

SAN LUIS REY RIVER PARK MASTER PLAN

COUNTY OF SAN DIEGO
DEPARTMENT OF PARKS AND RECREATION

12/14/07

SAN LUIS REY RIVER PARK MASTER PLAN



ACKNOWLEDGEMENTS

Master Plan Advisory Group:

Vivian Collins and Tim Howard, Bonsall- Fallbrook Little League

Doug Goad, San Diego Parks Advisory Committee

Dominic Gotelli, San Diego County Trails Council

Darin Loughrey, California Parks Recreation Society (District XII)

Judy Mitchell, San Luis Rey Watershed Council

Margarette Morgan, Bonsall Community Sponsor Group

Vince Ross, Fallbrook Revitalization Council

Jim Russell, Fallbrook Community Planning Group

Jeff Schleiger, Bonsall Union School District

Bill Thead, Vessels Holdings

Wallace Tucker, Fallbrook Land Conservancy

Elizibeth Yamaguchi, Historic Resources

Consultant Team:

Hargreaves Associates- Prime/ Design Lead

Mooney • Jones & Stokes- Natural and Cultural Resources

Nasland Engineering- River Hydraulics and Floodplain Issues

Ninyo & Moore Geotechnical and Environmental and Science Consultants- Water Quality and Water Resources

A.D. Hinshaw Associates- Environmental Processing

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MASTER PLAN DOCUMENT

Project Overview

In August 2004, the County of the San Diego commenced the preparation of the Master Plan for the San Luis Rey River Park along the 8.5-mile stretch of the San Luis Rey River corridor between I-15 and the old Bonsall Bridge, in northern San Diego County. This Master Plan establishes a framework for the creation of a River Park incorporating much-needed passive and active recreational amenities for the Fallbrook and Bonsall community planning areas, as well as an outstanding habitat preserve and multi-use trail system serving the larger region. The San Luis Rey River corridor is rich with riparian and upland habitat as well as cultural resources. The San Luis Rey River Park will provide unique opportunities for preservation and appreciation of these unique resources.

Master Plan Process

The twelve-month planning process included data gathering, defining the project boundary (Core Study Area or CSA), site analyses, park programming, presentation/ discussion of planning alternatives, and compilation of this Master Plan document summarizing analyses, recommendations, and alternatives considered. Public outreach and coordination with resource agencies and Caltrans were fundamental to the development of the Master Plan. A continuation of these outreach and coordination efforts will be equally critical in the development of park implementation projects

arising from this Master Plan. The Master Plan document is a collaborative product of the Planning Team, which consists of the County of San Diego Department of Parks and Recreation (Client), Hargreaves Associates (Prime and Design Lead - landscape architecture and planning), Mooney - Jones & Stokes (natural

and cultural resources), Nasland Engineering (river hydraulics and floodplain issues), Ninyo & Moore Geotechnical and Environmental Science Consultants (water quality and water resources), and A.D. Hinshaw Associates (environmental processing).



San Diego County Vicinity Map

EXECUTIVE SUMMARY

The Master Plan document is organized in the following chapters:

I. Introduction

The introduction includes an overview and explanation of the San Luis Rey River Park (SLRRP) Master Plan, the planning process, the planning context, and primary goals for the San Luis Rey (SLR) River Park.

II. Community Input

This planning process was facilitated by public input gathered through four public meetings, Master Plan Advisory Group (MPAG) meetings, multiple focus group meetings, and written surveys. Community input early in the planning process and feedback in response to planning alternatives was essential to the Master Plan process and the development of the Final Plan.

III. Analysis and Synthesis

Site analyses consisted of studying existing physical and perceptual conditions within the CSA, as well as a records search and assessment of the biologic and cultural resources. Much of the more detailed analyses focused on the sensitive biologic resources within this segment of the river corridor. The San Luis Rey River corridor is also rich in Native American resources, with many different tribal groups having historical and current ties to the San Luis Rey River. Analyses were compiled into

a series of topical white papers, each of which summarized primary opportunities and constraints of SLR River Park development.

Desired park amenities were identified through public surveys, public input at community meetings, MPAG input, County Department of Parks and Recreation priorities for the project, and a review of similar precedent parks. An assessment of the existing recreational facilities within the park's anticipated service area, and the current needs of the community informed recommendations regarding quantities and distribution of proposed recreational amenities within the larger River Park CSA. Population densities and park-related traffic impacts were also analyzed to determine appropriate locations for active park uses.

IV. Master Plan

After thorough analyses of the CSA and the needs of the community, two basic planning/programming alternatives were developed. Based on further feedback from the public, MPAG, and focus groups, a Preferred Plan was then created, combining preferred elements of the two Planning Alternatives. The Final Plan integrates refinements of the Preferred Plan with more elaborated design and programming concepts for potential active park sites. The documentation of the planning process will allow subsequent users of this document to understand not only conclusions and planning

recommendations, but also how and why conclusions were reached. Finally, the anticipated park implementation process is described. Although the County is currently in the process of seeking the acquisition of high-priority properties for park development, implementation of park improvements will only occur after the County has completed an Environmental Impact Report.

V. Appendices

After extensive study and documentation of the physical and cultural attributes of the CSA, this data was synthesized into a series of opportunity and constraint diagrams and white paper reports that clarified opportunities and constraints for park development relating to environmental, cultural, biologic, hydrologic, and water quality aspects of the river corridor. Through this synthesis, potential park development sites were identified and evaluated in terms of ability to accommodate various desired park amenities. These reports are summarized within the Analysis and Synthesis Chapter (III), but can be found in their entirety in the appendices.

PLANNING CONTEXT

Concurrent Initiatives

The County of San Diego recognized the benefit of developing the River Park Master Plan in coordination with several major concurrent initiatives: Caltrans' improvements of State Route 76, the North County Multiple Species Conservation Program, the County Trails Program, and General Plan 2020 .

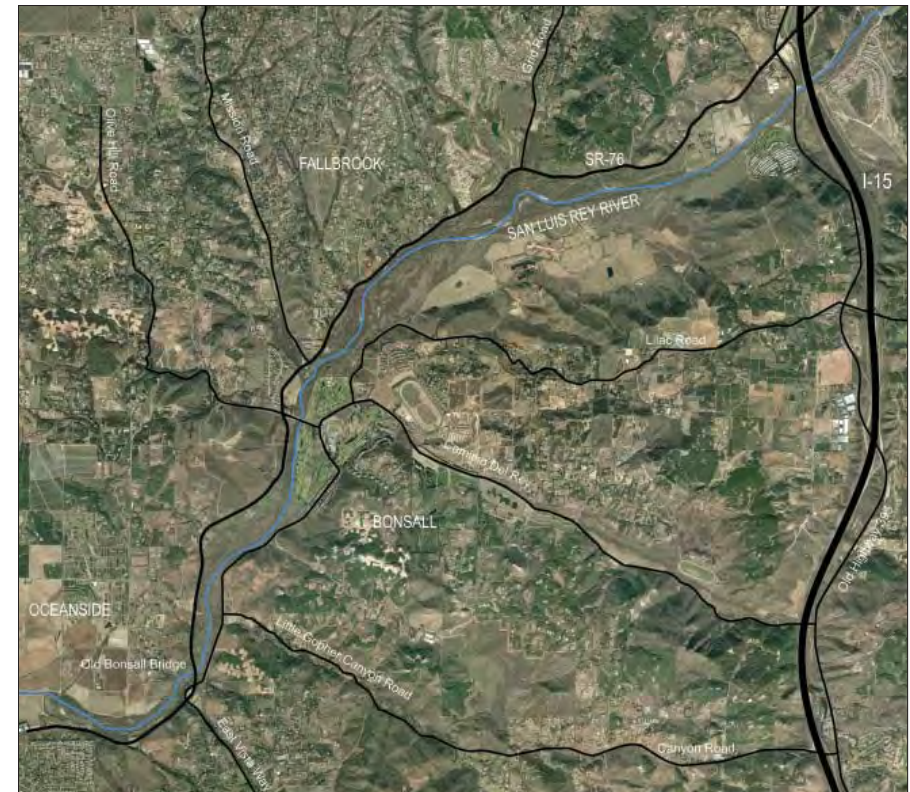
With the intention of lessening traffic congestion along the section of State Route 76 (SR-76) which runs parallel and immediately adjacent to this stretch of the San Luis Rey River corridor, Caltrans is currently planning the improvements of this segment of SR-76. These improvements will result in impacts upon biologically sensitive riparian habitat that will require significant mitigation. The County would like to establish a structure within the San Luis Rey River Park that will allow the park to become a major recipient of Caltrans' and other mitigation lands. These lands would be incorporated into the River Park as vital components of the Park's preservation/ restoration core.

The North County Multiple Species Conservation Program (NCMSCP) is a program intended to protect biodiversity and preserve habitat and open space while enhancing the region's quality of life. These are also primary goals for the River Park. The Master Plan will follow the guidelines established by the NCMSCP.

The County Trails Program has established
San Luis Rey River Park Master Plan

the Community Trails Master Plan (CTMP) which allows communities to be involved in trail design and management guidelines and implementation strategies. The CTMP was developed by staff from the following County Departments: Parks and Recreation, Planning and Land Use, and Public Works, which make up the Trails Management Team. The San Luis Rey River Park will implement and supplement CTMP trails proposals.

The County of San Diego is also presently working on General Plan (GP2020), which addresses present and future land use, transportation, housing, historic preservation, open space and other important community components. The area that encompasses the San Luis Rey River Park will be primarily designated as rural lands (RL-40) in GP2020. Developing a park along this segment of the river corridor is consistent with this designation.



Site Map

History

The cultural history of the San Luis Rey River is known from the time of the Luiseño people, the Spanish name for the Native Americans inhabiting this area. In the late 1700's the Spanish arrived in this area, building the Mission San Luis Rey in 1798. The Mexican government took control of the Missions in the 1830's and Mission lands were awarded as land grants to

individuals for grazing cattle and sheep. As a result, much of the land was stripped of its vegetation cover, resulting in increased erosion. After declaring war on Mexico in 1846, the United States incorporated California as the 31st state in 1850. The Luiseños were moved to small reservations that were created by the Bureau of Indian Affairs in 1875 and added to over subsequent years.



Luiseño woman
http://www.skinstotal.com/MSN/fondos_messenger_602.htm

The San Luis Rey River was dammed (Henshaw Dam) in 1922, to capture water for irrigation. More recently, population growth, river-adjacent development, and agriculture have strained available water supplies and diminished wetlands and habitat, while increasing erosion and nutrient rich runoff.

Sand and gravel mining, previously prevalent within this stretch of the SLR River corridor, lowers the river bed and reduces the sand's function as a natural filter, thereby impacting habitat quality. Municipal use of the Mission aquifer also diminishes the quality of the water in the river. (Summarized from the San Luis Rey Management Framework, California Poly Technical University, 1990).

Active and Passive Recreation

As a result of increased population trends in recent years, Fallbrook and Bonsall, the two community planning areas adjacent to this portion of the San Luis Rey River, are in need of additional recreational amenities, particularly recreational sports fields. This Master Plan, through incorporation of diversely programmed active and passive recreation nodes, will help to satisfy this local recreational need. Within the sensitive context of the river corridor and floodplain, active recreation nodes in particular must be carefully located to work in synergy with park's preservation/ restoration core, while minimizing park-related traffic congestion along SR-76.

Biologic/ Cultural Resources

The San Luis Rey River is rich in biological and cultural resources, including several threatened, endangered and rare species. Many Native American artifacts and traditional gathering and ceremonial sites have also been identified and mapped within this segment of the river corridor. While discrete nodes of active recreational park development are a priority of the River Park, they will need to be planned for compatibly with these sensitive resources. Preservation and interpretation of these sensitive resources is one of the primary goals of this Master Plan. A linked series of interpretative signage/ displays could become an important connective thread throughout the San Luis Rey River Park, helping to stitch the park's various active/ passive recreation nodes and preservation lands into a cohesive entity.

Connectivity

In addition to active recreation nodes and biological and cultural resources preservation/ restoration/ interpretation, the Master Plan identifies a trail network that will serve as the essential armature of the San Luis Rey River Park; connecting the diverse park amenities, with surrounding neighborhoods, activity nodes, and regional trails. The park's trail system will institutionalize year-round public access and continuous circulation from north of I-15 to the area south of the old Bonsall Bridge, within the riparian zone and adjacent upland areas.

Summary

This Master Plan establishes the framework for a River Park that creates a sensitive balance between natural system and cultural resource preservation/ interpretation and recreational park development.



Vicinity Map

MASTER PLAN GOALS

Balance recreational, cultural, and educational programming with preservation of the river's biologic/ cultural resources.

Enhance the SLR River corridor as an open space amenity.

Preserve the rural character of the area.

Provide linkages to communities and adjacent land users.

Provide active recreation opportunities for surrounding communities.

Accommodate the recreational needs of surrounding communities within the park's service area.

Enhance/ preserve/ interpret SLR River's biologic and ecologic resources.

Protect and enhance critical habitat for the several threatened and endangered species within the river corridor.

Identify appropriate locations for bird watching areas and interpretive signage.

Identification and removal of invasive, non-native species.

Celebrate and Interpret SLR River's Cultural/ Historic Resources.

Propose interpretive themes within the River Park.

Incorporate non-sensitive cultural/ historical sites into an interpretive education program.

Provide an Interpretive Gathering Area(s) adjacent to river resources.

Create Opportunities for Multi-use Trail Network.

Create a continuous trail network from I-15 to past the Old Bonsall Bridge, which may require trail bridges.

Provide multi-use trails for equestrians, bikers, and hikers.

Enrich park trails with passive recreation amenities that encourage resting, observing, picnicking, bird watching etc.

Develop Holistic Water Management/ Quality Strategies.

Encourage stormwater infiltration and remediation.

Retain flood control while preserving/ enhancing natural stream flow dynamics.



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PUBLIC MEETINGS INPUT

A major factor contributing to the ultimate success of the San Luis Rey River Park is the incorporation of the community input into the Master Plan. Incorporation of community input leads naturally to support for the park, and to community ownership/ use of the park. Four public meetings were held at the Bonsall School and Community Center, where each step of the planning process was presented and discussed with community members. The following issues continued to arise throughout the planning process:

Expansion of SR-76

The community is very interested in the expansion of SR-76 and its coordination with the development of the SLR River Park, and specifically, how traffic will be affected by park development. While people initially had concerns that the park may inhibit the expansion of SR-76, those concerns were dispelled once it was explained that the County is working in full coordination with Caltrans. The intention is to keep abreast of the status of each project so that all potential opportunities are capitalized upon. The Planning Team specifically distributed park programming at both ends and of the CSA as well as in the middle in order to minimize park-related traffic.

Rural Character

The Bonsall and Fallbrook communities highly value the rural character of the area and want to ensure that it is preserved within the River Park. In establishing design guidelines, park programming and distribution, and trail locations, the Planning Team made great efforts to preserve and capture the rural flavor of the area, while providing much needed recreational amenities and access to the river's diverse biologic and non-sensitive cultural resources.

Multi-use Trails

While there were differing opinions on the optimal width of the trails and viability of multi-use trails, the majority of people wanted non-paved trails. Per the County Trails Master Plan, the primary trails throughout the River park will be multi-use (shared by equestrians, hikers, and bikers). These multi-use trails will be a minimum of 3'-4' and a maximum of 8' in width, depending on proximity to sensitive resources, with a crushed stone or similar base (not paved). A paved bike path is proposed as part of the SR-76 improvement project.

Active Recreation

There were divergent views on the demand for active recreation within surrounding communities. Discussions with sports leagues for both children and adults, the Active Recreation Focus Group, and a survey of existing public active recreation facilities indicated a severe deficit of sports fields within the community.

Funding/ Timing


Questions regarding sources of park funding and implementation schedules were very common. A limited land acquisition budget has been established by the County to acquire high-priority sites. The County must complete an EIR for the River Park before implementation of park improvements can occur.

Operations/ Maintenance/ Security

Many questions arose regarding the operation, maintenance, and security (patrolling) within the park. There is general concern regarding the existing homeless population within the river corridor and related public safety issues. The development of the River Park will activate this portion of the river corridor with desirable park uses and users, thereby rendering this area less desirable as a homeless refuge. Ranger patrols and coordination with law enforcement authorities would also improve actual and perceptual security within the River Park.

PUBLIC SURVEY

San Luis Rey River Park Master Plan
County of San Diego
Hargreaves Associates Planning Team



SURVEY

1. Which of the following potential park elements would you like to see included in the San Luis Rey River Park Master Plan? (check multiple, if needed)

- ☐ Biking trails
- ☐ Hiking trails
- ☐ Equestrian trails
- ☐ Soccer fields
- ☐ Baseball/ softball fields
- ☐ Indoor recreational facilities
- ☐ Golf course
- ☐ Tennis
- ☐ Model plane areas
- ☐ Play areas for kids
- ☐ Dog areas
- ☐ Picnic areas
- ☐ Habitat restoration
- ☐ Equestrian center
- ☐ Interpretive center (natural and cultural resources)
- ☐ Botanic/ native plant gardens
- ☐ Festival/ event areas
- ☐ Community gathering/ performance venue
- ☐ Bathrooms
- ☐ Other _____

2. How often do you think you will visit the San Luis Rey River Park once built?

- ☐ less than 1 time per month
- ☐ 1-3 times per month
- ☐ 3-5 times per month
- ☐ 5-10 times per month
- ☐ 10+ times per month

3. How far would you travel to visit the park?

- ☐ 1-5 miles
- ☐ 5-15 miles
- ☐ 15+ miles

4. How would you get to the park?

- ☐ walk
- ☐ bike
- ☐ horse
- ☐ car

5. Please rank the following goals for the San Luis Rey River Park Master Plan (1 being the most important, 7 being the least important)

- ___ Preservation of habitat
- ___ Recreational fields
- ___ Protection of water quality
- ___ Safety
- ___ Trails
- ___ Preservation of rural character
- ___ Protection/ interpretation of cultural resources

6. What are your primary goals/ desires for the San Luis Rey River Park Master Plan?

7. Any other comments

Survey

To assist the Planning Team in evaluating the needs and desires of the community, surveys were distributed at each of the public meetings and to various focus groups. Surveys were also available on the County's website.

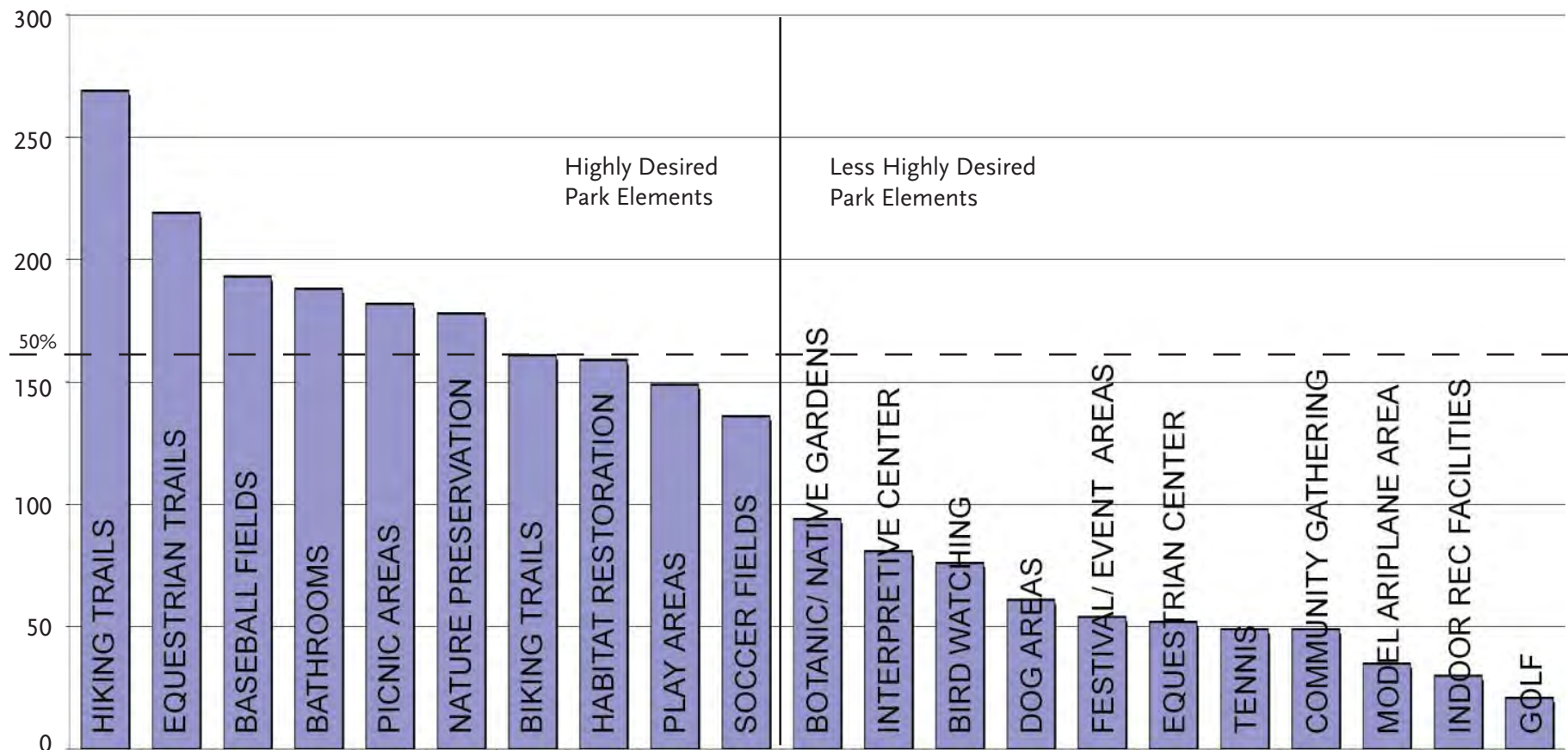
The survey asked respondents to identify desired park program elements, how often they would visit the park, from how far they would be travelling, and by what mode of transportation. Prioritization of goals and additional comments were also encouraged.

SURVEY RESULTS

Preferred Park Elements

Throughout the planning process, 329 surveys were completed and submitted to the County. The first survey question asked respondents to identify program elements or park facilities that they would like to have included within the SLR River Park. While trails were consistently

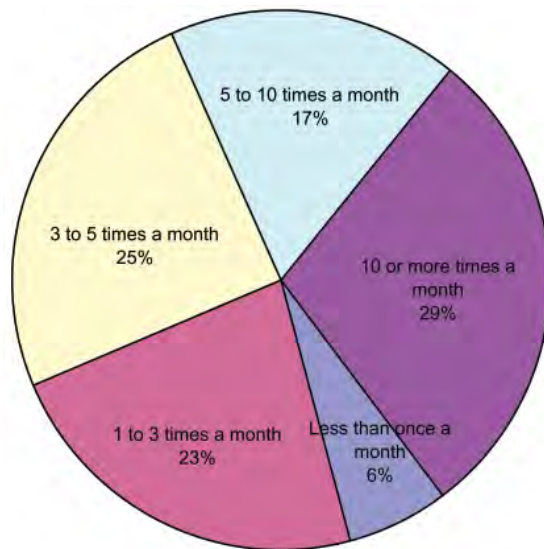
the most highly desired element, sports fields (baseball and soccer), nature preservation, and picnic areas were also very popular. There was a noticeable decrease in interest in park elements shown to the right of soccer fields on the diagram below.



Responses to Survey Question: Which of the following potential park elements would you like to see included in the San Luis Rey Park Master Plan?

Frequency of Anticipated River Park Visitation

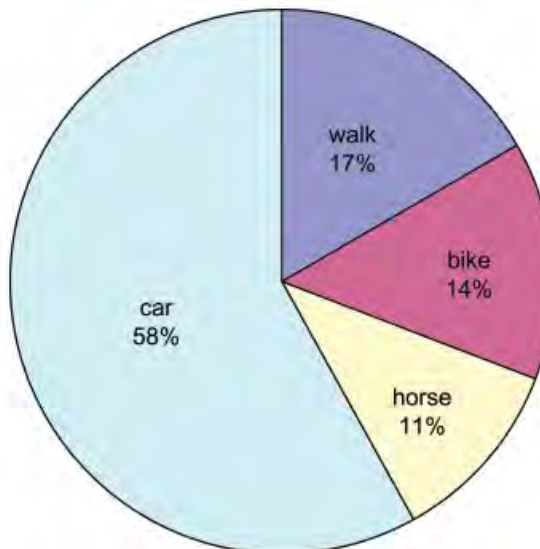
The largest portion of survey respondents thought that they would visit the River Park 10 or more times a month. This exceptionally high visitation rate indicates the potential high degree of use that the River Park will attract and accommodate.



Responses to Survey Question: How often do you think you will visit the River Park once built?

Anticipated Mode of Arrival to River Park

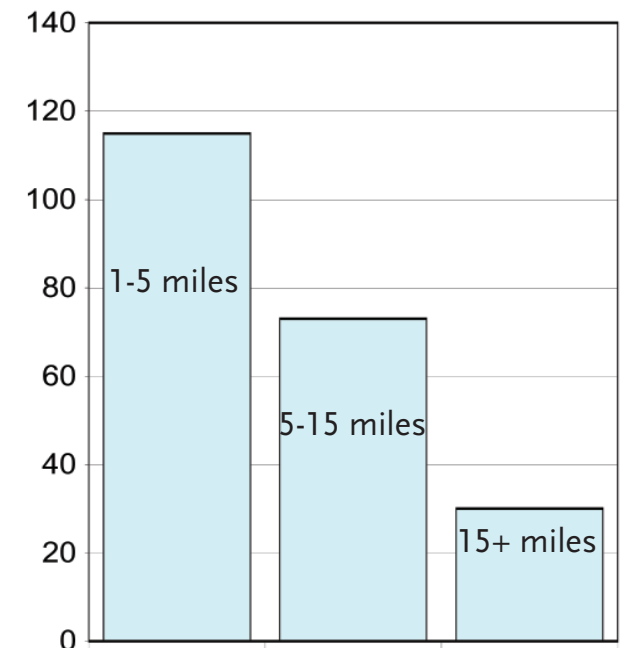
As anticipated, most respondents indicated that they would be driving to the River Park, though a large portion responded that they will be using other modes of transport, dispelling some concerns about increases in car related traffic. Still, the Master Plan provides adequate parking and staging areas to provide for this predominantly vehicular access. Pedestrian, equestrian, and bike access to the park will be provided on multi-use trails linking the park's amenities to adjacent communities.



Responses to Survey Question: How would you get to the park?

Travel Distance to Park

Roughly half of the survey respondents would be travelling 1-5 miles to visit the River Park, which may partially be explained by the fact that most of those attending public meetings (and filling out the surveys) live within immediate proximity of the CSA. Roughly one third of the individuals responded that they would be coming from 5-15 miles away.



Responses to Survey Question: How far would you travel to visit the park?

