstone areas supporting or bordered by residential development. Create fuel breaks and low-fuel load areas by limited crushing or chopping, and avoid sensitive habitat areas (e.g., coastal sage scrub) to the extent feasible.

Specific Guidelines

No specific guidelines for areas within the Mitigation Area outside of cornerstone lands are recommended at this time. Specific guidelines should be developed for particular areas based on consultation with the Poway Fire Department.

6.3.2.2 Habitat Restoration and Revegetation

Management Issues

Widespread restoration efforts throughout the Mitigation Area outside of cornerstone lands are not anticipated. However, some restoration and habitat enhancement may be needed in non-cornerstone lands to protect or improve biological values in key habitat and target species areas, to improve the value of constrained linkages and wildlife corridors, or to buffer impacts of developments on cornerstone lands. Restoration efforts may include control or removal of invasive exotic species and revegetation with native species to prevent the spread of exotics into the cornerstone lands, or maintenance or enhancement of native vegetative cover along the cornerstone/non-cornerstone interface as a buffer from adjacent land uses. Planting of screening vegetation (e.g., trees, tall shrubs) may be used to improve cover along movement corridors that are constrained by human development. The objective would be to encourage greater use of corridors that are currently constrained by the nearby presence of humans, domestic animals, and associated sights and noises that may discourage target animals from passing through the corridor.

Management Recommendations

Active restoration is not expected to be required over large areas of the Mitigation Area, and resources in the City of Poway for funding restoration projects are limited. However, revegetation and restoration in key areas can be accomplished as mitigation for public or private projects that disturb native vegetation either within or outside of the Mitigation Area.

Projects that remove native vegetation, whether inside or outside of the Mitigation Area, shall mitigate for these impacts by a combination of offsite protection of lands or revegetation/restoration of lands within the Mitigation Area. If revegetation/restoration is included in the mitigation plan, a detailed restoration management plan for selected areas should be prepared according to the outline presented in Appendix B and the following guidelines:

Restoration/Revegetation Plans

- Follow the Management Recommendations outlined in Section 6.2.2.2 pertaining to identifying, prioritizing, and implementing restoration activities. Focus restoration efforts in non-cornerstone areas on protecting the integrity of habitat within biological core and linkage areas.

Monitoring Programs

- Monitor restoration efforts according to the guidelines in Section 6.2.2.2.

Specific Guidelines

Although specific restoration guidelines cannot be developed for all areas throughout the Mitigation Area without additional study, some of the Proposed Resource Protection Areas (PRPAs) defined in Section 5.5 can be addressed at this time. The PRPAs include areas under consideration for greater resource protection or enhancement than is afforded by existing and proposed ordinances. In some cases, PRPAs represent areas recommended for acquisition and/or habitat enhancement to preserve or improve a key habitat area, a constrained habitat linkage, or a constrained wildlife movement corridor. These cases are discussed below Refer to Pocket Map 2 and Section 5.5 for locations and descriptions of the PRPAs.

PRPA 4a

This PRPA represents a constrained linkage through coastal sage scrub and riparian oak woodland in an area of existing rural housing that has the potential for additional houses in the future. Study the potential for acquiring parcels in this PRPA and enhancing the habitat to protect the linkage. Prepare a habitat restoration/enhancement plan for the area.

Potential management measures may include fencing to allow for natural revegetation, exotic species control, and perhaps planting to revegetate denuded areas.

PRPA 8

This area represents an essential link in the highly constrained habitat linkage and wildlife movement corridor from Blue Sky Ecological Reserve to habitat areas further north via Sycamore Creek and the Old Coach Golf Estates open space areas. It is immediately adjacent to the Butcher property, which was purchased as biological open space by Poway to help preserve this linkage. PRPA 8 should be given high priority as an area for possible acquisition and habitat enhancement. Prepare a habitat enhancement plan for PRPA 8 and the Butcher property, with specific goals of increasing the value of coastal sage scrub and riparian habitats for sensitive species and for wildlife movement. Fencing and signage may be effective in discouraging further degradation by human and domestic animal use. Consider plantings of screening vegetation (e.g., trees, shrubs) between existing development and likely travel corridors for large mammals (deer, mountain lions).

PRPA 10

This area on Twin Peaks supports coastal sage scrub and California gnatcatchers. Portions of the area are highly disturbed by human influences, including construction of utilities, development of trails by local residents, and invasion by exotic plants. Prioritize portions of PRPA 10 requiring restoration and prepare restoration or enhancement plans as mitigation for offsite projects.

PRPA 16

This area is part of a constrained east-west coastal sage scrub linkage and supports a variety of sensitive species. The Scripps Poway Parkway Extension is planned to pass east-west through this PRPA. Prepare mitigation plans for the Scripps Poway Parkway Extension that strive to restore and enhance native habitats in this area to ensure preservation of the linkage value both north and south of the Parkway

PRPA 17a

This area is contiguous with a narrow and constrained portion of the South Poway Cornerstone. Coastal sage scrub in the area is degraded by human use from the adjoining housing developments. Consider fencing, signage, and perhaps active restoration to protect and enhance the value of the habitat in the area for gnatcatcher populations and as a habitat linkage.

PRPA 18

This area represents a stepping stone in the constrained east-west habitat linkage in southern Poway and a highly constrained movement corridor that could potentially be used by a variety of wildlife if properly restored. It is also contiguous with the City of San Diego's proposed MSCP preserve area. Habitat in this area is degraded by an existing trailer park within the riparian oak forest and floodplain, trails, invading exotics, fences across the riparian corridor, and other factors due to surrounding housing. Prepare a restoration and enhancement plan for implementation upon eventual relocation of the trailer park out of the area. Use fencing, signage, and active restoration to encourage use of the riparian corridor as a wildlife movement corridor Remove existing fencing across the riparian zone in the housing area to allow free passage of large animals.

South Poway Open Space Areas

In addition, areas adjacent to the South Poway Cornerstone support some of the most disturbed habitat in the Mitigation Area, and much of this habitat is critical to the continued viability of the South Poway Cornerstone as a habitat linkage area and wildlife movement corridor Therefore, the following disturbed areas should be targeted for restoration:

- coastal sage scrub and native grassland north of Stowe Drive;
- coastal sage scrub and native grassland between Stowe Drive and Scripps Poway Parkway;
- riparian habitat along Beeler Creek and coastal sage scrub on slopes to the north; and
- coastal sage scrub north of the future extension of Scripps Poway Parkway, in the eastern portion of the cornerstone.

Coastal sage scrub and grassland restoration north of Stowe Drive is considered a priority objective because of the high degree of fragmentation in this important habitat linkage area. Revegetation plans exist for slopes north of Beeler Creek, including the Calmat Poway mineral extraction site and lands to the east. Monitor these efforts to ensure that habitats are restored according to approved plans. Restore lands east of the cornerstone and north of the future extension of Scripps Poway Parkway to widen the linkage through this area.

6.3.2.3 Erosion Control

Management Issues

Of primary concern in non-cornerstone lands is development activity (e.g., cut and fill of slopes) that results in surface erosion and soil slippage. Erosion hazards to biological resources outside of the cornerstone lands may be similar to those identified within the cornerstones, i.e., pollution and sedimentation of water sources and the loss of vegetative cover from landslides.

Management Recommendations

Erosion Control Plans

- Require an erosion control plan for development or construction activities in non-cornerstone lands.

Erosion Control Methods

- Ensure that erosion control in non-cornerstone lands follows the guidelines set forth in the City's Grading Ordinance and the revised City Landscape standards pertaining to temporary and permanent slope stabilization plantings, irrigation, the use of erosion control matting, and additional erosion control measures.

Erosion Control Plantings

- Ensure that plantings for slope stabilization are compatible and in accordance with plantings for fire control purposes and biological preserve objectives using non-invasive species and local seed sources (revised City Landscape

standards). Refer to that document for guidelines on appropriate plant species, planting specifications, and planting design.

Specific Guidelines

No guidelines for specific areas outside of cornerstone lands are recommended at this time. Erosion controls should be recommended on a case-by-case basis as problems are encountered or during the approval process for specific projects.

6.3.2.4 Landscaping Restrictions

Management Issues

Landscaping restrictions for public projects within the Mitigation Area will be the same in both cornerstone and non-cornerstone lands. Refer to Section 6.2.2.4 for a discussion of applicable landscaping management issues. Private landowners within the Mitigation Area that opt to participate in the HCP will be allowed to landscape their properties, so long as all landscaping is contained within the 2-acre maximum impact area per dwelling unit, as required by the special development requirements. Homeowners shall be required to adhere to the revised City Landscape Standards, which encourage use of native vegetation, xeriscaping, naturally fire retardant plant species, and other landscaping techniques concordant with biological goals of the Poway Subarea HCP

Management Recommendations

- Refer to Section 6.2.2.4 and the draft revised City Landscape standards (10/5/94) for guidelines on controlling exotic plant species and horticultural regimes (e.g., irrigation of landscaping material, fertilization of ornamental plants, and ornamental pest control), and Section 6.2.2.4 for guidelines on avoiding genetic contamination of native plant species within the cornerstones.

- Ensure that landscaping is totally contained within the 2-acre maximum impact area per dwelling unit imposed by the special development requirements for the Poway Subarea HCP (see Section 7).

Specific Guidelines

No area-specific guidelines concerning landscaping restrictions in the Mitigation Area are recommended at this time.

6.3.2.5 Recreation/Public Access

Management Issues

Both passive and active recreation may occur within non-cornerstone lands, and these activities are conditionally compatible with biological objectives. Active recreation generally requires additional associated development (e.g., golf courses, equestrian stables, athletic fields and playgrounds, parking lots), and leads to significant impacts on biological resources. Active recreation may result in an increase in both authorized and unauthorized access into non-cornerstone, open space areas. The increase in both activity level and access may result in habitat degradation and disruption of breeding and other critical wildlife functions.

In addition to the management issues detailed in Section 6.2.2.5, the following issues may be of concern in non-cornerstone lands.

Golf Courses

With careful siting and management, golf courses could protect and buffer cornerstone lands, extend or expand protected habitat. However, some golf courses are heavy pesticide and fertilizer users, and may require ground or surface water withdrawals for irrigation, which can have negative impacts on adjacent or downstream habitats. Golf course plans must consider habitats and species receiving runoff from golf courses and the vulnerability of these resources to excess water, fertilizer, and pesticides. The geology and soils of the area, and thus the potential pathways for percolation and constituent migration, must also be considered. Grading and recontouring during construction may lead to changes in the local hydrologic regime and drainage/percolation patterns. Golf courses within the Mitigation Area shall be required to be "links-style" courses that retain as much natural habitat as possible.

Equestrian Facilities

Equestrian facilities may include City trail systems staging areas and trails, corrals, riding arenas, stables, and polo fields. Potential impacts include degradation of water quality in local streams, soil erosion, loss of vegetative diversity in pastures and corrals, loss of wildlife habitat, introduction of noxious weeds, and displacement of native wildlife (e.g., as a result of increased cowbird populations, which displace native birds). Refer to Section 6.2.2.5 for a discussion of horse trails and horseback riding.

Athletic Facilities

Construction of athletic fields, playgrounds, swimming centers, tennis courts, ball courts, recreation centers, and playgrounds can cause habitat fragmentation if not properly placed. Increased traffic to these facilities will increase auto emissions and petrochemical runoff from roads and parking areas, thus degrading air and water quality Pesticide and fertilizer runoff may also degrade water quality Use of invasive non-native plants in landscaping will accelerate the displacement of native plants and reduce the quality of habitat for wildlife. Lights for playing fields may adversely affect nocturnal wildlife movement. Changes in local drainage patterns may occur during construction as a result of site leveling and recontouring.

Off-Road Vehicles and Mountain Bikes

Outdoor recreational vehicles can destroy habitat and facilitate access into otherwise inaccessible habitat. Adverse impacts of ORV use include reductions in air quality due to automotive exhaust and creation of dust, soil erosion and sedimentation into local waters, noise, and habitat degradation. Disturbance from ORVs can disrupt breeding activities and lead to nest or den site abandonment with corresponding reduction in reproductive success of wildlife (SANDAG 1989a). Refer to Section 6.2.2.5 for a discussion of mountain bikes.

