



Natural Resource Management Plan

Crest and Gonzalez Canyons

Resiliency Advisory Board
July 17th, 2026

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Parks and Recreation Department , Open Space Division

How do we conserve and preserve natural resources in the City of San Diego

- Monitor the populations and potential impacts to over 85 separate species of plants/animals, and the environmentally sensitive lands they live in
- Complete maintenance and management projects to protect vulnerable species and ecosystems
- Work with regional partners (SD Zoo, The NAT, USGS, CDFW, USFWS, USGS, SANDAG and many others) to develop recovery plans

MSCP History

- Endangered Species Act of 1973
 - Prohibits “take” of threatened/endangered species
 - “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 U.S.C. 1532(19))
 - Case law prohibited “take” of listed species habitat
 - Palila v. Hawaii Dep't of Land & Natural Resources (1981)
- Section 10(a) – Habitat Conservation Plans
 - 1982 ESA Amendment
 - When “take” is likely to result from an “otherwise lawful activity”
 - Incidental Take Permit issued by U.S. Fish and Wildlife
 - Requires long-term maintenance and management

MSCP History

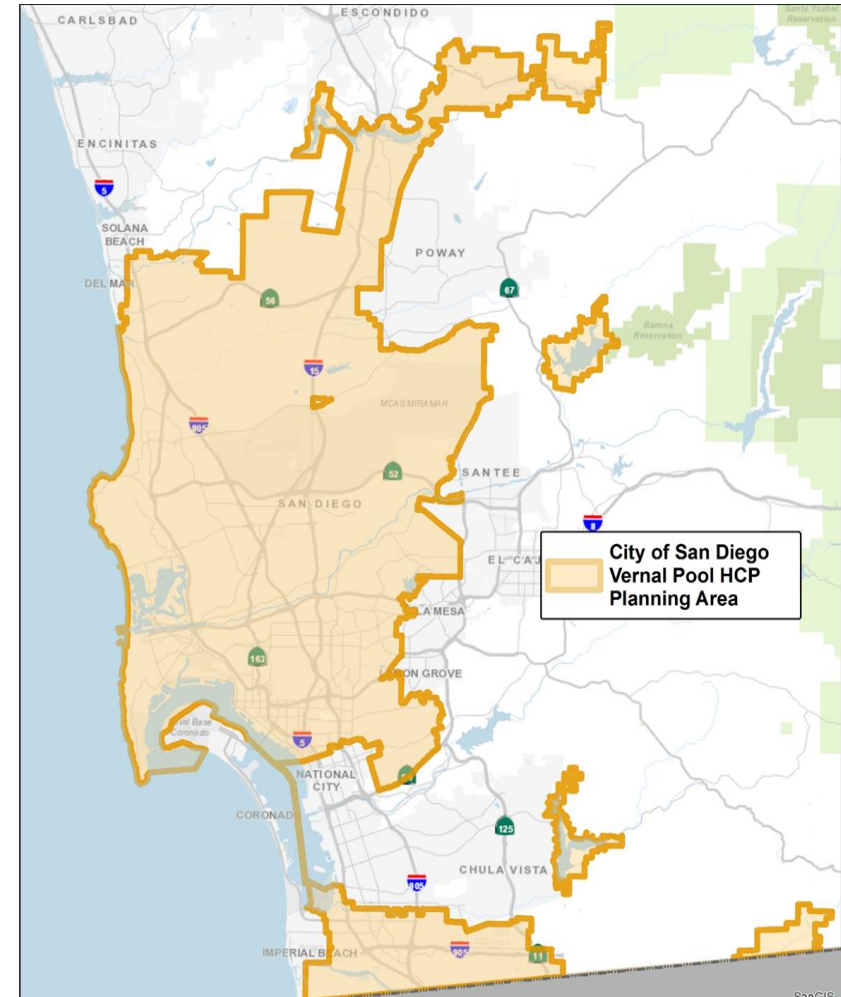
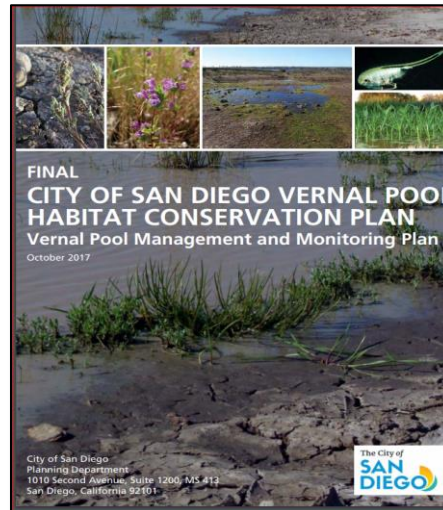
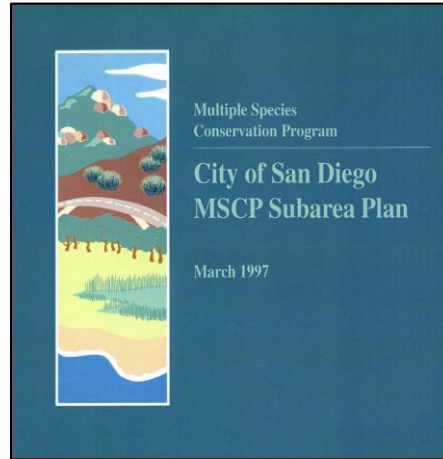
- MSCP in San Diego
 - 43 species listed as ‘threatened’ or ‘endangered’ under federal Endangered Species Act in San Diego County
 - California gnatcatcher listed in 1993
 - City of San Diego’s failing sewer system
 - EPA sued under Clean Water Act for untreated sewage in 1989
 - Repairs require take of gnatcatcher habitat
 - US Fish and Wildlife Service required mitigation for growth inducing impacts of improved water treatment
 - Strong private development pressure
 - Development in gnatcatcher habitat vulnerable to lawsuits by environmental activists
 - Developers shifted to support MSCP idea