MPAG & FOCUS GROUPS

MPAG

Each member of the Master Plan Advisory Group (MPAG) was chosen as a representative of a community group whose interests relate to the issue involved with the development of San Luis Rey River Park. Some of those interests are: active recreation, the environment, water quality, trails and their users, children, cultural resources, and Bonsall and Fallbrook Community Planning Areas. As leaders of these community groups, the role of the MPAG member is to represent the views and interests of their constituents, give feedback to the Planning Team throughout the development the Master Plan, and keeping their constituents informed of the progress of the project.

Focus Groups

The Planning Team met with a series of focus groups in order to discuss and obtain input regarding major park planning issues and the needs/ desires of various constituent groups. These focus groups included representative community leaders and organizations with a stake in the future of the San Luis Rey River Park, bringing the voice of the larger public to bear on issues of site use, park programming, and impacts on adjacent communities. It is the cross pollination of ideas and an understanding of each group's respective needs and constraints that leads towards a mutual understanding of issues and divergent perspectives.

We would like to thank the following organizations and individuals who contributed to this process:

The Audubon Society
Backcountry Horsemen
Bonsall Chamber of Commerce
Bonsall Union School District
Bonsall Sponsor Group
Bonsall- Fallbrook Little League
California Dept of Fish and Game
California Parks and Recreation
Society (Dist. XII)
Caltrans
Fallbrook Avocado Soccer League
Fallbrook Land Conservancy
Fallbrook Planning Group
Fallbrook Revitalization Committee
Fallbrook Youth Soccer
Historic Resources
The Nature Conservancy
Rainbow Water District
San Diego County Water Authority
Rincon San Luiseño Band of Mission
Indians
San Diego County Trails Council
San Diego Mountain Biking Association
San Diego Parks Advisory Committee
San Luis Rey Band of Mission Indians
San Luis Rey Watershed Council
Sierra Club
US Dept of Fish and Wildlife
Vista Palomar Riders

TRAILS FOCUS GROUP

A continuous year-round trail system providing access to the River Park's various natural environments, and recreational amenities is the highest priority for park-adjacent communities. A survey of community members showed widespread interest in hiking, equestrian and biking trails within the park. At the trails focus group meeting, there was a consensus that hikers, bikers, bird watchers, and equestrians can share the same multi-use trails, although some community members at the public meetings disagreed. Shared, multi-use, trails have proven to be successful in other regional parks in San Diego County and throughout the country.

Although most trails within the River Park will be multi-use, consistent with the County Trails Master Plan, it is recommended that a few pedestrian-only loops be included to provide opportunities to experience more sensitive habitat areas and accommodate smaller/ shorter walking loops or focused passive activities such as bird watching. It should be noted that portions of the multi-use trail may be closed seasonally to avoid indirect impacts to sensitive species. Many trail users would be comfortable with relatively narrow trails, which is consistent with the County Trails Master Plan, which states the trails could be as narrow as 3'-4' in width, depending on the sensitivity of the vegetation in the area. Motorized vehicles will not be allowed on the park trails, as they are inconsistent with the sensitivity of the habitat

(damaging/ disturbing habitat areas and accelerating erosion) and overall park goals.

Circulation

Trails focus group participants felt that a minimum of three access points to the trail system (one at either end and one in the middle) would be sufficient to provide access to the River Park's trail network. It is desirable to consolidate parking/ staging areas with recreational amenities, to eliminate redundancy in services and utilities. These areas could offer parking, staging for trailers, bathrooms, potable water, and picnic tables.

It is preferable to create trail loops with various round-trip lengths and defined by various park experiences. Bird watchers prefer short loops with numerous vantage points set away from the main trails, particularly away from bikers. Longer, continuous loops should be created for hikers, equestrians and mountain bikers. A paved bike path along SR-76 will provide opportunities for high-speed bike circulation. The deep sand within much of the riparian zone is difficult for both equestrians and bicyclists, so it is preferable to construct multi-use trails with a stable (non-paved) surface.

Trail bridges over the floodway, allowing continuous year-round use of trails within the floodplain, would be a significant asset to the park. Trail underpasses that can accommodate equestrians under SR-76 would be useful

in connecting riparian trails with upland trails to the north.

EQUESTRIAN FOCUS GROUP

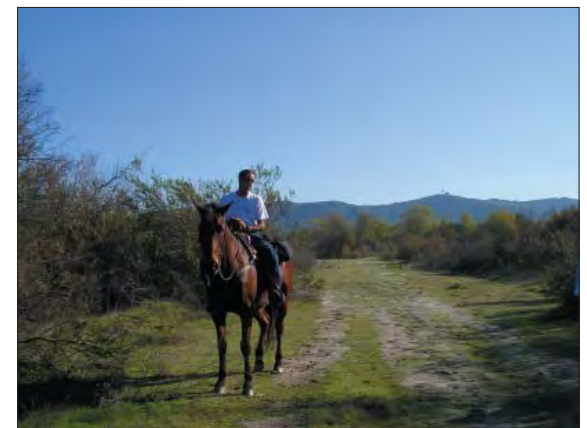
Trail Design and Amenities

Equestrian focus group participants requested that multi-use trails be separated from sports fields or other highly-active recreational areas in order to keep the horses from getting spooked by crowds and noise. Trails can be within sight of the fields, but there should be a buffer between them, possibly of trees or other vegetation. Although participants thought multi-use trails were acceptable, they noted a need to educate trail users regarding appropriate trail-sharing behavior.

In general, equestrians prefer trails that meander and that are not too wide. Trail bridges would provide for year-round circulation throughout the park's riparian zone and connect park amenities on both sides of the river. In particular, a new crossing near Little Gopher Canyon Road is desired where the Vista Palomar Riders Equestrian Club is located. Amenities such as bird watching platforms may also be incorporated along the trail system.

Staging Areas

Two to four horse trailer parking/ staging areas are needed to provide access to the trails, with additional parking/ staging areas to provide access to upland areas. These staging areas would preferably be located at either end and in the middle of the CSA. It would be preferable to have these staging areas large enough to allow trailers to drive through continuously (as opposed to backing up and turning around).



Local Equestrian

ENVIRONMENTAL ISSUES FOCUS GROUP

Habitat preservation/ restoration and the future integrity of the San Luis Rey River were top priorities for the environmental groups that participated in the environmental issues focus group. For groups whose constituents include hikers and bird watchers and nature enthusiasts, well-planned access to sensitive habitat areas area is not only positive, but necessary. It is only through exposure to natural resources that advocacy for resource protection is engendered. Trail connections between the SLR riparian zone, adjacent canyons, and upland areas will provide diverse experiences for park visitors, thereby enhancing their understanding and appreciation of the river corridor's resources.

The interface between multi-use trails and habitat preservation areas must be carefully planned. Because bike use may disturb birds, some bird-watching trails may prohibit bike use. Hikers and equestrians are not thought to cause the same level of habitat disruption, and can use trails that pass through sensitive habitat areas. Interpretive signage and vantage points overlooking the river corridor would also be positive amenities.

The impact of trail and park development on the floodplain and riparian zone should be carefully considered. It was also generally agreed that water quality should be considered when developing the River Park. Trail bridges would help improve the water quality of the river by reducing contamination from horse manure and the spread of non-native seeds.

For regional habitat preservation to be successful, it is important to establish connections to proximate wildlife corridors, allowing broader regional species movements and access to a wider range of habitat.



Existing Riparian Habitat

ACTIVE RECREATION FOCUS GROUP

There is a general deficit of public active recreation/sports fields in the North County region. The MPAG representative from the California Parks and Recreation Society noted that the need for active recreation has grown significantly over the past 15 years, with increased interest in sports such as soccer, lacrosse, and field hockey. The active recreation focus group participants explained that existing fields in the area are over-used and degraded, and although Oceanside and Temecula have fields, they are also very crowded. Leagues such as Girls Softball have been forced to eliminate their programs, while other teams have to travel significant distances to play their games, due to lack of available home fields.

Soccer fields are needed for both children and adults. There are several soccer programs in the area, including 700-800 children in Fallbrook Youth Soccer. Some of the local fields in the area are over-used resulting in less than ideal conditions. Rainbow Park is a successful local example of a 6-acre park that has overlapping soccer and baseball fields; it is effective and very well used.

A representative from the Bonsall- Fallbrook Little League expressed a need for two or three full size fields for their program and one smaller field for younger children. Any additional fields might allow for the softball program to be re-instated.

There are a few public basketball and tennis courts in the Fallbrook and Bonsall area, possibly satisfying the community's needs for these facilities. Further study will need to be done to determine whether additional basketball and tennis courts should possibly be incorporated into the Master Plan.

Small skateboard parks exist in Vista and Pala, but these only partially satisfy the demand created by the 3000 students in the Fallbrook School System who have skateboards. A skateboard park could be incorporated into a larger family-oriented recreational node.



Soccer Field and Players



Softball Player



Soccer Players

CULTURAL RESOURCES FOCUS GROUP

Local Tribes, Sites, and Artifacts

The San Luis Rey River Corridor is rich in Native American Cultural Resources. Several Native American tribes reside on reservations up river from the CSA, including the Pala Band of Mission Indians. The people of the San Luis Rey Band of Mission Indians are living in the area as well as the Pala Mission Indians. Many cultural resources have already been identified within the CSA, though much of the land has not yet been surveyed. As potential park development sites are identified, detailed surveys will be necessary to ensure that sensitive sites and resources are adequately protected and preserved. Tribal grants may be available to help protect important artifacts and sites.

Interpretive Areas and Facilities

The cultural resources focus group felt that the establishment of an Interpretive Area and Facilities would be an effective way of preserving and presenting the multiple histories and cultures of the local tribes in a unified fashion. Tribes including the Rincon, Poway, Pala, Pechanga, Pauma, and Luiseño Tribes may be interested in becoming involved with interpretive programming and Native American cultural activities. Many tribes in the area have expressed interest in Interpretive Facilities that educate Native American youth and the public on tribal history, and have cultural committees that could guide each tribe's involvement in the project.

Interpretive Areas and Facilities could provide an opportunity for learning about tribal language, stories, music, crafts, and ethnobotany. Some of these cultural resources could be interpreted along the river trails. Although some of these sites are too sensitive to accommodate general access, other less-sensitive sites could include interpretive programming that educates park users regarding the rich cultural heritage of the area. Outdoor park spaces could accommodate cultural education, spiritual gatherings, basket weaving, and other community events. In particular, an area for public or tribal meetings of +/-100 would be well-used and appreciated. There are also overlapping interpretive opportunities to educate the public about river ecologies and the associated dynamic hydrologic system.



Native American arrowhead



Old Bonsall Bridge



Luiseño woven basket. credit: Phoebe Hearst Museum of Anthropology, Berkeley, CA

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See Appendices for full white paper reports on the subjects covered in this chapter.

CORE STUDY AREA

Core Study Area

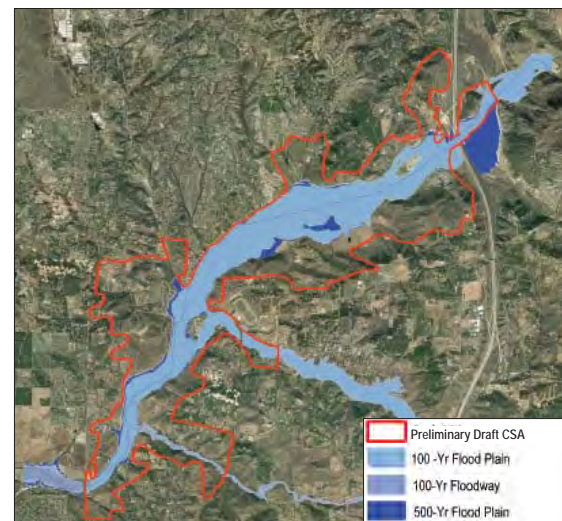
As one of the first steps in planning the San Luis Rey River Park, the County of San Diego worked with the Planning Team to define the study area for the project. Due to the sensitivity of the corridor's biological resources, biological information from the County's GIS database was used to determine the Core Study Area boundary (CSA). The Draft Core Study Area was created through evaluation of the following four primary criteria: 100-year/ 500-year floodplains, Pre-Approved Mitigation Areas, Habitat Value, and existing development. The Draft CSA boundary encompasses areas that fall within any of these three criteria and are contiguous with the river corridor. Where areas falling within these criteria extended far (+1.5 miles) from the river corridor, the Planning Team made subjective decisions regarding the limits of the Draft CSA boundary. In these few locations, the boundary is defined by a road or identifiable geographical boundary.

After this overlay exercise, the Planning Team cross-checked the resulting boundary against aerial photography and revised/ refined the boundary to focus on areas with the greatest park potential. The CSA was further refined according to individual landowner requests. The draft CSA, used throughout the Master Plan, is represented in the CSA Overlay Map (opposite). The CSA boundary will continue to evolve as park planning/design progresses.

See p.75 for current CSA (as of 12/14/07).

Floodplain

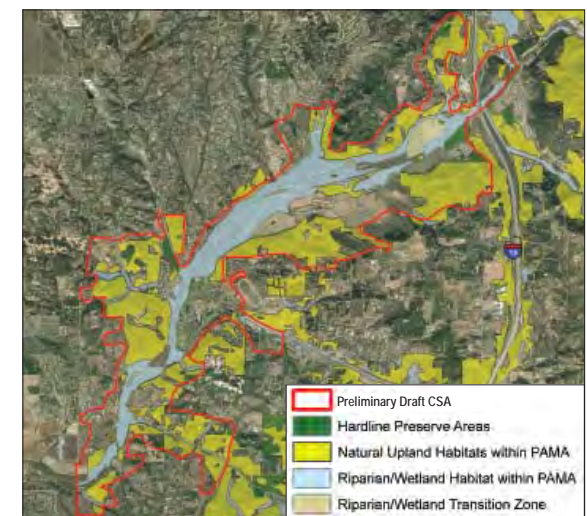
Stringent development restrictions within the 100-year floodplain have diminished land values and largely preserved this land as undeveloped, vacant, or agricultural. These restrictions make the 100-year floodplain very compatible for open space preserve or recreational park development. All areas within the 100-Year floodplain were included within the CSA.



100 Year and 500 Year Flood Plain

Pre-Approved Mitigation Areas (PAMA)

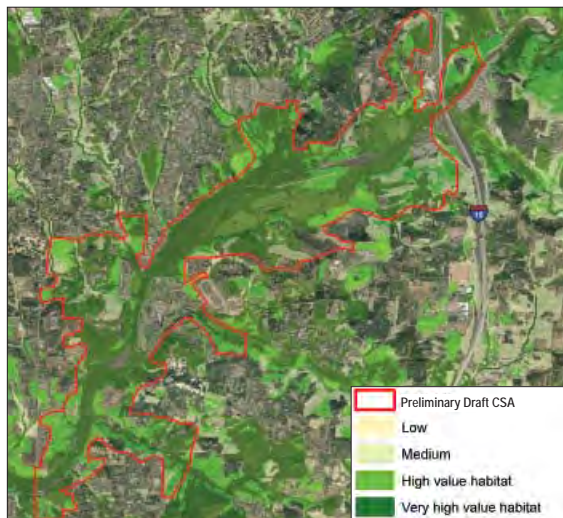
Much of the area around the San Luis Rey River has been proposed as PAMA land due to its potential as valuable habitat. The proposed designations within the PAMA are: Riparian/ Wetland Habitat within PAMA; Riparian/ Wetland Transition Zone within PAMA; Natural Upland Habitats within PAMA; and Hardline Preserve Areas. The habitat preservation/ restoration focus of the Master Plan, in combination with the intention to identify the River Park as a major focus (recipient) of regional and local mitigation efforts (particularly as related to SR-76 improvements) led to the decision to include most large PAMA areas contiguous with the river corridor into the CSA.



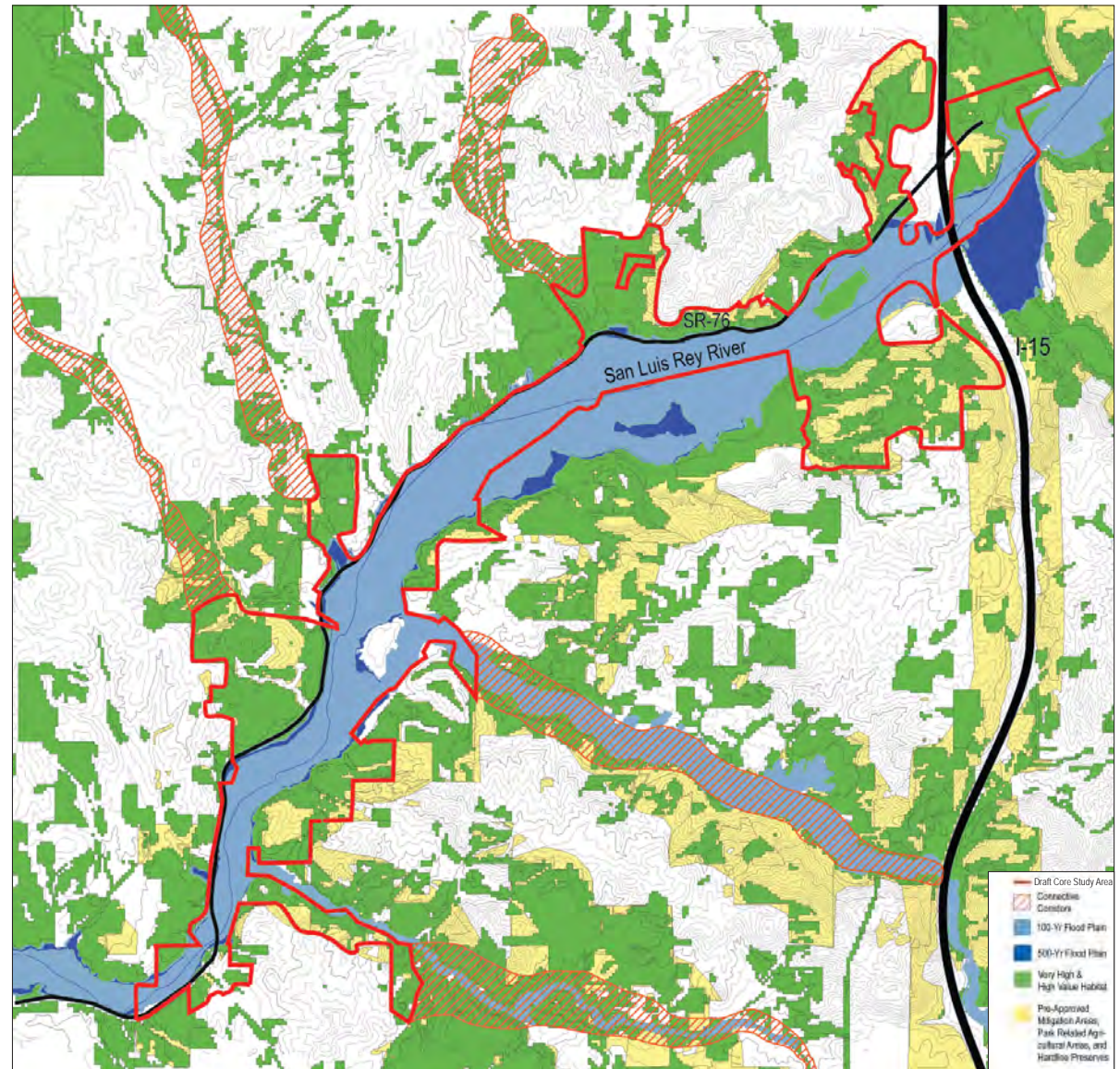
Pre-approved Mitigation Areas

Habitat Evaluation Model

The predominant focus of the San Luis Rey River Park will be the creation of a large open space preserve encompassing much of the richest habitat within the riparian zone as well as selected upland areas. In envisioning this preserve, it was important to incorporate lands that were considered to have High or Very High Habitat Value, according to the County's Habitat Evaluation Model. Most large High/ Very High value habitat areas contiguous with the river corridor were incorporated into the CSA.



Habitat Evaluation Model



CSA Overlay Map

TIER A PARK PROGRAMMING

In assessing the appropriate types and quantities of different park elements and uses (park programming) to be incorporated within the San Luis Rey River Park's sensitive biological context, the Planning Team divided these uses into three levels, or tiers, relating to respective impacts upon the site and adjacent habitat that the development of each of these uses entails; Tier A park uses having the highest impacts and Tier C uses having the lowest impacts. The location of these Tier A areas is preliminary and their respective boundaries will continue to evolve as park planning/design progresses.

Tier A Park Uses - Active Park Nodes

Tier A park uses are those that require significant site disturbance or grading such as sports fields, parking and staging areas, interpretive gathering spaces, Live-on Volunteer Sites which consist of volunteers living in recreational vehicles (RVs) within park boundaries, and interpretative gardens. Several critical site selection criteria informed the placement of these highest impact park uses. These uses have been located where they would have only minimal impacts upon the sensitive habitat areas (out of riparian zone), require minimal grading (flat sites), and be primarily out of the 10-Year Flood Plain.

In order to ensure minimal impacts on sensitive vegetation communities, Tier A uses were

located only on areas with little or no native vegetation cover: areas that are either currently/ recently disturbed, agriculture lands, or areas covered by non-native grasslands or eucalyptus woodlands. These types of vegetation would require minimal to no mitigation if developed as park sites.

The Planning Team also determined that Tier A park uses should be consolidated to the extent possible to minimize redundant investments in vehicular access drives, utility services, maintenance expenditures, and as well as impacts to proximate sensitive habitat areas: fewer, larger, consolidated active recreation nodes are more efficient and have less impact than more smaller active recreation nodes dispersed throughout the CSA.



In addition, the following criteria were identified for the siting of these specific Tier A uses:

- Dog parks should be located at least 200 feet from the nearest residence and 75 feet from habitat for noise-sensitive wildlife species
- Parking lots should be located at least 65 feet from the nearest residence and 25 feet from habitat for noise sensitive wildlife species
- Playing fields shall be located at least 125 feet from the nearest residence and at least 50 feet from habitat for noise sensitive wildlife species."



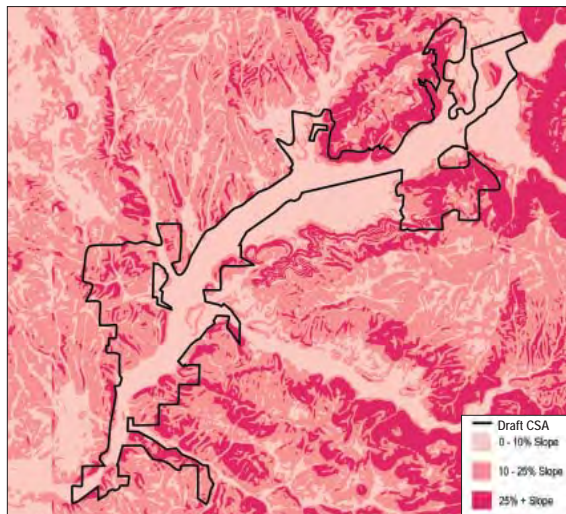
Precedent Images: Tier A Programming

TIER A CONCEPTUAL SITE SELECTION

The Tier A Conceptual Site Selection Overlay Diagram (following page) shows the overlay of the four critical layers of information that led to the conceptual identification of potential Tier A sites: 10-Year floodplain, shallow slopes, non-sensitive vegetation, and developed lands. Final Tier A site selection will depend on numerous factors, including, but not limited to, whether the County is able to acquire these properties for the park.

Less than 10% Slope

Due to the larger footprints of these Tier A uses and the desire to minimize grading of the corridor's steep hillsides, Tier A uses as depicted in this Master Plan were located only on sites that were primarily flat, with slope gradients less than 10%.



Slope Map

10-year Floodplain

Although some Tier A program elements such as sports fields can flood with little damage and additional maintenance, it is important to locate the larger financial park investments such as architectural structures and utility boxes outside the 10-Year Floodplain. Where possible, Tier A program elements should be located outside the 10-year floodplain.

Developed Land

Tier A park sites could not be located on currently developed land. Developed land thus became the third constraint.

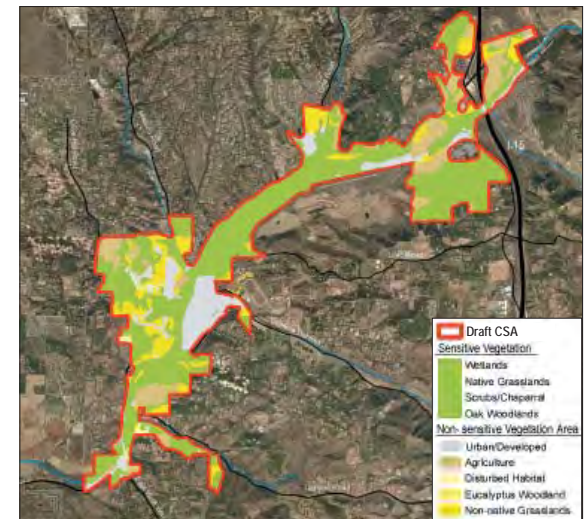


10-Year and 100-Year Floodplain Map

Non-Sensitive Vegetation

Sensitive riparian, wetland, and upland vegetation communities were avoided when selecting Tier A park sites. These sensitive vegetation communities are shown in green on the vegetation diagram and the constraint overlay.

Once these layers were overlaid, all sites that were not completely covered by one of these constraints were considered potential Tier A sites. These potential sites were further assessed in regards to suitability to accommodate desired park program and use. The above process was utilized to identify and prioritize potential sites as shown on the constraint overlay that could possibly support Tier A uses (see examples on the following page).