Hang Gliders

Ground-based impacts associated with hang gliding are limited to staging and parking areas at the top and bottom of the slope. Clearing of native vegetation for these facilities may

impact sensitive plant populations. Raptors and other bird species may be affected by the presence of hang gliders in and above their nesting and hunting territories.

Management Recommendations

Passive recreation and selected active recreation considered conditionally compatible in cornerstone lands (Section 6.2.2.5) are also conditionally compatible in non-cornerstone lands. Additional active recreational activities may also be conditionally compatible in non-cornerstone lands, as discussed below The City of Poway has prohibited off-road vehicle activities and hunting since incorporation. Refer to Section 6.2.2.5 for guidelines on future recreational expansion, developing recreation plans or reviewing existing plans for compliance, specific recreational activities, and public access. Exceptions, modifications, or additions to the guidelines in Section 6.2.2.5 are detailed below

Golf Courses

- Allow only links-style golf courses, which allow for maximum retention of native vegetation, within the Mitigation Area. Design them in full accordance with the biological goals and guidelines of the Poway Subarea HCP

- Site new golf courses only in degraded or low sensitivity habitat, and avoid removing sensitive plant and animal populations or habitats.

- Develop a design-phase chemical applications management plan or similar document for each new golf course proposed for development and for existing facilities (White and Hecht 1992, Hecht et al. 1989; Ogden et al. 1995). Identify suitable formulation, timing, and manner of application based on the assessment of biological resources in the non-cornerstone lands and adjacent cornerstones. Evaluate the hydrologic characteristics of each subdrainage on the golf course and the vulnerabilities of potentially impacted habitats. Design specific irrigation, erosion, and sediment control structures, on a hole-by-hole basis, to avoid sensitive wetland or aquatic resources.

- Evaluate the water quality of irrigation water Use reclaimed water where appropriate.

- Site cart paths away from biologically sensitive areas.

- Plant native vegetation in areas outside the playing surface of the golf course. Retain or enhance riparian corridor vegetation.

- Prohibit the use of invasive exotic plant species for landscaping purposes (Section 6.2.2.4).

- Minimize grade changes and install drainage structures that approximate pre-construction drainage patterns.

- Design courses to retain and protect existing or potential wildlife movement corridors.

- Prohibit night-time access and minimize night lightings.

Equestrian Facilities

- Locate staging areas, corrals, arenas, stables, and other associated equestrian facilities away from the border with cornerstone lands, identified biological core and linkage areas, sensitive habitats, watercourses, and highly erodable soils.

- Locate stables away from areas where an increase in the cowbird population would affect sensitive bird species, such as the gnatcatcher Consider implementation of a cowbird trapping program where existing facilities lie adjacent to cornerstone areas.

- Prohibit horses in riparian areas. Construct trails away from riparian or other sensitive habitat. Provide alternative sources or water, where possible.

- Mulch trail surfaces to minimize erosion. Do not use mulch derived from tree trimmings or other materials that are a source of seed of invasive exotic species. Prohibit use of eucalyptus chips that could suppress native plant growth adjacent to trails. Encourage use of mulch derived from clean wood, tree bark, or shredded bark.

- Limit equestrian use to specified trails that are wider than foot trails (minimum 8 feet wide) to prevent trail edge disturbance and on grades no greater than 25 percent. Rotate equestrian use or limit use on particular trails to certain seasons of the year to prevent trail degradation.

Athletic Facilities

- Site athletic facilities and playing fields away from the border with cornerstone lands, or biological core or linkage areas, to the degree feasible. However, athletic facilities would be preferred to more intensive development at the interface between cornerstone and non-cornerstone lands because of the fire safety buffer they provide.

- Site new athletic facilities in degraded or low sensitivity habitat, and avoid sensitive plant and animal populations or habitats.

- Require lighting use restrictions within 200 feet of cornerstone lands. Direct lighting away from cornerstone lands.

- Require dust, erosion, and noise controls on new recreational construction.

- Use native species for landscaping at the edges of preserves, and avoid the use of invasive non-native plant species. Follow guidelines in Section 6.2.2.4 regarding horticultural regimes, fertilization of ornamental plants, and ornamental pest control activities.

- Avoid construction on highly erosive soils and near watercourses.

- Ensure proper drainage of fields, roads, and parking areas.

- Locate access roads away from riparian areas or other sensitive areas.

Mountain Bikes

- Limit mountain bike trails to areas not highly susceptible to erosion and out of wetlands and other sensitive areas.

- Construct trails wider than foot trails (minimum 6 feet) to prevent trail edge disturbance and on grades no greater than 25 percent.

- Rotate bike use by closing trails periodically as necessary to prevent trail degradation.

- Construct barriers to restrict access to sensitive areas.

- In heavily used areas, develop an access control system and require permits, as necessary

Hang Gliders

- Prohibit hand gliding in the cornerstones.

Specific Guidelines

Few guidelines for specific areas can be detailed at this time. However, the following specific guidelines are offered for the Old Coach Golf Estates golf course, which is the only known golf course development expected within the Mitigation Area.

Old Coach Golf Estates

Old Coach Golf Estates has an approved CUP for its golf course and development project. Enforce the CUP conditions and mitigation measures and compliance with the following guidelines:

- Site links and other impact areas in disturbed or non-sensitive habitat areas to the extent feasible.

- Retain a minimum 100-foot buffer between developed areas and riparian habitat along Sycamore Creek and Thompson Creek.

- Develop the design with a qualified biologist to minimize disruption of wildlife movement through the area.

- Use fences and signs to prohibit public access at night.

- Minimize night lighting and direct lights away from likely animal movement corridors.

- Restore or enhance native habitat where appropriate to maximize habitat value to target species.

6.3.2.6 Fencing, Signage, and Lighting

Management Issues

Management issues in non-cornerstone lands will be similar to those in cornerstone lands. Of particular concern will be using fencing to inhibit domestic animals into open space areas; using fencing and/or signage to limit or restrict pedestrian, equestrian, and vehicular access, maintaining wildlife movement; educating the public about the reserve and the resources therein, and protecting wildlife from adverse lighting effects.

Management Recommendations

Refer to Section 6.2.2.6 for guidelines on fencing, signing, and lighting. Exceptions to these guidelines are noted below

Fencing

- Maintain or construct fences between development and non-cornerstone lands, if biological resources within the non-cornerstone lands are threatened by incompatible land uses. Fences should serve to direct wildlife movement toward open space areas and limit access of humans and domestic animals.

Signage

- Recommendations in Section 6.2.2.6 regarding signage for erosion control areas will not apply to residential development within non-cornerstone lands.

Lighting

- Restrict land uses where possible to exclude those with the greatest potential for light pollution (e.g., major athletic fields and industrial parks) or locate such uses at least 200 feet away from the boundary with cornerstone lands or sensitive habitats.

Specific Guidelines

See Section 6.3.2.2 for a discussion of PRPAs and other potential restoration areas where fencing and signage are recommended to control human access to areas recommended for habitat enhancement.

6.3.2.7 Predator and Exotic Species Control

Management Issues

Management issues pertaining to predator and exotic species control will be similar in both cornerstone and non-cornerstone lands. Refer to Section 6.2.2.7 for a discussion of applicable predator and exotic species control issues.

Management Recommendations

Feral, Domestic, and Native Animal Control

- Establish an education program for homeowners regarding responsible pet ownership. The program should encourage 1) keeping pets indoors, especially at night; 2) having pets neutered or spayed to reduce unwanted reproduction; 3) belling of cats to reduce their effectiveness as predators; 4) discouraging release of unwanted pets into the wild; 5) keeping dogs on leashes.

- Initiate a community education program for predator and exotic species management, focusing on ways homeowners can avoid attracting predators to their property (e.g., proper trash storage, limiting access to water supplies).

Exotic Plant Control

- Establish landscape ordinances to minimize introduction of exotic plants into preserve areas. Encourage landowners within the Mitigation Area to eliminate invasive exotic plant species from their properties.

- Encourage planting of drought-resistant, fire-tolerant native plant species as an alternative to invasive plants, such as iceplant.

Specific Guidelines

Guidelines for specific areas within the Mitigation Area are not recommended at this time.

6.4 RECOMMENDED FUTURE STUDIES

The Poway Subarea HCP takes an "adaptive management" approach, thus allowing for adjustments to the management and land use guidelines as new information dictates. This approach requires an active information gathering program designed to determine the effectiveness of various practices. This subsection recommends specific research studies and periodic surveys to help monitor the effectiveness and thereby guide the land use and management practices used in the preserve system.

6.4.1 Specific Research Programs

Many preserve design and management recommendations are based on assumptions regarding conditions within the preserve or the relative importance of various factors influencing biological populations in the preserve. Many of these assumptions are untested. The NCCP process and conservation guidelines require a variety of studies to verify and track the effectiveness of preserves. Effective management could be enhanced by specific research programs designed to answer basic questions about ecological relationships or functions in the preserve area. The City of Poway will seek funding from state and federal sources for the following types of studies:

- Wildlife dispersal studies to assess habitat linkages to Twin Peaks and Van Dam Peak areas;

- Studies of potential edge effects of development on the long-term maintenance of conserved habitats and target species, especially investigations of fire ecology of sage scrub;

- Studies to develop or refine habitat revegetation goals, objectives, protocols, and standards;

- Studies of the impacts of wild, feral, and domestic predators on target species and methods of minimizing detrimental impacts if necessary;

- Studies of the impacts of cowbirds on selected target species and methods of reducing cowbird parasitism on sensitive bird species;

- Studies of plant species distribution and abundance in the native grassland communities; and

- Monitoring constrained linkages to assess their effectiveness.

6.4.2 Periodic Surveys

The adaptive management approach requires adjusting management activities to reflect changes in the populations or conditions being managed. This requires periodic updating of the information on which management decisions rely. For example, populations of some target species should be monitored on a regular basis to determine their status and trends, and to determine whether remedial actions are necessary. The NCCP process and conservation guidelines require periodic surveys of target species populations and of compliance with approved plans. The following periodic surveys are recommended to fulfill these requirements:

- Yearly surveys of California gnatcatcher populations across a representative sample of conditions within the Mitigation Area (e.g., including coastal sage scrub fragments of all sizes and degrees of isolation represented in the preserve, and habitats at varying distances from development).

- Periodic aerial surveys to determine compliance of landowners with development and land use restrictions (e.g., compliance with the 2-acre

maximum vegetation removal requirement). Such surveys are expected to be implemented as part of the regional NCCP monitoring program and not to be locally funded or performed.

6.4.3 Monitoring the Scripps Poway Parkway Extension

By creating a major thoroughfare across a wildlife movement corridor, and providing a specially designed undercrossing to accommodate wildlife movement, the Scripps Poway Parkway Extension project offers a unique experimental opportunity to conservation biology The City of Poway will take advantage of this opportunity by studying changes over time in (1) roadkill frequency along the parkway and (2) use of the wildlife "tunnel." These surveys will last for at least three years following opening of the parkway to traffic. In addition, the City will periodically monitor wildlife use of the water source provided at the mouth of the tunnel and bat use of specially designed bat roost structures inside the tunnel.

Roadkill incidence along the newly opened parkway is expected to be high in the months following its opening, particularly during the late summer-fall dispersal period. Roadkill frequency may decline thereafter as animals living close to the parkway are killed or learn to avoid crossing the parkway (and perhaps to use the undercrossing). Monitors will patrol the shoulders of the parkway regularly for at least three years to identify and map roadkills. The suggested schedule would be relatively frequent patrols (e.g., monthly) during the first year and less frequent (e.g., quarterly) patrols during subsequent years. Roadkilled animals will be removed during each patrol to avoid double counting.

A similar schedule would be used in studying the use of the wildlife undercrossing. A combination of tracking media will be used in the tunnel to determine the frequency of animals entering and traversing the tunnel. Species will be identified by their tracks in raked dirt, sifted chalk dust, or other appropriate media placed at intervals along the length of the tunnel. Tracks would be identified and erased at each visit. Ideally, tracking should begin as soon as the tunnel is open and available for wildlife use without disturbance by construction or other activity. Intensive effort during the initial weeks (e.g., tracking every other night for the first several weeks) would best indicate the rate at which wildlife are learning to use the tunnel. Less frequent tracking thereafter (e.g., two consecutive nights of tracking every month) would document the baseline level of wildlife use after the initial period of learning.