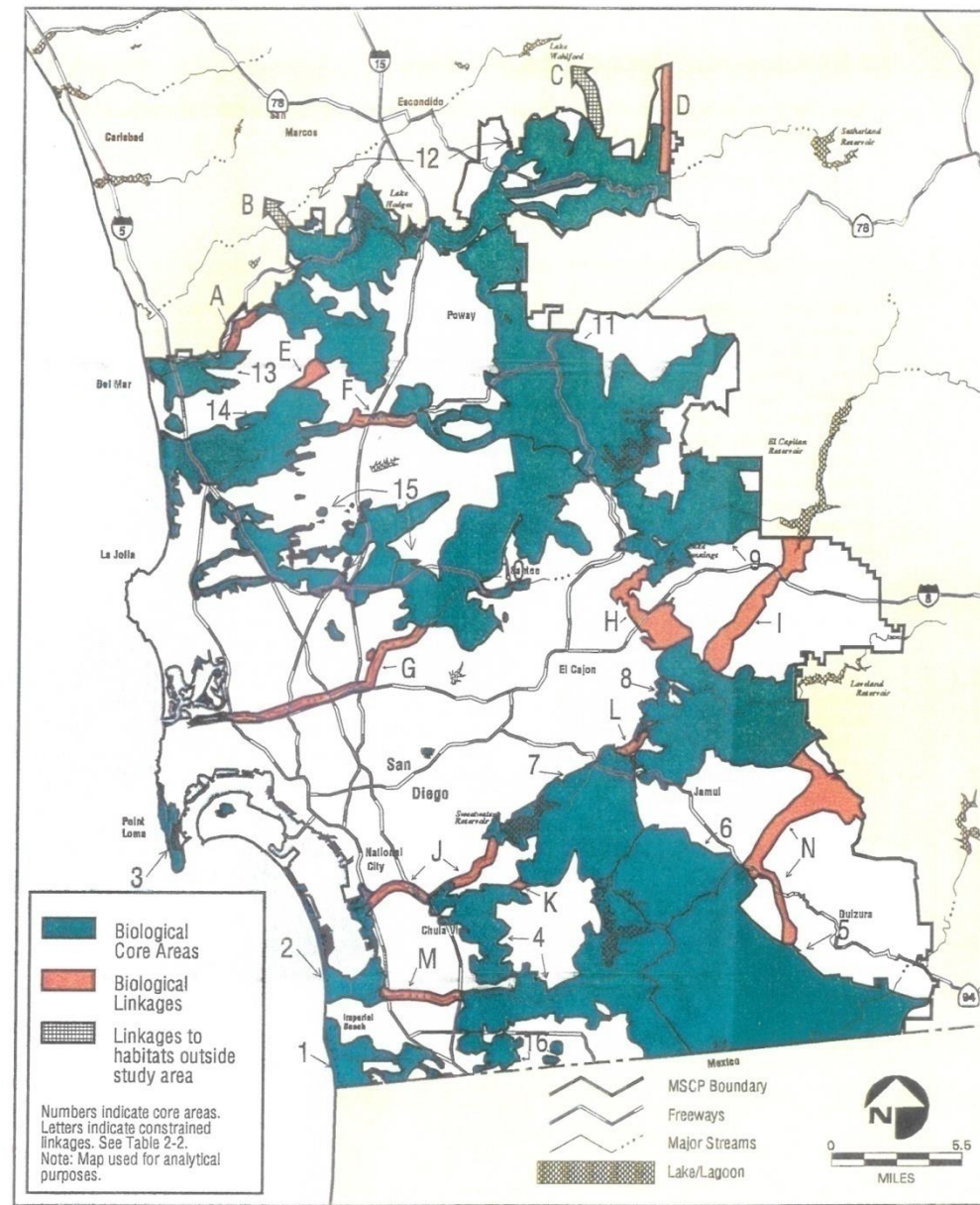
MSCP History

- Final Multiple Species Conservation Program Plan – August 1998
 - Regional planning document
 - 12 jurisdictions in southwest San Diego County
 - Individual subarea plans required for incidental take permit
 - Sets plan-wide conservation strategy and goals
 - Core biological areas and habitat linkages

HCPs = ENTIRE CITY

- **1997-2047**
 - MSCP - 50 years
 - VPHCP - 29 years
- **206K ac**
 - Municipal
 - Cornerstone
- **Covers 92 Species**
 - 51 Plants
 - 41 Animals

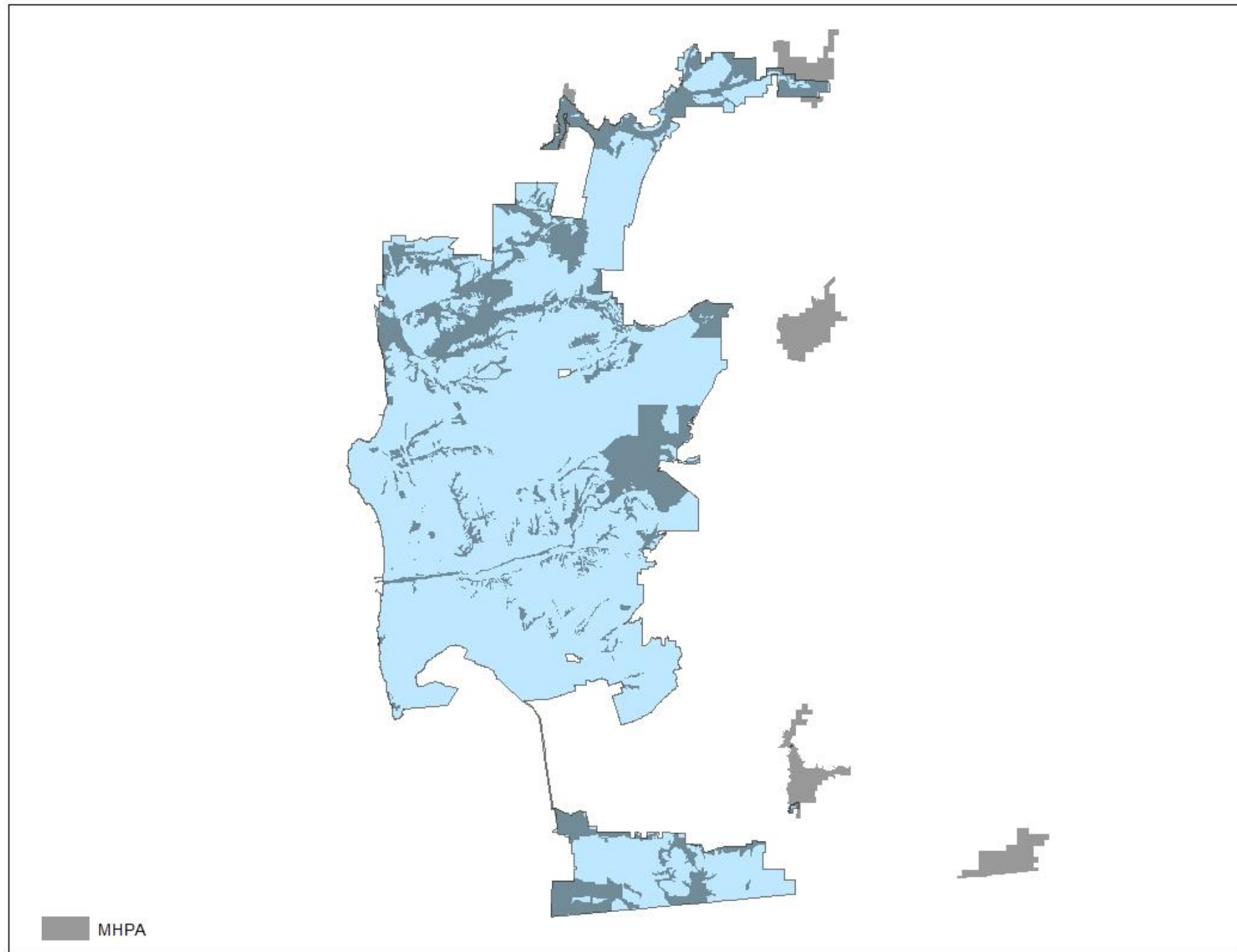




OGDEN
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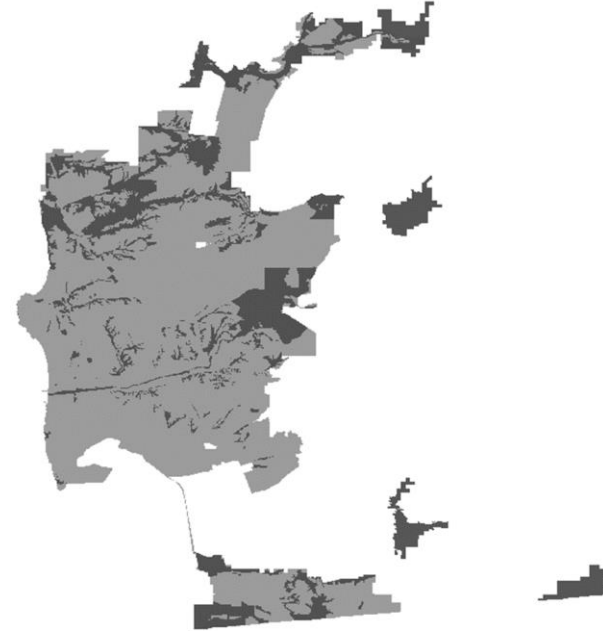
Generalized Core Biological Resource
 Areas and Linkages

FIGURE
 2-2



Preserve System

- 51,000 acres
- 27,000 acres open to the public
- 85 rare/threatened/endangered species
- 178 trailheads
- 225 trail miles