Vegetation Sensitivity Map

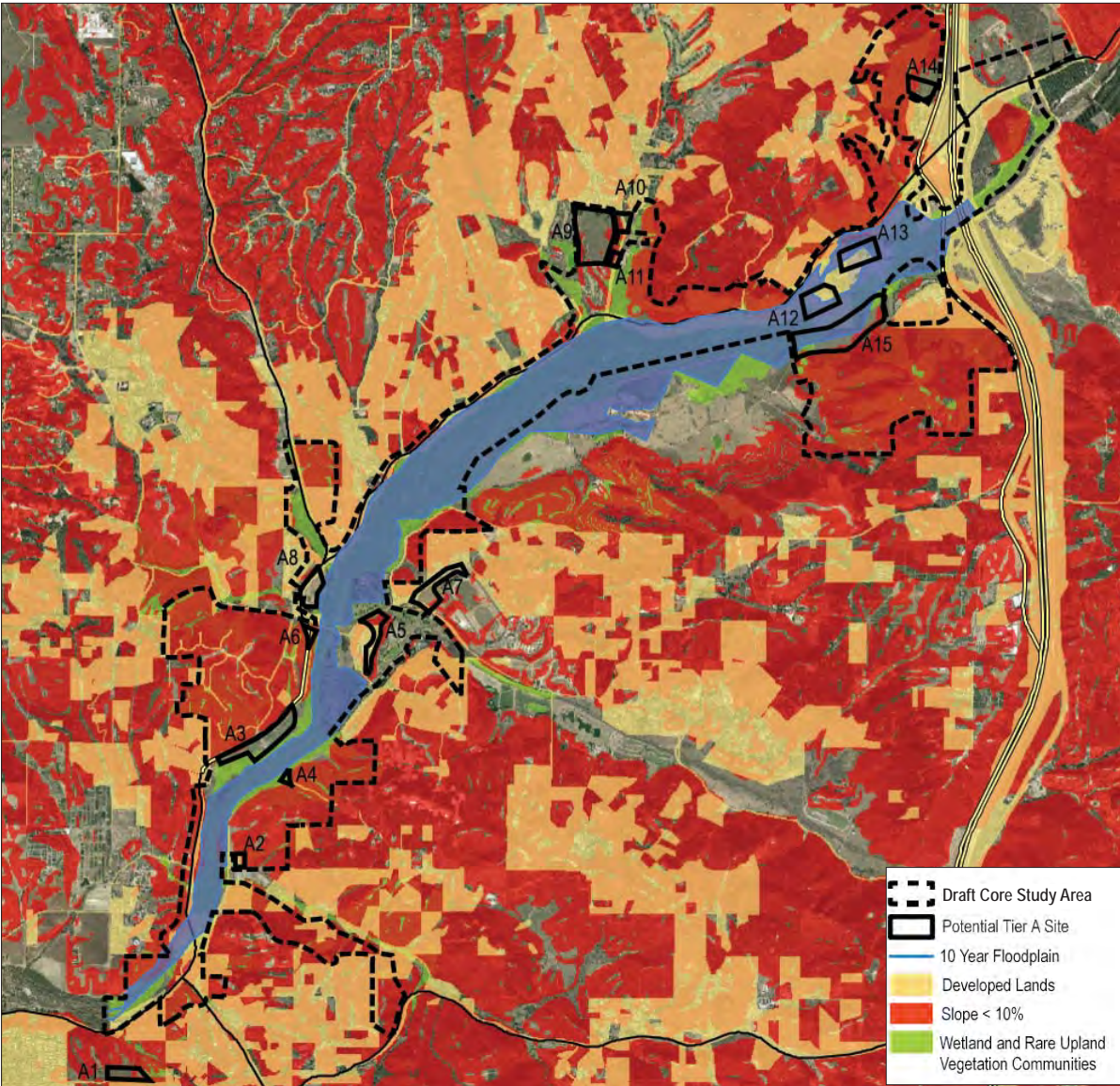
TIER A CONCEPTUAL SITE EVALUATION

Tier A Site Evaluation Matrix

After identifying potential Tier A sites, the Planning Team went through the process of reviewing each site to assess its unique attributes and programming potentials. Categories utilized to assess and evaluate these sites are shown on the Tier A Evaluation Criteria Matrix (opposite page).

Ultimately, the most critical factor informing which of these potential sites will be incorporated into the Master Plan is the willingness of respective owners to consider selling these properties to the County. The County decided at the outset of the planning process that it would only acquire land from willing sellers. Potential Tier A sites that could not be acquired from willing sellers (at this time) were removed from further consideration in the planning effort, although if these lands become available in the future, they could be incorporated into the River Park. The owners of several of these sites indicated willingness to consider the sale of these properties to the County, and further conceptual review of these five sites is included in this document. The acquisition of Tier A sites should be the County's first priority as the park moves toward implementation.

Sites that were not considered for Tier A development during the Master Plan process that are now available for consideration, are shown on p. 75.



Tier A Conceptual Site Selection Constraint Overlay Map

TIER A CONCEPTUAL SITE EVALUATION

Site Number	Slope (Under 10%)	(D) Disturbed (mown or tilled) (A) Agriculture	Vegetation Type	Car Access (E) Existing (P) Potential	Unofficial Trail Access	Floodplain 10 YFP 100 YFP	Cultural Resources	Acreage	Distinguishing Characteristics	Potential Tier A Programming	APN- Assessor Parcel Number	Current Land Acquisition Opportunity (Willing Seller)
SiteA1	3/4 is <10%	D	Non-native grassland	P	yes	outside 100 YFP	no	10	vicinity to Oceanside residential population density, off 76	performance/ gathering	1700202100	no
SiteA2	yes	D	Scrubs/chap., non-native grassland	E	yes	outside 100 YFP	no	4	north side of Little Gopher Canyon/Old River Road intersection	staging area, dog park	1261705200	maybe
SiteA3	yes	D	Non-native grassland, Developed	E	yes	1/2 w/ in 100 YFP	no	27.1	vicinity to 76 and river	all programming except performance/ gathering	1263200900 & 1260806900	maybe
SiteA4	no	D	Scrubs/ chaparral	E	yes	1/3 w/in 100 YFP	yes- oppprtunity	2.2	Disturbed areas near Old River Road/Detroway intersection	staging area	1261203400	no
SiteA5	no	D	Developed	E	no	outside 100 YFP	yes- constraint	9.3	vacant area surrounding school	performance/ gathering	1260607200 & 1260702200	no
SiteA6	no	D	Wetlands	E	yes	1/2 w/in 100 YFP	yes- oppprtunity	2.7	adjacent to Olive Hill/ SR76 intersection	staging area	1262304800	no
SiteA7	3/4 is <10%	D	Developed	E	no	outside 100 YFP	no	17.5	vicinity to the school, Bonsall center	active recreation, performance/ gathering, staging area	1260606100 & 1260605900	no
SiteA8	yes	A	Agriculture	E	yes	w/ in 100 YFP	no	8.2	vicinity to residential population density, river, bridge and commercial area at Mission Road	all programming except performance/ gathering	1262302700	no
SiteA9	2/3 is 10%	D	Non-native grassland	E	yes	outside 100 YFP	no	42.3	views of the river and rolling hills	active recreation, staging area, performance/ gathering	1243403400	maybe
SiteA10	yes	D	Non-native grassland	E	no	outside 100 YFP	no	4.7	off the river corridor and away from the traffic of 76	small active recreation, staging area	1243404800	no
SiteA11	yes	D	Developed	E	no	outside 100 YFP	no	3.2	off the river corridor and away from the traffic of 76	small active recreation, staging area	1243403300	no
SiteA12	yes	D	Agriculture	E	yes	1/2 w/in 10 YFP	no	18.7	vicinity to I-15 and 76 and river with trail access, w/in 10 YFP	all programming except performance/ gathering	1250801300	no
SiteA13	yes	A	Agriculture	E	yes	1/2 w/in 10 YFP	no	9.8	vicinity to I-15 and 76 and river with trail access, 10 YFP	active recreation, staging area	1250801400	maybe
Site A14	yes	D	Non-native grassland	E	yes	outside 100 YFP	no	9.6	vicinity to housing development and I-15.	active recreation, performance/ gathering	1250505900	no
SiteA15	yes	D	Agriculture	P	yes	2/3 w/in 10 YFP	no	54.4	vicinity to housing development and I-15, access issues	active recreation, interpretive center, staging area	1251310100 & 1250800400	maybe

Tier A Conceptual Site Evaluation Matrix

TIER B PARK PROGRAMMING

The following discussion of Tier B sites are conceptual and will be prioritized as the park planning process evolves.

Tier B Park Uses - Passive Park Nodes

Tier B park uses are medium-low intensity passive uses that are primarily elements that have minimal impacts to the existing site (no significant grading or removal of native vegetation and minimal influence to sensitive biologic resources). They have relatively small footprints and accommodate passive activities such as picnicking, bird watching, resource interpretation, etc. Tier B activity nodes will be dispersed throughout the River Park along the park's trail network.

Due to the sensitivity of much of the habitat within the river corridor traversed by the park trails, it was also important to establish criteria for locating these passive activity nodes. Important Tier B site selection criteria include trail access (road edge or unofficial trail), a currently/ recently disturbed condition, and/or minimal native vegetative cover.

Because the vegetation/ habitat is much less sensitive in upland areas, it is relatively easy to locate Tier B sites uplands areas. Upland Tier B sites should be selected in conjunction with upland trail improvements - based on views, slopes, exposure, interpretive opportunities, etc.

Shown (opposite page) is a map identifying potential Tier B sites within the riparian corridor that were reviewed and photos a few of the potential Tier B sites that could be incorporated into the official trail system, if possible. The sites shown here are disturbed, and have only sparse native vegetation cover. Site B14, the Walnut Grove, is an example of a location that would be suitable for a picnic area incorporated into a historical agricultural context. Site B17, in the heart of the riparian zone, is the type of location that could become a unique place for picnicking or bird watching easily accessible by trail from both sides of the river. Site B32 is an example of a large disturbed site that could include significant restoration gardens and interpretation.



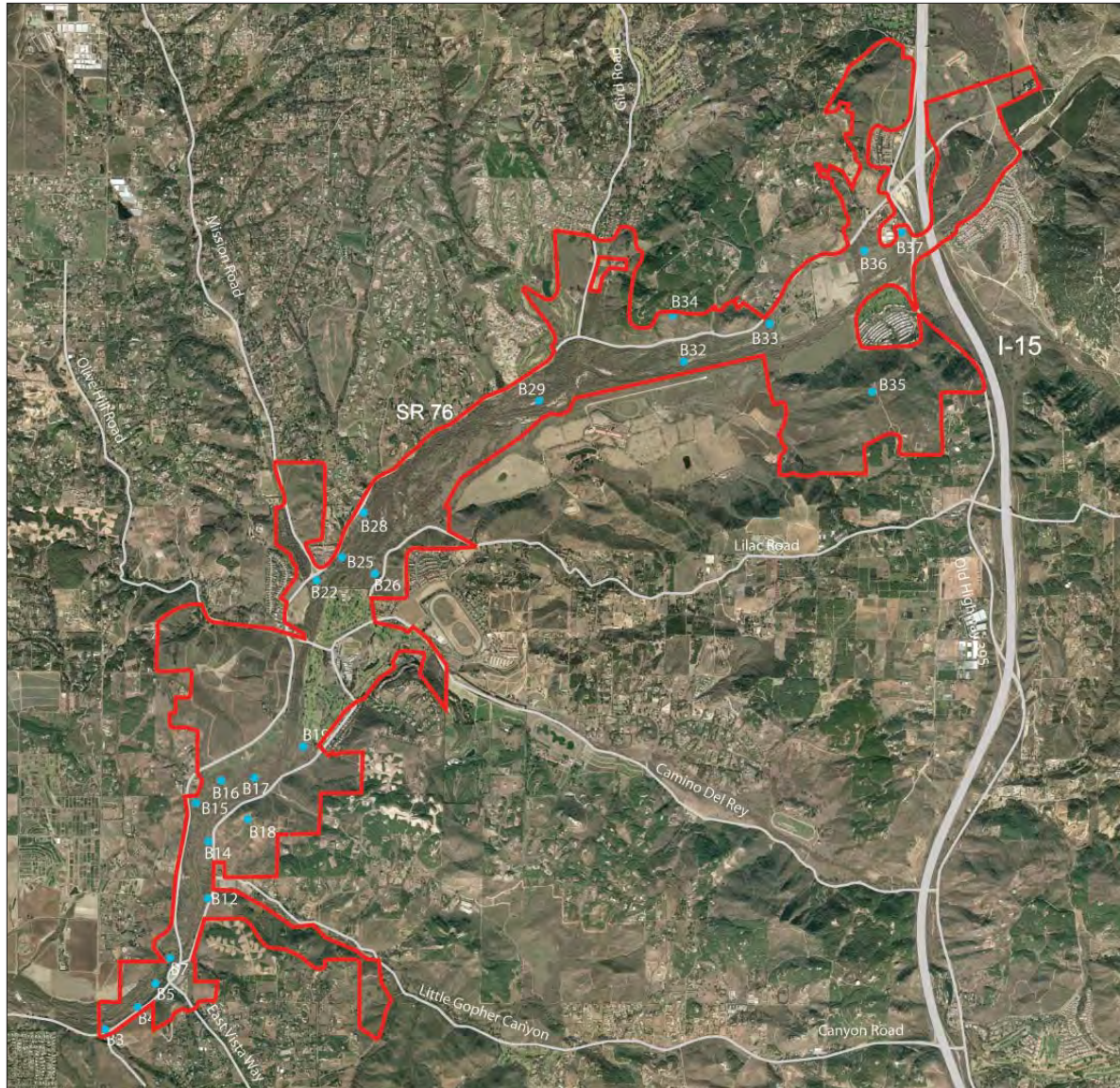
Interpretive Signage



Picnic Area



Birder



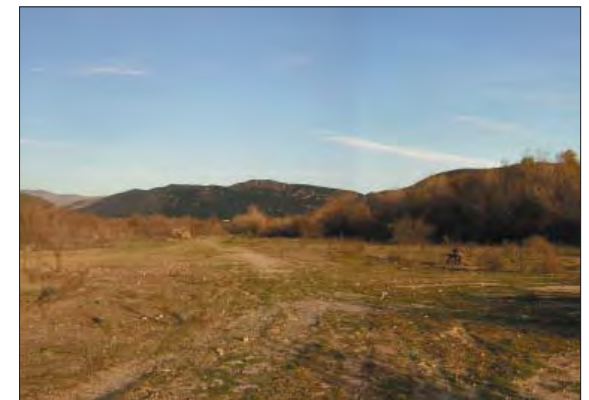
Potential Tier B Sites within the Riparian Corridor



Site B14



Site B17



Site B32

TIER C PARK PROGRAMMING

Tier C Park Uses - Trail System

Tier C sites consist of the multi-use (hiking, biking, equestrian) trails and several small hiking-only trail segments through more sensitive habitat areas. These sites will be linear in nature and will weave through both riparian and upland park environments, providing access to the park's diverse natural and cultural resources. Conceptual trail locations described within this Master Plan will need to be finalized through detailed negotiations with landowners regarding land acquisition or the establishment of trail easements across private property. The primary goal of the proposed trail network is to provide continuous year-round access to the River Park's amenities and circulation throughout the CSA. Finally, the trail network will contribute to the County Trails Master Plan and can be planned/ adjusted as needed through the Community Trails Master Plan.

Existing Unofficial Trail Network

The first step in locating the proposed trails was mapping the existing unofficial trail network throughout the CSA. The diagram (opposite page) shows the extent of these unofficial trails, as could be identified in aerial photography, limited visual surveys, and information provided by trail users. Use of these existing unofficial trails is either through permission granted to selected individuals/ groups by private property owners, or by

trespassing, although this is largely unenforced. The existing trail network is characterized by redundant parallel trails, destructive off-road vehicle use, and multiple river crossings that destabilize the river edge, increase erosion rates, and contaminate the water. Existing trails also foster unauthorized/ undesirable use of the river corridor as temporary living quarters for the region's homeless population, by providing access while not having enough use to discourage long-term habitation. This trail network creates a network of disturbance throughout the most sensitive riparian habitat areas.

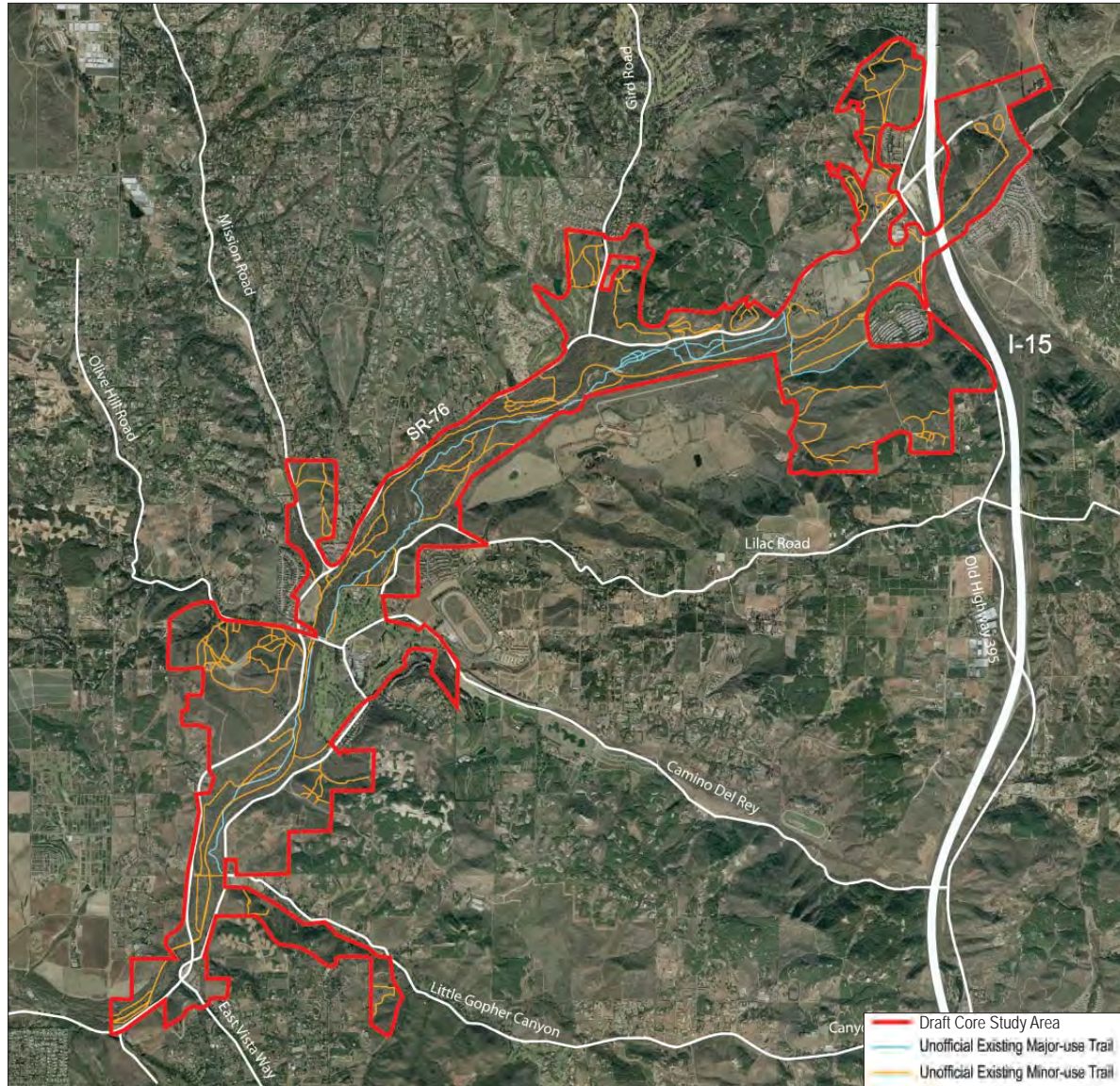
Proposed Trail Network

The proposed trail network is intended to implement, to the extent possible, the County of San Diego Trails Master Plan, which identified a need for two trails through this segment of the SLR River corridor, one north of the river and the other to the south. Exact locations of these trails will be established in subsequent detailed design phases. These precise locations will be the product of detailed site surveys, biologic resource inventories, coordination with the landowners (in the event that the County is unable to acquire the property), and further coordination with other park elements and trail access locations. The proposed conceptual trail locations connect park activity nodes, parking/ staging areas, and surrounding communities.



Existing Unofficial Trails - (Private Property)

TIER C TRAILS SELECTION



Existing Trails Map

The construction of new trails or improvement of existing unofficial trails will require minor grading, minimal vegetation clearing, and possibly fence installation. New trail bridges would be required to provide year-round access through the river corridor and a continuous trail from I-15 to the Old Bonsall bridge. Although not within the scope of this project, a long term County goal is to connect the park westward to Oceanside's trail network and eastward toward the mountains so that one day there will be a continuous trail from the ocean to the mountains.

In creating the official network of park trails, the Master Plan proposes the formalization of selected existing "unofficial" trails (improvement to the trails to conform to County multi-use trail guidelines) while selectively adding new trail fragments where necessary to create critical connections. This strategy will minimize new impacts to sensitive habitat areas while capitalizing on existing time-tested "desire lines". The vast majority of other existing unofficial trails on lands acquired by the County would be decommissioned (closed) and restored/ preserved as habitat. The overall trail strategy would thus be to consolidate trail access and use onto fewer trail corridors and isolate habitat disturbance related to trail use, thereby creating a dramatic net benefit to the river corridor's overall habitat value.

ENVIRONMENTAL PLANNING

Opportunities and Constraints

The Environmental Planning opportunities and constraints within the Master Plan Core Study Area (CSA) are the result of research, inventory and analysis of environmental planning issues and policies relevant to the San Luis Rey River Park Master Plan process.

Environmental Constraints within CSA

The literature and data search and associated analysis resulted in the identification of the following environmental/ planning constraints within the CSA. These constraints may restrict the location of physical improvements. However, features such as steep slopes, sensitive biological resources, visual resources, and cultural resources may also be incorporated into the design of proposed improvements or provide interpretive opportunities.

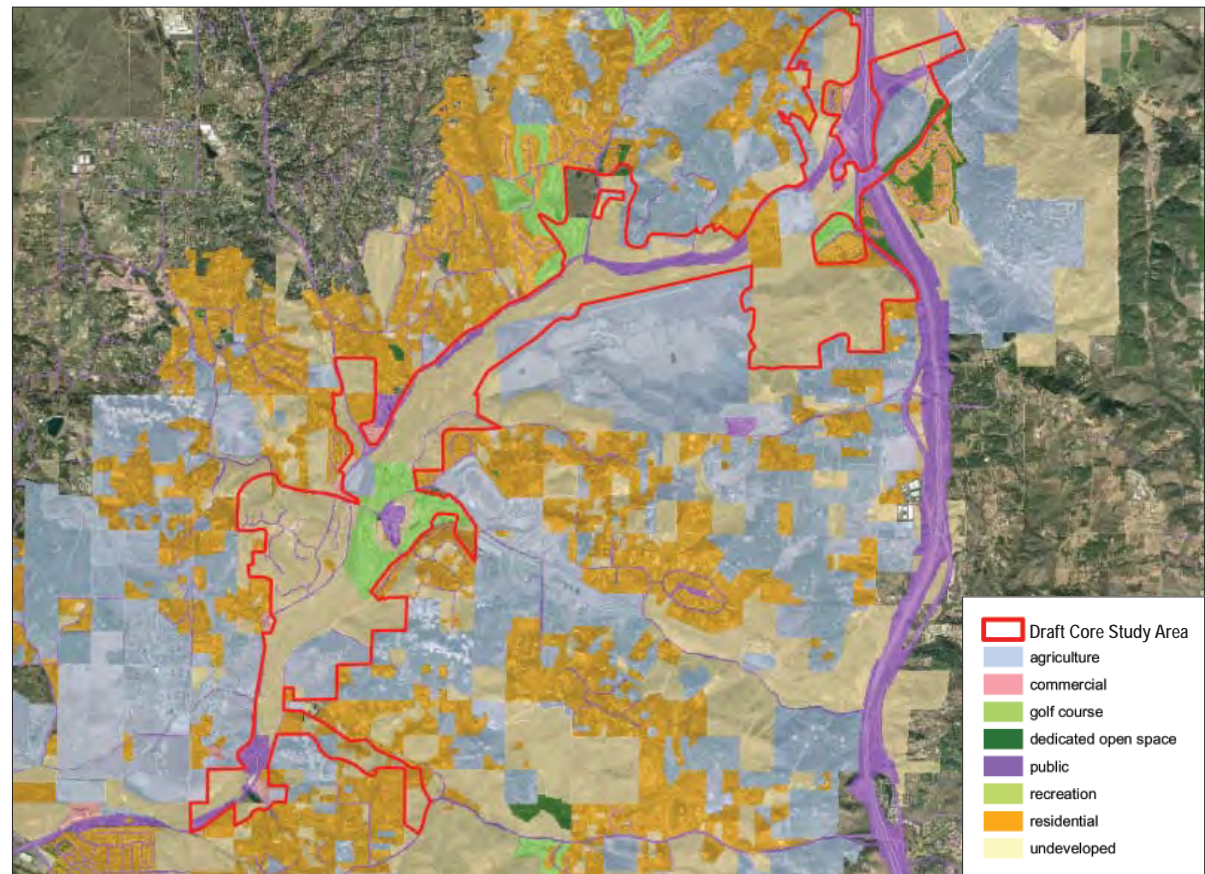
Land Acquisition Potential: The lack of public property within the CSA creates a fundamental constraint to park development, as the County will have to enter into agreements with private property owners before implementation of any park improvements;

Steep Slopes: Areas with slope gradients over 10% aren't suitable for active recreational uses;

Sensitive Biological Resources: Presence of sensitive biological resources including wetland and rare upland vegetation communities,

sensitive plant and animal species and their proposed or designated critical habitat, and resources under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Game, and the Regional Water Quality Control Board present constraints to park development;

Visual Resources: Critical visual resources such as historic sites (i.e. Bonsall Bridge), areas of mature native vegetation, wetland habitats, major rock outcroppings, agriculture, and equestrian facilities present constraints to park development; Avoiding visual resources such as rock outcroppings may restrict the location



Land Use Map

of certain improvements. However, opportunities exist to design proposed improvements to incorporate visual resources such as rock outcroppings, native vegetation, equestrian and agricultural facilities;

Land Use Considerations: Presence of existing land uses or restrictions including urban development or land use restrictions such as easements or Planned Development of a project on vacant land present a constraint to park development;

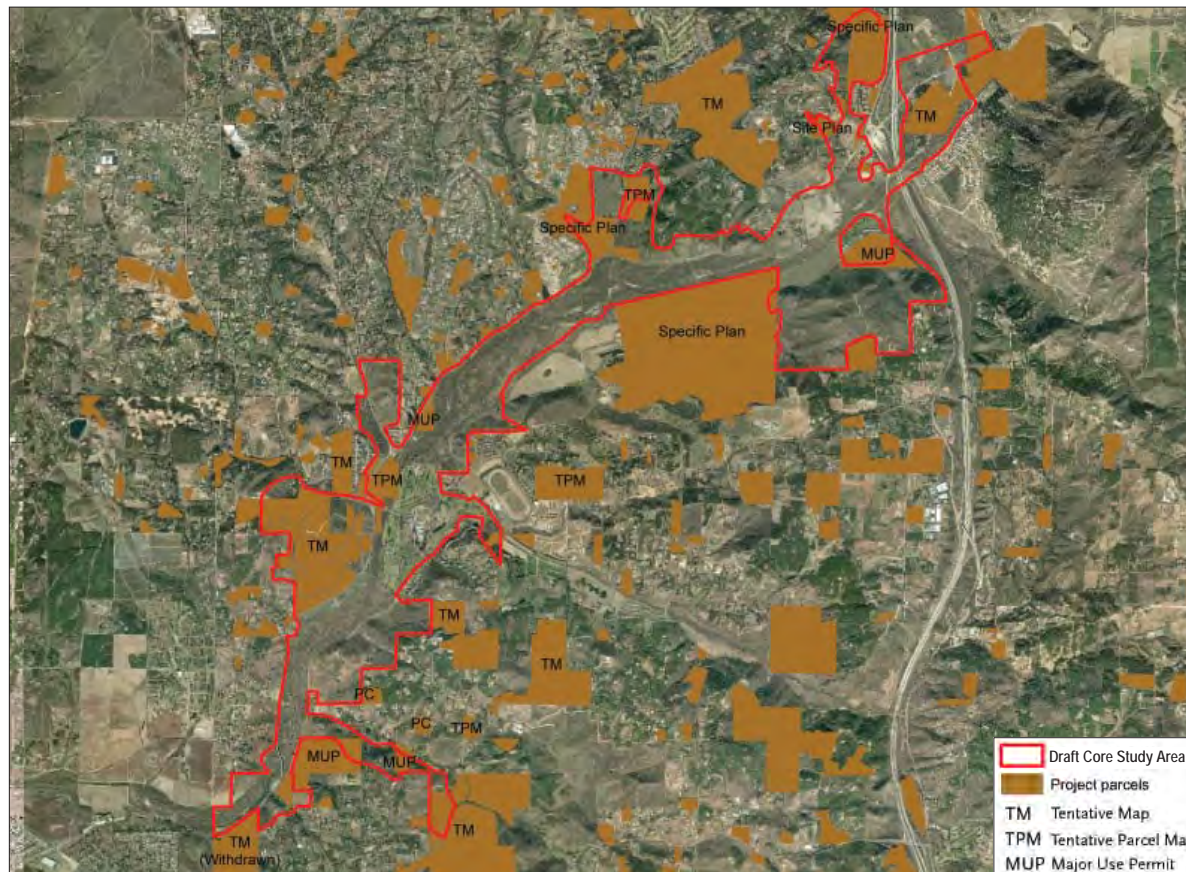
Floodplains: Presence of 100-year flood plain and 10-year floodway present some constraints to park development;

Cultural and Historic Resources: Known significant cultural, historic, and prehistoric sites present constraints to park development.