A "guzzler" type water catchment is being added near the north entrance to the wildlife tunnel to attract wildlife to the tunnel entrance, acclimate them to its presence, and hopefully encourage use of the tunnel. Track media placed around the drinking entrance to the guzzler will allow identification of species using the water source. This study will be performed concomitantly with the tunnel tracking study

Two types of man-made bat roosts are proposed for addition to the tunnel interior: open-ended "ceilings" that create an "attic space" at the top of the tunnel arch, and vertically oriented "crevice boxes" The first type is hoped to encourage use of the tunnel by free-hanging bats (e.g., Townsend's big-eared bat, *Plecotus townsendii*) that typically use interiors of caves, mines, or the attics of buildings for roosting. These species would hang onto the course concrete-fiber material used to line the tunnel interior The ceilings would provide security for them by blocking them from human view and disturbance. The second type of bat house accommodates crevice-dwelling bats (e.g., California myotis, *Myotis californicus*), which typically wedge themselves in narrow crevices in rocks or between boards of buildings. Most man-made bat houses are discovered and occupied by bats within the first year or two of availability, provided the houses are properly constructed and placed (Tuttle and Hensley 1993). Periodic checks of both types of roost houses can easily be made with a flashlight and ladder. The City of Poway will encourage voluntary studies of the bat roosts by local bat experts (e.g., Karen Pluff of California Department of Parks and Recreation).

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SECTION 7.0
IMPLEMENTATION

In order to carry out the objectives of the Poway Subarea HCP and build a biologically viable preserve that meets the requirements for a 10(a) permit, the Subarea HCP must include implementing objectives and an implementation program. The Subarea HCP builds on the City's General Plan with added development requirements which, combined, will effectively preserve much of the sensitive habitat in the Mitigation Area. The success of the Subarea HCP lies in effective administration of the implementing program and the systematic building of the preserve system, while allowing for some carefully controlled and placed development within the Mitigation Area. This section details the most critical aspect of the Poway Subarea HCP: the criteria and requirements the City will use to implement the Subarea HCP and build its preserve.

7.1 IMPLEMENTING OBJECTIVES

In order to achieve federal, state, and regional goals concerning the conservation of sensitive biological resources and the accompanying need for continued economic growth and development, the Poway Subarea HCP should appropriately address the following specific implementation objectives:

- Meet the conservation objectives of the NCCP Program and the state and federal Endangered Species Acts.

- Implement the adopted biological resource conservation goals, policies, strategies, and mitigation measures of the Poway General Plan and the Paguay Redevelopment Plan.

- Obtain long-term conservation and economic development assurances from the wildlife agencies through a signed implementing agreement, including necessary authorizations to construct the Scripps Poway Parkway Extension in a timely manner

- Allow for the reasonable economic use and development of publicly and privately owned lands as anticipated by the Poway Comprehensive Plan and Paguay Redevelopment Plan.

- Create a legally defensible plan that does not result in the taking of private property without just compensation.

- Pursue and urge the use of federal, state, and regional conservation program funding sources and assistance for the acquisition of lands identified in this HCP as Proposed Resource Protection Areas (PRPAs). Implementation of the Poway HCP should not impose an economic burden upon local fund revenues or the tax-paying general public.

- Establish a biological resource mitigation "in-lieu" fee process and schedule to provide an impact compensation option for eligible public and private development projects in Poway

- Provide the region an expeditious and efficient mechanism to allow other jurisdictions to achieve off-site mitigation within the Poway Mitigation Area. This would benefit public or private sector projects where habitat on the project site or elsewhere in the affected government jurisdiction cannot fulfill mitigation requirements for the project or will not benefit regional or subregional preserve systems.

7.2 Overview of Preserve Building Process

Implementing the Subarea HCP will require that sufficient area within the Mitigation Area be preserved as biological open space to form a connected system. As shown in Pocket Map 2, the Mitigation Area currently consists of several large blocks of habitat preserved in publicly-owned cornerstones separated by areas mostly under private ownership and designated mainly for rural residential development. In order to continue building the Mitigation Area to form a continuous open space system, additional lands will need to be preserved to link the current preserve areas. The application of the development requirements specified in Section 7.3 will guide allowable development in the Mitigation Area away from coastal sage scrub, wildlife movement corridors, and other sensitive areas. As participating private development proposals are submitted to the City for consideration, City staff will evaluate the proposals against the Subarea HCP and accompanying maps (Pocket Maps 1, 2, and 3) for compliance. As previously mentioned, the vast majority of

the Mitigation Area is designated for low density residential lots, so development proposals will consist mainly of an individual dwelling unit on a large lot.

However, habitat located within the Proposed Resource Protection Areas (PRPAs) may require a more direct approach to ensure their preservation. Therefore, preservation of habitats within the Mitigation Area will also occur through mitigation for projects within or outside of the Mitigation Area. As projects are proposed in the City that require mitigation in the form of land preservation, land in the Mitigation Area will either be purchased or dedicated for preservation. In addition to mitigation lands, other areas of biological importance may be acquired as funds become available, or lands may be dedicated to the City. The purchase or dedication of habitat should be focused within the PRPAs as prioritized in Section 5.5 of this HCP

Implementing the new development requirements proposed in Section 7.3 of this Subarea HCP will also reduce disturbance to sensitive biological areas within the Mitigation Area by limiting development and avoiding fragmentation of sensitive habitats.

7.3 SUBAREA HCP SPECIAL DEVELOPMENT REQUIREMENTS

To carry out existing federal, state, and regional requirements, new development requirements will be established to implement the Subarea HCP. Tailored to the conservation objectives of the Subarea HCP, the new regulations are designed to ensure the preservation of important biological resources, while permitting compatible development of approved and planned public and private projects.

The special development requirements apply to public projects and to private development projects located within the boundary of the Mitigation Area which rely on the City's Incidental Take/Management Authorization permit or outside the Mitigation Area in areas supporting native vegetation. The special development requirements are divided into general and specific requirements. The general requirements incorporate existing relevant City requirements and apply to all parcels of land in the City of Poway that contain native or natural vegetation and wildlife. The specific requirements apply to all parcels within the Mitigation Area and include new conditions on land uses and mitigation for developments.

The development requirements will be established by the relevant sections of the Poway General Plan, Poway Development Code (Zoning Ordinance), and Poway Grading

Ordinance to fully incorporate by reference the text, figures, and tables contained in this Subarea HCP. The Poway Redevelopment Agency will adopt a resolution which approves the HCP and IA/CESA MOU and such resolution will state that all Redevelopment Agency projects will be consistent with the requirements of the HCP and IA/CESA MOU.

7.3.1 General Development Requirements

The following general development requirements incorporate existing relevant City regulations where noted in parentheses, and apply to all parcels of land in the City of Poway that contain native or natural vegetation and wildlife.

1 Any proposed public or participating private development project or action that may affect or potentially affect biological resources in the City of Poway must be found to comply with the biological resource conservation goals, objectives, policies, strategies, development requirements, and mitigation requirements of the Poway Subarea HCP (Poway Municipal Code, General Plan, and CEQA Implementation Procedures). Projects or actions that apply include, but are not limited to:

- redevelopment projects;
- redevelopment plan amendments;
- capital improvement projects;
- general plan amendments/zone changes;
- municipal code amendments;
- specific plans or amendments thereto;
- boundary adjustments;
- parcel or subdivision maps;
- development reviews;
- public facilities or utilities;
- permitted, conditional, accessory or temporary land uses or activities;
- expansions of existing development on public or private property

2 The City shall incorporate the Poway Subarea Plan into its project application and review process (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

3 The Planning Services and Safety Services departments of the City will jointly review and coordinate programs and plans related to wildland fire management activities. Such activities include, but are not limited to, annual weed abatement and fire control/brush management (Poway Municipal Code, General Plan, CEQA Implementation Procedures, and Landscape Standards).

4 The major natural streams and tributary drainages that traverse the City shall be maintained in their natural state to enhance the movement of wildlife and to provide biological corridors between natural open space areas. The cleaning (debris removal) of these floodways and channels for flood control purposes shall be sensitive to the biological resource conservation value of the natural watercourse (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

5 The siting, construction, and maintenance of rural walkways, pathways, trail networks, and other linear-type projects such as roadways and utility corridors shall be compatible with the conservation value and function of surrounding natural habitat and the important biological resource core and linkage areas identified in the Poway Subarea HCP (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

6 Off-road vehicle use and hunting are prohibited on land within the City of Poway (Poway General Plan).

7 Undeveloped hillside land with a slope gradient of 45 percent and above, along with the onsite vegetation, shall be maintained in its natural state and permanently protected as open space (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

8 The potential adverse effects of development and associated human activity (for example, noise, light, and encroachment by people or domestic animals) on adjacent open space, natural habitat, biological core areas, habitat linkages, and wildlife movement corridors shall be limited as deemed necessary to preserve the integrity of these areas. In some cases, a buffer of protected natural habitat surrounding the development area may be required (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

9 Confinement of horses, cattle, and other livestock shall not be permitted in the natural open space areas and sensitive biological resource areas (Poway General Plan). Grazing may continue on disturbed habitats and non-native grasslands on private property

10 The "lot averaging" provisions of the Zoning Ordinance shall be considered as an option to conventional subdivision design where it results in the preservation of important biological resources and achieves the conservation and implementation objectives of the Poway Subarea HCP (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

11 The City of Poway Grading Ordinance regulations and permit requirements for clearing and grubbing shall apply to all biological, archaeological, and historical resources found in the City of Poway (Poway Municipal Code).

12 All requests, applications and proposals for land development, clearing, grubbing, brushing, grading, brush management/fire control, weed abatement, and any other public or private activity that would result in the disturbance or removal of natural habitat shall include a biological resource survey technical report prepared by a qualified biologist. The report shall address compatibility of the action with the objectives, strategies, and requirements of the Poway Subarea HCP It shall map and identify the project location relative to important locations in the HCP, including the identified core biological resource areas, Proposed Resource Protection Areas, and habitat linkages. The report shall also include recommendations for mitigating, preserving, monitoring, and managing resources in the context of the Poway Subarea HCP (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

13 Pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15300.2, a project may not be exempt from CEQA requirements due to its location, cumulative impact, or significant effect. All projects that impact biological resources are subject to appropriate environmental review The environmental documentation certified in connection with the Poway Subarea HCP approval, as well as the Poway Master Environmental Assessment and certified FEIR for the Poway General Plan Update (1990), shall be referenced (Poway General Plan and CEQA Implementation Procedures).

14 For the purposes of land division, "net area" means all land, utility easements and trails within a given area or project including residential lots, and other open space which directly serves the residents of the net acre; but exclusive of all public or private streets and other easements such as a floodway or flood-control channel (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

15 Development within the 100-year floodway is prohibited. For purposes of land division, floodway areas shall not be included in the calculation of net area. Land within the 100-year floodplain shall be limited to low density residential or open space uses; however, such uses shall not adversely affect important biological resources or inhibit, prevent, or preclude the movement of animals along identified wildlife movement corridors (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

16 The use of rip-rap in stream channels shall minimize adverse impacts to sensitive biological resources and shall be limited to the minimum area required to protect adjacent improvements and stream banks from excessive erosion (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

17 Natural locations and rates of discharge into creeks and channels shall not be increased without sufficient mitigation to ensure that significant alteration of the natural system will not occur (Poway General Plan).

18 Activities within the City's natural drainage systems which would adversely affect water quality (such as pesticide use, construction of septic leach fields, and underground storage of hazardous substances) shall be strictly regulated (Poway General Plan).

19 Substances such as hazardous wastes or untreated wastewater shall not be discharged into the City's natural water system (Poway General Plan).

20 Runoff from impermeable surfaces which may be contaminated with toxic substances shall have such contaminants substantially removed before discharge into the City's natural drainage systems (Poway General Plan).

21 The City of Poway shall comply with the requirements of the nonpoint source urban runoff wastewater discharge permit (Poway General Plan).

22. Grading for development shall not increase the natural rate of erosion or cause siltation of stream channels (Poway General Plan).

23 Important and sensitive biological resources, significant archaeological resources, and historical sites shall be protected and integrated into the design of a development project where feasible (Poway General Plan).

24 Individual specimens of trees considered locally sensitive, including coast live oak, holly oak, California sycamore, and mature eucalyptus, shall not be removed without the necessary approvals by the City (Poway Municipal Code, General Plan, and CEQA Implementation Procedures).