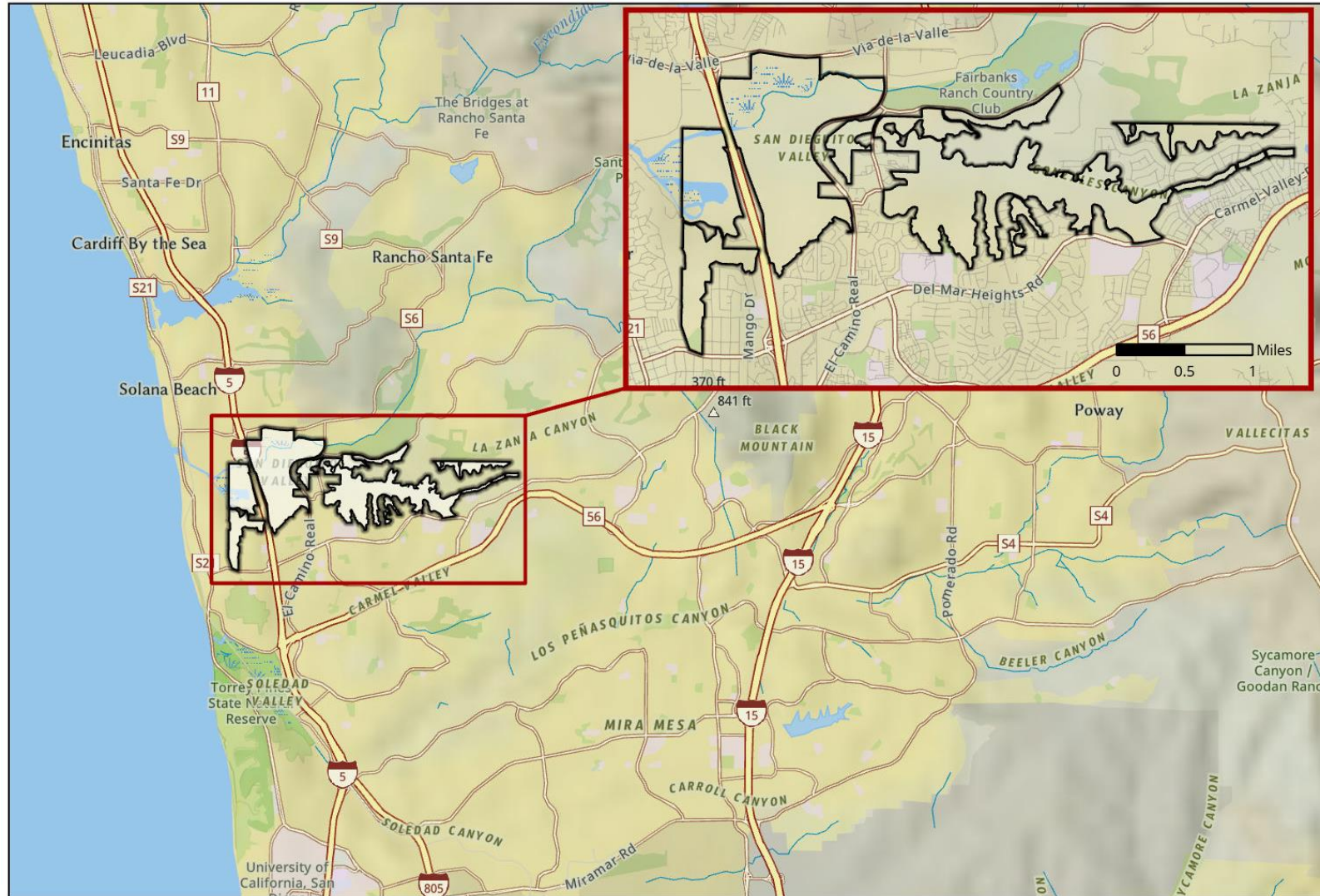
Similar size to some of your favorite National Parks:

- Bryce Canyon, Utah: 35,835 acres
- Carlsbad Caverns, New Mexico: 46,766 acres
- Haleakala, Hawaii: 33,264 acres
- Mesa Verde, Colorado: 52,485 acres



Natural Resource Management Plan Sections:

- **Part 1 : Introduction**
- **Part 2 : Agency Jurisdiction and Applicable City Plans**
- **Part 3: Land Use and Recreation**
- **Part 4: Existing Conditions**
- **Part 5: Threats**
- **Part 6: Management**



0 2.5 5 Miles

□ Crest Gonzales NRMP Boundary

Figure 1 - Regional Location
Crest and Gonzales Canyons NRMP

Crest and Gonzales Canyons

INTRODUCTION

This Natural Resources Management Plan (NRMP) has been written for Crest Canyon, Gonzales Canyon, and other conserved areas of biological importance that are hydrologically connected to the San Diego Lagoon. This plan documents existing and historical conditions in the NRMP Area, details threats to natural resources, and provides management strategies to minimize and mitigate those threats. This plan also includes location history and details on the status of sensitive species in the area.

This NRMP aims to provide the City of San Diego Open Space land managers and resource conservation partners with an operational management handbook for Crest Canyon, Gonzales Canyon, and the San Diego Lagoon. This NRMP meets the following requirements outlined in the City of San Diego Multiple Species Conservation Program (MSCP) Sub Area Plan, MSCP Implementing Agreement:

- Develop area-specific management directives for species covered by the MSCP per Section 10.6.B of the Implementing Agreement.
- Develop management directives to implement the Specific Management Policies for Crest Canyon per Section 1.5.8 of the MSCP Subarea Plan.

The plan also provides management directives that comply with the Goals and Policies of the relevant community plans and supports the implementation of the San Diego River Park Concept Plan for Landscape Units A and B. Moreover, this NRMP may serve as a resource for fostering environmental education and community engagement in local habitat management.

LOCATION

The NRMP area occupies a total of 1,749 acres of undeveloped open space lands in the Torrey Pines, Carmel Valley, North County Future Urbanizing Area (NCFUA) Subarea II, Fairbanks Ranch Country Club, Pacific Highlands Ranch community planning areas of the City of San Diego (Figure 1). Land ownership within the NRMP area is currently a mixture of private and public; however, much of the private land is slated to be transferred to the City's Parks and Recreation Department for long-term conservation. Subareas of the NRMP include Crest Canyon, portions of the San Diego Lagoon, North City West Open Space, and

Gonzales Canyon. Much of the NRMP area lies within the San Diego River Park Joint Powers Authority's Concept Plan Area.

HISTORY

The NRMP area is located within the traditional territory of the Kumeyaay people. The Kumeyaay of the prehistoric and contact periods were a group of exogamous, patrilineal territorial bands who inhabited San Diego County from Agua Hedionda Lagoon in Carlsbad, south into Baja California, and from the Pacific Ocean, east to the Salton Sea (Gifford 1918). The people subsisted on a hunting and foraging economy, utilizing San Diego's diverse ecology throughout the year; coastal bands relied upon marine resources, while inland bands might move from the desert, ripe with agave and small game, to the acorn and pine nut rich mountains in the fall (Cline 1984; Kroeber 1925; Luomala 1978). Maintaining this lifestyle meant most groups, especially inland bands, moved with the seasons; this is displayed archaeologically by the prevalence of temporary campsites inland, while more permanent village sites are located along the coast. At the point of contact, several permanent villages or rancherias with strong alliances were situated at the mouths of major drainages (AECOM 2018). One ethnohistoric village was in the westernmost portion of what is now known as the San Diego River Valley (Carrico 1977). This village, spelled Jalleagua, Gelleagua, Jallagui, Jayugua and/or Jeyal in the mission records, was possibly 'eh'ewa or "new home" (Felix-Ibarra 2021).



Kumeyaay basket for collecting seeds and grains.
Photo © Mission San Diego Alcalá.