Geotechnical Hazards: Presence of known geotechnical hazards such as faults, landslides, areas subject to liquefaction, or highly erosive soils present constraints to park development;

Environmental Opportunities within the CSA

The opportunities for park development must address the goals of the community as expressed in the public community meetings, Bonsall and Fallbrook Community Plans and focus group meetings. The primary opportunities for Master Plan programs should take advantage of the natural resources of the river valley by limiting the amount of park development allowed within areas characterized by native vegetation and steep slopes. Opportunities exist to implement low impact passive recreational uses that take advantage of the visual, biologic, and cultural resources within the river valley, including extension of pedestrian/ equestrian trails.



Discretionary Projects

ENVIRONMENTAL PLANNING

Recommendations Summary

The San Luis Rey River Park represents a unique opportunity to provide much needed recreational amenities to the North County region. As such, Tier A, B, and C sites and park programming should provide for both local and regional recreational demands.

All park sites should be developed in a manner that minimizes impacts upon sensitive biologic resources, while providing desirable access to, and interpretation of, the diverse biologic, cultural, and hydrologic resources within the San Luis Rey River corridor. Where Tier B and C programming must be inserted within sensitive biologic areas to achieve recreational goals, it is recommended that they are placed on disturbed or sparsely vegetated sites that are currently accessible from the existing unofficial trail network.

These park elements will have to be carefully designed to minimize impacts upon the surrounding resources:

Certain Tier A programming, including structures and lighting should be located out of the 10-Year Floodplain and directed away from the most sensitive habitat areas and should not be above 4050 Lumens, and should be in low slope areas (under 10%). Structures and lighting should also be located above or out of the 100-year floodplain. The exception are program uses such as sports fields, which can

be flooded on a regular basis.

Tier B programming should be located in disturbed or un-vegetated areas where park facilities can be connected with the Tier C trail network to foster appreciation, and interpretation, of the river corridor's diverse resources.

The Tier C trail network should provide access to the diverse range of river corridor environments (and experiences), from exposed upland chaparral hillsides with expansive views over the river to secluded dense riparian woodlands and the river itself. To the extent feasible the official trail network should capitalize upon the existing network unofficial trails, thus minimizing the establishment of new trail corridors through sensitive biologic areas.

Minimal impacts of improved or new trails, and Tier B programming, should be mitigated within the river corridor through the enhancement or recreation of habitat on unnecessary unofficial trails and disturbed areas within the riparian zone.

The Master Plan should be fully coordinated with all current studies and planning initiatives including, but not limited to, the North County Multiple Species Conservation Program, the future expansion or improvement of State Route 76, and the General Plan 2020. Park programming goals of the Master Plan should, where feasible, be incorporated into the text of the North County Multiple Species Conservation Program and the General Plan 2020 update documents including the Regional Land Use element and any community plan updates. Although approval of the Master Plan by the County of San Diego does not require that a development permit be issued, future implementation of park programming recommended by the Master Plan would be subject to the requirements of the California Environmental Quality Act CEQA.

BIOLOGICAL RESOURCES

Opportunities and Constraints

Sensitive biological resources are known to occur within the Master Plan Draft Core Study Area (CSA); therefore, a Biological Constraints and Opportunities Report was prepared to:

Identify areas within the CSA boundary that have the least biological constraints to park development;

Identify areas within the CSA boundary that are important for preservation and that may be utilized as mitigation for project impacts to biological resources associated with park development as well as other development proposals in the area (i.e., improvements of SR-76);

Identify areas within or adjacent to the CSA boundary that offer opportunities for habitat restoration/ enhancement, which would improve the overall biological value of the San Luis Rey River corridor;

Identify regulatory approvals associated with park development within the CSA.

Biological Constraints within the CSA

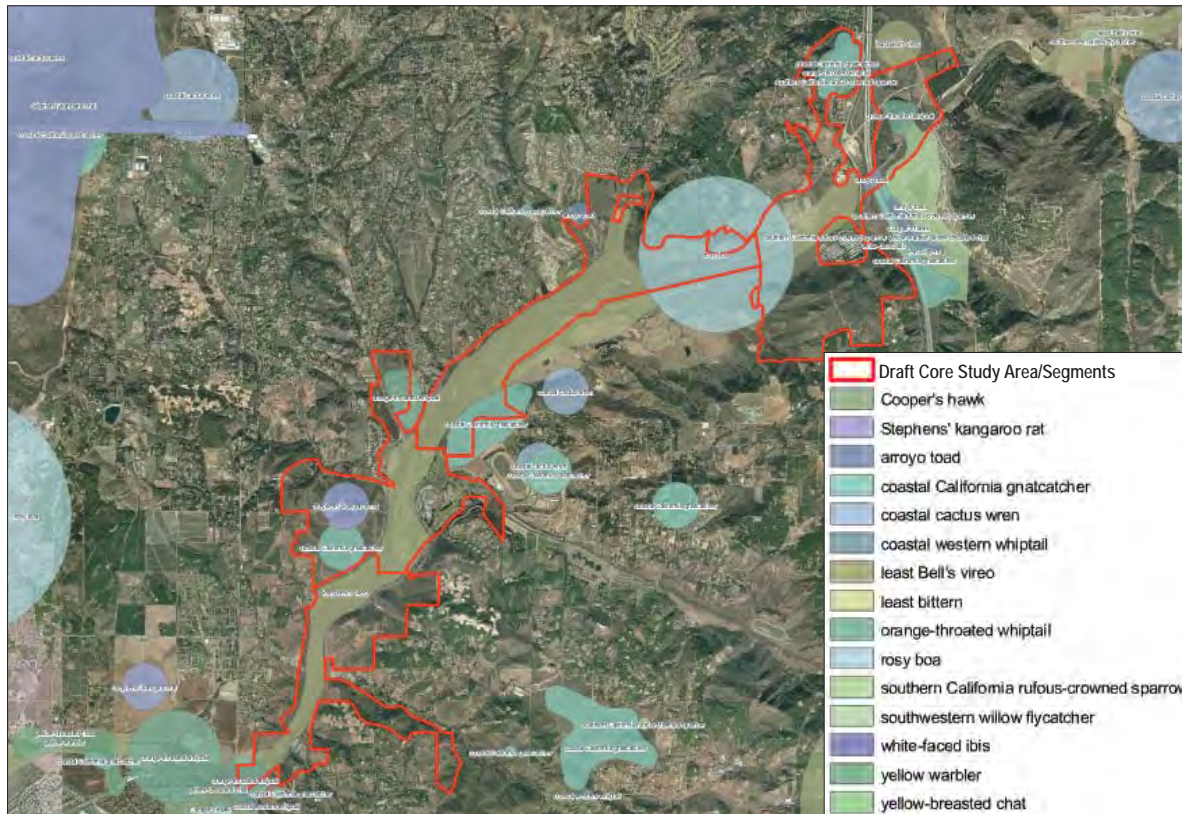
The literature/ data search and biological surveys resulted in the identification of the following biological constraints within the CSA:

Wetland vegetation communities (i.e., freshwater marsh, southern riparian forest, riparian scrubs, etc.);

Rare upland vegetation communities (i.e., coastal sage scrub, southern mixed chaparral, non-native grassland, etc.);

Sensitive plant species (known and/or considered to have potential to occur – i.e., San Diego ambrosia, Orcutt's pincushion, and Chaparral nolina);

Sensitive wildlife species (known and/or considered to have potential to occur – i.e., arroyo toad, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, etc.);



Sensitive Wildlife Species

Source: California Natural Diversity Data Base

Designated critical habitat for the coastal California gnatcatcher and the least Bell's vireo and proposed critical habitat for the southwestern willow flycatcher; and

Wetlands and/or waters under the jurisdiction of one or more of the following agencies: U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB).

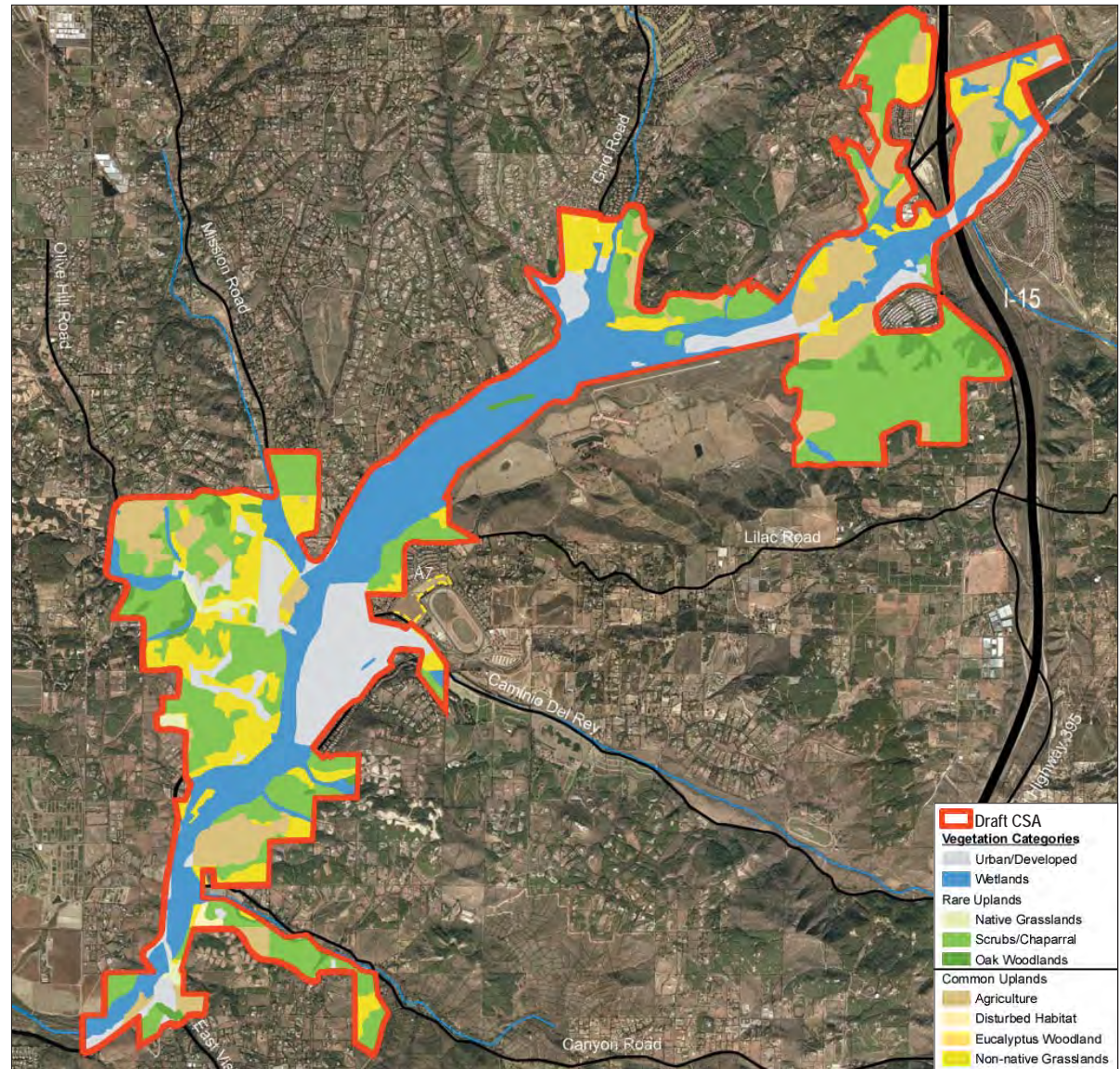
Vegetation communities present within the CSA can be grouped into the following general vegetation categories:

Wetlands;

Rare Uplands (which include native grasslands, scrubs/ chaparral and oak woodlands); and

Common Uplands (which include agriculture, disturbed habitat, eucalyptus woodland and non-native grasslands).

Impacts from planned park programming to any areas within the CSA characterized by wetlands or rare upland vegetation would require mitigation. Impacts to wetlands would need to be mitigated in accordance with the requirements of the USACE/ RWQCB and Sections 404 and 401 of the Clean Water Act and with requirements of the CDFG and Section 1602 of



Vegetation Sensitivity Map

the Fish and Game Code. Impacts to rare uplands would be mitigated in accordance with County of San Diego requirements. Habitat based mitigation would not be required for areas within the CSA characterized by common upland vegetation communities, with the exception of non-native grassland. However, impacts to areas containing federally or state listed species and/or their proposed or designated critical habitat, including common uplands, would require consultation with the USFWS under Section 7 of the Endangered Species Act.

The San Luis Rey River channel contains large patches of arundo, which is a non-native, invasive species. The Mission Resource Conservation District recently (2004) mapped the arundo located within portions of the San Luis Rey River, including the section of the river lo-



Arundo Map- Mission Resource Conservation District, 2004

cated within the CSA. The presence of arundo and other non-native invasive species within the San Luis Rey River channel provides opportunities for removal of exotic species, which could partially fulfill mitigation requirements (enhancement credit) for impacts to wetland vegetation communities. In addition, these areas, as well as areas within the 100-year floodplain for the San Luis Rey River that are currently disturbed, utilized for agricultural operations, or vegetated with non-native grasses provide opportunities for wetland restoration/enhancement and potentially wetland creation. These areas may support wetland hydrology and potentially hydric soils (wetland indicators) and, before recent or historic disturbance, likely supported riparian vegetation. Therefore, they would be ideal sites for wetland restoration and enhancement.

BIOLOGICAL RESOURCES

Recommendations Summary

Based on the field surveys, the literature review, and experience with other projects with similar biological issues, general recommendations for park development include the following:

The preservation, restoration, and long-term maintenance/ management of areas containing wetland and rare upland vegetation communities, while providing some access to, and interpretation of, the river corridor's biological resources;

The removal of non-native, invasive species within the San Luis Rey River corridor;

Wetland enhancement/ restoration efforts on areas identified as opportunity sites for wetland creation/ enhancement;

Focus the placement of active Tier A park sites and programming (i.e., parking lots, staging areas, active recreation, etc.) within areas characterized by non-sensitive vegetation communities such as disturbed habitat, eucalyptus woodland, and non-native grasslands or existing agricultural sites.

To the extent feasible while still meeting the park goals, focus the placement of passive park development (Tiers B and C – interpretive kiosks, bird watching platforms, etc.) within areas characterized by common upland vegetation communities such as disturbed habitat, eucalyptus woodland and, non-native grasslands. Passive park programming located within areas characterized by wetlands or rare upland vegetation communities, including riparian woodlands, native grasslands, scrubs/ chaparral and oak woodlands, should be placed within areas of current or previous disturbance and carefully designed to minimize impacts on sensitive biological resources.

The recommendations listed above are general recommendations for park planning and were used as tools to guide the development of the Master Plan alternatives. These recommendations, and associated figures, do not represent specific boundaries where park program elements are precluded. It is anticipated that negotiations with the resource agencies (i.e., USFWS, CDFG, USACE, and RWQCB) will ultimately determine what park features are acceptable within different areas of the CSA. Concerns likely to be raised by the resource agencies include: any impact, whether resulting from active park programming (play fields, etc.) or passive park programming (picnic

tables, trails, etc.), to jurisdictional resources (USACE wetlands and non-wetland waters, RWQCB waters, and CDFG streambeds) and impacts to federally listed species or their proposed/ designated critical habitat. It should be noted that project-level analysis will ultimately be required to determine exact impacts to sensitive vegetation communities, sensitive species and their proposed and designated critical habitats, and jurisdictional wetlands/ waters. Mitigation measures will also need to be identified that will reduce impacts to below a level of significance. Future implementation of park programming recommended by the Master Plan would be subject to the requirements of the California Environmental Quality Act.



California Gnatcatcher
credit: Hans Spiecker

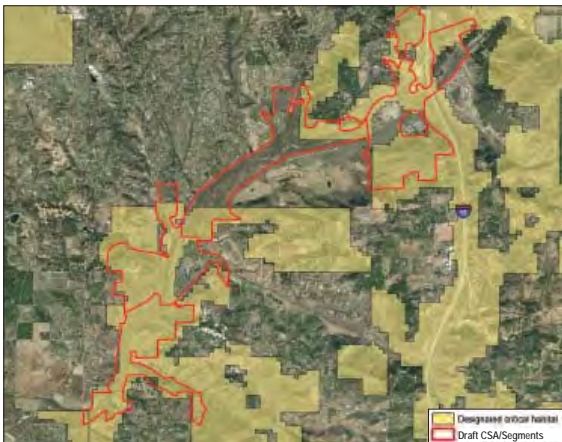


Least Bell's Vireo
credit: www.bird-friend.com/birdPage.php?name=Bell

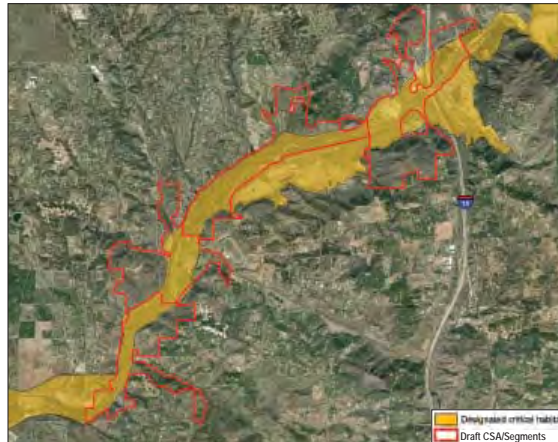
The following species are endangered, and are protected by federal law. Their presence in the river corridor may impact development on certain sites, and presents an impetus for the preservation of sensitive habitat areas.

California Gnatcatcher

The California Gnatcatcher inhabits coastal sage scrub covering large areas of low-lying, shallowly-sloped land. They prefer to nest in sparsely vegetated areas, and establish home ranges during breeding season of 5 to 50 acres. The California Gnatcatcher breeds February through August, and is non-migratory.



California Gnatcatcher Designated Critical Habitat



Least Bell's Vireo Designated Critical Habitat

Least Bells Vireo

The Least Bell's Vireo is found in willow dominated riparian woodlands amidst successional shrub and thicket. They prefer dense, low shrubs for breeding and nesting, usually about one meter from the ground. Breeding occurs from March through September before their southern migration.

Southwestern Willow Flycatcher

This migratory bird inhabits dense stands of willow, cottonwood, and tamarisk along riparian corridors. Breeding occurs from April through July; nests are built by in tree branches near open water.

Arroyo Toad

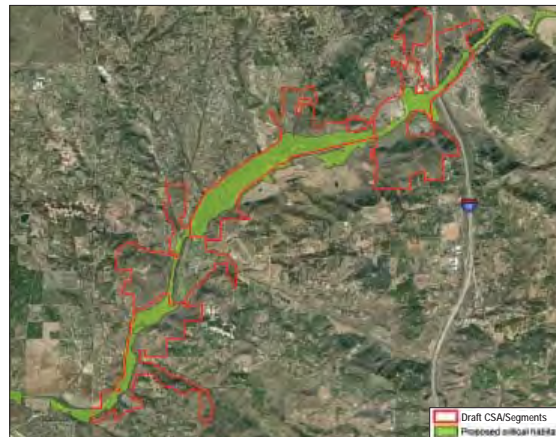
The habitat of the arroyo toad is characterized by low gradient streams adjacent to willows and mulefat. The arroyo toad requires shallow pools with gravel substrate and sandy terraces to breed. Breeding occurs from March through July. In the non-breeding season, Arroyo Toads will disperse up to one kilometer from the stream breeding sites into adjacent uplands if soil conditions are appropriate.



Southwestern Willow Flycatcher
credit: http://www.backfromthebrink.org/pop_up_slide-show.cfm?animalid=5



Arroyo Toad
credit: William Flaxington, sierraclubcalifornia.org



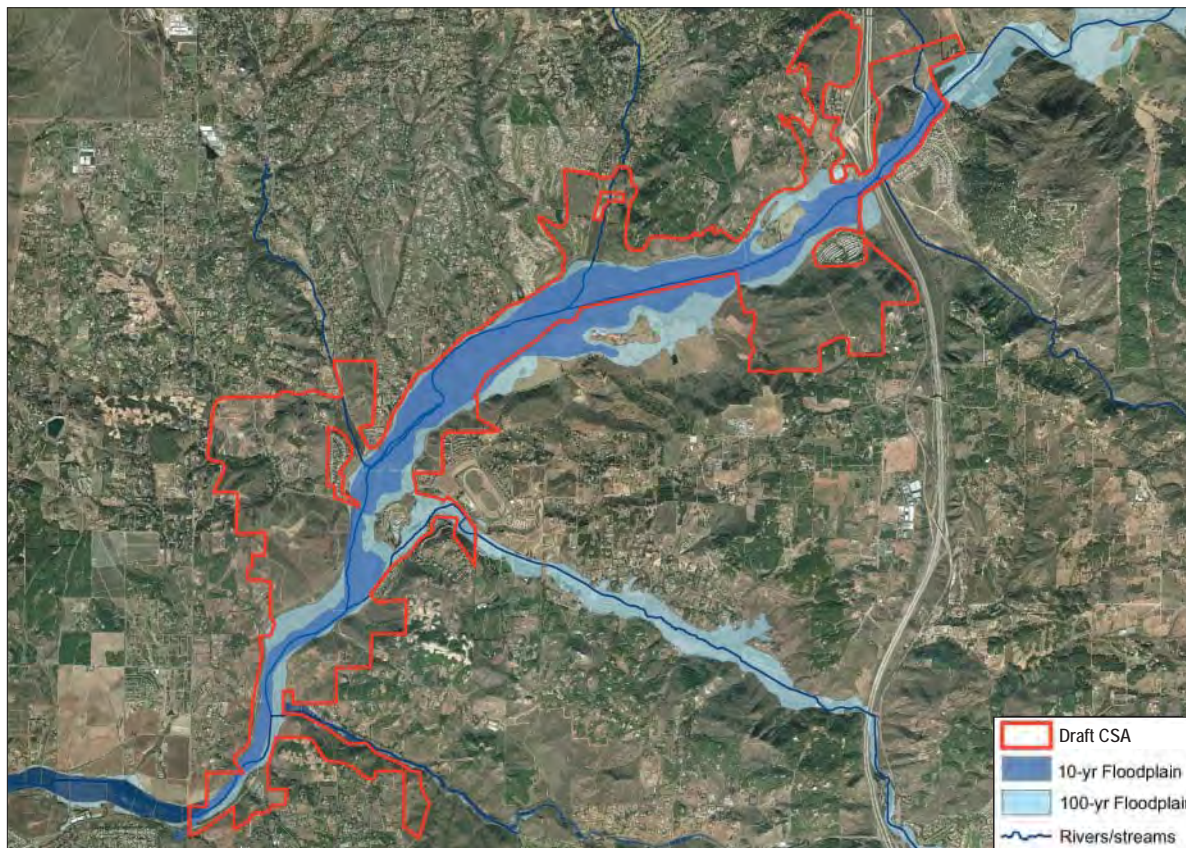
Southwestern Willow Flycatcher Proposed Critical Habitat

RIVER HYDRAULICS AND FLOOD PLAIN ISSUES

Opportunities and Constraints

The 10-year and 100-year floodplains within the Core Study Area have been mapped to determine regulatory and physical constraints resulting from potential floodwater, and to identify opportunities and constraints relating to the San Luis Rey River Park. A 100-year flood is one that is predicted to be exceeded in magnitude once in every 100 years on average. The

limits of the 10-year and 100-year floodplains were determined and delineated by the County of San Diego in 1974 and the 100-year floodplain was updated in 1997. 100-year limits of inundation shown within the CSA generally agree with current floodplain maps maintained by the County and FEMA.



10-Year and 100-Year Floodplains

Regulatory constraints include federal and County code restrictions on development within floodplains. Certain activities are prohibited and others are limited in the designated 100-year floodway. The zone between the 10-year and 100-year floodplain limits is an appropriate location for recreational uses including athletic fields, trails and passive activities. Such uses are permitted, provided they do not impede the flood flow. Land within the 10-year floodplain is suitable only for recreational uses such as sports fields and trails that will not suffer significant damage as a result of frequent flooding. Trail bridges across the floodway and permanent architectural structures should be built above 100-year flood levels. Utilities, and park amenities that would be damaged by frequent flooding, should be kept out of the 10-year floodplain.

Within the designated 100-year floodway, all improvements and all grading, landscaping and other activities must be carefully planned and designed to withstand flooding and to avoid impeding the flow of floodwaters.

The widening and/ or relocation of SR-76 will almost certainly result in alteration of the 100-year floodplain. Continued coordination of park planning with this effort is strongly recommended. Opportunities for integrating some park elements into the SR-76 project should be pursued.