25 Mitigation for significant impacts to biological resources shall be in accordance with the mitigation requirements of the Poway Subarea HCP (Poway CEQA Implementation Procedures).

26 Public access to natural creeks and channels shall not result in adverse impacts to the riparian value (Poway General Plan).

27 The City of Poway shall maintain and enforce appropriate legislation concerning the unauthorized removal or disturbance of native vegetation, disposal of junk and waste matter, and other activities that adversely impact sensitive plant and animal species and the habitat value of such species (Poway Municipal Code).

28 Monitoring by a qualified biologist during vegetation clearing, grading, construction, and land development activities shall be required where there is the potential to impact sensitive biological resources both on and offsite (Poway General Plan).

29 The City of Poway shall continue to coordinate its habitat conservation planning efforts with surrounding jurisdictions and refer applications for regionally significant development not anticipated by this Plan to affected jurisdictions and

other public agencies according to the terms of the interjurisdictional memorandum of understanding (Poway General Plan).

7.3.2 Specific Development Requirements

The following specific requirements shall apply to parcels of land located within the boundary of the Mitigation Area which are either publicly owned or for which clearing or development approval has been sought in reliance upon the City's Incidental Take/ Management Authorization permit:

1 Within the Mitigation Area of the Poway Subarea HCP, the development of a legal lot designated on the Poway General Plan's Land Use and Zoning Plan as Rural Residential A (RR-A), Rural Residential B (RR-B), or Rural Residential C (RR-C) shall comply, to the greatest extent practical and feasible, with the following requirements:

a. Limitation of habitat disturbance and removal.

- The amount of habitat disturbance and removal on a legal lot shall be limited to the extent feasible and necessary for the purpose of development, but in no case shall exceed two (2) net acres in total, not including development already in existence at the date of plan adoption. Public trails shall not be counted toward the 2 acre total.

  This limitation incorporates all development-related improvements including, but not limited to, the building pad (including multiple foundation level pads); cut and fill slopes, driveways, roads, and utilities (including on- and off-site easements); structures (including recreational courts and accessory buildings); ornamental landscaping; brush management/fire control plan areas; water well and related equipment; and sewage disposal system (including sewer line easement, septic holding tank(s), primary and secondary leach fields (unless revegetated), and all related facilities or improvements).

  The 2-acre allowance shall be calculated on a per allowable lot basis. Thus, for lands not yet subdivided, net allowable removal of habitat

may be calculated as 2 acres for each potential or allowable lot. However, once the net theoretical maximum of vegetation has been cleared, no further clearing shall be allowed in the event of further subdivision. For example, a 40-acre parcel in the RR-A zoning designation that could be subdivided into two 20-acre parcels has a total theoretical allowance of 4 acres of vegetation removal. The landowner could opt to clear all 4 acres for a single family home and related improvements (as described above). However, no further development could occur outside this 4-acre area if the landowner later decides to subdivide the parcel.

- Existing legal lots equal to or less than two (2) net acres in size may be allowed to remove or disturb all on-site habitat for the purpose of development.

- To the extent feasible and practical, development areas shall be located in accordance with the development siting requirements discussed under item (c) below

- Proposals to remove or disturb habitat in addition to the above limitations may be considered if the proposal meets all of the following criteria:

  – Sensitive biological core resources, habitat linkages, wildlife movement corridors, watershed and buffer areas are appropriately preserved and protected; and

  – The objectives of the Subarea HCP are substantially met; and

  – An equal or greater mitigation plan is accepted. Such a plan may involve preserving additional land within Proposed Resource Protection Areas (PRPAs) or other habitat areas of high habitat value within the Mitigation Area and/or restoration or enhancement of natural habitats within Mitigation Area cornerstone lands or PRPAs, as discussed in Sections 6.2.2.2 and 6.3.2.2 of this HCP

b Requirements for habitat preservation:

- Habitat in excess of the 2 acre removal allowance for development per allowable lot shall be permanently protected, preserved, and properly managed in accordance with the Poway Subarea HCP

- Resources preserved should be of potential value for long-term conservation and should also be a meaningful addition toward the assembly of a viable regional system of interconnected core resources, habitat linkages, buffers, and wildlife corridors.

c To the extent feasible and practical, development shall be located in compliance with the following:

- Development shall be concentrated first in areas of non-sensitive habitat and secondly in disturbed sensitive habitat considered to have low restoration or enhancement potential in the context of the Subarea Plan unless preserve design considerations suggest that an alternative site better achieves goals of the preserve.

- Development shall be sited so as to avoid disruption of sensitive resources, including biological core areas, habitat linkages, established buffer areas, watershed areas, and wildlife corridors. Development shall not constrict wildlife corridors or habitat linkages to less than 1000 feet wide where feasible. Where development cannot avoid constricting a corridor or linkage to less than 1000 feet, a minimum width of 400 feet must be maintained over a length not to exceed 500 feet.

- Development shall be located as close as possible to existing or planned public or private roads and access easements, utility easements, or other required improvements to minimize fragmentation of habitat areas.

- It is preferred that all areas of habitat preserved adjoin undeveloped natural open space, a biological conservation easement, or dedicated

public open space in order to promote large contiguous areas necessary for watershed, habitat, and viewshed protection.

- Soils having a high or moderate permeability capacity or rate should be left in their natural state to reduce run-off and encourage groundwater recharge.

- The layout of a rural residential building site shall consider the existing or planned use of adjoining parcels to ensure that the functional value of the habitat between the parcels is maintained and enhanced.

- Lighting for home security and accessory buildings and structures shall be shielded or directed away from surrounding natural habitats.

- Fences should not be erected where they restrict wildlife movement and the functionality of contiguous resource conservation areas except if otherwise determined by the project biologist to achieve biological goals as discussed in Sections 6.2.2.6 and 6.3.2.6 of the Poway Subarea HCP

- Development, including roads, shall be set back from riparian corridors a sufficient distance to avoid any damage or adverse direct and indirect impacts to these areas.

- Trail construction shall take into consideration and not disrupt important biological resources.

- Septic systems shall not degrade the quality of surface and subsurface waters, or habitats considered sensitive for wildlife diversity and movement.

2 Within the Mitigation Area of the Poway Subarea HCP, the lands designated under the Poway General Plan as Open Space-Resource Management (OS-RM) shall be preserved and protected as natural biological open space. These lands are designated as "cornerstone lands" of the subarea plan.

Habitat disturbance on these lands is limited to the construction and maintenance of the City's riding and hiking trail system. The development of sensitively designed and environmentally-friendly "public utility installations" may be considered if such development substantially meets the conservation objectives of the Poway Subarea HCP

3 The Rancho Arbolitos, Old Coach Golf Estates, and South Poway Planned Community (PC) areas of the Poway Subarea HCP include sensitive habitat that is critical to the long-term biological conservation value and function of the Poway Preserve System. Habitat conservation required by the Planned Community approval documents shall be strictly enforced.

4 Other areas within the Mitigation Area of the Poway Subarea HCP containing significant biological resources are designated under the Poway General Plan as open space-recreation (OS-R), residential single family 2 (RS-2), residential single family 7 (RS-7), commercial general (CG), mobile home park (MHP), planned residential development (PRD), and hospital campus (HC). Development in these areas shall be in accordance with the General Development Requirements listed in this section.

5 In addition to these specific requirements, development projects and other activities that result in habitat removal shall also consider the applicable regulations, requirements, guidelines, policies, strategies, and mitigation measures contained or incorporated by reference in the Poway Municipal Code, Poway Comprehensive Plan, and Paguay Redevelopment Plan.

7.3.3 General Mitigation Requirements for Biological Resource Impacts

1. Projects located inside the Mitigation Area shall be limited to a specific amount of habitat removal (2 acres per allowable lot for participating landowners or the maximum allowable clearing and grading based on the slope-density formula of the General Plan, Figure 4-2) The remaining onsite habitat shall be preserved in perpetuity and properly managed.

The compensating mitigation, consisting of either on or offsite habitat preservation within the Mitigation Area, shall replace the removed habitat with an equivalent or

higher quality and quantity of habitat according to the guidelines and ratios presented in Section 6.4 of the HCP Under certain circumstances, mitigation may consist of preserving offsite habitats which differ in kind from the impacted habitat. This may include habitat restoration and enhancement of disturbed native vegetation. For some habitats, such as wetlands, federal and state policies set a goal of no net loss of habitat.

2 Projects outside the Mitigation Area will be evaluated on a case-by-case basis regarding biological resource impacts and compensating mitigation requirements according to the guidelines and ratios presented in Section 7 4, below Habitat outside the Mitigation Area is generally fragmented, isolated from the larger, contiguous and more viable habitat areas in the City of Poway, and in many areas is disturbed due to its proximity to developed land.

However, it may be appropriate to preserve habitat outside the Mitigation Area where a particular species of importance requires protection, or where the preservation accomplishes other planning goals and objectives. When it is determined that onsite preservation is inappropriate in the context of the Poway Subarea HCP, then biological impacts of the project should be compensated by preserving offsite habitat within the Mitigation Area or by payment of an in-lieu fee. In any case, the area graded cannot exceed the maximum allowed under the slope-density formula of the General Plan (Figure 4-2).

Approximately 1,790 of the vegetated acres in Poway lie outside of the Mitigation Area. Approximately 50 percent of this is off-limits to development under private open space easements, leaving about 900 acres that could be developed in exchange for mitigation within the Mitigation Area. Most of this vegetation is highly fragmented coastal sage scrub, disturbed coastal sage scrub, and chaparral. It also includes about nine acres of native grassland, 160 acres of non-native grassland, and 175 acres of assorted riparian vegetation communities. The riparian communities are generally off-limits to development except for possible flood control or drainage projects called for by the Paguay Redevelopment Plan.

7.4 COMPENSATION MITIGATION

Impacts to vegetation communities and wildlife habitats in the City of Poway, either inside or outside of the Mitigation Area, shall require compensating mitigation, restoration, or revegetation, or a combination thereof, inside the Mitigation Area. Compensating mitigation can consist either of 1) outright purchase or dedication of lands inside the Mitigation Area as biological open space or 2) payment of in-lieu fees into a mitigation bank administered by the City of Poway or a land trust acting as an agent of the City of Poway Mitigation lands should be selected according to the priority ratings for Proposed Resource Protection Areas (PRPAs) outlined in Section 5.5

The compensation strategy applies to planned public and private development projects within the City or within other jurisdictions that choose to mitigate within Poway It includes provisions for "in-kind/out-of-kind" and "onsite/offsite" compensation mitigation. The specific mitigation strategy for a development project will be based on the results of a biological resource survey technical report prepared by a qualified biologist. The strategy may vary with the location of the project (inside or outside of the Mitigation Area) and the availability for sale or dedication of in-kind habitat acreages within the Mitigation Area, as detailed below Sections 7 4 1 and 7 4.2 address the compensation process for projects outside and inside of the Mitigation Area, respectively Section 7 4.3 provides the mitigation ratios to be used in calculating compensation acreages. Section 7 4 4 discusses partial mitigation credit for habitat enhancement or restoration.

7.4.1 Compensation for Impacts Outside Mitigation Area

Biological impacts for projects outside of the Mitigation Area will be mitigated primarily by in-kind habitat acquisition within the Mitigation Area. In the event that there is insufficient inventory of in-kind habitat available for acquisition within the Mitigation Area, or if out-of-kind habitat is available that better serves overall preserve design, mitigation will be satisfied by purchase of a sufficient combination of in- and out-of-kind habitat. In all cases, mitigation purchases must be within the Mitigation Area unless biological information indicates that habitat available for acquisition outside of the Mitigation Area would add greater value to the preserve than would acquisitions within the Mitigation Area. A reduction in the mitigation requirement of up to ten (10) percent will be granted for compensation acreage acquired within high priority PRPAs ("PRPA Bonus") If

insufficient acreage is available within high priority PRPAs, the 10 percent bonus may be applied to other selected parcels at the discretion of the City

Optionally, mitigation compensation may be satisfied by the payment of a fee pursuant to the City's Mitigation Compensation In-lieu Fee Schedule and Process (Section 7.6). Such fees will be deposited in the City's Mitigation Area Acquisition Fund for purchase of preserve lands within the Mitigation Area.