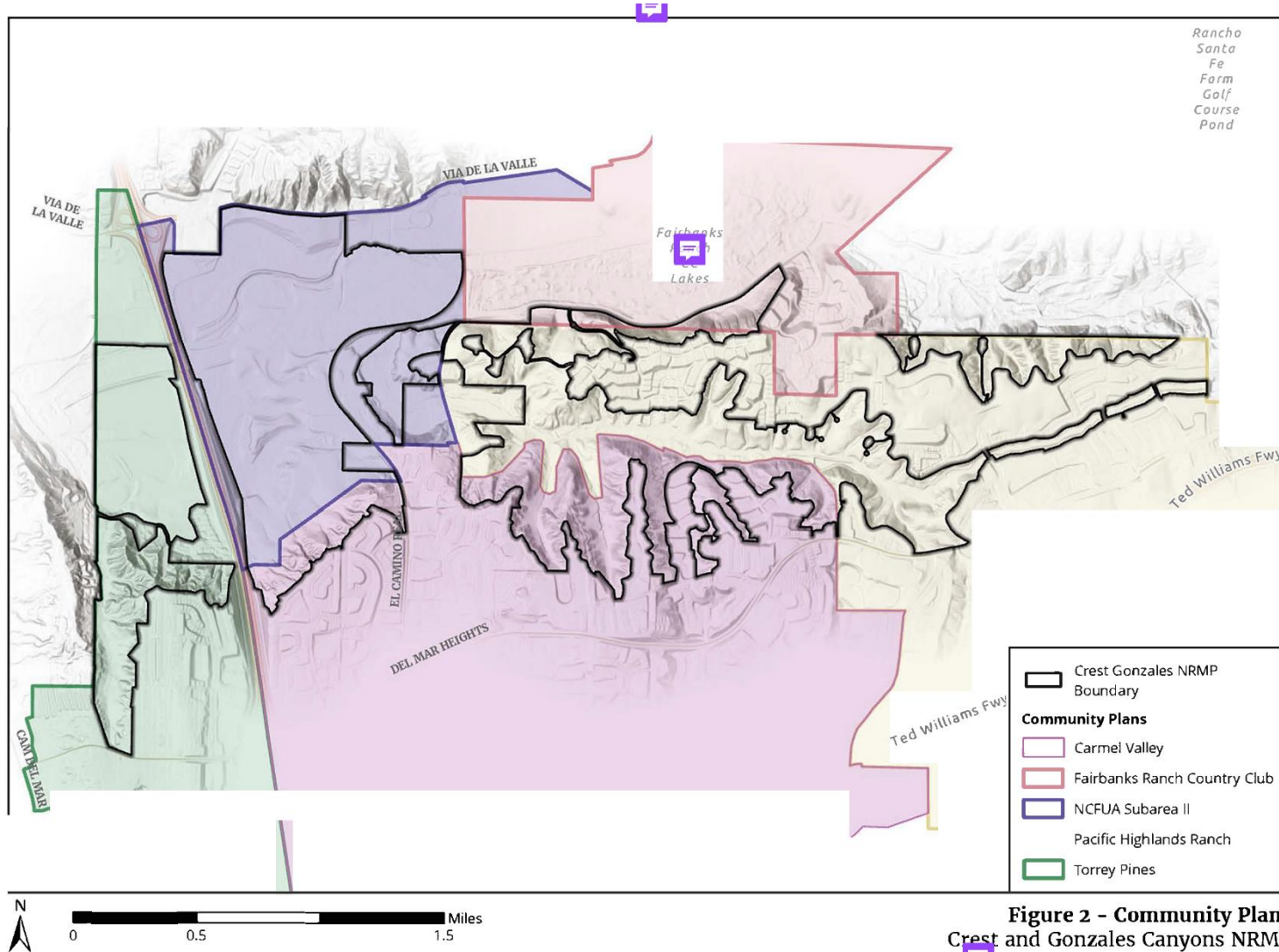


Figure 2 - Community Plans
Crest and Gonzales Canyons NRMP

Crest and Gonzales Canyons

AGENCY JURISDICTION AND APPLICABLE PLANS

CITY OF SAN DIEGO

The City-owned conserved land within the NRMP area is managed under the purview of the City of San Diego's Park and Recreation Department. The Open Space Division of the Parks and Recreation Department and Park Rangers from the Black Mountain Ranger District are responsible for the day-to-day operations and management of the conserved land. Primary responsibilities include enforcement of City and State regulations, oversight and implementation of enhancement and restoration efforts, trail building and maintenance, interpretive activities, maintenance of physical structures (i.e., fences, signs, and trails), and coordination with volunteers. Park Rangers perform daily patrols of the canyon to identify and immediately respond to issues including, but not limited to, dumping, encroachment from private property, and off-trail use. Rangers also coordinate with other City staff to perform tasks such as bulky trash removal, infrastructure maintenance, and brush management.

Other City departments may be involved in certain operations within the Park, including the San Diego Police Department, San Diego Fire Department, Engineering and Capital Projects, Transportation, Storm Water, Public Utilities, and Development Services departments.

PROJECT PERMITTING AND COMPLIANCE

Any planning document or project proposed within or adjacent to the MHPA is required to meet current regulations and specifications of the Multiple Species Conservation Program. City of San Diego Subarea Plan, City of San Diego Land Development Code, applicable community plans (listed below in Community Plans Section), City of San Diego Progress Guide and General Plan, and City environmental and construction standards and requirements. Depending on the project's scope, Federal, state, and municipal permits may also be required. Permitting Regulatory guidance may come from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, Regional Water Quality Control Board (RWQCB), and/or California Coastal Commission.