WATER QUALITY AND WATER RESOURCES

Opportunities and Constraints

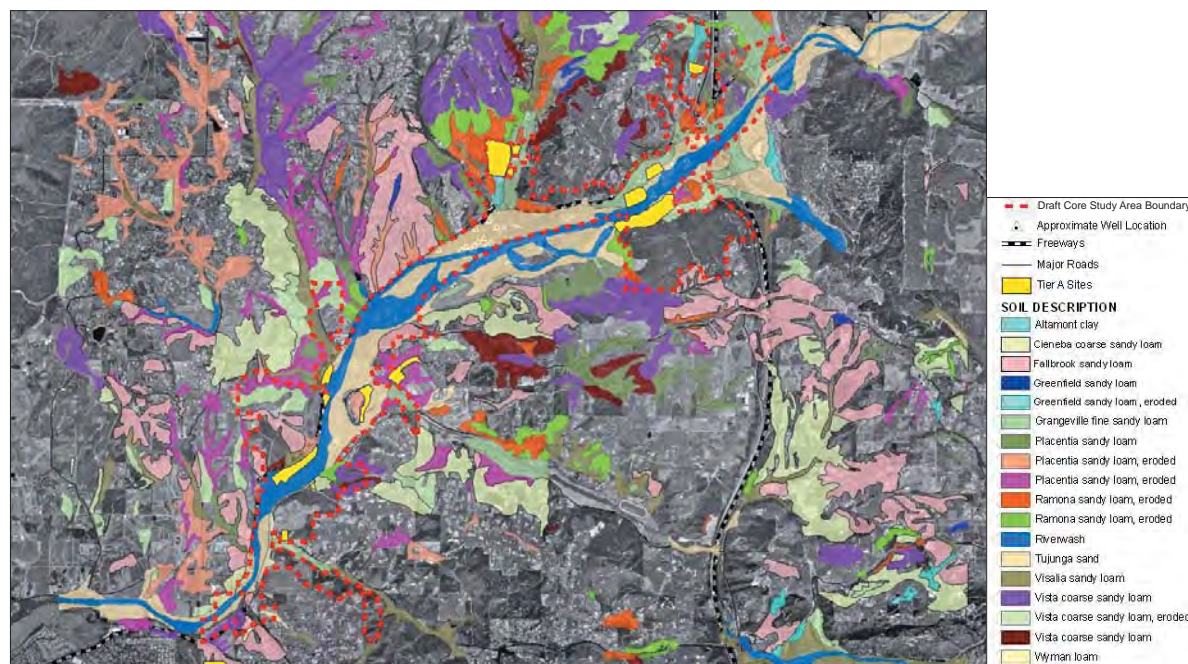
Preservation of the water quality and water resources in the San Luis Rey River is a critical consideration in the development of the River Park. Precautions must be taken to not contaminate the ground water and the river. Additionally, soil erodibility is another factor when siting park development.

The geologic formations which underlie the CSA include recent active-channel and floodplain deposits of gravel, sand, silt, and clay; older, more consolidated floodplain deposits; and Cretaceous and Jurassic age igneous rocks. The Site lies within the Bonsall Hydrologic Unit (903.12) of the Lower San Luis Rey Hydrologic Area of the San Luis Rey Hydrologic Unit. The groundwater that underlies the CSA is within the Bonsall Aquifer, which completely underlies the CSA. The beneficial uses of groundwater in the Bonsall Hydrologic Unit include municipal, agricultural, and industrial supply. Although the scope of the Master Plan was not to determine uses of groundwater within the CSA and the project area, many wells (more than 100) are known to be present within the river valley between the Bonsall Bridge and I-15. The wells may be used for commercial, agricultural, and or residential water supply purposes. Therefore, protection of surface water and groundwater quality within this active groundwater use basin is essential. Surface water uses include agricultural and industrial supply, as well as recreation and habitat. The

San Diego County Water Authority and Rainbow Municipal Water District are evaluating plans to potentially use the Bonsall Aquifer for potable supply, and this use appears to be compatible with the use of the overlying CSA as a low-intensity park.

Preservation of open space areas such as the proposed Park can significantly improve and protect both surface water and groundwater quality. Reduced development and preservation of open space in a park can reduce the potential for contaminants in surface water

and groundwater including siltation and dissolved chemicals including hydrocarbons, and allow for filtration and degradation of contaminants through the natural system prior to reaching water sources. The benefits of protecting surface water and groundwater quality include preservation of the aesthetic value of open spaces with water, protection of a potential and existing water supply in a semi-arid climate where water is a precious resource, protection of aquifers that may be used in the future for development of a water supply or for aquifer storage and recovery, and overall health



Well Location and Soils Map

of the habitat which utilizes surface water and groundwater for survival.

The CSA overlies six major soil types, several of which are presented as having severe suitability restrictions for recreation due to susceptibility to erosion. The soil types that have high erosion potential primarily occur within the 10-year floodplain. Therefore, considerations for development in the floodplain (damage or destruction of property, loss of use due to severe erosion) are the same considerations that would be used for consideration of erosion

potential. Therefore, development of park programming within highly erodible soils could occur, understanding of the dynamic nature of the area.

Land uses within the CSA appear to be generally compatible with the development of a park and protection of water quality. An environmental database inquiry for the CSA and surrounding area indicated that 117 files were listed for the CSA and surrounding areas. However, after a more detailed review of the database, only five sites were of concern. The

five sites are identified as having leaking underground storage tanks (UST). The five sites are located adjacent to the CSA, however, their environmental status should not impact development of the park.

The active recreation areas within the CSA should be designed with surface water quality as high priority. Active recreation (Tier A sites) should be developed to minimize stormwater runoff, (e.g., use of pervious pavements), erosion, and the potential for pollutants to come in contact with stormwater and discharge to the river (e.g., use of detention basins to retain and treat stormwater). Interpretive kiosks could be developed in areas where stormwater is treated to educate the park users of the sensitive nature of water quality within the park. Many inactive wells are known to be present within the CSA. If the wells do not present a health and safety hazard, are located away from potential sources of contamination, the process of destroying the wells in accordance with Department of Water Resources (DWR) standards could have a significant impact to the surrounding habitat, and/or funds are not available to properly destroy the wells, the destruction of the wells may be delayed until such time as the destruction is necessary, feasible, and can be funded. When practicable, the wells should be abandoned according to DWR standards to ensure public safety and protection of groundwater quality.

Soil Unit	Description	Erodibility	Common Uses	Recreation suitability				Tier A Site Number
				Play Areas	Campsites	Picnic Areas	Paths and Trails	
Riverwash	Sandy and gravelly, excessively drained and rapidly permeable	severe	recreation and wildlife habitat	severe	severe	severe	severe	3,6,12
Tujunga Sand	coarse sand to loamy fine sand, some gravelly sand, very rapidly permeable	slight	recreation and agriculture	severe	severe	severe	severe	8,12,15
Visalia Sandy Loam	loam, fine sandy loam, sandy loam, moderately rapid permeability	slight	agriculture	slight	slight	moderate	slight	3
Grangeville Fine Sandy Loam	very fine sandy loam to sandy loam, moderately rapid permeability	slight	recreation and agriculture	moderate	moderate	moderate	moderate	2,10,11,12,13
Placentia Sandy Loam	sandy loam to fine sandy loam and sandy clay to heavy clay loam, very slow permeability	slight to moderate	agriculture and range	severe	severe	moderate	slight	3,5,7
Ramona Sandy Loam	sandy loam, loam, to coarse sandy loam moderately rapid permeability	slight to moderate	agriculture, housing, pasture	severe	moderate	moderate	slight	9
Greenfield Sandy Loam	sandy loam to coarse sandy loam and clay loam to sandy clay loam, moderately slow permeability	severe	agriculture and pasture	severe	moderate	moderate	slight	14
Fallbrook Sandy Loam	Sandy loam, fine sandy loam, to sandy clay loam, moderate permeability	severe	agriculture, pasture, housing	severe	moderate	moderate	slight	1
Cienega Coarse Sandy Loam	Coarse sandy loam, rapid permeability	severe	range, wildlife habitat, recreation	severe	severe	severe	severe	4

Recreation suitability
Slight = normal site inspection and precaution during planning and construction are required
Moderate = careful site inspection, more than normal precautions
Severe = development costs may be high, esthetic value or location may justify expenditure to overcome limitations

Table 1: Soil Characteristics and Suitability

CULTURAL RESOURCES

Opportunities and Constraints

Sensitive cultural resources (prehistoric and historic) are known to occur within the Master Plan Draft Core Study Area (CSA); to address the issues of sensitive cultural resources, a Cultural Resources Constraints and Opportunities Report was prepared to:

Identify areas within the CSA boundary that have the least cultural resource constraints to park development;

Identify areas within the CSA boundary that are important for preservation of prehistoric and historic resources

Identify areas that afford an opportunity to preserve and enhance cultural resources within the CSA;

Identify those cultural resources (typically prehistoric sites) that can be used to interpret the prehistoric and history of Native American (Luiseno) people of the San Luis Rey River drainage;

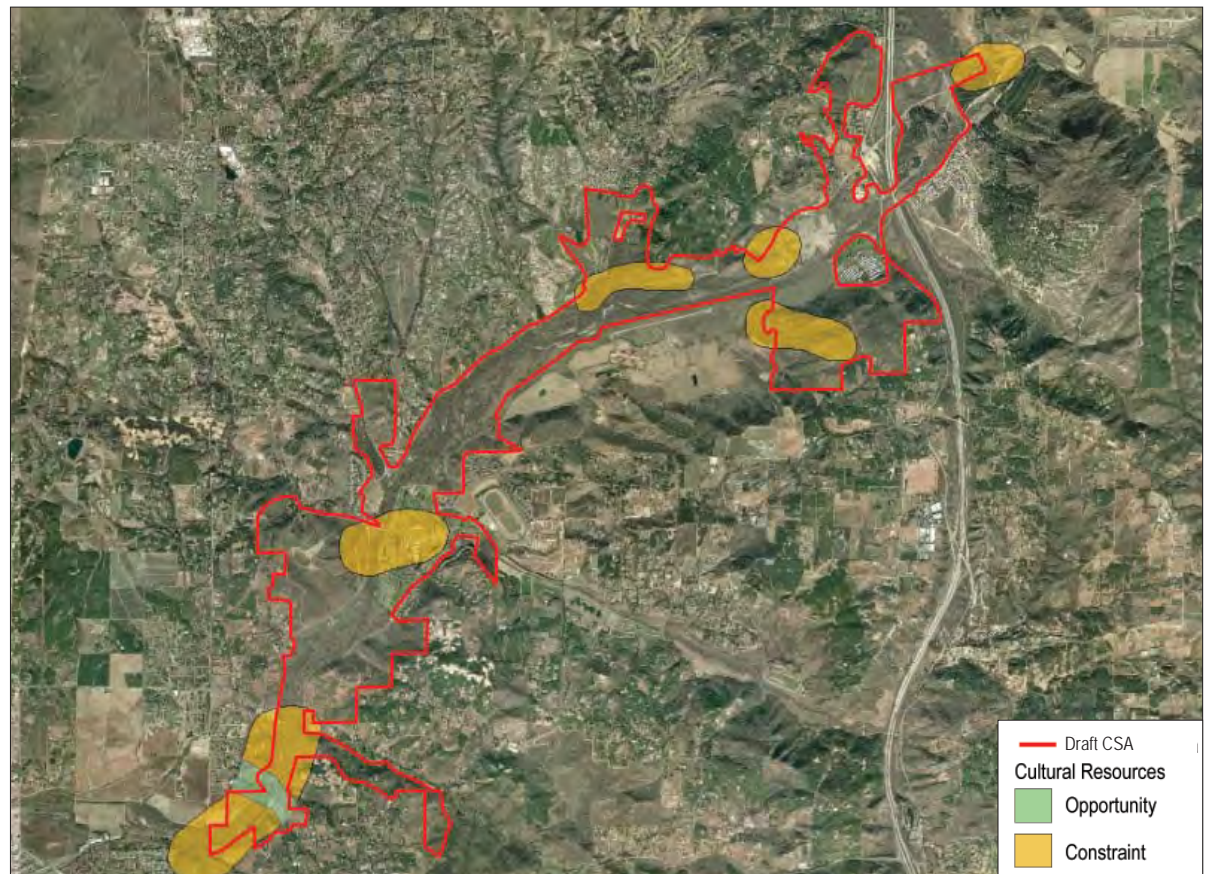
Identify regulatory approvals, such as the U. S. Army Corps of Engineers, associated with park development within the CSA.

Cultural Resource Constraints within the CSA

The literature/ data search resulted in the identification of the following tentative cultural resource constraints within the CSA:

Sensitive riparian and vegetation communities contain plants that are of cultural significance for local Luiseno people including materials for baskets, medicine, pigments, and other uses;

Sensitive cultural resource sites (prehistoric) are likely to exist within the CSA in those areas of the park that have not been systemically surveyed (the majority of the park);



Cultural Resource Map

Sensitive cultural resource sites will require further study and avoidance to ensure that the cultural and scientific value present at these sites are not damaged or impaired by development, maintenance, and use of the park.

Cultural Resources within the CSA

The literature/ data search resulted in the identification of the following cultural resource opportunities within the CSA:

Access for Luiseno people to use plants for traditional purposes such as medicine, basketry, and other functions within the San Luis Rey River corridor;

Survey and recordation of cultural resource sites within those portions of the San Luis Rey River corridor that have not been studied;

Development of an interpretive program that focuses on the prehistory and history of the San Luis River as an area occupied by humans for thousands of years, and

Preservation and interpretation of prehistoric and historic sites within the larger context of the river corridor.

CULTURAL RESOURCES

Recommendations Summary

Based on the literature review, a meeting with Native American parties, and consistent with federal, state, and local protocols, general recommendations for park development include the following:

Incorporate within the Master Plan the preservation, interpretation, and long-term maintenance/ management of the river corridor's cultural resources;

Prior to developing specific land uses and activities that would disturb the existing landscape, conduct a full scale archaeological and historical survey of the areas of potential effect;

Continue consultation with local Luiseno people regarding their sensitivities and recommendations for preserving and enhancing cultural resource sites and native vegetation of interest to them);

Focus the placement of active Tier A park sites and programming (i.e., parking lots, staging areas, and active recreation) within areas of lower sensitivity levels based on the results of the recommended full scale archaeological surveys; and

To the extent feasible while still meeting the park goals, focus the placement of passive park development (Tiers B and C

– interpretive kiosks, bird watching platforms, etc.) within areas of current or previous disturbance and carefully designed to minimize impacts on sensitive cultural resources.

The recommendations listed above are general recommendations for park planning and are intended as a tool to guide the development of Master Plan alternatives. It should be noted that project-level analysis of cultural resources ultimately will be required to determine the type and severity of impacts to sensitive resources. Mitigation measures will also need to be identified that will reduce impacts to below a level of significance. Future implementation of park programming recommended by the Master Plan would be subject to the requirements of the California Environmental Quality Act.

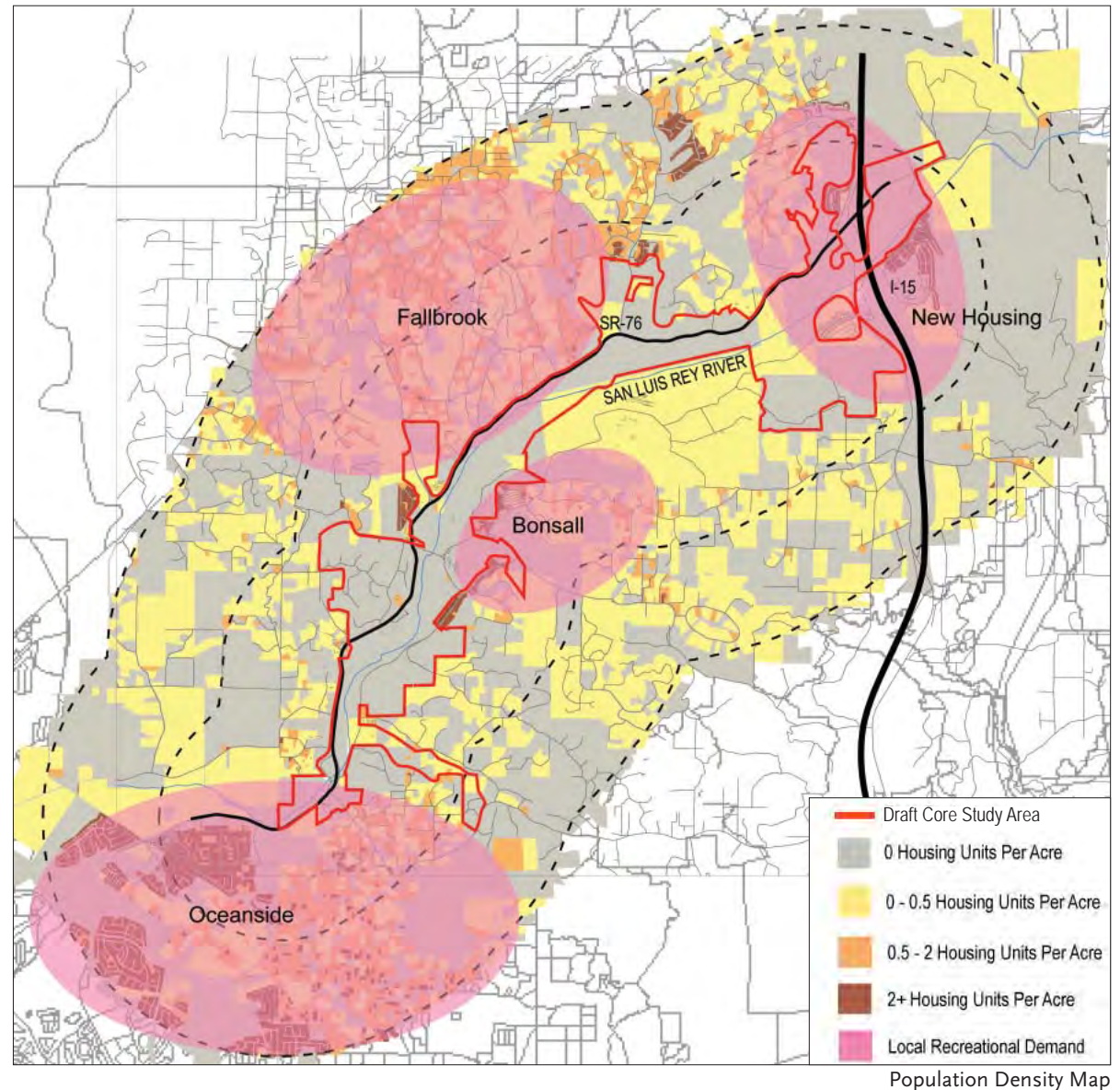


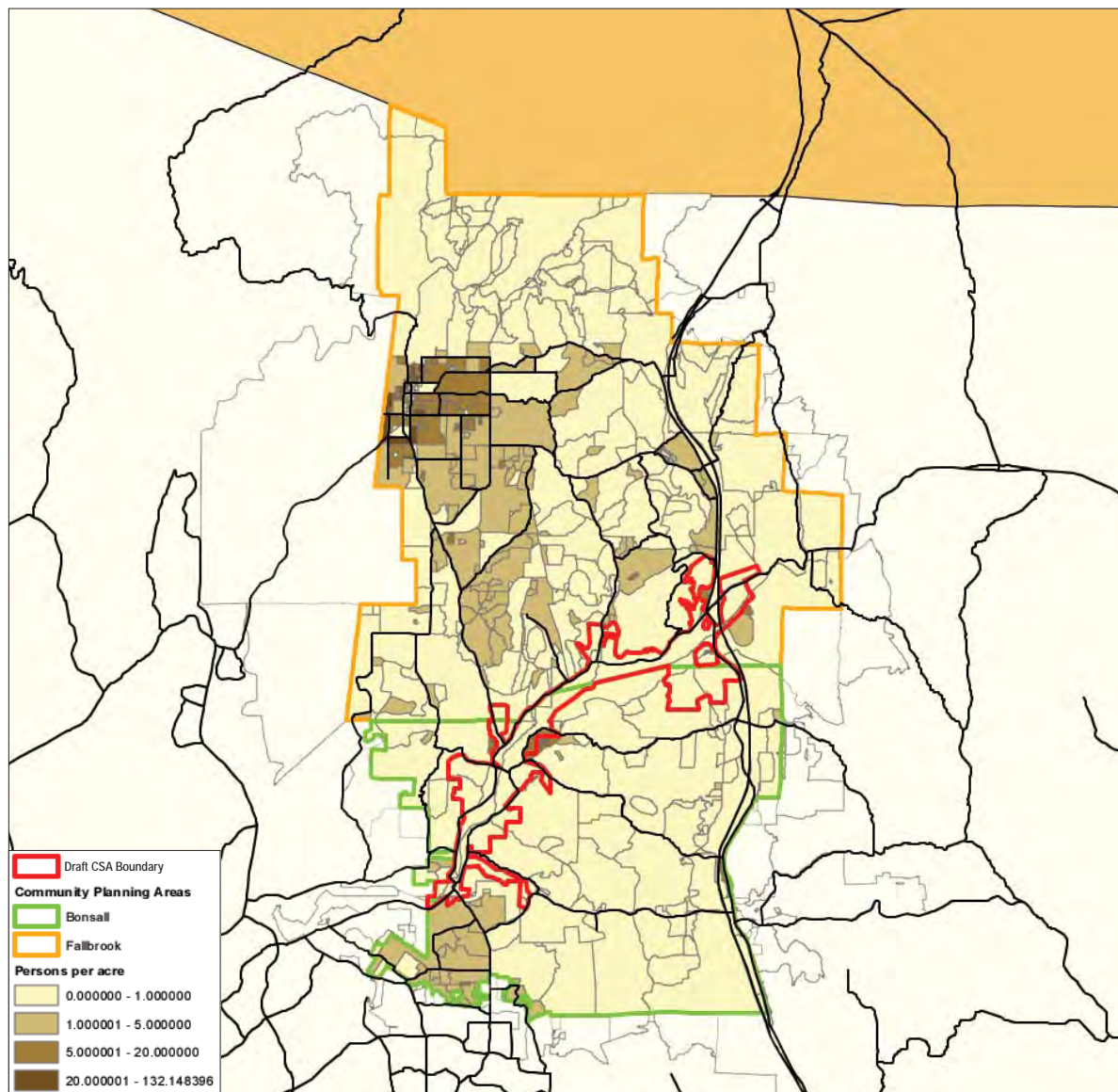
Bedrock Milling Site

ACTIVE RECREATIONAL NEEDS

Through meetings with the active recreation focus group, input from the community, and a survey of existing public sports fields within the River Park's service area, it became apparent that there was a dramatic shortage of sports fields in the area surrounding the Core Study Area (CSA). The shortage is so great that many sports teams do not have home fields to host games and many existing fields are degraded by overuse.

The Planning Team determined potential locations for sport fields by examining proximate population densities, CSA access locations, and potential active recreation site availability. Relatively large populations exist at both ends of the study area: Oceanside, to the west, and existing/ planned housing densities near I-15 to the east. Towards the center of the CSA, constitute a third, smaller, area of active recreation demand. In response to this demand assessment, the Planning Team proposed to locate significant active recreation nodes at both ends of the CSA, supplemented by a smaller node in the center of the park. This distribution will begin to satisfy recreational demands, while decreasing park-related traffic congestion along SR-76.



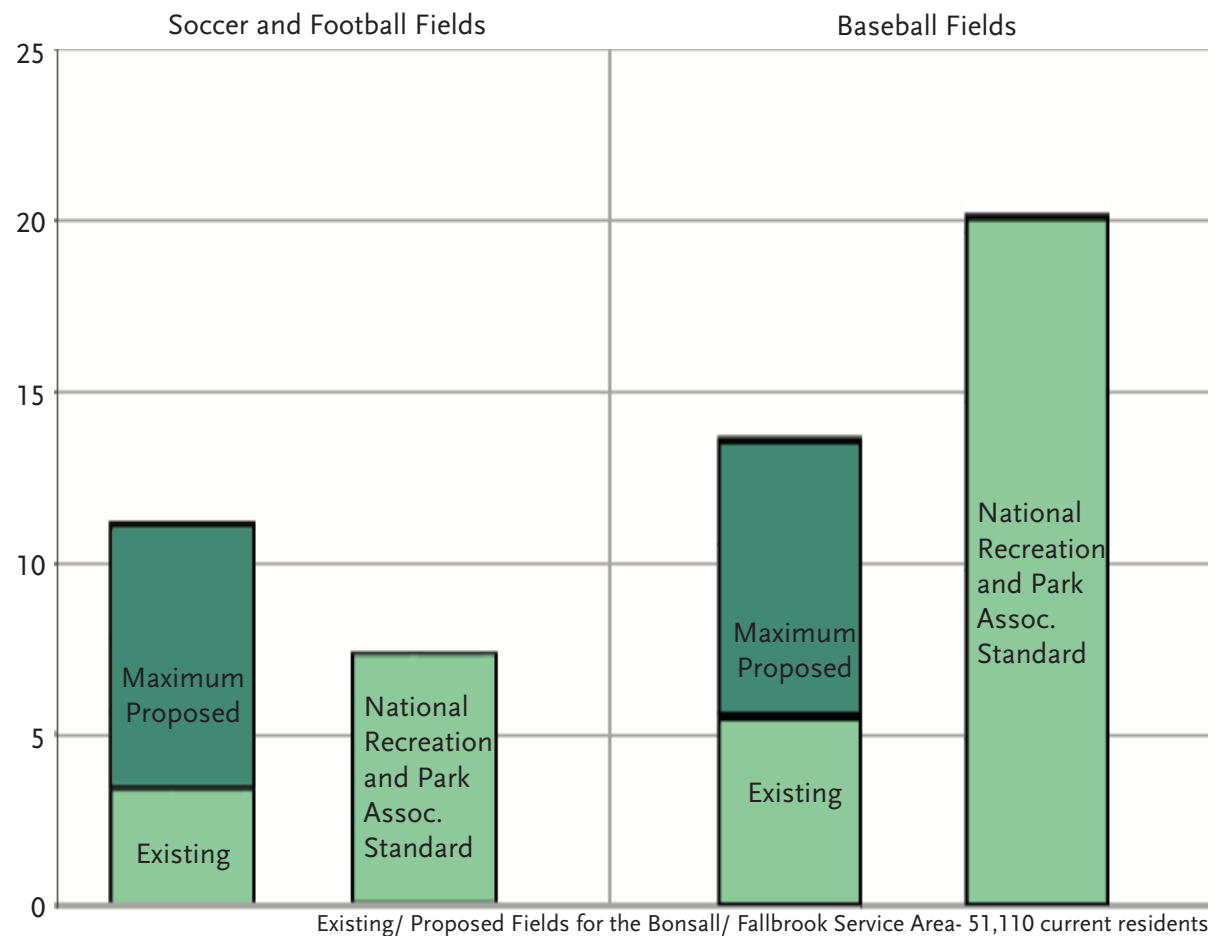


Bonsall and Fallbrook Population Density Map

After the general locations of these recreation nodes were determined, the appropriate quantity of fields was assessed. The planning team utilized the standards established by the National Recreation and Park Association (NRPA) to help determine the number of fields needed to satisfy recreational demands of the Bonsall-Fallbrook population, which currently totals 52,138.