Only in rare circumstances would conservation of onsite habitat be considered appropriate as whole or partial mitigation for impacts outside of the Mitigation Area. The Mitigation Area contains those areas currently considered of greatest value to biological resources within the City of Poway and excludes areas thought not to contribute significantly to conservation of biological resources. If new biological information indicates that particular species or vegetation communities of concern require protection and permanent preservation outside of the Mitigation Area, or where conservation of onsite habitat outside of the Mitigation Area otherwise accomplishes the implementing objectives of the HCP, onsite mitigation may be considered appropriate and sufficient.

7.4.2 Compensation for Impacts Inside Mitigation Area

Biological impacts for a project inside the Mitigation Area will be mitigated primarily by in-kind habitat compensation by the establishment of an onsite biological open space easement over that portion of the parcel of the greatest value to the biological preserve. The remaining onsite habitat would be regulated by the HCP and maintained in its natural state as permanent open space. The property owner may use this remaining balance of onsite habitat as "banked" mitigation land following written notification from the City unless that land is already under a protection easement for other reasons (e.g., archaeology or visual). This banked land may be sold as compensating mitigation for public or private projects elsewhere in the City or other jurisdictions.

If there is insufficient inventory of onsite in-kind habitat to permit total onsite in-kind compensation, a combination of onsite easement and offsite purchase may be used to satisfy mitigation requirements. For both onsite and offsite compensation, preference should first be for preservation of in-kind habitat.

In all cases, mitigation purchases must be within the Mitigation Area unless new biological information indicates that habitat available for acquisition outside of the Mitigation Area would add greater value to the preserve than would acquisitions within the Mitigation Area. A reduction in the mitigation requirement of up to ten percent will be granted for compensation acreage acquired within high priority PRPAs or other key parcels at the discretion of the City ("PRPA Bonus").

If all of the above compensation methods have been fully considered to the satisfaction of the City, but the project mitigation requirements are incomplete, the remaining mitigation requirements may be satisfied by the payment of a fee pursuant to the City's Mitigation Compensation In-lieu Fee Schedule and Process (Section 7.6). Such fees will be deposited in the City's Mitigation Area Acquisition Fund for purchase of preserve lands within the Mitigation Area.

7.4.3 Compensation Mitigation Ratios

The following mitigation ratios shall apply to all projects resulting in removal of natural vegetation or wildlife habitat within the City of Poway and that are subject to the HCP, whether inside or outside of the Mitigation Area. They continue existing compensation mitigation ratios used by the City, which are based on the recommendations of the Detailed Biological Assessment for the City of Poway (ERCE [Ogden] 1991a) and the Focused California Gnatcatcher Resource Study (ERCE [Ogden] 1991b). The City may grant a mitigation "bonus" of up to ten percent if mitigation compensation is achieved within PRPAs.

Wetlands

Given the "no net loss" policy for wetland habitats of the City and the resources agencies (U S Army Corps of Engineers [ACOE], USFWS, CDFG) impacts to all wetland habitats shall be avoided or minimized where alternatives exist. Any unavoidable impacts to wetlands may require a permit from the ACOE under Section 404 of the Clean Water Act and will require a Streambed Alteration Agreement with the CDFG. Unavoidable impacts to wetlands will be mitigated by replacement or enhancement at a minimum ratio of 3:1 for woodland types and 2:1 for shrub-dominated types. Mitigation for disturbed wetlands will generally be mitigated in-kind at no less than 1 1 ratio as determined on a case-by-case basis.

Oak Woodlands

Impacts to oak-dominated habitats shall require mitigation by in-kind habitat creation, restoration or enhancement as determined by the City and the project biologist. Impacts shall require a minimum of a 3 1 replacement ratio, depending on the quality and maturity of the habitat as determined by the project biologist.

To achieve 2.1 replacement of individual oak trees outside of woodland habitats in the long term, impacts to individual oak specimens shall be replaced (liner stock) as follows:

- Ten (10) oaks shall be planted for each oak directly impacted; and
- Five (5) oaks shall be planted for each oak indirectly impacted.

The oaks should be planted in appropriate habitat to create a comparable area of woodland value within the Mitigation Area to that removed by the action.

Coastal Sage Scrub

Direct impacts to coastal sage scrub or mixed coastal sage scrub/chaparral shall be compensated at a minimum 2.1 ratio. Impacts to disturbed or low quality habitat not supporting sensitive species may be compensated at a minimum 1 1 ratio.

Native Grassland

Impacts to native grassland shall be compensated at a minimum 2:1 ratio.

All Other Vegetation Communities

All other vegetation communities or wildlife habitats within the City of Poway (including but not necessarily limited to chaparral and non-native grasslands) are considered sensitive under this multiple habitat HCP Hence, direct removal of these habitats shall be compensated at a minimum 2.1 ratio for areas known to support any of the covered species and 1 1 where no covered species have been detected. Indirect impacts to habitat supporting covered species shall also be compensated at a minimum 1 1 ratio. Final

determination of the compensation ratio will be determined by the City based on the biological resource technical report for the project.

7.4.4 Habitat Enhancement and Restoration

Direct, indirect, or cumulative impacts to sensitive biological resources may be partially mitigated by habitat enhancement or restoration. Enhancement or restoration can be either onsite or offsite, so long as they occur within the Mitigation Area. A habitat enhancement plan and an appropriate monitoring program shall be prepared by the project biologist based on the biological goals and guidelines of the HCP Habitat enhancement programs approved by the City may count for up to fifty percent (50 percent) of the required mitigation for the impacted habitat(s).

7.4.5 Estimated Compensation Mitigation Available for PRPA Acquisition

Compensation mitigation for projects inside and outside of the Mitigation Area, including collected in-lieu fees, shall target parcels within the PRPAs for acquisition. This section contains a preliminary estimate of the total expected acreages to be acquired based on the amount of habitat requiring compensation mitigation. These estimates are likely to change depending upon actual development plans, the rate of habitat acquisitions and donations, and other factors.

The PRPAs total approximately 3,209 acres, broken down as follows:

• high priority	830 acres
• moderate priority	2262 acres
• low priority	117 acres
• Total	3,209 acres

Estimated compensation mitigation potentially available to acquire PRPAs totals approximately 3,591 acres, broken down as follows:

• City of Poway public projects	756 acres
• Private projects inside Mitigation Area	1870 acres
• Private projects outside Mitigation Area, inside City of Poway	895 acres
• City of La Mesa, East Ridge project	65 acres
• Total	3,586 acres

These estimates are based on the following assumptions:

- Maximum allowable buildout in the rural residential zone, assuming City water is extended throughout (Section 4 4).

- Approximately 50 percent of the natural vegetation in Poway outside of the Mitigation Area (totaling 1790 acres) is available for development (excluding constrained areas and areas under open space easements).

- An average 1 1 mitigation ratio for impacts to native vegetation is realized for public and private projects in Poway

- All planned public projects in Poway are accounted for and will be implemented.

The first assumption probably overestimates total acreage, since City water is unlikely to be extended throughout the rural residential area, thereby limiting development density. However, this decrease in compensation mitigation would be offset by the decrease in impacts within the Mitigation Area (thereby making purchase of all PRPAs unnecessary). The third assumption is conservative and probably underestimates the total compensation mitigation, because 2.1 or greater mitigation ratios will be required for most impacts to native vegetation communities within Poway (Section 6.4). In spite of some uncertainties in the total compensation mitigation that will occur within PRPAs, it appears from this analysis that sufficient compensation will be available to purchase at least the high and medium priority areas, given that they are available for purchase.

7.5 AGREEMENTS WITH OTHER JURISDICTIONS

As part of the implementation of the Subarea HCP, the City of Poway is pursuing mitigation agreements with other interested jurisdictions that do not have land within a core

biological area as defined by the Public Review Draft MSCP Because these jurisdictions have limited land available for mitigation of their own public or private projects, they must find suitable land outside of their jurisdiction for mitigation of biological impacts. It is the City's goal to enter into informal agreements with some jurisdictions to encourage the purchase of mitigation land within Poway The size and viability of Poway's Mitigation Area benefit from the acquisition of land within the Mitigation Area by other public or private parties outside of Poway

7.5.1 City of La Mesa

Appendix H of this HCP contains the Draft Subarea Plan for the City of La Mesa. Because the La Mesa Subarea shall be implemented largely by offsite mitigation within the City of Poway, it is herein incorporated by reference. This section summarizes relevant portions of the La Mesa Subarea Plan.

The City of La Mesa supports a relatively small amount of native habitat, including coastal sage scrub occupied by gnatcatchers, but little land available as mitigation sites for impacts to sensitive biological resources. La Mesa therefore will enter into a Memorandum of Agreement (MOA) with the City of Poway allowing for compensation mitigation within the Poway subarea.

La Mesa, which totals 6200 acres, is almost entirely developed and is surrounded by urbanization (i.e., the cities of San Diego, El Cajon, and Lemon Grove, and the unincorporated communities of Spring Valley and Valle De Oro). State Routes 94 and 125 form the southern and eastern boundaries of the city, and Interstate 8 bisects the city east to west. The MSCP vegetation map identified 189 acres of coastal sage scrub in the city in three blocks of varying size. These blocks of native habitat were ranked as "High" and "Moderate" by the MSCP Habitat Evaluation Map. However, the habitat in La Mesa is excluded from the MSCP Multi-Habitat Planning Area and the Core Biological Resource Areas and Linkages due to its isolation from other native habitat areas.

The largest block of habitat remaining in La Mesa is within the Eastridge Specific Plan and Tentative Map that were approved in 1989 and 1991 by the La Mesa City Council. The Tentative Map encompasses 141 acres, of which 50 acres are dedicated as biological open space. The remaining 91 acres are planned to be developed with 230 single-family homes. Within the Eastridge Specific Plan there are 102 acres of coastal sage scrub, 2 acres of

chamise chaparral, and 37 acres of disturbed land and disturbed annual grassland. The disturbed land consists of dirt trails crisscrossing the site and fire clearing along the northern edge of the site. Biological surveys of the Eastridge property were conducted in 1985, 1988 and 1994 The first two surveys reported the presence of 22 pairs of California gnatcatchers (*Polioptila californica*) on the Eastridge site. The 1994 survey identified 14 California gnatcatcher territories on-site or immediately adjacent to the site boundary

Other areas of sage scrub within La Mesa also support or potentially support gnatcatchers and are at high risk of loss to development. Impacts to coastal sage scrub in La Mesa are proposed to be mitigated at a 1:1 ratio within the PRPAs defined in the Poway Subarea HCP Preferably, the offsite mitigation would occur in PRPAs that have a high priority ranking. Mitigation could occur either through direct purchase of open space easements to be dedicated to the City of Poway, or through payment of in-lieu fees to the City of Poway, which would purchase lands within the PRPAs.

An Implementing Agreement (IA) between the USFWS, the CDFG, and the City of La Mesa shall be executed based on the Model Implementing Agreement/Management Authorization for the MSCP The IA/CESA will state the specific implementing actions and responsibilities of each agency, and would convey permits and take authorizations to the City of La Mesa.

7.6 FUNDING/FINANCING

Implementation of the Poway Subarea HCP will be financed through two primary sources: 1) development mitigation or in-lieu fees administered by the City, and 2) federal and/or state grants or funds as they become available. The City has limited financial resources and the general fund will most likely not be available to purchase lands for preservation.

Mitigation Fees

Mitigation fees or in-lieu fees will be required by the City to mitigate development impacts outside the Mitigation Area in lieu of direct purchase of land as mitigation, as presented in Section 7 7, below The fees will be used by the City to purchase lands within the Mitigation Area for preservation. Through the use of in-lieu fees, the City will have greater

control over directing preservation within the Mitigation Area to the PRPAs in priority order

Federal and State Grants or Funds

The federal and state governments have a responsibility to participate in the financing of Poway's HCP because the benefits are regional and national. Participation should be in the form of commitments of federal and state lands and in financing acquisition of private lands. Several parcels within the Mitigation Area are owned by public jurisdictions, such as the Bureau of Land Management and the CDFG. Poway will participate in funding opportunities as they become available for land acquisition or HCP implementation.