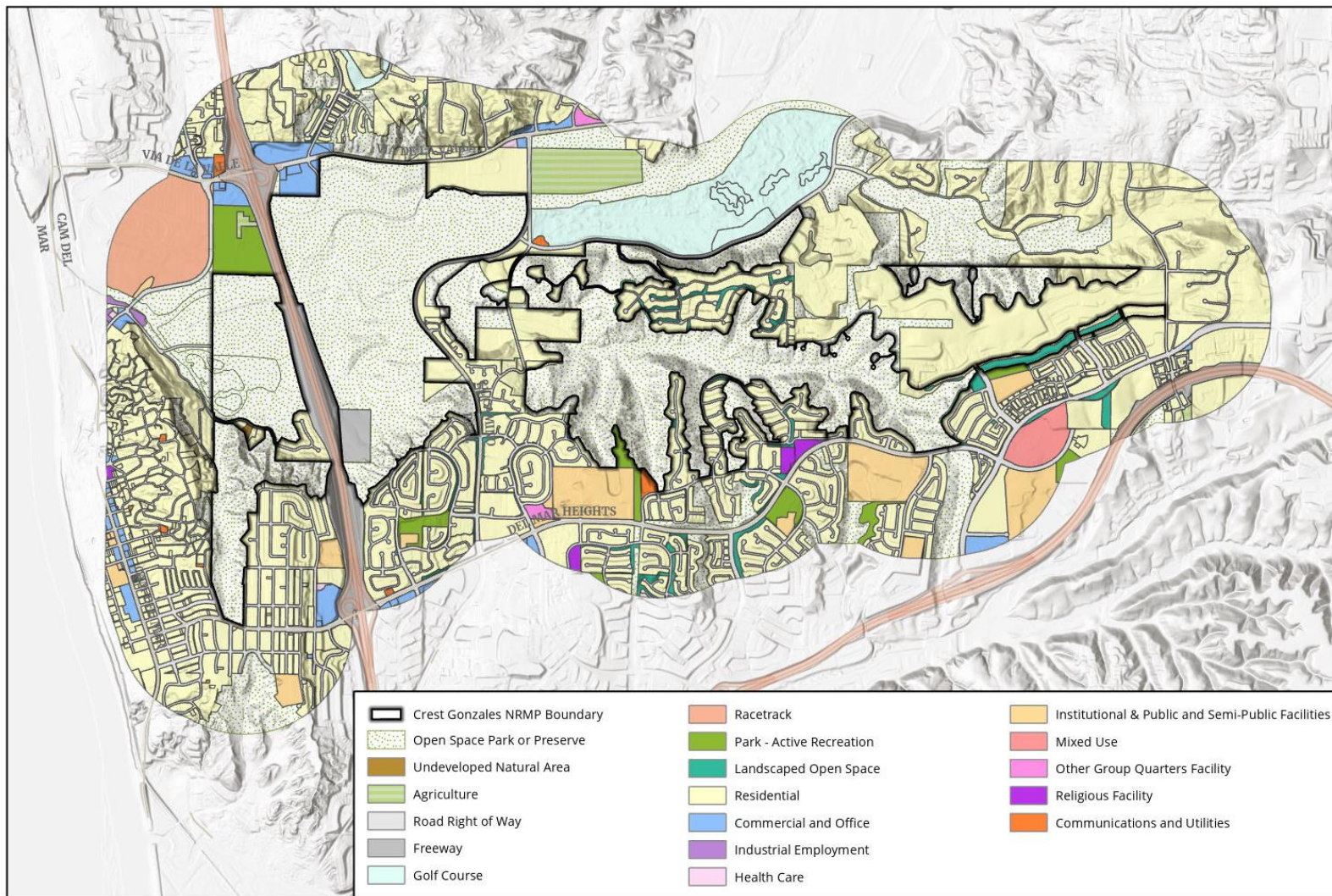
MULTIPLE SPECIES CONSERVATION PROGRAM

In 1996, San Diego City Council adopted the City's MSCP Subarea Plan as part of the regional Multiple Species Conservation Plan Program that allows the participating jurisdictions to maintain development flexibility by proactively planning a regional preserve system. The program focuses on protecting and managing habitats rather than dividing preservation efforts based on individual species. The City's Subarea Plan is divided into five areas (Southern, Eastern, Urban, Northern, and Hodges Cornerstone Lands/San Pasqual Valley), with the NRMP area located in the Northern Area. The MSCP Subarea Plan provides general planning policies and design guidelines for areas within the MHPA. The major issues identified for all the Northern Areas are listed below; however, these are not necessarily specific to the Crest and Gonzales Canyon NRMP area:

- Intense land uses and activities adjacent to and in
- covered species habitat;
- Encampments;
- Exotic (non-native) and invasive plants and animals;
- Water drainage issues, including water quality, urban runoff, erosion, sedimentation, and flood control and
- Utility, facility and road repair, construction and maintenance activities



Coastal California gnatcatcher. Photo © Tony Morris 2006.



**Figure 9 - Surrounding Land Use within
1/2 mile of NRMP Boundary
Crest and Gonzales Canyons NRMP**

Crest and Gonzales Canyons

LAND USE AND RECREATION

The Crest and Gonzales Canyons NRMP Area offers visitors an immersive natural experience within a highly developed urban environment. Approved recreational opportunities are limited to passive recreation, such as birdwatching, photography, and trail use. Dogs are permitted on approved trails if leashed (on a lead six feet or shorter).

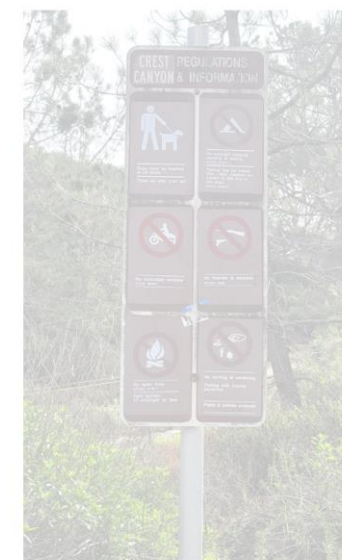
PARK RULES

Open space canyons and parklands rules are posted on the City of San Diego and San Dieguito JPA websites. Visitors to the NRMP area are asked to comply with the following rules:

1. Stay on and use only designated trails. Leaving these established areas damages sensitive habitats and disturbs wildlife.
2. Overnight camping is prohibited [SDMC 63.0102(b)(12)].
3. City of San Diego trailheads are closed from sunset to sunrise. Trails managed by the San Dieguito JPA are open 6am daily and close at 6pm October 1-March 31st, and 7:30 pm April 1 – September 30.
4. Open fires are prohibited [SDMC 63.0102(b)(11)].
5. No glass containers are allowed [SDMC 63.0102(b)(7)].
6. All plants, animals, and cultural resources are protected. Collection or destruction of any natural feature is prohibited [SDMC 63.0102(b)(4)]. Hunting is prohibited [SDMC 63.0102(b)(10)]. Defacing rocks, structures, or property is prohibited [SDMC 63.0102(b)(5)].
7. Possession of firearms or weapons of any type is prohibited [SDMC 63.08].
8. Littering and dumping are prohibited and subject to a fine [SDMC 63.0102(b)(6)]. Pack out what you pack in. Put all trash in proper receptacles [SDMC 54.0209].
9. Feeding or harassing wildlife is prohibited [SDMC 63.0102 (b)(10)]. Releasing domestic animals is prohibited.
10. Dogs must be leashed [SDMC 63.0102(b)(2)]. Clean up after your pet [SDMC 44.0304.1].
11. Motorized vehicles are not permitted on trails (CVD 38301).

12. Do not trespass on private land. Do not cut switchbacks.

Note: All areas may be closed due to fire or flood hazards. You are responsible for knowing parkland rules. If you have any questions regarding park use, please call the City of San Diego Park Ranger office at (619) 235- 5262. Please remember that you are part of a natural park area. The trails traverse land in its largely natural condition, which includes rocks, streams, and wildlife. Proceed with caution. The City of San Diego is not liable for injuries. Individuals using the park must assume all risks of injury to persons or property.