Soccer and football fields were calculated together, as both sports can be played on the same fields. There are currently 3.5 fields in the area (multi-use or shared fields were counted as ½ a field). The NRPA standard for this population would be 7.8 fields, based on one soccer field per 10,000 people and one football field per 20,000 people. Therefore, the Master Plan proposes a maximum of 8 new soccer/football fields to help meet the community's needs. The number of fields proposed is based on population and on the concept of building fields in increments of 4, which allows for convenient tournament play. While soccer is the most popular sport in the area, other sports such as lacrosse, field hockey, and ultimate frisbee are increasing in popularity and would be using these same fields.

Based on the NRPA standard of one baseball field per 5,000 people and one softball field per 5,000 people, the service area should contain 20.8 baseball and softball fields. There are only 5.5 existing fields in the service area. The maximum number of new baseball/ softball fields proposed is 8, which, again, is based on the idea of building fields in increments of 4 for tournament play.



IV. Master Plan

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PLAN ALTERNATIVES

Through the analysis of the existing conditions, community input, and meetings with focus groups (including resource agencies), two fundamentally different approaches emerged for the program distribution within the San Luis Rey River Park.

Alternative 1, Biological Resource Emphasis, maximizes protection of the river corridor's biological resources by accommodating active recreation needs on upland sites, away from the most sensitive habitat areas - separating to the extent possible recreation areas from preservation areas.

Alternative 2, River Park Emphasis, sensitively integrates park programming into the floodplain, adjacent to the sensitive riparian zone - fostering interaction between recreation areas and preservation areas.

These two alternatives were presented to the public to demonstrate two opposing points-of-view that had emerged. The intention in presenting these alternatives was to stimulate discussion regarding different possible relationships between recreation and preservation that could be created within the River Park. The Final Plan represents a compromise between the two perspectives represented within these alternatives.

BIOLOGICAL RESOURCE EMPHASIS - Alternative 1

The Biological Resource Emphasis alternative aims to maximize protection and expansion of sensitive resources within the riparian corridor. By focusing recreational programming on upland sites, out of the river corridor, it separates recreation from preservation, and creates a series of loosely-connected upland parks. This alternative took the following approach to recreational program distribution within the River Park:

Tier A Sites

Locate Tier A sites in areas that are disturbed, agriculture, or with the least sensitive vegetation.

Locate Tier A sites outside the 100-year floodplain.

Tier B Sites

Minimize the number of Tier B sites in the riparian zone and the most sensitive vegetation.

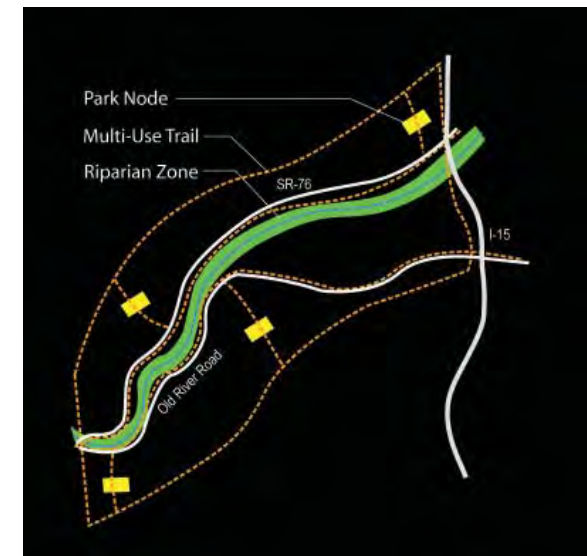
Locate Tier B sites on slopes with non-sensitive vegetation and views of the river corridor.

Locate Tier B sites outside of the 10-year floodplain.

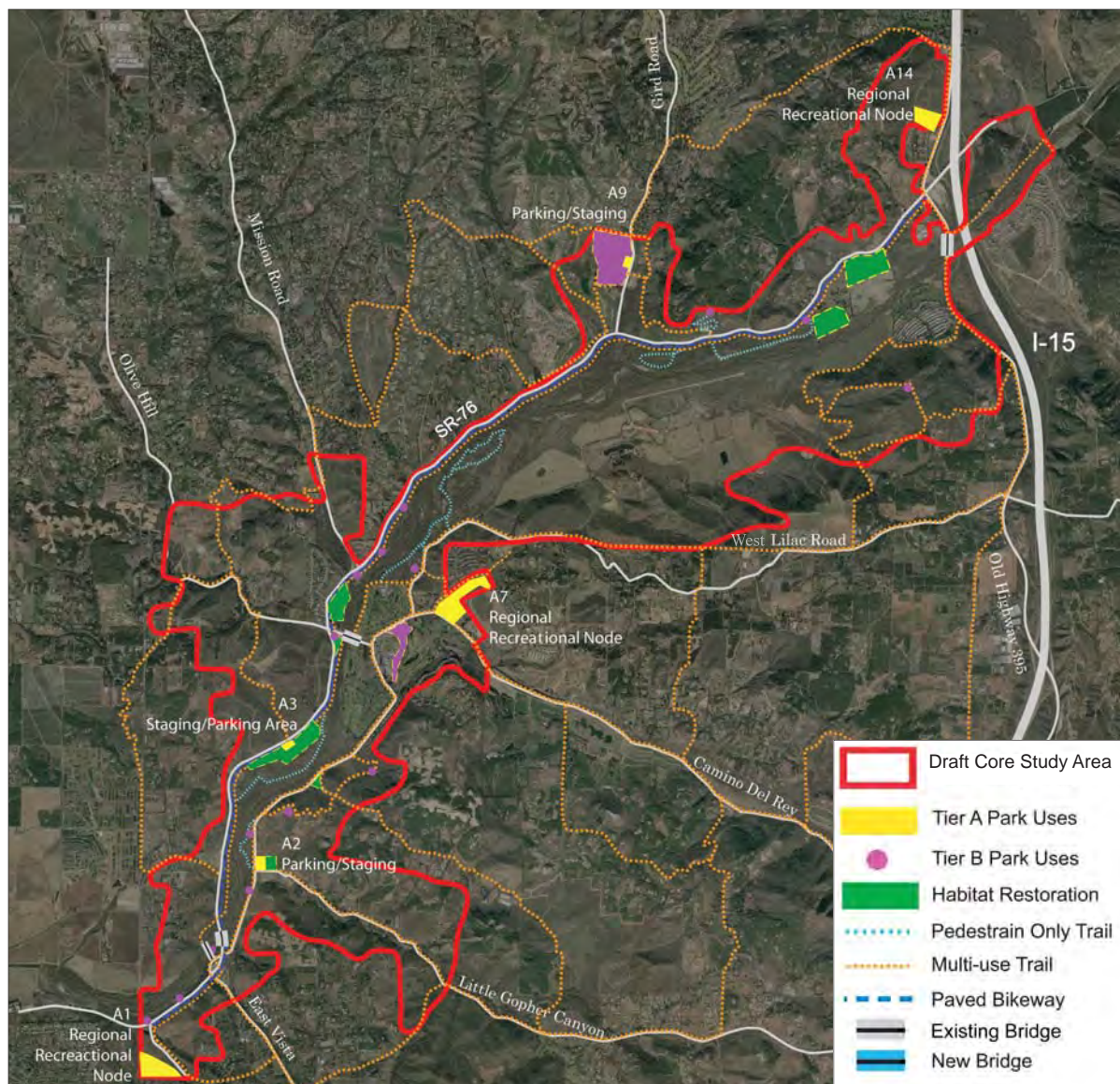
Tier C Trails

Optimize slopes and non-native vegetated areas for trails locations, while minimizing impacts on sensitive vegetation communities and critical habitat.

Focus trails within upland areas and along the periphery of riparian areas parallel to roadways.



Biological Resource Emphasis Conceptual Diagram



Biological Resource Emphasis

RIVER PARK EMPHASIS

Alternative 2

The River Park Emphasis alternative serves the community's needs for active recreational park development and their desires for a trail system integrated with the riparian zone. This alternative encourages interaction with the river corridor's diverse biological and cultural resources by taking the following approach to recreational program distribution within the River Park:

Tier A Sites

Avoid the most sensitive vegetation communities, including wetlands and rare upland communities.

Minimize encroachment into the 10-year floodplain, yet allow park development in the 100-year floodplain as long as it doesn't raise the river more than 2/10 of a foot.

Locate active recreation near population densities to accommodate community needs and utilize only disturbed, agricultural, or non-sensitive vegetation areas for park development. By locating active recreation sites near population densities, transportation issues and traffic may be reduced.

Locate staging areas at both ends of the Core Study Area as well as in the middle in conjunction with active recreation development.

Tier B Sites

Locate Tier B sites along the trail system to encourage observation and appreciation of the river dynamics and habitat.

Locate Tier B sites on disturbed areas in the riparian zone and upland slopes with views of the river corridor.

Tier C Trails

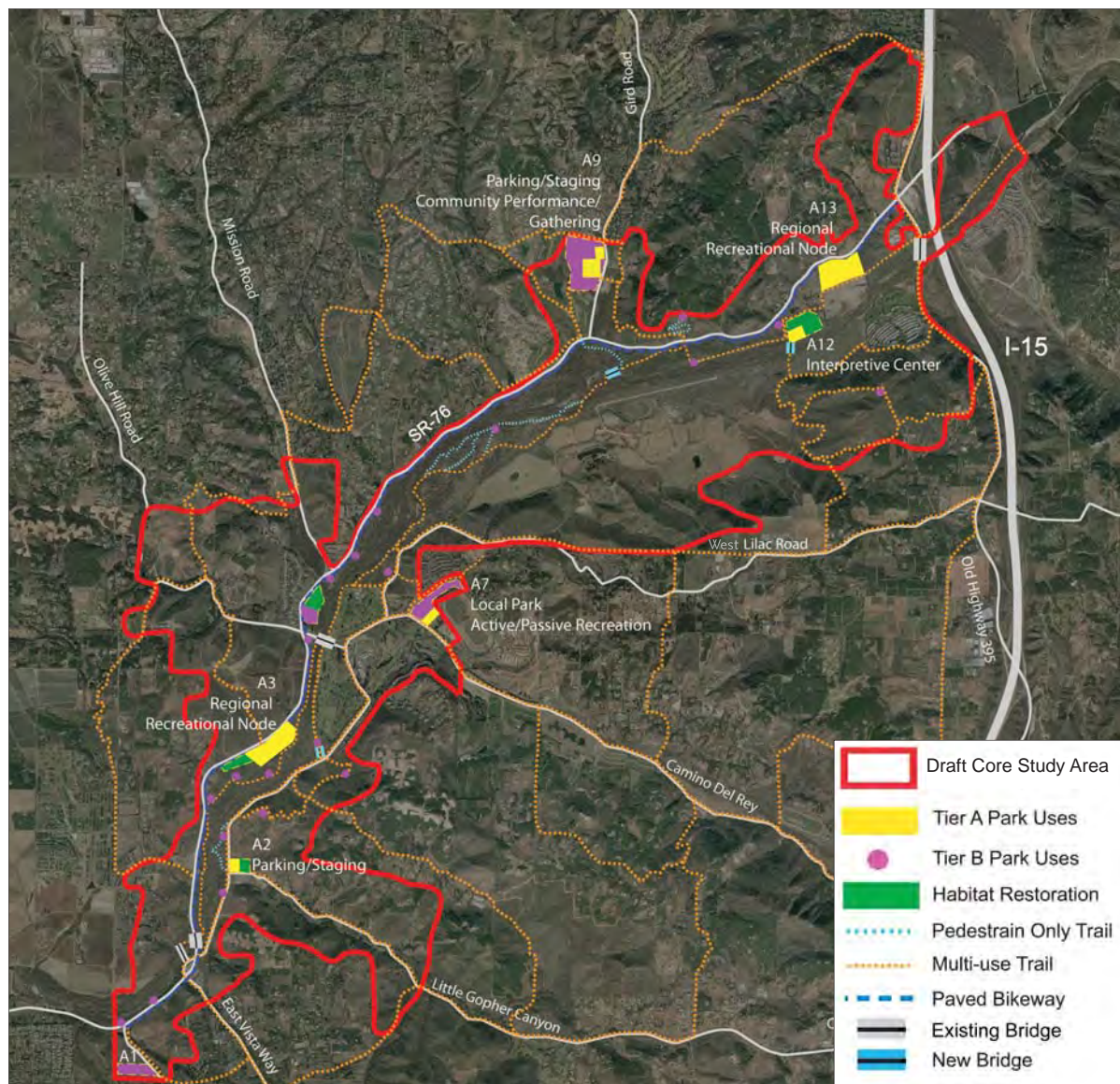
Establish one or two (where possible) continuous multi-use trails through the riparian zone, with additional upland trails.

Locate trails along presently disturbed, unofficial trail locations, minimizing disturbance, but allowing for interaction and observance of river resources.

Incorporate two to four river crossings (trail bridges) into the trail system to allow thorough accessibility to park amenities.



River Park Emphasis Conceptual Diagram



River Park Emphasis

PARK PROGRAMMING ZONES

Based upon the County and community input regarding desired programming, access points and traffic circulation within the CSA, and surrounding population densities, the Planning Team established three program zones, each with unique defining characteristics and opportunities. Within each program zone the Planning Team sought to balance recreational needs with preservation/ restoration goals. The following pages contain conceptual plans indicating potential park program distribution on each potential Tier A site, and across the River Park as a whole.

Zone 1 Examples

Zone 1, at the northeastern end of the CSA, is defined by its proximity to I-15 and relatively high existing/ planned population density east of the freeway: a new housing development south of the river and additional large housing developments proposed north of SR-76. Due to this residential density and the fact that many park users will arrive from I-15, Zone 1 represents the most significant active recreational demand. Two large potential Tier A sites were identified within Zone 1; the San Diego County Water Authority Site (A13) north of the river, and the Vessels East Site (A15) south of the river. Parking would be required in proportion to active recreation.

A minimum of one trailhead/ staging area within Zone 1 would be required to provide access to riparian and upland trails. A trail bridge would be required to connect the Vessels East site to the rest of the park, if it were developed for park uses.

Riparian restoration and arroyo toad habitat creation would be proposed on or adjacent to both potential Tier A sites, expanding the relatively narrow riparian corridor and ensuring adequate toad migration corridors between upland and riparian habitats.

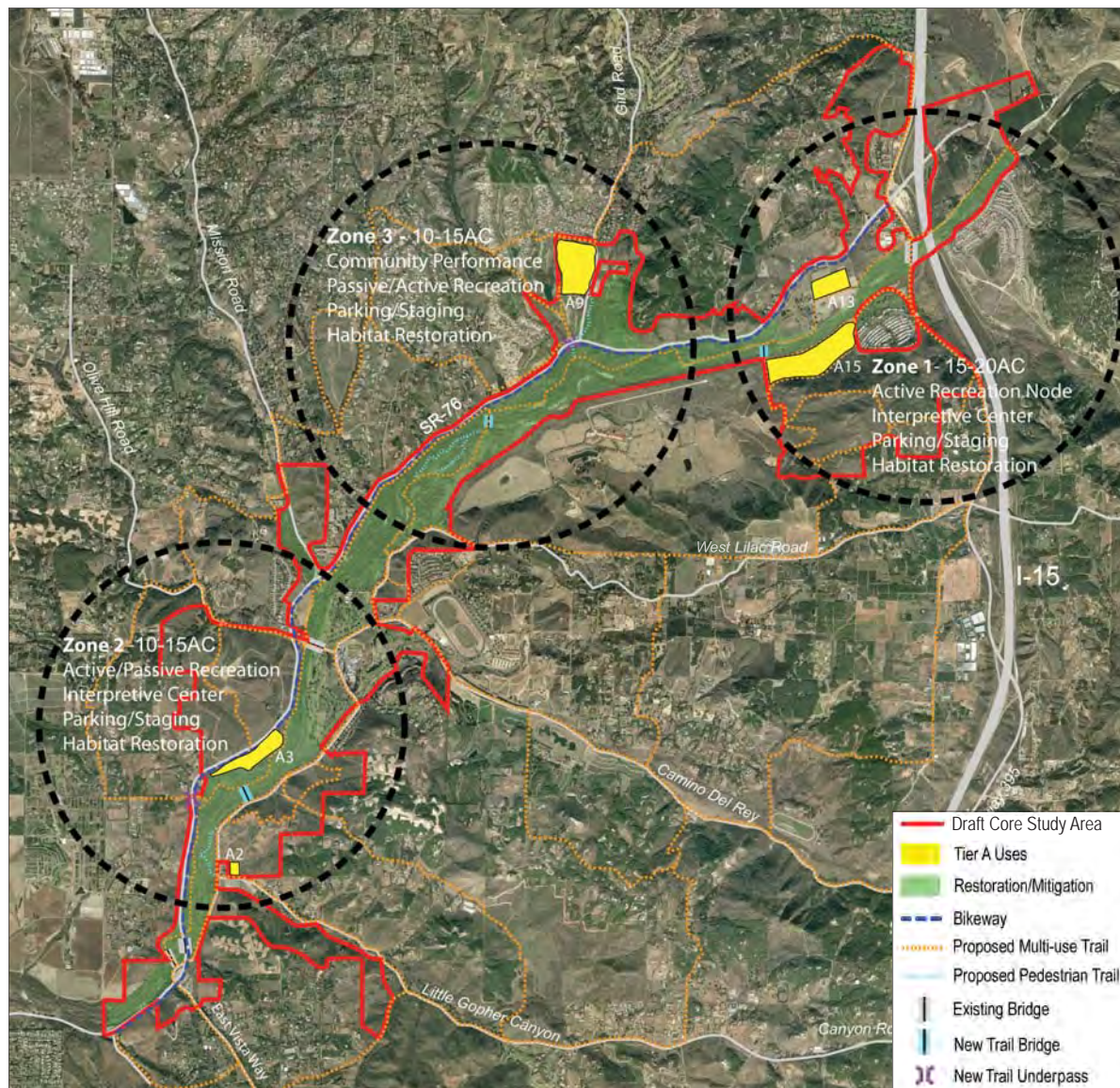
An Interpretive Gathering Area and Interpretive Gardens would also be considered desirable on the +/- 54-acre Vessels East due to the amount of available land, the proximity of non-sensitive cultural resources, and proximity to the large protected riparian habitat reservoir in the center of the CSA.

Zone 2 Examples

Zone 2, the southwestern end of the CSA, is close to the Bonsall School and Community Center and the Oceanside boundary. These populations create a significant demand for active recreation, and by locating an active park node close to both ends of the CSA, park-related traffic congestion along SR-76 would be minimized. Bonsall school children could utilize sports fields when the school field is unavailable. The Model Airplane Site, is the only large Tier A park opportunity in Zone 2.

Parking would need to be provided in proportion with recreational amenities. A minimum of one trailhead/ staging area within Zone 2 would be required to provide access to riparian and upland trails. The Little Gopher Canyon Site, A2, would be an possible location for a trailhead/ staging area because the access to the trail network south of the river. A trail bridge south of the Model Airplane Site would allow critical cross-channel circulation.

Another possible location for an Interpretive Gathering Area and Interpretive Gardens would be on the +/- 26-acre Model Airplane Site, due to its large size, strong connectivity to riparian resources, and connections to the trail network. Programming would include riparian restoration as an interpretive element. The historic Old Bonsall Bridge, one of the most visible cultural resources within the CSA, is also located in Zone 2.



Program Zones

Zone 3 Examples

Zone 3, in the center of the CSA, contains the widest floodplain and the largest, most isolated, riparian habitat area. The riparian zone in this area is contained by SR-76 and steep slopes to the north and Vessels Ranch to the south. The Planning Team determined that Tier A uses should not be located adjacent to this important riparian habitat area.

The only potential Tier A site identified in Zone 3, the +/- 42-acre Fallbrook High School Site, is located on a ridge overlooking the river corridor. This large site is suitable for a small node of active recreation, (designed to serve the local community) and a community gathering/performance area with dramatic views of the river corridor as its backdrop.

A trailhead/ staging area on this site would provide access to northern upland trails and to this large central riparian area.

FINAL PLAN

SLR River Park Vision

The Master Plan outlines the creation of a dynamic open space legacy balancing recreation and preservation/ restoration/ interpretation of the San Luis Rey River's outstanding biological and cultural resources.

Planning Process

The Final Plan is the product of data gathering and analysis, coordination with other ongoing initiatives, extensive public input (MPAG, focus groups, surveys, public meetings), an evaluation of park program, site assessments, and discussions with current property owners.

River Park Components

The goal of the SLR River Park is to provide three fundamental components: +/-1600-acre open space preserve, +/- 40 acres of active recreational amenities, and a network of multi-use trails that stitch the park together internally while linking it to surrounding communities.



Final Plan

Open Space Preserve

The goal of the SLR River Park is to provide a +/- 1600-acre open space preserve, protecting in perpetuity a contiguous section of one of the County's biologically-rich river corridors, and providing critical habitat for several threatened and endangered species.

Recreational Amenities

The goal of the SLR River Park is to provide approximately +/- 40 acres of active recreational park development distributed between representative Tier A park sites, in addition to numerous opportunities for smaller passive park nodes.

Multi-use Trail Network

A network of multi-use trails will provide thorough access to the park's diverse resources and amenities. Trail bridges will allow year-round circulation within the river corridor, while (a) trail underpass(es) enhance connectivity between riparian and upland areas.



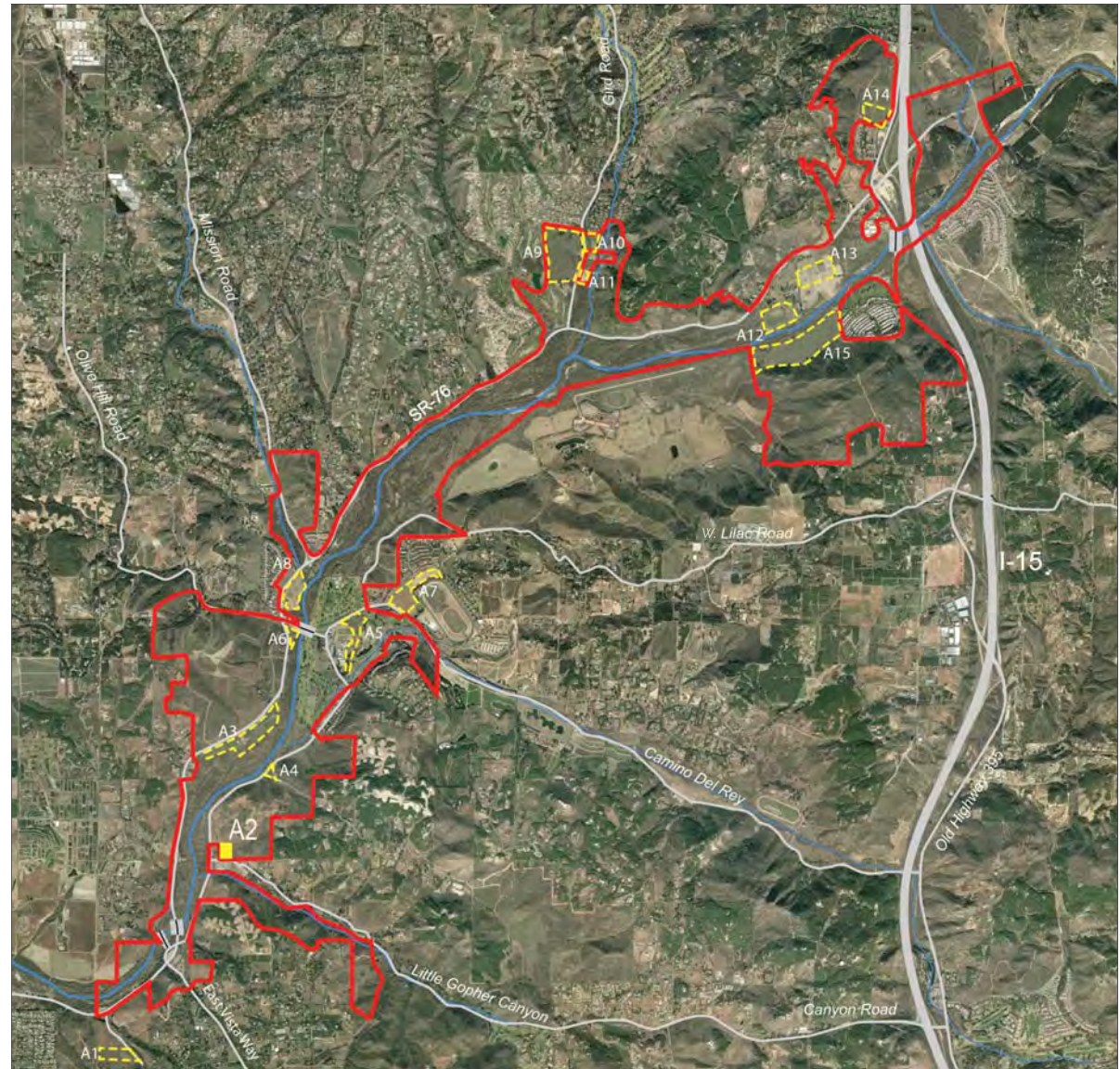
Final Plan

TIER A CONCEPT DESIGN EXAMPLES

The following several conceptual design/ programming sketches illustrate possible active and passive recreational opportunities represented within potential Tier A sites. These sketches are examples provided to assist in envisioning the diverse recreational opportunities represented by Tier A sites of various sizes, access conditions, and respective relationships with the river. The final selection of Tier A sites will depend upon numerous factors, including, but not limited to, whether the County is actually able to acquire these properties for the park.

A2- LITTLE GOPHER CANYON SITE

Site A2, the Little Gopher Canyon site, is one of the smallest Tier A sites, at approximately 4 acres. It is located near the intersection of Little Gopher Canyon Road and Old River Road. The existing conditions on site vary: the front half of the site is flat (next to the river) while the back half slopes up towards the hills. The front half is partially disturbed and partially vegetated with non-native grasslands, while the back has scrub/ chaparral vegetation. The site is outside of the 100-Year floodplain and contains no known cultural resources.



A2- Vicinity Map

A2- CONCEPT DESIGN



A2- Concept Design

Because the Little Gopher Canyon site is isolated from the river corridor, it provides an opportunity for a dog park (unleashed dogs are not compatible with sensitive habitat areas), combined with picnic and passive park facilities.