7.7 HABITAT MITIGATION COMPENSATION "IN-LIEU" FEE PROCESS AND SCHEDULE

7.7.1 Purpose and Intent

The purpose of the "in-lieu" fee is to provide an efficient and viable option for biological resource impact mitigation. This option will promote the interim protection, permanent acquisition, and preservation of critical resources within the Mitigation Area. It is intended that the in-lieu fee serve as mitigation compensation for direct, indirect, and cumulative impacts, where the direct purchase of habitat lands by a project proponent is determined by the City to be infeasible, on a project-by-project basis. The in-lieu fee will be administered by the City through the established Resource Conservation Area Acquisition Fund Account. The fee will include adequate funds to cover the long-term operation, maintenance, and management costs of the HCP preserve system.

7.7.2 Project Qualifications for the In-Lieu Fee Option

Section 7.2 of the Implementing Agreement/Management Authorization and Section 7.5 of this HCP describe the Compensation Mitigation and Mitigation Ratios to be applied throughout the duration of the incremental implementation of the Agreement and the HCP As described therein, the in-lieu fee option may be considered after onsite/offsite and in-kind/out-of-kind mitigation measures have been fully considered, to the satisfaction of the City

7.7.3 In-Lieu Fee Process

1 The City will accept and deposit such fees in the established fund account. As determined by the Parties of the Agreement, the fee will satisfy the mitigation compensation requirements of both planned public and private development projects located within the City's jurisdiction, and also for such projects located in other jurisdictions.

2 Funds accepted and deposited in the account established for such purpose will be expended by the City as soon as possible following the approval of project mitigation measures, but no later than one year from the date of such approval unless extension of this period is mutually agreed to by the wildlife agencies and the City of Poway The City will use such funds to acquire habitat lands within the Mitigation Area, with first priority given to habitat located in high priority PRPAs.

3 Pursuant to established City policy, the City will contract the professional services of an independent third party certified appraiser in connection with its purchase of private land for public purposes. Habitat land purchase will be based on the prevailing fair-market value.

4 The habitat land acquisition will be of the general type and approximate quantity approved under the mitigation measures for the specific development project. The actual acquisition by the City shall be within the Mitigation Area and directed preferentially in PRPAs. Acquisitions shall not be subject to the further review or approval of any other party of the Agreement. In conjunction with acquisition, the City will execute a biological open space easement upon the acquired habitat land. The easement document will be drafted to identify the USFWS and CDFG as co-beneficiaries of such easement in perpetuity On an annual basis, the City will initiate a General Plan Amendment/Zone Change to redesignate the land use and zoning of recorded easements to the Open Space-Resource Management designation, in order to permanently protect and preserve the habitat within such recorded easements.

7.7.4 In-Lieu Fee Schedule

1 The in-lieu fee will apply only to non-wetland habitats. Impacts to wetlands, such as vernal pools and other habitats subject to the no net loss goal, shall first be avoided to the greatest extent possible. Unavoidable wetland impact compensation mitigation will consist of the creation or restoration of disturbed wetland habitats.

2 In-lieu mitigation fees shall be assessed in accordance with a fee schedule adopted by the City Council.

3 The city will re-evaluate the in-lieu fee every 2 years and may consider adjustments based on market land value and comparable sales of habitat mitigation land.

The City will direct the purchase and preservation of land within the Mitigation Area through the use of mitigation fees which will be used for the following purposes:

- To purchase and hold preserve lands - State law allows Poway to hold and receive property, purchase and sell property, receive gifts of property, reduce or eliminate tax burdens on lands, and limit liability

- Operate mitigation banks - The City or a selected land conservancy shall assemble or purchase land to be used as a mitigation bank and broker trades of land and agreements for public or private entities to receive mitigation credit in exchange for purchase of lands in a mitigation bank. The mitigation banks will exist within the Mitigation Area and preferably within PRPAs.

7.8 PRESERVE MANAGER

The manager of the habitat preserve currently depends on the ownership of the parcels that make up the preserve. Currently, several jurisdictions are responsible for maintenance of individual parcels, including the City of Poway for OS-RM zoned lands; the BLM, the CDFG (Blue Sky Ecological Reserve); the San Dieguito River Park JPA, the Poway Municipal Water District; and The Environmental Trust (SANREX).

Eventually, as more parcels are added to the Mitigation Area, one preserve manager would be more advantageous for the overall success of the preserve. The City will consider a

non-profit long-term caretaker such as The Environmental Trust or other Conservancy to manage the preserve under a cooperative agreement with the City

SECTION 8.0
REGULATORY COMPLIANCE BY THE PLAN

The Poway Subarea HCP plays a variety of legal roles as an environmental planning document:

- a subarea plan under the NCCP and consistent with the MSCP and MHCP;
- a Habitat Conservation Plan (HCP) to allow issuance of a permit to "take" threatened or endangered species, or candidate species that may be listed in the future, pursuant to Section 10(a) of the Endangered Species Act, as amended, and
- a Section 2081 Management Authorization to allow take of state-listed rare, threatened or endangered species, and a Section 2835 Management Authorization for covered species that may be listed in the future.

Upon approval of the Poway Subarea HCP by the City of Poway, USFWS, and CDFG, these parties will enter into an Implementing Agreement specifying the terms and conditions of activities under the plan. The signed Implementing Agreement serves as approval by these agencies that the plan meets the requirements of a State Management Agreement and a federal Habitat Conservation Plan and thus allows issuance of appropriate permits for species named in Section 8.2 below.

This section reviews how the plan complies with and implements the requirements of each of these acts, planning documents, and permits. Subsection 8.1 discusses how it complies with subregional conservation plans. Subsection 8.2 discusses the species that are covered by the HCP for issuance of incidental take permits pursuant to Section 10(a) of the federal Endangered Species Act, the special 4(d) rule for the listing of the California gnatcatcher, and Section 2081 of the California Endangered Species Act. Section 8.3 discusses how CEQA and NEPA compliance will be achieved for the plan.

8.1 COMPLIANCE WITH REGIONAL AND SUBREGIONAL CONSERVATION PLANNING REQUIREMENTS

The Poway Subarea HCP, as a Subarea Plan under the MSCP and NCCP, must comply with guidelines provided in the MSCP for subarea planning. The MSCP is recognized as a subregional program under the regional NCCP, pursuant to the NCCP Act of 1991 The

MSCP Framework Plan provides a Biological Preserve Design Checklist for Subarea Plans based on the MSCP Biological Standards and Guidelines as well as the basic tenets for conservation planning identified by the NCCP Scientific Review Panel. The Poway Subarea HCP meets or exceeds all requirements in this checklist:

- **Representation of sensitive habitats and relevant target species per MSCP Biological Standards and Guidelines.** All sensitive habitats and target species found within Poway are represented in the plan. Over 81 percent of the coastal sage scrub habitat, and nearly 100 percent of native grasslands and riparian habitats in Poway will be preserved (with restoration or enhancement in riparian and other wetland habitats to achieve a no net loss, or 100 percent preservation level) (Table 8-1).

- **Inclusion of core biological resource areas and linkages.** The Poway Mitigation Area includes nearly all of the MSCP identified core area for the Poway area, plus additional lands considered biologically important. It targets for acquisition those core areas that are at risk of fragmentation. It also protects all essential habitat linkages and movement corridors identified for the area (Pocket Map 3).

- **Inclusion of core California gnatcatcher populations.** The Poway Mitigation Area includes over 90 percent of the estimated gnatcatcher observations in the City, and over 80 percent of gnatcatcher habitat in the City is estimated to be preserved by the plan under a worst-case scenario. Historic gnatcatcher observations not in the Mitigation Area were mostly in areas that have subsequently been disturbed, developed, and fragmented. All large, contiguous areas of occupied or potentially occupied gnatcatcher habitat will be protected in cornerstone lands, will be minimally developed for rural residences according to stringent special development requirements, or will be targeted for acquisition as dedicated biological open space (Pocket Map 3).

- **Inclusion of viable populations of other coastal sage scrub-dependent target species.** All large blocks of coastal sage scrub in the Mitigation Area will be mostly protected as biological open space, as will essential habitat linkages. This should protect all other target species restricted to coastal sage scrub habitats in the Mitigation Area.

Table 8-1

ESTIMATED PRESERVATION OF VEGETATION COMMUNITIES UNDER THE SUBAREA HCP

Vegetation Community	Total City Acreage	Gross Acreages in RCA				Net Preservation (a)			
						Minimum Participation Scenario (b)		Maximum Participation Scenario (c)	
		Public Lands	Steep Slopes	Balance	Total	Acres	Percent (d)	Acres	Percent (d)
Coastal sage scrub	6667.61	1864.16	864.61	3041.71	5770.48	5385.40	81%	5435.89	82%
Disturbed coastal sage scrub	544.77	64.76	12.44	248.89	326.09	286.27	53%	298.71	55%
Coastal sage - Chaparral scrub	89.54	87.84	0.79	0.91	89.54	89.39	100%	89 44	100%
Baccharis scrub	0.64	0.64	0.00	0.00	0.64	0.64	100%	0.64	100%
Chaparral	4978.13	2522.91	669.03	1424.44	4616.38	4093.60	82%	4117.83	83%
Disturbed chaparral	16.57	3.00	0.55	3.19	6.74	5.58	34%	5.62	34%
Coast live oak woodland	262.36	41.48	51.56	132.52	225.56	177.39	68%	179.18	68%
Southern coast live oak forest	212.66	147.54	10.07	52.49	210.10	191.02	90%	191.73	90%
Disturbed coast live oak forest	111.55	4.67	1.18	47.80	53.65	36.27	33%	36.92	33%
Eucalyptus woodland	33.21	4.89	0.00	27.21	32.10	22.21	67%	22.58	68%
S. cottonwood willow riparian forest	1.66	0.00	0.60	1.06	1.66	1.66	100%	1.54	93%
Coast live oak	0.10	0.00	0.00	0.10	0.10	0.06	64%	0.07	65%
Southern sycamore riparian woodland	9.50	9.50	0.00	0.00	9.50	9.50	100%	9.50	100%
Freshwater marsh	4.01	0.49	0.00	0 00	0.49	0.49	12%	0.49	12%
Disturbed floodplain	23.07	22.65	0.00	0.00	22.65	22.65	98%	22.65	98%
Mulefat scrub	12.72	2.43	0.00	5.70	8.13	8.13	64%	7.50	59%
Disturbed mulefat scrub	37.59	0.00	0.04	0.65	0.69	0.69	2%	0.62	2%
Southern willow scrub	47.55	5.74	1 14	18.01	24.89	24.89	52%	22.91	48%
Disturbed southern willow scrub	8.11	0.00	0.00	0.00	0.00	0.00	0%	0.00	0%
Wet meadow	0.35	0.00	0.00	0.35	0.35	0.35	100%	0.31	89%
Pond	0.05	0.00	0.00	0.05	0.05	0.05	100%	0.04	89%
Nonnative grassland	578.79	154.00	1.55	263.31	418.86	323.15	56%	326.70	56%
Native grassland	70.38	58.82	0.00	2.65	61.47	60.51	86%	61.18	87%
Subtotal, Natural Habitats	**13710.92**	**4995.52**	**1613.56**	**5271.04**	**11880.12**	**10744.90**	**78%**	**10832.05**	**79%**
Disturbed habitat	2968.00	209.59	27.01	692.04	928.64	677.08	23%	686.43	23%
Agriculture	828.09	7 47	2.21	93.32	103.00	69.08	8%	70.34	8%
Open Water	68.83	60.32	0.00	4.67	64.99	64.99	94%	64.48	94%
Developed	7424.33	151.15	17.78	161.89	330.82	271.97	4%	274.16	4%
Total	**25000.17**	**5424.05**	**1660.56**	**6222.96**	**13307.57**	**11828.02**	**47%**	**11927.45**	**48%**

(a) Assumes 100 percent preservation on public lands and partial preservation on private lands as predicted by the appropriate build-out analyses.

(b) Assumes minimal participation by private landowners. Calculations based on maximum build-out under existing regulations for private lands and assuming that City water is extended to all areas.

(c) Assumes minimal participation by private landowners. Calculations based on maximum build-out analysis with maximum take of 2 acres of habitat per allowable parcel. Also assumes that City water is extended to all areas.

(d) Net preserved acres as a proportion of total acres in the City

- **Inclusion of spatially representative examples of coastal sage scrub categorized as having Very High and High biological value assigned by the gnatcatcher habitat evaluation model.** All very high and high quality habitats defined by the MSCP habitat evaluation model are included in the Mitigation Area and will be substantially protected in the Mitigation Area.