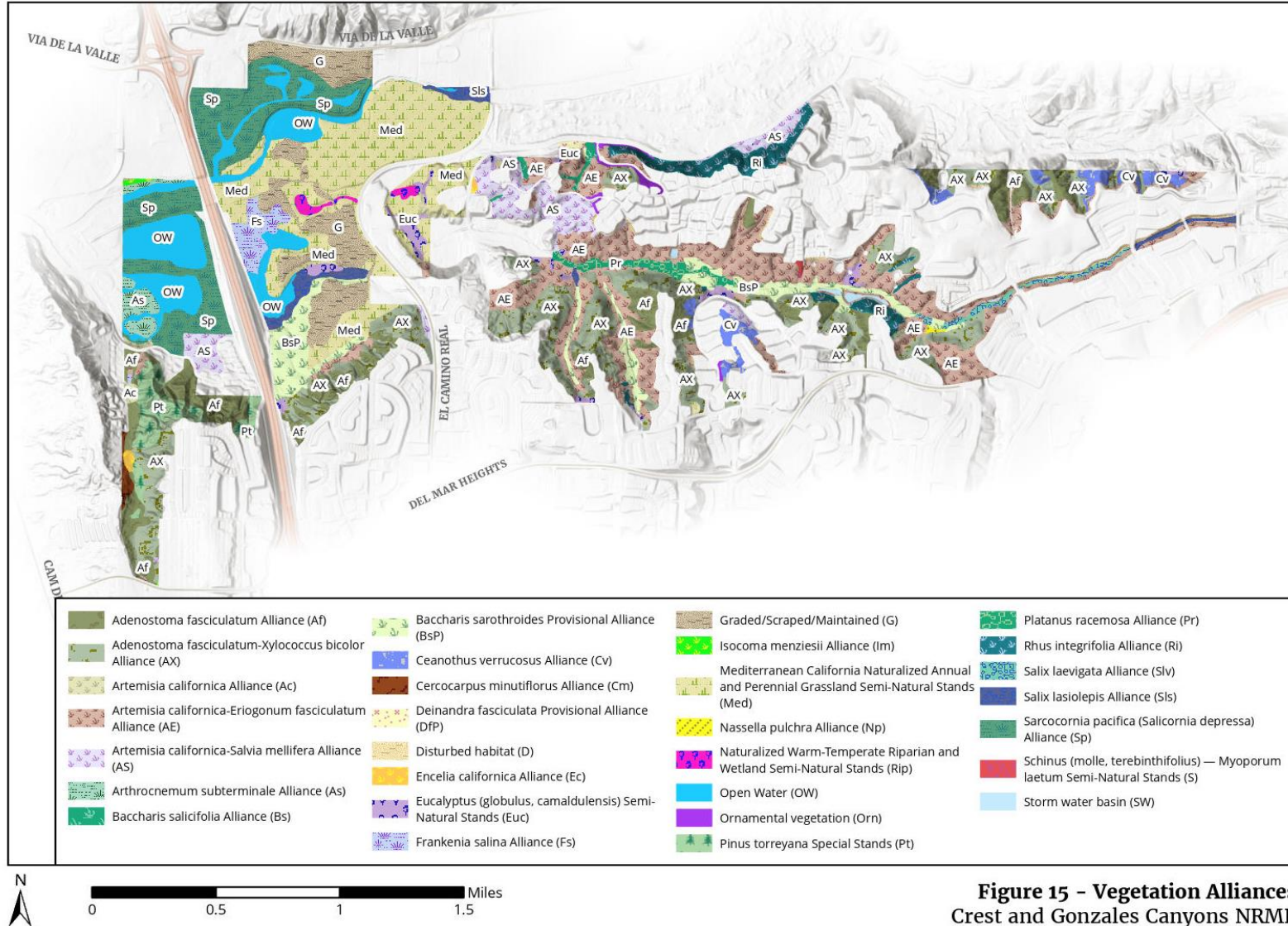


Figure 15 - Vegetation Alliances
Crest and Gonzales Canyons NRMP

Crest and Gonzales Canyons

EXISTING CONDITIONS

Despite being surrounded by urban development, the NRMP area remains a vital sanctuary for native wildlife and plant communities. It is home to several rare and sensitive natural habitats, including southern maritime chaparral, a plant community found only near the Southern California coast, shaped by the region's unique climate and the cool, moist influence of the nearby Pacific Ocean.

Among the rare species present are the federally endangered Orcutt's spineflower (*Chorizanthe orcuttiana*) and the threatened coastal California gnatcatcher (*Poliophtila californica californica*). The Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), another species of conservation concern, depends on the Mediterranean climate and coastal moisture typical of this area.

The landscape itself is equally remarkable. The preserve is characterized by a series of dramatic coastal canyons, many of which are lined with steep sandstone bluffs—a landform unique to the coastal region and increasingly rare in developed Southern California. These natural features offer both scenic beauty and ecological value.

The Crest and Gonzales Canyons area also serves as an essential ecological corridor, linking larger regional open space preserves. To the south, it connects with Del Mar Mesa and Los Peñasquitos Canyon Preserve; to the north, it ties into the San Dieguito River Valley, forming part of a larger network of habitat essential for the movement and survival of many species.

In addition to its ecological significance, the NRMP area offers passive recreational opportunities for the community. A network of trails winds through the preserve, offering hikers and equestrians opportunities to explore the region's natural beauty. These trails connect with existing paths in nearby neighborhoods, providing both access to nature and continuity with the surrounding open space system.

LANDSCAPES & GEOLOGIC SETTING

Topography

The Crest and Gonzales Canyons NRMP area spans a landscape shaped by dramatic elevation changes—from low-lying estuarine marshes and riparian corridors to steep canyon walls and broad, flat-topped mesas. Elevations range from near sea level in the San Diego

Estuary to approximately 390 feet above sea level along the north-facing slopes of Crest Canyon (Figure 7). This variety in elevation and landform not only contributes to the area's scenic character but also supports a diversity of habitats across the preserve.

Soils

The NRMP area supports a diverse mosaic of soils that shape both the physical landscape and the ecological communities it sustains. According to the Natural Resources Conservation Service (USDA 2020), 16 distinct soil categories occur within the preserve (Figure 8). Of these, terrace escarpments are the most widespread, covering nearly one-quarter of the area. These landforms are characterized by steep to very steep slopes that form prominent escarpment-like features. They are especially common along the coastal plain, where they create dramatic sandstone bluffs (USDA 1973).

Soils of the terrace escarpments typically consist of 4 to 10 inches of loamy or gravelly material overlaying softer marine substrates of sandstone, shale, or gravelly sediment. In coastal San Diego, these deposits have been sculpted into striking cliffs and bluffs that define the region's natural beauty and geologic identity.



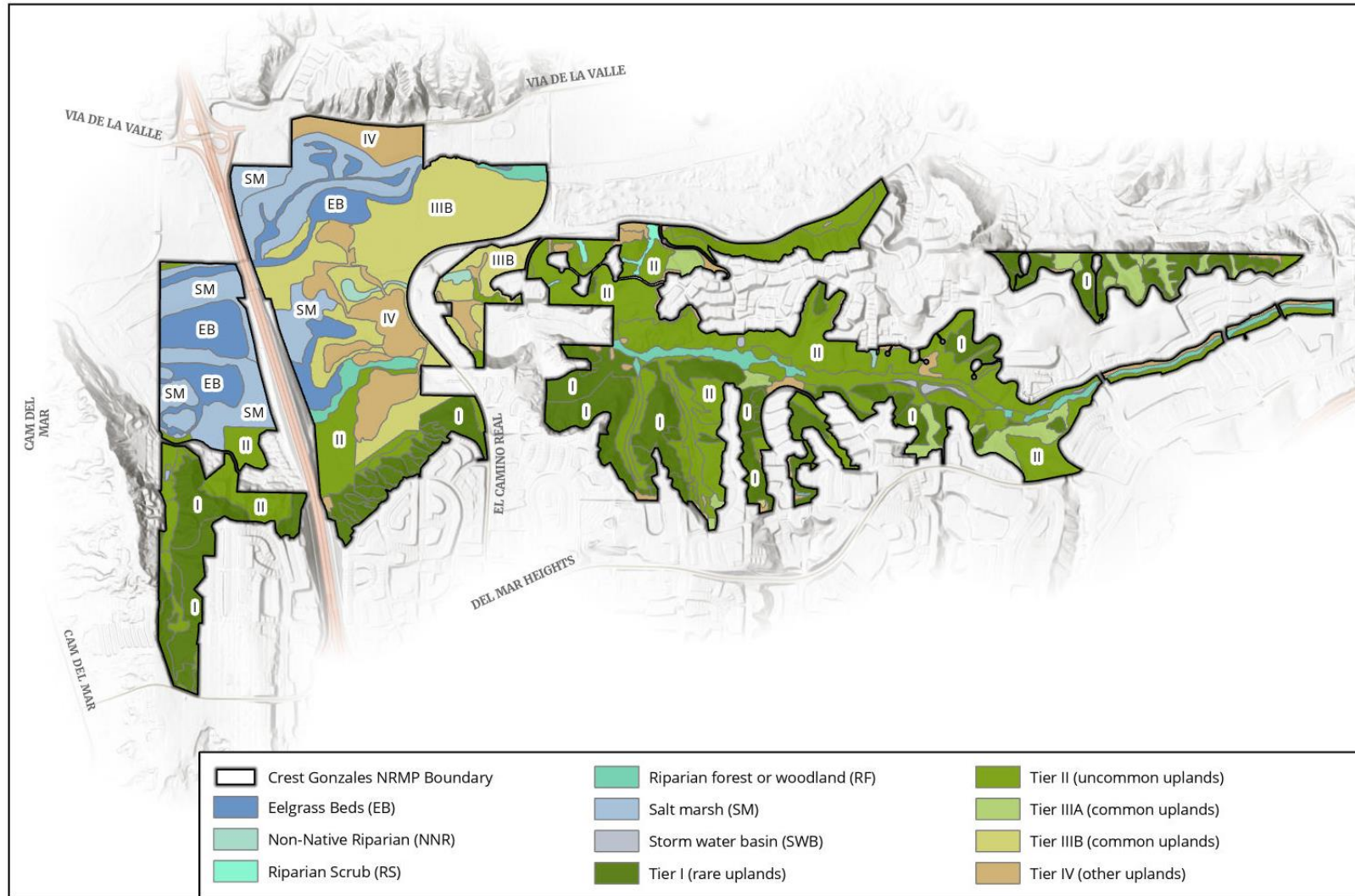


Figure 16 - Environmentally Sensitive Lands per City of San Diego Bio Guidelines Crest and Gonzales Canyons NRMP

Crest and Gonzales Canyons THREATS

The NRMP area supports a rich mosaic of habitats and sensitive species within an intensely urbanized landscape. This context exposes the preserve to a suite of threats ranging from invasive species and urban runoff to climate change, altered disturbance regimes, and encroachment. Many of these pressures are identified in the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan for the Northern Area and in the regional San Diego Management and Monitoring Program's Management Strategic Plan (MSP; SDMM 2017), which organizes threats under Vegetation Management (VG), Fire (VF), Species Objectives (SO), and Landscape Linkages (LL). The following sections describe each major threat category.