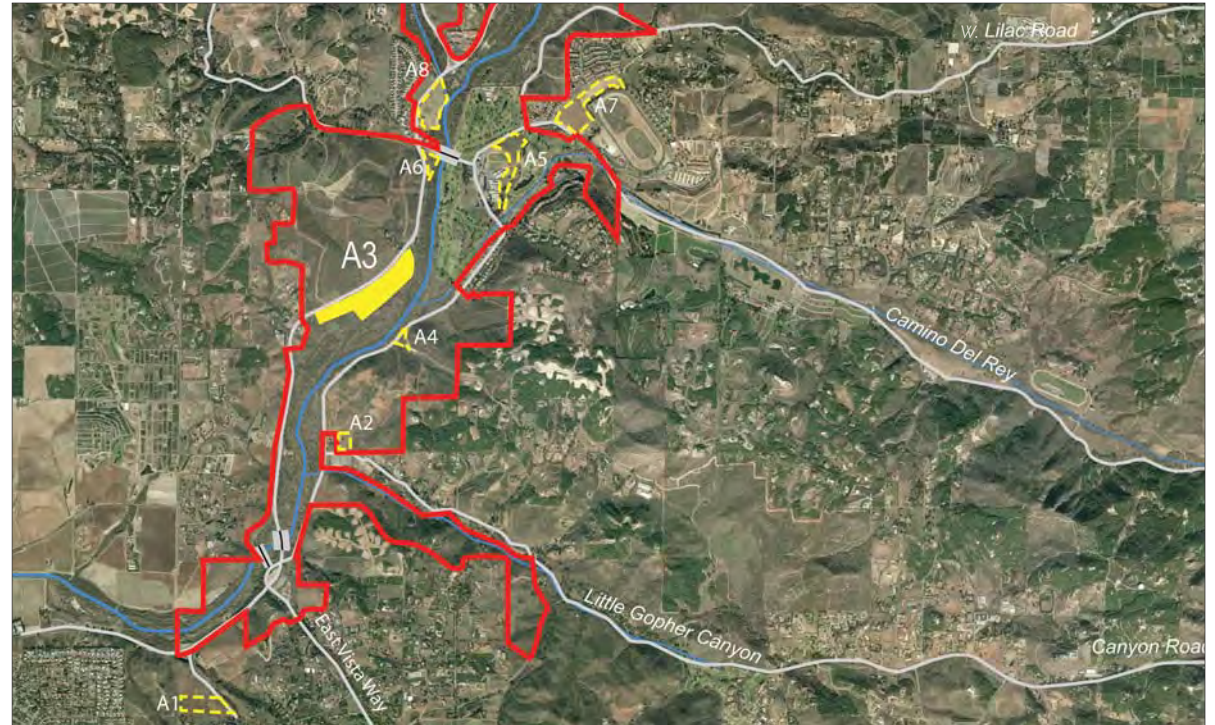
Located at the intersection of Old River Road and Little Gopher Canyon Road, this site has the potential to be a trailhead and parking/staging area for trails along the south side of the River Park. Many equestrians live and/or board their horses along Little Gopher Canyon Road, making a parking/staging area a logical use for a portion of this site.

Across Old River Road is the abandoned Walnut Grove Site, a potential location for Tier B park uses such as a picnic area, adjacent to the riparian zone.

The Planning Team recommends possible habitat restoration along the east half of the site as an expansion of adjacent habitat areas.

A3- MODEL AIRPLANE SITE

Site A3, the Model Airplane Site, is a proportionately long and narrow +/- 27-acre site, partially within the 100-year floodplain. The site is covered in non-native grasses and it is periodically mown to retain its disturbed condition. It is a relatively flat site (less than 10% slope) and is located both near the Bonsall School and Oceanside, at the southern end of the CSA. Currently, part of the site is used for model airplane flying.

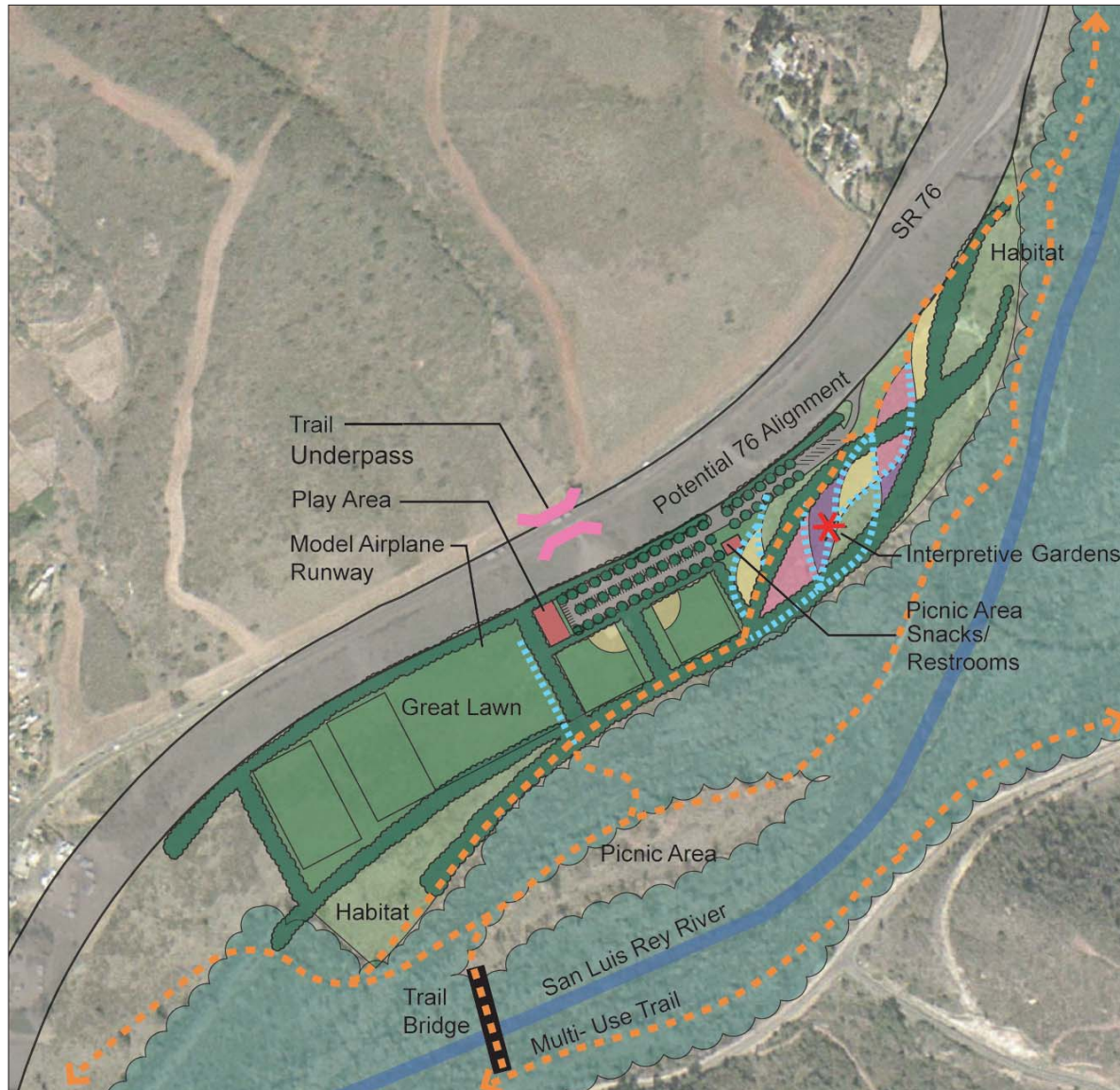


A3- Vicinity Map



A3- Existing Site Conditions

A₃- CONCEPT DESIGN



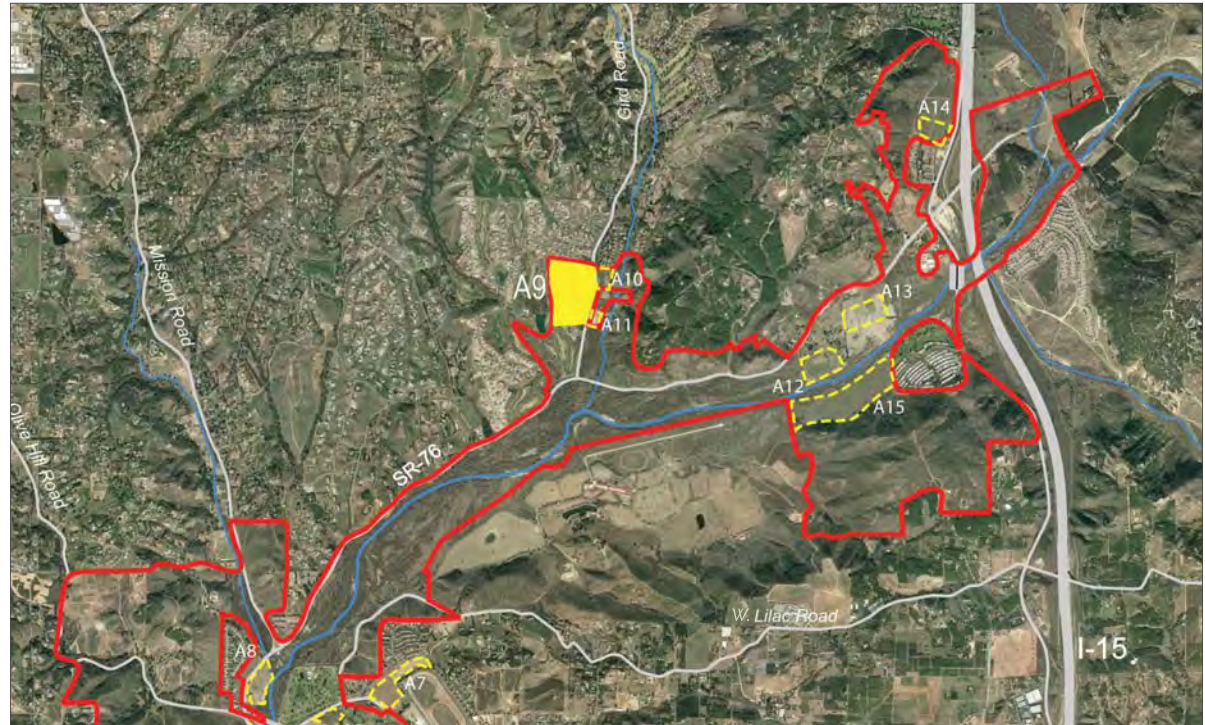
A3- Concept Design

Located between the river and SR-76, Site A3 could provide access from both the road and the river trail system. Because it is partially within the 100-year floodplain, it meets the siting criteria for park development. The lack of sensitive vegetation, cultural resources, and shallow slope gradients allow for many possible programming opportunities. Site A3 would be a possible location for a significant active recreation node and staging area because of its proximity to the Bonsall School and the residences of the southern end of the CSA.

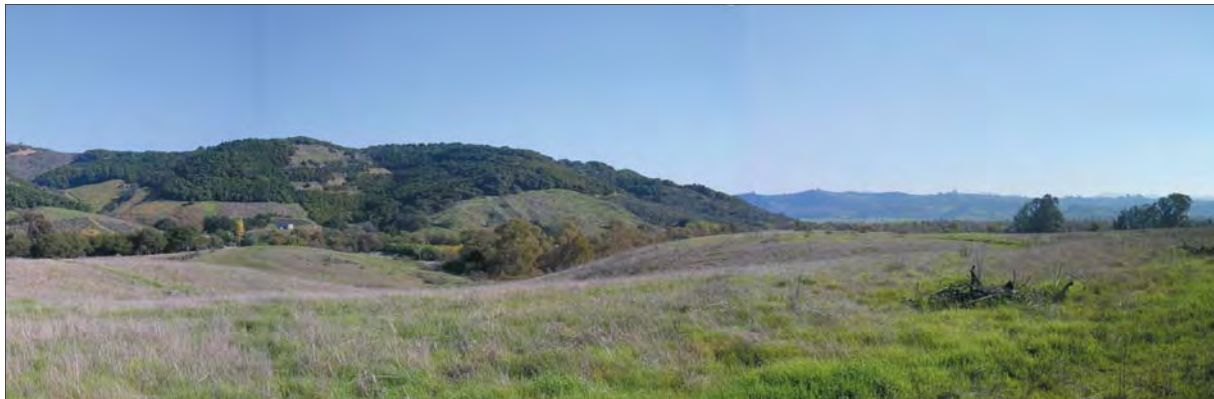
Primary park spaces are defined by a series of sinuous interwoven tree ribbons which reference the shifting riverbed as it moves across the broader floodplain. This concept design accommodates two baseball fields and up to three soccer fields. The multi-use Great Lawn could be used for gatherings, informal sports, and model airplane flying. Additionally, an Interpretive Gathering Area and Interpretive Gardens would be well located on this site due its great access to the river resources and the trail network. Significant riparian habitat restoration would also be possible along the northeast edge of this large site, with the Interpretive Gardens buffering it from the active recreational fields.

A9- FALLBROOK HIGH SCHOOL SITE

Site A9, the Fallbrook High School Site, is presently owned by the Fallbrook High School District, although they have determined that is not well suited for the development of a new high school. The +/- 42-acre site is covered in non-native grasses punctuated by peripheral groves of eucalyptus and oak trees. The site straddles a flat ridge overlooking the river corridor (completely out of the 100-year floodplain). It is located along Gird Road, approximately 1/3 mile north of SR-76. While most of the site is under 10% slope, the site's southern edge, defined by a series smaller ridges and valleys, is significantly steeper. The spectacular views and shallow rolling topography distinguishes this site while providing unique programming opportunities.



A9- Vicinity Map



A9- Existing Site Conditions



Precedent Gathering Space Photo

A9- CONCEPT DESIGN



A9- Concept Design

The flattest northwest corner of the site provides the opportunity for two football/ soccer fields framed by tree rows (part of the existing site vocabulary) that block winds while retaining views over the river corridor. Parking for the sports fields should be provided along the north edge of the site.

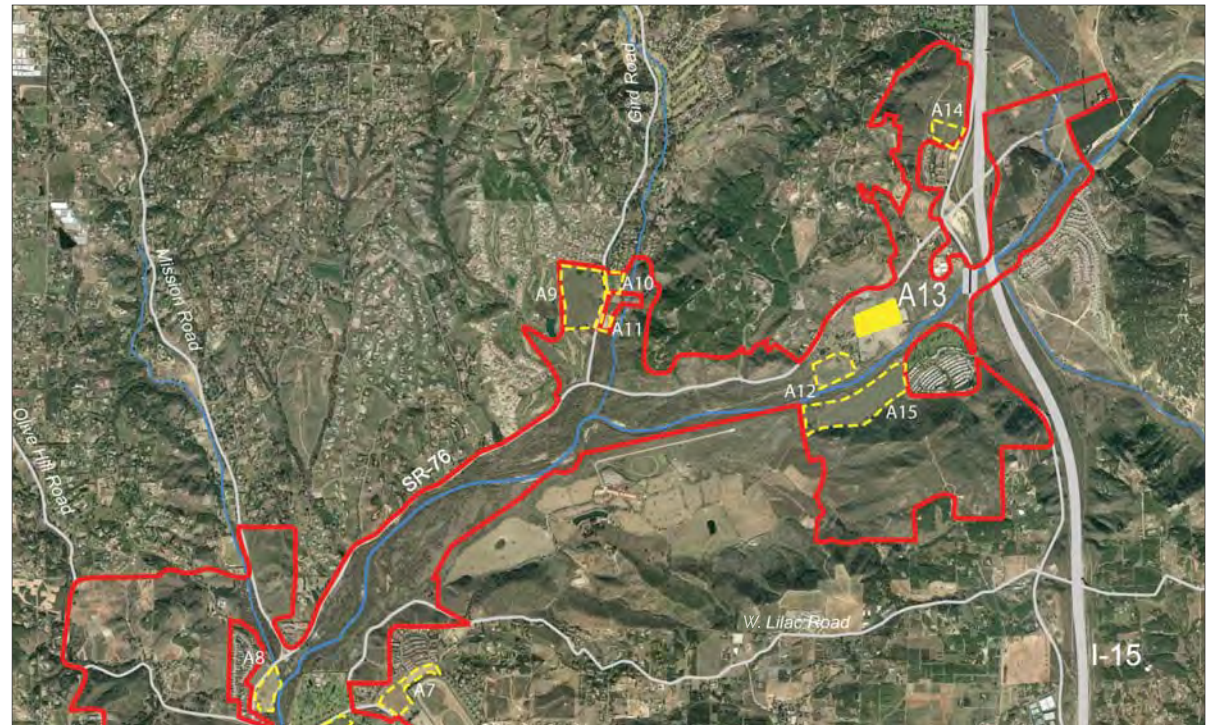
The proposed community gathering area would naturally fit into one of the site's shallow southern valleys. The gathering area would be planted with a loose grove of shade trees, and terraced to maximize views. The site would be protected from sun (shade trees) and winds (topography), while commanding spectacular views over the river corridor. The site's location in the center of the CSA would make it easy to access from either end of the River Park. The community gathering area could accommodate diverse performances and small events such as local plays or Native American gatherings, while also serving as a shaded picnic grove for smaller groups. A separate parking/ staging area along the Gird Road provides necessary gathering area parking and access to the northern upland trail system.

The majority of the site should be preserved/ restored as open grassland habitat with nominal additive improvements such as trail improvements and park benches.

A13- SAN DIEGO COUNTY WATER AUTHORITY SITE

Site A13, presently owned by the San Diego County Water Authority, is a +/- 10-acre agricultural site adjacent to both SR-76 and the river corridor. Located near the SR-76/ I-15 intersection, this site is visually prominent and easily accessible. For these reasons, Site A13 could potentially serve as an effective and dramatic park gateway for the larger River Park.

The site is gently sloped towards the river and would not require significant grading to accommodate recreational fields and other Tier A programming.



A13- Vicinity Map



A13- Existing Site Conditions

A13- CONCEPT DESIGN



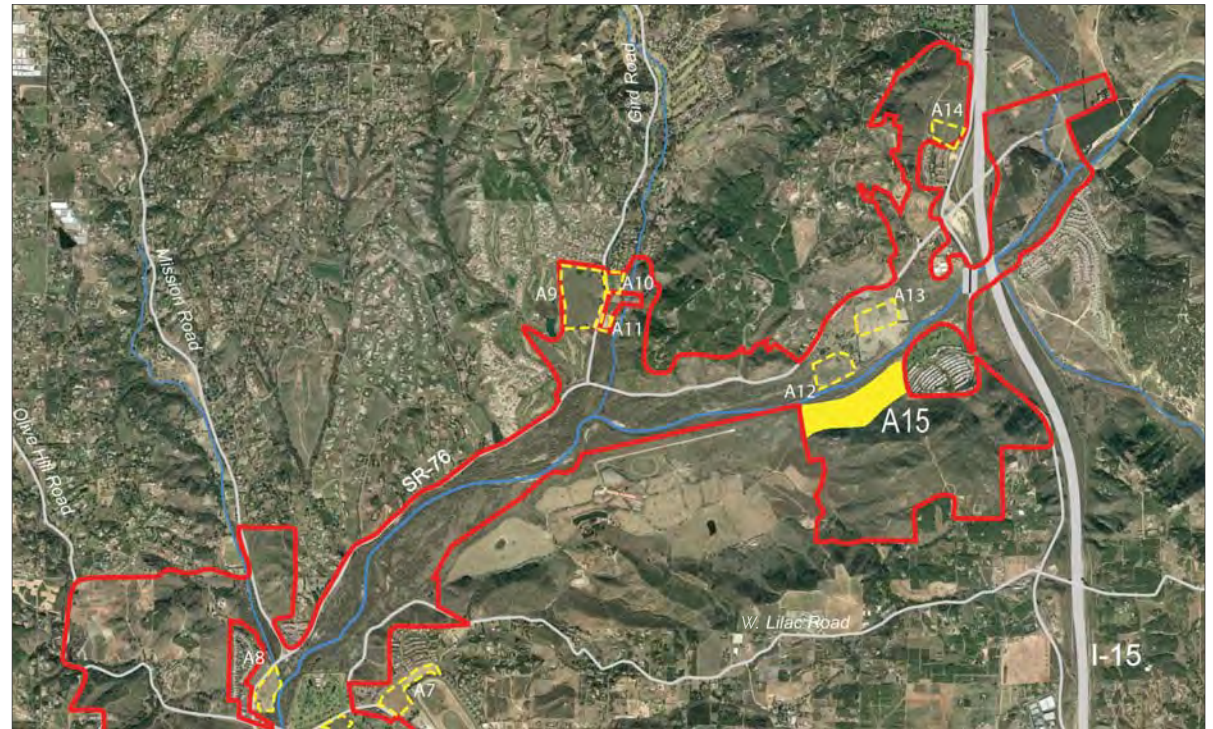
A13- Concept Design

Located at the northeast end of the CSA, Site A13 could support sports fields, parking, and a staging area as well as considerable riparian restoration and arroyo toad habitat creation. The concept plan indicates overlapping multi-use sports fields: two adult soccer fields, one football or kids soccer field, and two baseball fields. The sports fields are surrounded by a tree buffer to block winds and provide a greater degree of light containment. Recreational amenities would especially benefit park users living near this end of the CSA as well as those arriving to the park from I-15. Park-related traffic along SR-76 will be minimized by locating park amenities at both ends of the CSA.

The Planning Team positioned this potential park node far enough away from existing SR-76 to allow for the potential expansion/realignment of the highway. In the event that the highway is not relocated southward, the concept design could be moved closer to the existing highway, allowing more room for riparian restoration. Parking lots, permanent architectural structures, and utilities should be outside of the 10- year floodplain, to minimize flood-related maintenance. The consolidated parking/ staging area will include horse trailer parking at one end. Multi-use park trails are located outside of the tree buffers or away from fields to separate horses from areas of high activity.

A15- VESSELS EAST SITE

At +/- 54-acres, Site A15, Vessels East, is the largest potential Tier A site. It is presently owned by Frank Vessels Family Trust and is categorized as agricultural land. It is regularly mown to retain its disturbed condition. The northern half of the site falls within the 10-year floodplain. Access to the site would be provided from Old Highway 395. The site is relatively flat, making it a potential site for Tier A park programming.

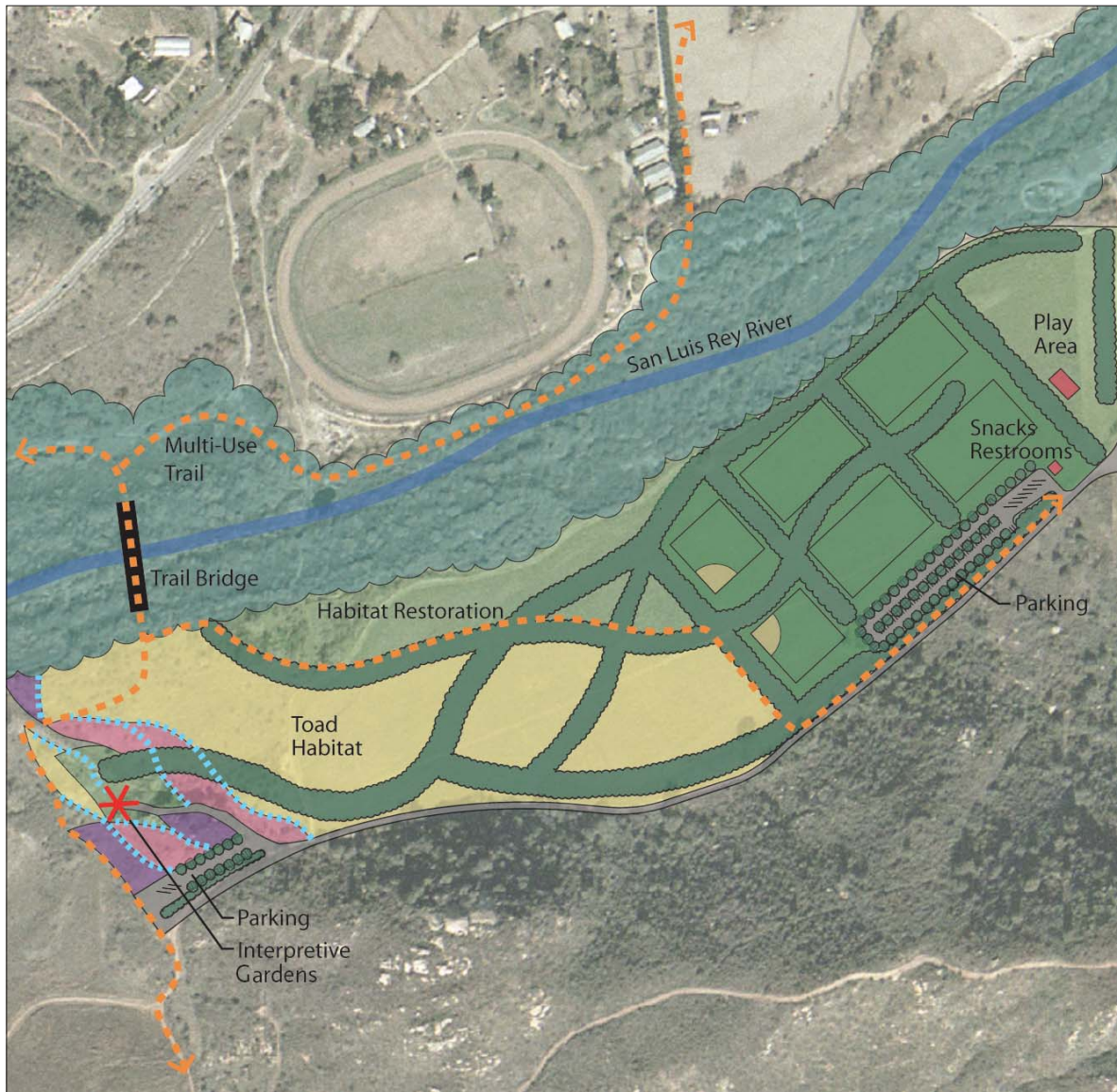


A15- Vicinity Map



A15- Existing Site Conditions

A15- CONCEPT DESIGN



A15- Concept Design

The Vessels East site is large enough to accommodate a variety of Tier A park uses, including a significant node of active recreation. The concept design shows four soccer fields and two baseball fields set within recreation rooms framed by sinuous bands of trees which provide sideline spectator shading while containing night lighting. A passive play and picnic area on the east edge of the site, also framed by shade trees, separates the retirement community from active recreation.

An Interpretive Gathering Area and Interpretive Gardens could be located on the western end of the site, closest to the widest riparian zone in the center of the CSA, and isolated from surrounding residential development and noise/light from I-15. Between the active recreation and interpretive areas, riparian restoration and a toad habitat corridor are proposed. In this configuration, the concept design balances recreational and interpretive needs with habitat restoration and creation.

Combined tree-shaded parking/ staging areas are set along the south side of the site, on higher ground out of the 10-year floodplain. If this site were developed with park uses, a trail bridge would be necessary to connect it other River Park resources.

ACTIVE RECREATIONAL NODES

The type of material used for the sports fields in the San Luis Rey River Park should take into consideration that natural grass fields need downtime to recover from intense use period. Field closures for recovery should be rotational so that each recreational node has several fields in operation. These field closures should be factored into decisions regarding numbers of fields to include within each active recreation node.

Multiple-field park nodes are recommended as they can share utilities, service, access, and parking facilities while accommodating tournaments. Multi-use fields (overlapping fields) more efficiently accommodate a wider range of activities within a smaller area, but tend to require more maintenance and more frequent closures due to intense/ frequent year-round use.