- **Inclusion of key landscape linkages within the subarea and outside of the subarea.** All key landscape linkages within the subarea are preserved, and no key linkage to areas outside of Poway is precluded by the plan (see Figure 2-1).

- **Inclusion of priority target species.** All priority target species are adequately considered and protected by the plan to the fullest extent possible within the City's boundaries (Table 8-2).

- **Adequate representation of secondary target species.** All secondary target species are also adequately considered and protected by the plan to the fullest extent possible within the City's boundaries (Table 8-2).

- **Inclusion of large blocks of habitat suitable for golden eagle and mountain lion.** Known golden eagle nesting and foraging areas within Poway are protected in cornerstone lands or other protected areas. Sufficient large blocks of interconnected habitats will be protected to ensure their use by mountain lions to the fullest extent possible within the City's boundaries (Pocket Map 3).

- **Inclusion of large blocks of habitat minimizing edge-to-area ratio.** The Mitigation Area was drawn to include all large blocks of habitat with minimal edge-to-area ratio to the extent feasible given existing development and habitat disturbance. Proposed Resource Protection Areas are designed to fill gaps in existing protection to avoid further habitat fragmentation (Pocket Map 3)

Table 8-2

COVERED SPECIES ANALYSIS

Latin name	Common Name	Status	% of Observations Conserved (a)	% of Habitat Conserved (b)	Adequately Conserved? (c)	Risks/Comments
Plants						
Acanthomintha ilicifolia	San Diego thorn mint	C1/CE	100%		Yes	2 known populations in Poway adequately protected.
Baccharis vanessae	Encinitas baccharis	PE/CE	82%		Yes	3 of 5 populations protected on public land.
Brodiaea orcuttii	Orcutt's brodiaea	C2/	0%		**No**	Only known major population is at risk in Beeler Canyon; covered only if this population is adequately conserved.
Caulanthus stenocarpus	Slender-pod jewelflower	C3/CR	88%	83%	Yes	Adequate chaparral habitat protected.
Ceanothus cyaneus	Lakeside ceanothus	C2/		83%	Yes	No known populations in Poway; potential chaparral habitat is adequately protected.
Comarostaphylis diversifolia ssp. diversifolia	Summer-holly	C2/	100%	83%	Yes	Only known population and sufficient potential habitat are protected.
Dudleya variegata	Variegated dudleya	C2/	0%		**No**	Only major population is outside of Mitigation Area; covered only if this population is protected.
Ericameria palmeri ssp. palmeri	Palmer's ericameria	C2/	99%		Yes	8 of 9 populations protected on public land.
Ferocactus viridescens	San Diego barrel cactus	C2/	61%		Yes	Populations in Poway not considered significant.
Lepechinia cardiophylla	Heart-leaved pitcher sage			83%	Yes	No known populations in Poway Chaparral habitat adequately protected.
Monardella linoides ssp. viminea	Willowy monardella	C2/CE	0%		Yes	Insignificant effect. Only historic population in Poway is not significant to species distribution. Current status unknown.
Muilla clevelandii	Cleveland's golden star	C2/			Yes	No known populations in Poway; potential habitat adequately protected.

Table 8-2 (Continued)

COVERED SPECIES ANALYSIS

Latin name	Common Name	Status	% of Observations Conserved (a)	% of Habitat Conserved (b)	Adequately Conserved? (c)	Risks/Comments
Solanum tenuilobatum	Narrow-leaved nightshade	C2/			Yes	No known occurrences in Poway Adequate chaparral habitat is protected.
Amphibians						
Bufo microscaphus californicus	Arroyo southwestern toad	FE/ SSC			Yes	Not known in Poway Riparian and adjacent upland habitats adequately conserved.
Rana aurora draytonii	California red-legged frog	PE/ SSC			Yes	Not known in Poway Insignificant effect.
Reptiles						
Clemmys marmorrata pallida	Southwestern pond turtle	/SSC		100%	Yes	Sufficient habitat preserved.
Sceloporus orcutti	Granite spiny lizard				Yes	Boulder habitats adequately preserved.
Phrynosoma coronatum blainvillei	San Diego horned lizard	C2	95%	80%	Yes	Sufficient habitat preserved.
Cnemidophorus hyperythrus beldingi	Orange-throated whiptail	C2	86%	80%	Yes	Sufficient habitat preserved.
Cnemidophorus tigris multiscutatus	Coastal western whiptail	C2		80%	Yes	Sufficient habitat preserved.
Anniella pulchra pulchra	Silvery legless lizard	C2		77%	Yes	Sufficient habitat preserved.
Eumeces skiltonianus interparietalis	Coronado Island skink	C2		77%	Yes	Sufficient habitat preserved.
Coleonyx variegatus abbotti	San Diego banded gecko	C2			Yes	Sufficient habitat preserved.
Lichanura trivirgata roseofusca	Coastal rosy boa	C2		79%	Yes	Sufficient habitat preserved.
Salvadora hexalepis virgultea	Coast patch-nosed snake	C2		75%	Yes	Sufficient habitat preserved.
Diadophis punctatus similis	San Diego ringneck snake	C2			Yes	Sufficient habitat preserved.
Thamnophis hammondi	Two-striped garter snake	C2			Yes	Sufficient habitat preserved.
Crotalus ruber ruber	Northern red diamond rattlesnake	C2		80%	Yes	Sufficient habitat preserved.
Birds						
Haliaeetus leucocephalus	Bald eagle	FT/CE			Yes	(d) Insignificant effect.
Circus cyaneus	Northern harrier	/SSC			Yes	(d) Insignificant effect.
Buteo swainsoni	Swainson's hawk	CT/			Yes	(d) Insignificant effect.

Table 8-2 (Continued)

COVERED SPECIES ANALYSIS

Latin name	Common Name	Status	% of Observations Conserved (a)	% of Habitat Conserved (b)	Adequately Conserved? (c)	Risks/Comments
Buteo regalis	Ferrugious hawk	C2/			Yes	(d) Insignificant effect.
Falco peregrinus	American peregine falcone	FE/CE			Yes	(d) Insignificant effect.
Empidonax traillii extimus	Southwestern willow flycatcher	FE/CE		58%	Yes	(d) Insignificant effect.
Polioptila californica californica	California gnatcatcher	FT/SSC	80%	80%	Yes	Sufficient habitat preserved.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	C2	85%	80%	Yes	Sufficient habitat preserved.
Vireo bellii pusillus	Least Bell's vireo	FE/CE		48%	Yes	(d) Insignificant effect.
Campylorhynchus brunneicapillus couesi (sandiegensis)	(San Diego) cactus wren; coastal population	C3B/			Yes	(d) Insignificant effect.
Accipiter cooperii	Cooper's hawk	/SSC	70%	78%	Yes	Sufficient habitat preserved.
Aquila chrysaetos canadensis	Golden eagle	BEPA/ SSC	100%		Yes	Known nesting sites in Poway and sufficient foraging areas conserved.
Athene cunicularia hypugaea	Burrowing owl	C2		60%	Yes	(d) Insignificant effect.
Agelaius tricolor	Tricolored blackbird	C2			Yes	Sufficient habitat preserved.
Mammals						
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	C2/SSC		80%	Yes	Sufficient habitat preserved.
Chaetodipus californicus femoralis	Dulzura California pocket mouse	C2/SSC	100%	84%	Yes	Sufficient habitat preserved.
Taxidea taxus	American badger	/SSC			Yes	(d) Insignificant effect.

(a) Assumes 100% conservation of species on public and private open space areas and on 45% slopes, and 78% conservation on private lands in rural residential areas.

(b) Assumes 100% conservation of habitat on public and private open space areas and on 45% slopes. Assumes 89% conservation of coastal sage scrub and wetlands, and 65% conservation of other habitats, on private lands in rural residential areas. Analysis performed only for species with clear habitat associations discernable in GIS database.

(c) A species is considered adequately conserved if sufficient habitat or populations within Poway are conserved, along with sufficient habitat linkages, movement corridors, or other special requirements.

(d) Effects of the Poway Subarea HCP on the species or its status cannot meaningfully be detected, measured, or evaluated.

- **Management feasibility consistent with MSCP guidelines.** By protecting intact large areas of contiguous habitat, active management requirements are minimized in the preserve area. The proposed special development requirements and compensation mitigation requirements are feasible to implement. The plan makes use of existing General Plan guidelines and ordinances to minimize needs for new management mechanisms and bureaucracy (see Sections 6 and 7).

8.2 SPECIES COVERED BY POWAY SUBAREA HCP FOR ENDANGERED SPECIES PERMITS

This section reviews the adequacy of conservation for species for which endangered species permits or pre-listing agreements are requested ("covered species"). Section 8.2.1 analyzes the expected impacts of public or private projects on native vegetation in the Mitigation Area, or conversely, the amount of natural habitats that will be preserved by the resulting system. Section 8.2.2 summarizes the degree of conservation for the covered species.

None of the covered species is restricted in range to Poway's borders, and Poway is too small to contain viable populations of many of the species if populations within Poway became isolated from other populations. Nevertheless, habitats for these species shall be protected and managed sufficiently within Poway to ensure their persistence insofar as it is within the power and jurisdiction of Poway to influence their persistence.

8.2.1 Estimated Impacts and Preservation of Biological Resources under the HCP

Implementation of the Poway Subarea HCP would result in an estimated loss of up to 22 percent of the remaining natural habitat areas in the City of Poway and limited loss of native plants and animals. It would also allow limited take of some individuals of threatened, endangered, or otherwise sensitive species. However, these losses would be largely restricted to already disturbed or fragmented habitats, and implementation of the HCP would minimize impacts in sensitive vegetation communities and biological core and linkage areas.

The following discussion is based upon an analysis of potential maximum buildout within the Mitigation Area pursuant to the City's General Plan and the provisions of the HCP The analysis assumes 100 percent preservation of biological value on public lands by restoration and enhancement to offset minor adverse impacts of proposed projects on public lands. In addition, the analysis assumes legal buildout on privately owned, rural residential areas. Buildout assumes that City water is extended to all rural residential areas. Two scenarios were considered. In the first (maximum participation scenario), the allowable 2 acres of impact per allowable lot was assumed to be removed on all private lands in the Mitigation Area; in the second (minimum participation scenario), the acreage allowed to be cleared under existing ordinances was assumed.

In the long term, implementation of the plan would consolidate an interconnected preserve system sufficient to sustain Poway's diverse ecological communities in perpetuity; and it would preserve potential connections with existing or future preserves in adjoining jurisdictions (Figure 2-1). The preserve is estimated to total approximately 10,745 to 10,832 acres of natural habitat (excluding developed, disturbed, agricultural and open water), or about 11,900 acres total, at completion (Table 8-1). The preserve would protect approximately 80 percent of the recorded gnatcatcher locations within the City of Poway and at least 80 percent of the recorded locations for most other target species (Table 8-2).

8.2.2 Covered Species Analysis

Table 8-2 summarizes the degree of conservation of sensitive species by the Poway Subarea HCP It shows the degree of conservation estimated for known populations or observations of some species (particularly plants) and the degree of conservation of habitats for other species (particularly animals). For all species, the conservation of habitat linkages and wildlife movement corridors by the Poway Subarea HCP is considered adequate, and these analyses are not summarized in the table.

All species analyzed are considered adequately conserved by the HCP to be considered "covered," except for two plant species (Orcutt's brodiaea and variegated dudleya). These species are currently at risk in the South Poway area, because the only significant populations in the City are outside the Mitigation Area or are in areas proposed for development. These species would be covered also if they become adequately protected in the future.

The Poway Subarea HCP provides sufficient protection and management for the covered species and their habitats to qualify as a habitat conservation plan (HCP) as called for under Section 10(a) of the federal Endangered Species Act for federally listed species, and to qualify as a pre-listing HCP for species that are not yet listed as threatened or endangered. Acceptance of this Poway Subarea HCP therefore shall result in issuance of a Section 10(a) permit for listed species and a pre-listing Section 10(a) permit for any covered species that could be listed in the future. If any other species known to occur within Poway becomes listed in the future, Poway and the wildlife agencies will evaluate whether the Poway Subarea HCP provides sufficient protection for these species to warrant issuance of a Section 10(a) permit under the current plan, or whether a revision of the plan is required.

Similarly, the Poway Subarea HCP provides sufficient protection and management for those target species listed or likely to be listed by the CDFG as state-rare, threatened, or endangered, and therefore meets the requirements of a Management Authorization for take of these species pursuant to Sections 2081 and 2835 of the State Game Code and CESA.