URBAN EDGE EFFECTS

The preserve is situated within a highly urbanized matrix, resulting in a high perimeter-to-area ratio and chronic edge pressures. Urban edge effects identified in the NRMP area include stormwater runoff, habitat fragmentation, and encroachments.

Stormwater runoff

Urban runoff is one of the most persistent challenges in Crest and Gonzales Canyons. Irrigation and storm flows carry fertilizers, pesticides, sediment, and trash into the

canyons, eventually reaching the San Dieguito Lagoon where they degrade riparian and wetland habitats. The impacts can be dramatic. In Crest Canyon, stormwater system failures between 1978 and 1980 sent tens of thousands of cubic yards of sediment into the lagoon, burying habitat (Kuhn & Shepard 1984). More recently, in 2019, a corrugated storm pipe collapsed and created sinkholes (City of San Diego 2020b). In 2023, western Gonzales Canyon experienced a major erosion event when stormwater infrastructure failed, carving into slopes and damaging the Torrey Pines Loop Trail, which had to be closed and rerouted.

Events like these destabilize slopes, fragment trails, and send large amounts of sediment downstream. While the installation of a new concrete stormwater pipe in Crest Canyon has reduced the immediate risk of similar failures, much of the region's infrastructure is old, and routine maintenance is often delayed by limited funding. As a result, stormwater and erosion remain ongoing threats. The good news is that when resources are available, repairs and upgrades can be highly effective at reducing damage and restoring safe access to trails and habitats.

Fragmentation

Because neighborhoods and roads surround the NRMP area, the habitats inside are more isolated



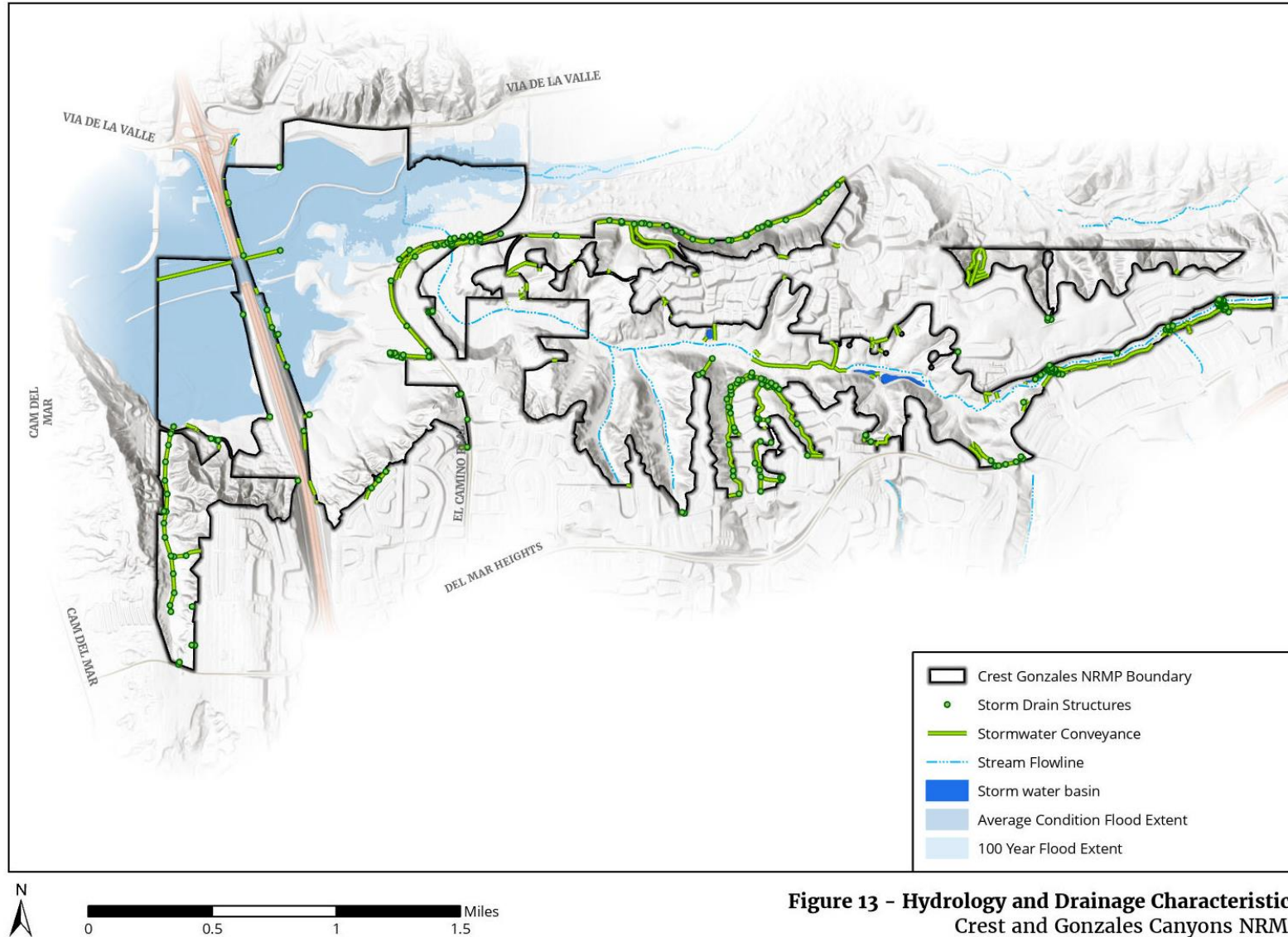


Figure 13 - Hydrology and Drainage Characteristics
Crest and Gonzales Canyons NRMP