8.2.3 Issuance Criteria for Endangered Species Permits and Authorizations

A section 10(a) permit for take of threatened or endangered species may be issued by the USFWS if the following criteria are met for each species for which take is requested:

(A) The taking will be incidental to and not the purpose of otherwise lawful activities covered by the permit.

(B) The permit will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.

(C) The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided.

(D) The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild.

(E) The applicant will ensure that other measures that the Director of the USFWS may require as being necessary or appropriate will be provided.

(F) The Director of the USFWS is assured that the conservation plan will be implemented.

This section demonstrates that all criteria are met by the Poway Subarea HCP for species listed in Table 8-2. The criteria are addressed in order below

(A) The Taking will be Incidental

The actions permitted under the implementing agreements, permits and authorizations for this HCP are buildout and construction per the Poway General Plan, subject to the restrictions and measures contained herein. Some unintentional take of covered species or their habitats may occur incidental to these otherwise lawful actions. No request has been made or implied for deliberate take of covered species or their habitat in this HCP or accompanying documentation or applications.

(B) Impacts are Minimized and Mitigated

Section 7.0 of this HCP presents special development requirements and mitigation measures that have been designed with input from the wildlife agencies to ensure that lawful activities permitted by the HCP minimize adverse impacts to sensitive habitats and species and mitigate for unavoidable impacts to them in a manner consistent with conservation of the resources to the maximum feasible extent.

(C) The HCP is Adequately Funded

Most of the habitat acquisitions within the Mitigation Area are expected to be funded by public and private sources as mitigation for projects both inside and outside of Poway (see Section 6.4.5). Additional funding is expected via the in-lieu fee mechanism and from state and federal sources to be applied to implementing the NCCP and MSCP It is difficult to assess the total funding required to fully implement the HCP, in part because regional funding issues have yet to be fully resolved for the NCCP and MSCP Nevertheless, the reliance of the HCP on new and existing regulatory mechanisms that require little funding is expected to sufficiently protect biological resources until sufficient funding is available for acquisition and maintenance of preserve lands.

(D) No Jeopardy to Covered Species

Table 8-2 lists those species considered adequately conserved ("covered") by the Poway Subarea HCP and summarizes reasons justifying this finding. Impacts that may be reasonably expected to occur under the provisions of this HCP will not jeopardize the

continued existence, or hinder the recovery of listed or other covered species in the wild by reducing their reproduction, numbers, or distribution.

(E) Other Appropriate Measures will be Implemented

The USFWS and CDFG were fully involved in the development of measures contained in this HCP to ensure achievement of its biological goals. All appropriate measures suggested for inclusion in the HCP by the wildlife agencies are included herein to the extent practicable and feasible.

(F) Assurance that the HCP will be Implemented

The Implementing Agreement for the Poway Subarea HCP, properly signed by the City of Poway and the wildlife agencies, assures that the HCP will be fully implemented.

8.3 Compliance with the National Environmental Policy Act and California Environmental Quality Act

To satisfy requirements of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), the Poway Subarea HCP must be accompanied by appropriate NEPA/CEQA documentation. Issuance of a Section 10(a) permit requires preparation of an EA to determine the potential impacts of the permitting action on biological resources and other environmental issues. The EA will serve as the basis for the USFWS evaluation of environmental impacts of permit issuance. It will also serve as the environmental documentation necessary for the CDFG Section 2081 permit and pre-listing agreement. Finally, the EA will serve as the environmental documentation necessary pursuant to CEQA for the City of Poway's action of amending its General Plan, the Paguay Redevelopment Plan, and all applicable portions of the Municipal Code, Zoning and Development Code, and other General Plan elements. The City of Poway anticipates that the EA will support a combined Negative Declaration/Finding of No Significant Impact per CEQA Guidelines Sections 15221 and 15222, which allow use of an EA or Environmental Impact Statement (EIS) in place of an Environmental Impact Report (EIR). The EA will not contain a separate Initial Study, but will satisfy CEQA requirements pursuant to CEQA guidelines.

The EA will evaluate the potential environmental impacts associated with two aspects of the Poway Subarea HCP: 1) the impacts to sensitive plant and animal species from the public and private projects to be implemented in Poway for which the master 10(a) and 2081 permits are requested, and 2) the impacts associated with the adoption of the Subarea HCP

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SECTION 9.0
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SECTION 10.0
GLOSSARY OF ACRONYMS, DEFINITIONS AND TERMS

The following incorporates the terms contained within Section 1.0 (Definitions and Exhibits) of the companion Implementing Agreement/California Endangered Species Act Memorandum of Understanding (IA/CESA MOU) which is found as Appendix I of Volume 2. Appendices of this Plan.

1 "Additional Covered Species" means those species included within the City's Section 10(a) Permit and Management Authorization and identified on Exhibit C attached to the Implementing Agreement, for which incidental take shall be authorized through incremental implementation of the Multiple Species Conservation Program (MSCP) as provided in the IA.

2 "Agreement" means the Implementing Agreement/CESA MOU which is a legally binding agreement between the United States Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG), and the City of Poway for the purpose of implementing the Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan.

3 "BCLA" means the Biological Core and Linkage Area, which is that portion of the Mitigation Area of greatest value for the preserve system and within which, to the extent feasible, development should be avoided and mitigation should be concentrated. The overall targets for preservation in the Mitigation Area are 80 percent inside the BCLA and 50 percent outside the BCLA.

4 "CDFG" means the California Department of Fish and Game, a subdivision of the California Resources Agency

5 "CEQA" means the California Environmental Quality Act (Cal. Public Resources Code §§ 21000 - 21177), including all regulations promulgated pursuant to that Act. CEQA includes the State CEQA Guidelines – (Title 14 California Code of Regulations, Chapter 3 Guidelines for Implementation of CEQA. Section 15000 – 15183, et. seq., including Appendices thereto.

6 "CESA" means the California Endangered Species Act (California Fish and Game Code §§ 2050 - 2098), including all regulations promulgated pursuant to that Act.

7 "City" means the City of Poway, City of Poway City Council, and City of Poway Redevelopment Agency, which may act independently or jointly as the applicant, lead agency, or decision–maker concerning the planned development of public projects within the City

8 "Covered Species" are those plant and animal species identified on Exhibit B of the Implementing Agreement that are considered adequately conserved under the HCP, and which, therefore, can be legally "taken" by projects performed pursuant to the HCP (see "Incidental Take").

9 "EA" means Environmental Assessment, the environmental review document prepared pursuant to the National Environmental Policy Act (NEPA) in concert with the Initial Study/Negative Declaration prepared pursuant to the California Environmental Quality Act (CEQA) for the Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan, and for the issuance of an Incidental Take Permit and Management Authorization to the City of Poway for the threatened California Gnatcatcher.

10 "Effective Date" means the date following execution of the Implementing Agreement by all Parties.

11 "ESA" means the federal Endangered Species Act (16 U.S C. §§ 1531 - 1544), including all regulations promulgated pursuant to that Act.

12. "FEIR" means Final Environmental Impact Report.

13 "FPA" means Focused Planning Area, which is the area initially identified by the City of Poway as having potential value for the preservation of biological resources pursuant to the NCCP Act and other regional conservation planning efforts. The FPA was subsequently refined and redesignated as the "Mitigation Area" with the adoption of the PSHCP

14 "Habitat" means the combination of biotic and abiotic features required to support a species in a natural setting. It is often treated synonomously with the natural vegetation type(s) or community(ies) with which a species is generally associated. In the Poway Subarea HCP, all natural or predominantly natural vegetation communities are considered habitat.

15 "HCP" means Habitat Conservation Plan, a comprehensive planning document that is a mandatory component of an Incidental Take Permit to non-federal entities under Section 10(a)(2) of the FESA, as amended in 1982.

16 "Incidental Take" means the take of listed threatened or endangered animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity Take means to "harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect or attempt to engage in any such conduct." Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, such as breeding, feeding or sheltering.

17 "Management Authorization" means any authorization issued by CDFG under CESA (specifically, California Fish and Game Code § 2081) or the NCCP Act (specifically, California Fish and Game Code §§ 2825 or 2835), to permit the Management Take of a species listed under CESA as threatened or endangered, or of a species which is a candidate for such a listing, or of a species listed as an identified species under § 2835

18 "Management Take" means the take of a plant or animal species listed as threatened or endangered pursuant to the CESA where such take is for management purposes in accordance with a Management Authorization.

19 "Mitigation" is defined under Article 3. Authorities Granted to Public Agencies by CEQA, of the State CEQA Guidelines Section 15040 – 15045 Pursuant to Section 15370 of the subject Guidelines, mitigation includes the following actions:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

20 "MHPA" means "Multi-Habitat Planning Area," or that portion of the MSCP subregion within which preserve planning is focused and where permanent preservation of habitat lands will be accomplished, as of the Public Review Draft MSCP document (March 1995).

21 "Multiple Species Conservation Program" or "MSCP" means the "Public Review Draft Multiple Species Conservation Program MSCP Plan" prepared by the City of San Diego on behalf of itself and eleven other general purpose agencies of government, including the City of Poway, and dated March 1, 1995, as may be modified in the final MSCP Plan.

22 "MSCP Area" consists of the land in the greater San Diego region which is encompassed by the MSCP, as depicted on Figure 1– 1 of the Public Review Draft MSCP Plan. The Mitigation Area of the Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan is a component of the Subregional MSCP and its MHPA.

23 "NCCP Act" means the California Natural Community Conservation Planning Act of 1991, enacted by Chapter 765 of the California statutes of 1991 (A.B 2172) (codified in part at California Fish and Game Code §§ 2800, et seq.), including all regulations promulgated pursuant to that Act.

24 "Parties" mean the signatories to the Implementing Agreement, namely the USFWS, the CDFG, and the City of Poway

25 "Permit Area" means the area, as depicted on Pocket Map 3 attached to the PSHCP, in which the Incidental Take and/or Management Take of Covered Species is allowed by virtue of the Section 10(a) Permit, Section 4(d) Special Rule, and/or Management Authorization in accordance with the Implementing Agreement.

26 "Permittee" shall mean the City of Poway as defined under Number 7 above.

27 "Planned Development" shall mean public and private development projects anticipated under the Poway General Plan and Paguay Redevelopment Plan as described in Section 1.3 of the PSHCP

28 "PRPA" means Proposed Resource Protection Areas, the critical habitat areas targeted for acquisition to further protect the integrity of the Biological Core and Linkage Area (BCLA).

29 "Section 4(d) Special Rule" means the regulation concerning the coastal California gnatcatcher, published by the USFWS on December 10, 1993 (58 Federal Register 65088) and codified at 50 C.F.R. § 17 41(b), which defines the conditions under which the take of the coastal California gnatcatcher incidental to land use activities will not be considered a violation of Section 9 of ESA.

30 "Section 10(a) Permit" means the permit issued by the USFWS to the City under Section 10(a)(1)(B) of the ESA (16 U.S C. § 1539(a)(1)(B)) to allow the incidental take of the Covered Species.

31 "Take" and "Taking" shall mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

32. "Take Authorization" means a Section 10(a) Permit and/or a Management Authorization, or incidental take allowed in accordance with the Section 4(d) Special Rule.

33 Third Party Beneficiaries" means proponents of planned development projects proposed in accordance with the Poway General Plan, Paguay Redevelopment Plan, the PSHCP, and the Implementing Agreement within the jurisdictional limits

of the City of Poway, that are subject to the control of the City through the City's land use regulations and permitting authorities.

34 "Unforeseen Circumstances" refers generally to any significant adverse change that was not foreseen by the Parties as of the Effective Date, in the population of Covered Species, or in the habitat or natural resources of lands preserved pursuant to the PSHCP and the Implementing Agreement, or in the anticipated impacts of planned development within the City, or other factors upon which the PSHCP is based. A finding of unforeseen circumstances shall be governed by the "Assurances Policy" released by the Secretaries of the Interior and Commerce dated August 9, 1994, a copy of which is attached hereto as Exhibit D, which further defines the factors to be considered in the determination of whether extraordinary circumstances exist such that a finding of "unforeseen circumstances" is warranted.

35 "USFWS" means the United States Fish and Wildlife Service, an agency of the United States Department of the Interior.