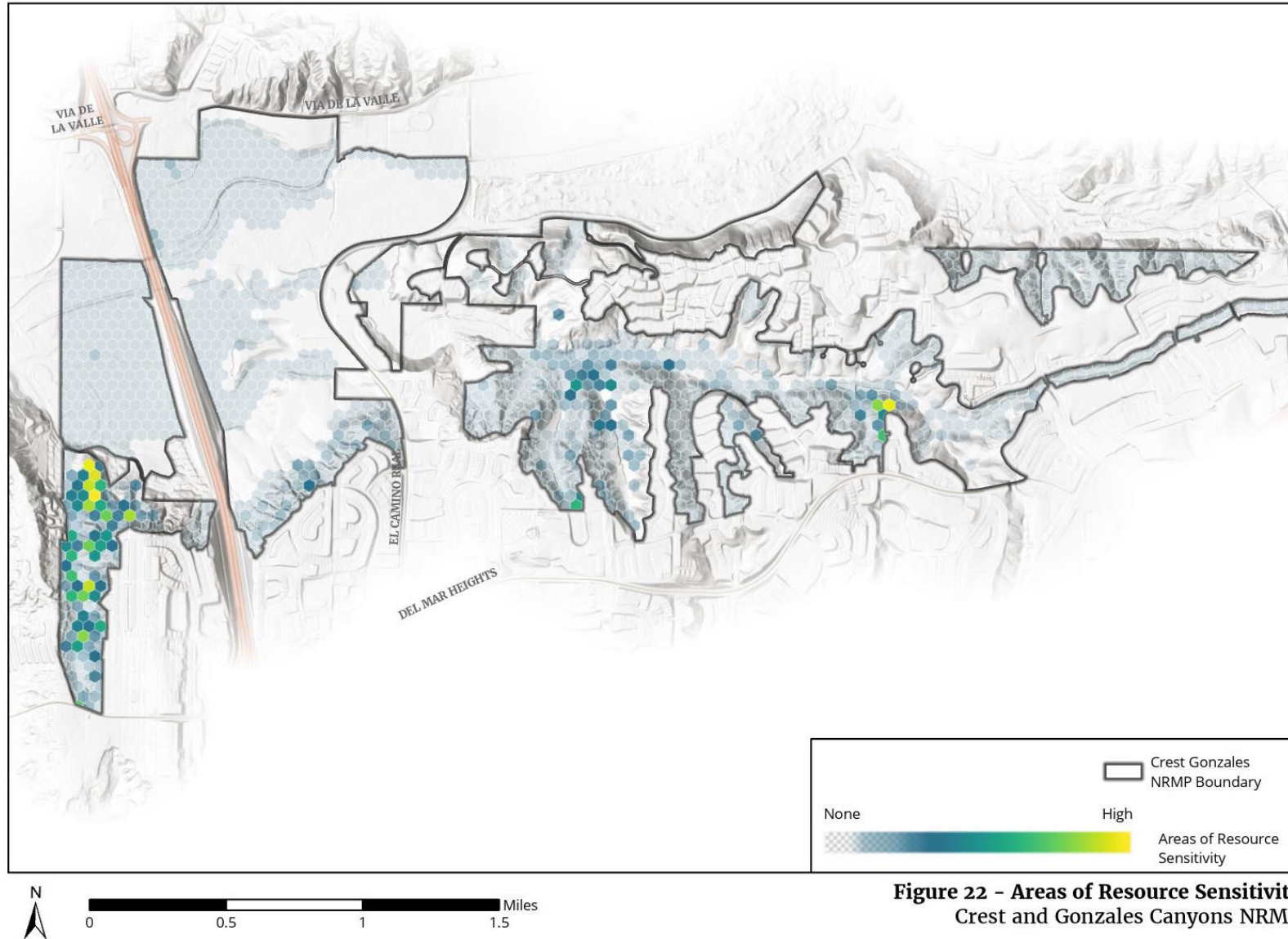


Figure 22 - Areas of Resource Sensitivity
Crest and Gonzales Canyons NRMP

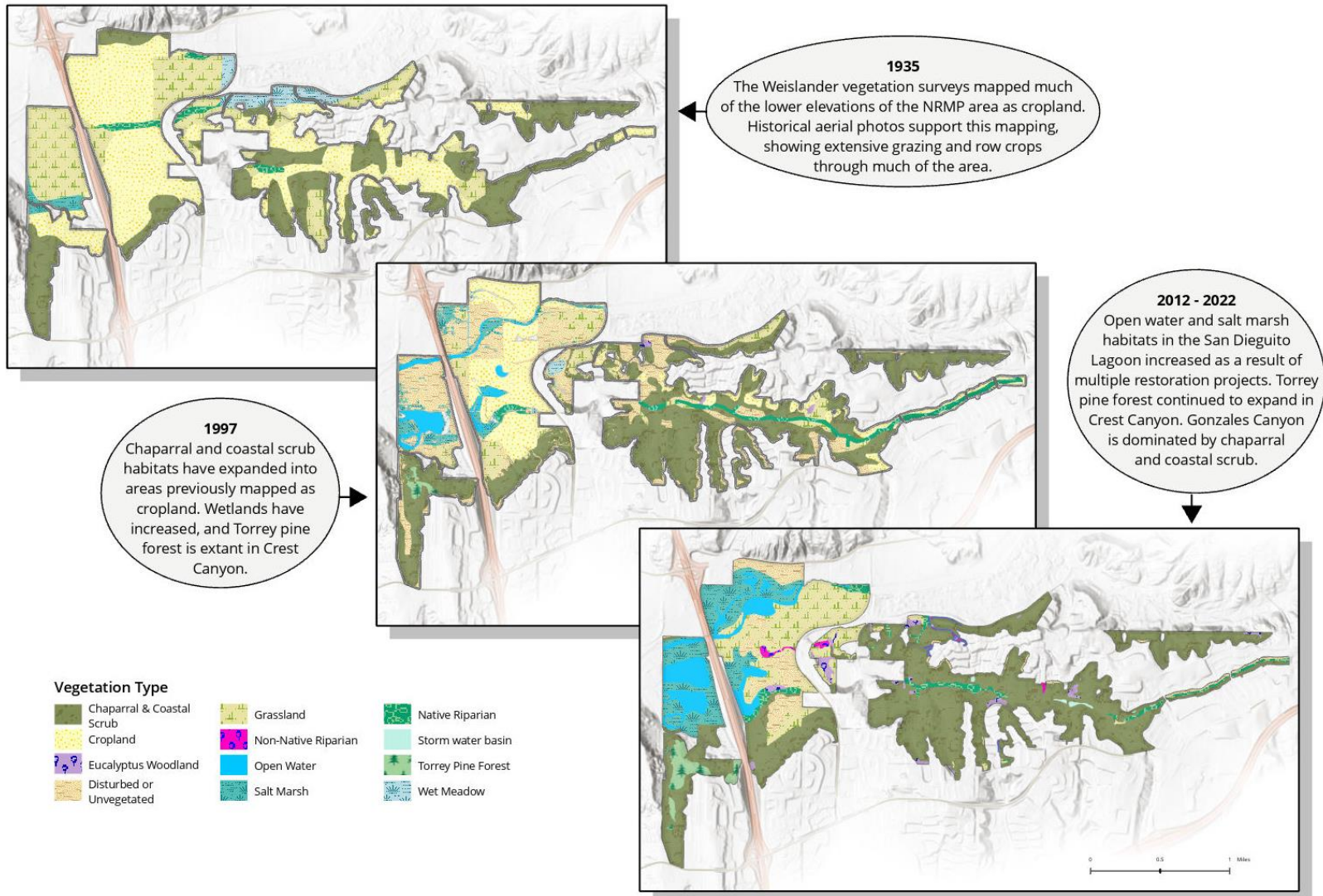


Figure 17 - Vegetation Change Over Time
Crest and Gonzales Canyons NRMP

CREST AND GONZALES CANYONS MANAGEMENT

AREA-SPECIFIC MANAGEMENT DIRECTIVES

Area-Specific Management Directives (ASMDs) provide the framework for conserving, enhancing, and monitoring biological resources within the NRMP area. These directives translate the preserve's conservation vision into actionable strategies while remaining flexible enough to respond to changing conditions. They are rooted in the principles of **adaptive management**, which emphasizes learning by doing and adjusting management actions based on monitoring results and new scientific knowledge.

Where management issues are well understood, the ASMDs presented herein are detailed and specific, drawing from existing research, monitoring data, and regional planning documents. Where information is limited, the directives are necessarily broader in scope, providing generalized guidance that can be refined as new data become available. In this way, ASMDs address both immediate needs and long-term stewardship, ensuring that management decisions remain responsive and **evidence-based**.

ASMDs are organized into **goals, objectives, and implementation tasks**, following the framework outlined by Adamcik et al. (2004), Deutschman et al. (2012), and Lewison and Deutschman (2014):

- **Goals** are broad, visionary statements that establish the overarching direction for management and monitoring, such as maintaining ecological integrity or improving habitat connectivity.
- **Objectives** translate goals into measurable targets that define *what* will be achieved, *where* and *when* it will be achieved, and *who* will be responsible. Objectives are designed using the SMART framework (Table 8) to ensure clarity, accountability, and feasibility.
- **Implementation Tasks (Tasks)** are the concrete actions, tools, and techniques—including monitoring, habitat restoration, species management, and community engagement—that support the achievement of objectives.

Each ASMD may contain one or more goals, objectives, and tasks. To aid clarity and coordination, ASMDs are grouped into three broad categories: **Vegetation Communities, Species-Specific Management, and Preserve Stewardship**. These categories reflect different scales of management, but they are also interconnected; actions to restore native vegetation, for example, may directly benefit sensitive species and improve overall preserve stewardship. Where overlap occurs, cross-references are provided to highlight synergies among directives.

SMART Objectives	Objective Definition
Specific	Detailed, clear, concise, and unambiguous
Measurable	Criteria for measuring progress
Achievable	Realistic to achieve
Results-oriented	Specify a result
Time-fixed	Specify an endpoint

Questions ???



Thank You!!

Resiliency Advisory Board, Natural Resource Staff, Rangers and ALL of
our Conservation Partners