Additional amenities that should be considered at active recreational nodes are night lighting, parking and bathrooms. Snack bars, picnic tables, and play areas were other amenities that were frequently requested by community members in association with active recreation. Sustainable materials and systems should be utilized whenever possible.



Play area



Bathroom



Soccer Field



Baseball Player

PARKING AND STAGING AREAS

Parking and staging areas for the San Luis Rey River Park shall be integrated into the park landscape utilizing natural light-colored surfaces (to reflect heat) and semipermeable paving (to increase infiltration), and shade trees to create a more pleasant environment. Vegetative drainage swales and/or detention areas may be used to filter and infiltrate surface runoff. Combined parking/ staging areas should be located close to access roads and out of the 10-year floodplain. To facilitate horse trailer access, these lots should have diagonal pull-through parking stalls at one end. The number of required parking stalls within each Tier A park site is proportional to qualities of park program on each site. Approximately 66 parking spots should be provided for a single soccer field. For each additional field on the same site, the number of additional required stalls per field decreases.



Parking and Staging Area Precedent



Horse Trailer



Parking next to Restored Habitat

TRAILS

Multi-use trails within the San Luis Rey River Park will conform to County standards: 8'-width with a crushed stone or stabilized dirt surface. To the extent possible, the River Park trail network will implement the intention of the County Trails Master Plan. In most locations there will be two multi-use trails within the floodplain, one to the north of the river and the other to the south. A paved bike path along the south side of SR-76, and several small hiker-only trail loops will supplement primary multi-use trails. Official improved trails will follow, where possible, established paths of existing unofficial trails and desire lines.

One or more trail underpass(es) (under SR-76) may be desirable to connect riparian trails with upland trails to the north. If Site A3 is purchased for the River Park, then an underpass at this location would be appropriate. A trail underpass should be tall enough to accommodate a mounted horse and rider. Trail-sharing etiquette should be posted on multi-use trails and enforced by rangers.

As negotiations with property owners unfold, sensitive species locations are assessed, and park nodes are developed, conceptual trail locations will be solidified. In some locations, fencing may be requested by adjacent property owners or required due to the sensitivity of adjacent habitat.



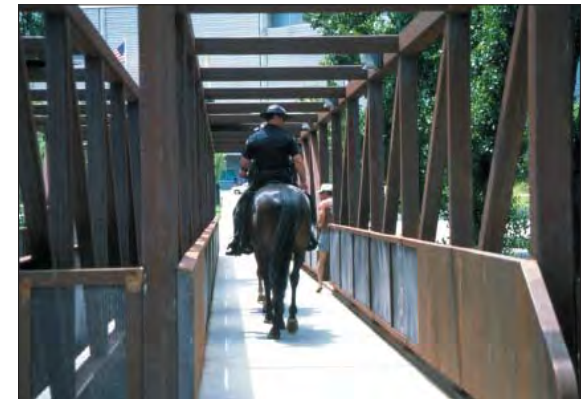
Trail Precedent . credit: www.imba.com



Trail Precedent

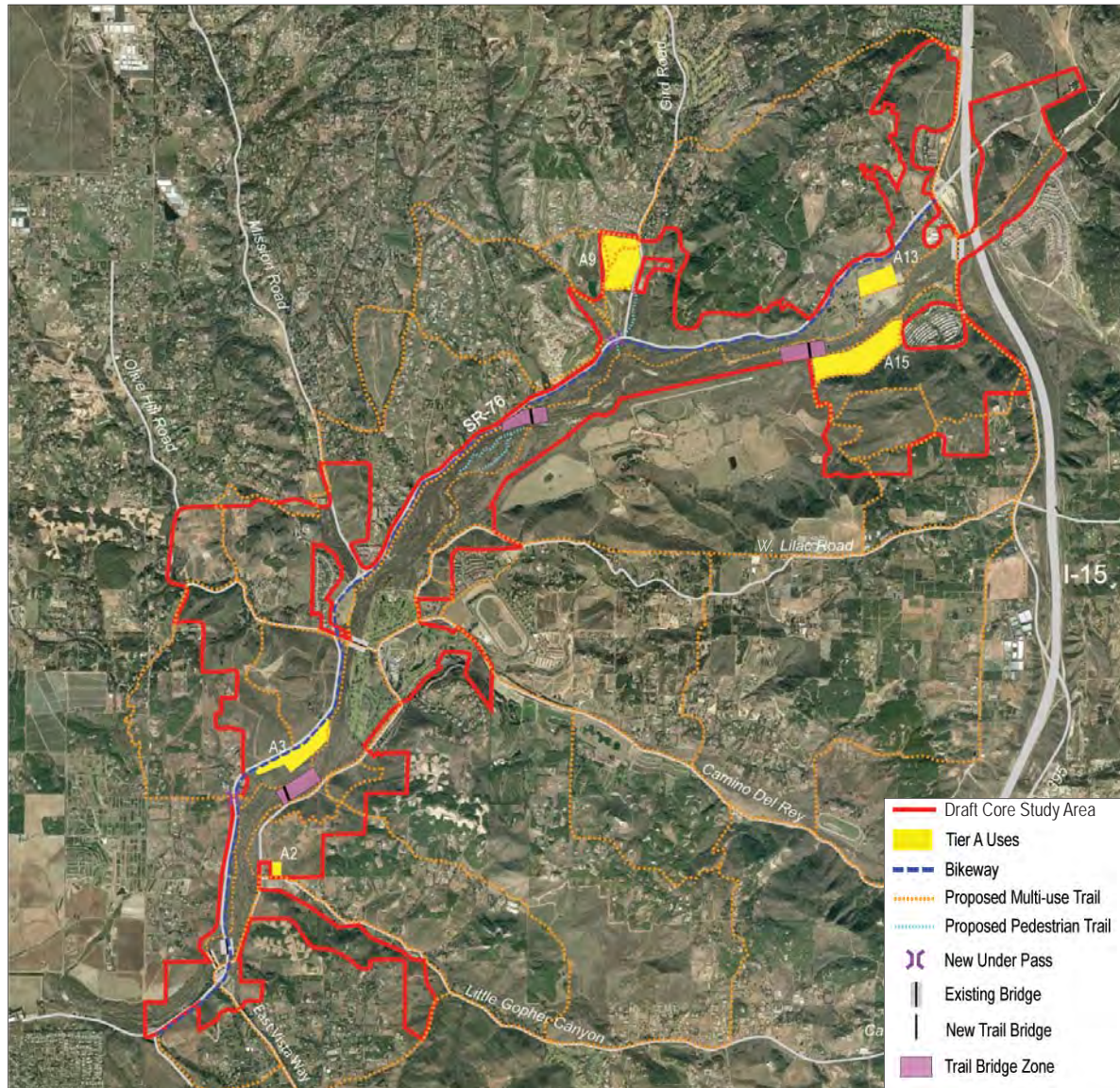


Trail Bridge Precedent



Trail Bridge Precedent

TRAIL BRIDGES



Trail Bridge Locations

To accomplish the primary goal of providing continuous year-round access throughout the CSA, two or three trail bridges will be required. Most of the river's edge throughout the CSA is shrouded by dense riparian vegetation, and is largely invisible to park users. Trail bridges will allow park users to get out over the water and view the actual floodway and riparian edge, and could become key locations for interpretation and appreciation of the river resources.

The diagram (left) indicates the three possible zones for trail bridges, considering park program distribution, desired circulation, access locations, and property ownership. If Site A15, Vessels East, is not acquired by the County, then the bridge near this site would not be necessary. Pre-fabricated modular steel truss bridges would be the most cost effective and least intrusive bridge design. This type of bridge design can span up to 250'. Bridges over the river's broad and shallow floodway would likely need to be several hundred feet long, thus requiring at least one central reinforced concrete support column. The bridges would be constructed above the 100-year flood level, although stair/ ramp access points would be within the 10-year flood zone and would likely need maintenance/ cleaning after significant storm events.

PARK IMPLEMENTATION

Land Acquisition

After completion of the Draft SLR River Park Master Plan Document, and before approval of the final Master Plan, the County must complete a programmatic Environmental Impact Report. During this process, the County will begin negotiations with land owners to acquire high priority Tier A sites. The County will only acquire properties from willing sellers. The owners of only five of the fifteen potential Tier A sites identified within the Master Plan are currently willing to discuss the sale of their properties to the County. The acquisition of Tier A sites should be the County's first priority as the park moves toward implementation; only these sites can accommodate the community's active recreational needs. The County has begun to survey two of these Tier A sites to assess value and the appropriateness of acquisition.

Park Improvements

After acquisition of property, the County could begin detailed design of park improvements. Public participation will be an important component of the detailed design of any significant park improvements. With the exception of the Fallbrook High school site, finalization of the design of Tier A sites should not occur until Caltrans solidifies plans for the expansion/ relocation of SR-76.

As negotiations with property owners proceed, sensitive species locations are assessed, and Tier A park nodes are developed, conceptual trail locations will begin to solidify. If the owners of properties conceptually identified for park trails are not interested in selling, the County should pursue trail easements through those parcels. If trail easements are not possible through a piece of land, trail locations will need to be adjusted to go around unavailable parcels. The goal of creating continuous trails throughout the riparian zone may be only incrementally achievable over a long time period.

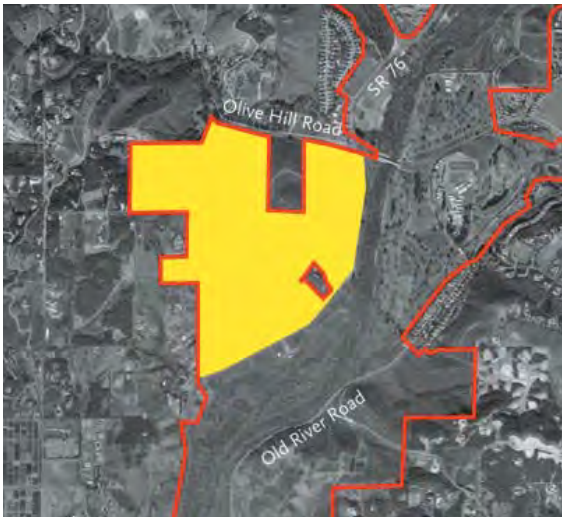
Ongoing Coordination

As plans for the San Luis Rey River Park continue to evolve, it is important that the County continues to coordinate with Caltrans regarding the expansion SR-76. It is the County's intention that Caltrans's required mitigation will be integrated into the open space portion of the SLR River Park. The San Luis Rey River Park planning process should also continue its coordination with the North County MSCP (Multiple Species Conservation Program) to ensure that the River Park adheres to, and helps realize, the conservation objectives of the NCMSCP.

CONCLUSION

The San Luis Rey River Park will be an outstanding recreational and open space legacy for San Diego County residents. The park balances accommodation of the recreational needs of surrounding communities with the establishment of a large open space preserve, protecting one of the most biologically-diverse segments of the SLR river corridor, and critical habitat for several threatened and endangered species.

Encouraged interaction with the park's wealth of cultural/ biological resources will instill park users with an broad understanding and appreciation for the river's dynamic natural systems and the ecological richness that attracted Native Americans to inhabit the corridor thousands of years ago.



Recently the “Groves” site (pictured left) was identified as a possible Tier A site. If acquired by the County of San Diego, a portion of the site will be developed as a park and a portion will be protected as preservation land.



The above image represents the current Core Study Area Boundary, as of November 30, 2007.



APPENDIX A

ENVIRONMENTAL PLANNING OPPORTUNITIES AND CONSTRAINTS REPORT

SAN LUIS REY RIVER PARK MASTER PLAN

SAN DIEGO COUNTY, CALIFORNIA

Prepared for:
Hargreaves Associates
398 Kansas Street
San Francisco, CA 94103

and

County of San Diego
Department of Parks and Recreation
5201 Ruffin Road, Suite P
San Diego, California 92123

Prepared by:
Jim Harry
Mooney • Jones & Stokes
San Diego, California

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PURPOSE

The County of San Diego Department of Parks and Recreation is pursuing, through the preparation of a Master Plan, the development of a vision for the San Luis Rey River Park. The Master Plan will establish the framework for the development of a river park within the eight-mile corridor of the San Luis Rey River between Interstate 15 (I-15) and the Old Bonsall Bridge. This Environmental Planning Opportunities and Constraints Report is being prepared in support of the San Luis Rey River Park Master Plan, to identify environmental planning constraints and opportunities within the Master Plan Draft Core Study Area (CSA) and presents the results of research, inventory and analysis of environmental planning issues and policies relevant to the San Luis Rey River Park Master Plan process. This report also incorporates information from the other Opportunities and Constraints reports prepared for the project related to Biological Resources (Mooney • Jones & Stokes), Cultural Resources (Mooney • Jones & Stokes), Water Quality/ Water Resources (Ninyo and Moore) and, River Hydraulics and Floodplain Issues (Nasland Engineering). The results of the analysis are intended to assist the planning team in identifying sites for park program elements. For the purposes of this report, the CSA has been separated into four segments (Figure 1). The Constraints and Opportunities analysis (Section III), and associated recommendations for siting active and

passive park elements, are presented for each of the individual river corridor segments.

Based on conversations with County staff, public meetings, focus group meetings, and coordination with the Master Plan Advisory Group (MPAG), which was developed to incorporate community members and stakeholders in the master plan process, the following park programming elements were identified as important potential components of the river park: active recreation fields; staging areas; parking lots; equestrian facilities; interpretive centers/ kiosks; bird watching platforms; equestrian, pedestrian, and bicycle trails; and picnic areas. For purposes of this study, the park programming has been divided into three Tiers (Tiers A-C) based upon relative levels of disturbance that each program element requires.

Tier A park sites will accommodate relatively high intensity active park programming requiring significant grading or intensive disturbance of existing terrain. Tier B sites can accommodate medium-low intensity passive park programming that is primarily additive (no significant grading, no significant removal of vegetation, and minimal direct/ indirect impacts on sensitive species and biological resources). Tier C sites will consist of minimal impact hiking, biking, and equestrian trails. These sites will be linear in nature.

This Environmental Planning Opportunities and Constraints Report incorporates the recommendations of the Biological Resources and Cultural Resources Opportunities and Constraints reports. The information from these reports has been combined in order to provide a comprehensive analysis of constraints and to identify specific opportunities areas within the CSA to locate park facilities.

METHODOLOGY

Information presented in this report is taken from government publications and the SANGIS database. Information on existing land uses and visual resources were verified by field visits in 2004. Exhibits and the analysis are based on the CSA identified by Hargreaves Associates.

Government publications referenced in this study include: 1) The County of San Diego General Plan Regional Land Use Element; 2) Bonsall Community Plan; 3) Fallbrook Community Plan; 4) County of San Diego Resource Protection Ordinance; 5) County of San Diego General Plan 2020 residential baseline maps for both the Bonsall and Fallbrook Community Plans (January 2005); 5) County of San Diego Department of Planning and Land use website information on North County Multiple Species Conservation Program; 6) Federal Emergency Management Agency website; 7) General Plan 2020 Land Use Framework.

The SanGIS database is the source for information on the exhibits and text related to: 1) existing and planned land uses; 2) public and private land ownership; 3) 100-year floodplain; 4) high and very high quality habitat areas; 5) pre-approved mitigation areas; 6) County of San Diego General Plan and General Plan 2020 land use designations; and 7) location of earthquake faults, past landslides and areas subject to liquefaction.

STUDY RESULTS

EXISTING AND FUTURE CONDITIONS WITHIN CORE STUDY AREA

Environmental Setting

Existing Land Use

The existing land uses within the CSA include agriculture, commercial development, golf courses, dedicated open space, public lands, recreation areas, residential development and undeveloped areas, with agriculture and undeveloped areas the most dominant (Figure 2). The majority of the CSA consists of privately held lands (Figure 3). Parcels characterized by vacant land in primarily the western portion of the CSA are owned by Vessels Limited.

Public lands are limited to land owned by the County of San Diego (County), the City of Oceanside, the State of California, Bonsall and Fallbrook Union School Districts, and the Rainbow Municipal Water District. The San Diego County Water Authority owns an easement for the second California aqueduct, which bisects the river valley near I-15. A water treatment facility owned and operated by the Rainbow Municipal Water District is located in the northeastern portion of the CSA. The County and the City of Oceanside own a number of small parcels throughout the CSA including an operations yard near the SR-76/ Mission Road intersection. Other County owned parcels include land within the river valley preserved as permanent open space

as mitigation for other development projects. The Fallbrook and Bonsall Union High School Districts own parcels in the central portion of the CSA.

Existing Visual Resources

As described in latter sections of this report (Bonsall and Fallbrook Community Plan Goals and Policies), preservation of the visual resources of the river valley is critical to the residents in the area. In general, the CSA and the features of the river valley are visible from private residential areas immediately to the north and south of the river valley and from major public vantage points including SR-76 and I-15.

The primary scenic features of the river valley are the mature and semi-mature riparian areas within the valley floor and the steeply sloping terrain of the northern and southern valley slopes. Rural land uses, dominated by low density residential development, agriculture, the Dulin Ranch horse farm, and vacant land reinforce the overall rural character of the river corridor within the CSA. Other critical visual features identified by the residents in the Community Plans include the historic Bonsall Bridge, mature tree stands and major rock outcroppings.

As shown in Figure 1, a majority of the residences within the viewshed are located on large rural

lots. Commercial and non-residential uses are limited to small commercial areas within Bonsall near the Olive Hill/ SR-76 intersection, and those in Fallbrook near the Mission/ SR-76 intersection.

Views of the CSA are available to motorists on many public roadways. As shown in Figure 1, SR-76 extends throughout the CSA. Both eastbound and westbound motorists traveling along SR-76 have expansive views of the river valley floor and the surrounding slopes. Other public roadways with expansive views of the river valley or the steep slopes surrounding the valley floor include East Vista Way, Old River Road, and West Lilac Road.

I-15 is another major public vantage point into the CSA. Foreground views of the valley to northbound motorists on I-15 are fairly expansive and include both the valley floor and upland areas. Views to the valley from southbound motorists are generally restricted to the area where I-15 crosses the river. Given the short distance associated with the I-15 river crossing, the views of the valley features by southbound motorists are not as expansive or in the foreground of motorist's vision.

Existing Public Safety/ Geologic Hazards, Water Quality Issues and, Hazardous Materials

The following information was taken from the Opportunities and Constraints Report on

Water Quality/ Water Resources prepared for the Master Plan by Ninyo and Moore (January 2005). The impact of the proposed park on current, potential, and future water quality and water resources was evaluated in this report.

Geologic/ Water Quality Hazards

The San Luis Rey River Valley in the CSA is characterized by two predominant geologic units. Active channel and wash deposits are poorly consolidated sand, silt, clay, and gravel in active washes of streams, and active floodplain deposits are comprised of sand, silt, clay, and gravel in active floodplains of the streams. Older surficial deposits consist of old floodplain deposits that are well consolidated, poorly sorted, permeable floodplain deposits of sand, silt, clay, and gravel.

Outside of the active river valley, within the CSA, five geologic units are represented. South of the river valley three geologic units are present including a coarse-grained massive tonalite of Cretaceous age, metasedimentary and metavolcanic rocks of Cretaceous and Jurassic age, and in the eastern portion of the CSA, a Cretaceous-age, white, fine to medium-grained, massive granodiorite. North of the river valley is Cretaceous-age, dark gray, medium to coarse-grained, massive granodiorite, a coarse-grained, light gray tonalite of Cretaceous age, and on the east side of the CSA the same Cretaceous-age

granodiorite is present on the south side of the valley.

Soil types that occur within the CSA are generally conducive to park programming as it is currently envisioned. Five of the six major soil types are slightly to moderately susceptible to erosion, only the riverwash soils within the active river channels have a severe erosion potential. However, the recreation suitability of the soils within the CSA are primarily moderate to severe, indicating that greater than normal effort and expense may be required to develop the areas. Areas with severe suitability problems should only be developed if there is an outstanding aesthetic or other similar reason to develop them. However, with advances in construction technology, construction products, and the availability of a wider range of erosion and sediment control technology, development of even severely restricted soil types may be less difficult than when the soil study was published in 1973. Therefore, some constraints posed by the soil type underlying a given site may be overcome using the best available technology and best management practices to reduce impacts to the river valley.

The amount of use of the park may have an important impact on the water quality of the river. The greater the use of the park, the more opportunity for erosion to occur both during dry and wet periods. The more erodible

soils that are heavily traveled may become dislodged more frequently, causing excessive sedimentation within the river. In areas where trails are created through vegetated areas, the more heavily traveled paths may experience greater vegetative loss and increased erosion. Because multiple groundwater wells are believed to still be present within the CSA, and the status of the wells is unknown, activity nodes should not be located close to the wells in order to prevent the wells from becoming an attractive nuisance. To the extent practicable, the wells should be located, their use and ownership identified, and all inactive wells should be abandoned according to DWR well standards. It could be possible to integrate one or more wells into an activity node or interpretive kiosk with an emphasis on the history of groundwater usage in the basin, if the proper precautions are taken.

The impact of existing surface water and groundwater availability to flora and fauna in sensitive habitat areas or areas that are planned for habitat creation or enhancement may be an issue for some species given the increase in dissolved solids (salts) over the past 60 years. As imported water has been brought into the watershed either directly (e.g., pumping into reservoirs) or indirectly (e.g., irrigation), the level of dissolved solids in ground and surface water has increased.

Hazardous Materials

A total of 119 sites were listed in the hazardous materials database, however several sites had duplicate listings, and some sites listed were not actually located in the search area or were outside the CSA. The only sites listed in the database file of concern to the park would be those with open release cases for hazardous materials. In this case, only the five leaking Underground Storage Tanks (UST) sites fall into that category. If park programming were to occur near the release sites, precautions would be necessary during construction that required significant subsurface excavation. If significant grading is not planned in these areas, then the concerns over the release cases is not significant.

Regulatory Setting

The CSA is governed by several planning and environmental documents and state and local policies, plans, and ordinances as described below.

General Plan/ Regional Land Use Element

The San Diego County General Plan land use designations for the CSA and immediate vicinity generally provide for development of residential uses on large estate lots. Land use designations for the CSA include both the General Plan Regional Land Use Element Regional Categories and the General Plan land use designations.

Regional Land Use Element Regional Categories within the CSA include Estate Development Area; Country Residential Development Areas, Special Study Area and Environmentally Constrained Areas. Estate Development Areas are identified throughout the project vicinity in areas outside of the valley floor. Environmentally Constrained Areas are located within the valley floor. Special Study areas are identified along the I-15 corridor. Country Residential Development areas are identified adjacent to the I-15 corridor and within the eastern portion of the river valley. While the Regional Categories indicate general types of land uses, the General Plan land use designations are intended to identify specific land uses on an individual parcel basis.

The General Plan land use designations, which identify the specific land use type and use regulations within the CSA, are illustrated in Figure 4 and outlined in Table 1.

Table 1
Existing General Plan Land Use Designations
Within Core Study Area

Land Use Designation	Environmental Requirements/ Use Regulations
<ul style="list-style-type: none"> Estate Residential 1 dwelling unit (du)/2.4 Acres Residential 1du/ acre, 2du/ acre Residential 2.9 du/ acre, 4.3 du/ acre, 7.3 du/ acre, 10.9 du/ acre, 14.5 du/ acre Intensive Agriculture General Agriculture: 	<ul style="list-style-type: none"> Minimum residential densities may be required in areas deemed appropriate due to adequacy of public facilities. Allowable residential densities are determined by slope criteria. Clustering of residential development is encouraged to preserve steep slopes.
Specific Plan Area	Development is not permitted in this designation without the approval of a Specific Plan by the County.
Impact Sensitive 1 du/ 20 acre	<ul style="list-style-type: none"> Designation is applied to areas considered unsuitable for urban development for reasons of public safety or environmental sensitivity. Large-lot residential parcels, agricultural pursuits, limited recreational uses, mineral extraction or greenbelts connecting permanent open space may be compatible with this designation. Designation includes environmentally sensitive characteristics such as floodplains, waterbodies, lagoons, marshes, wetlands, steep slopes, vegetation and wildlife habitat; heavy timber, mineral extraction, watershed and desert.
(18) Multiple Rural Use:	Allowable residential densities ranging from one dwelling unit on 4, 8 or 20-acre lots depending on slope. The Multiple Rural Use designation is applied in areas with one or more of the following characteristics: not highly suitable for intensive agriculture; rugged terrain; watershed; desert land; lands susceptible to fires and erosion; lands which rely on groundwater for water supply; and other environmentally constrained areas. This designation is generally applied in remote areas to broad expanses of rural land with overall low population density and with an absence of most public services. The site is zoned as S-92 or General Rural Zone with a minimum lot size of 4 acres.
<ul style="list-style-type: none"> General Commercial: Visitor Serving Commercial 	<ul style="list-style-type: none"> General Commercial Designation provides for commercial areas where a wide range of retail activities and services are permitted. Designation provides areas reserved for commercial recreation and visitor uses catering primarily to tourists and vacationers.
Office Professional:	Designation provides areas for administrative and professional services.

Source: County of San Diego

General Plan 2020

The County of San Diego is currently in the process of preparing General Plan 2020 (GP2020), which is a comprehensive update of the General Plan. GP 2020 is intended to provide a framework for future growth and development patterns for the unincorporated areas of the County to accommodate population increases projected for the year 2020. The update process for the General Plan, which had not been comprehensively updated since 1979, began in August 1998. Although substantial modifications and revisions have been performed on the document over the years, the GP 2020 is intended to present a more realistic and up-to-date assessment of growth projections within the County. GP 2020 is still in the draft phase, and, at the time of completion of this Environmental Planning Opportunities and Constraints Report, the Planning Commission and Board of Supervisors have identified a residential, commercial and industrial land use designation map to provide structure for the GP 2020 Environmental Impact Report and to allow the update to progress. It is anticipated that the draft GP 2020 elements will be completed in 2005. The Environmental Impact Report will be completed based on the draft GP 2020 elements. The land use designations anticipated for the CSA by the GP 2020 update are illustrated in Figure 5 and described in Table 2.

Table 2
General Plan 2020 Land Use Designations
Within Core Study Area

Land Use Designation	Environmental Requirements/Use Regulations
<ul style="list-style-type: none"> Semi Rural Residential (SR-2) Semi Rural Residential (SR-4) Semi Rural Residential (SR-10) 	Semi Rural refers to Low density areas that are typically large lot, single family residential developments where residential is combined with small farms.
<ul style="list-style-type: none"> Rural Lands (RL-40) Rural Lands (RL-20) 	Rural Lands include very low density residential areas that are characterized by rural activities such as agriculture, grazing, outdoor recreation, and open space rather than by residential use.
Specific Plan Area	General Plan 2020 proposes to retain the land use designation where a Specific Plan has already been approved.
<ul style="list-style-type: none"> General Commercial Rural Commercial 	<ul style="list-style-type: none"> General Commercial designation provides for commercial areas where a wide range of retail activities and services is permitted. Rural commercial designation provides for a wide variety of small scale and support services to meet the daily needs of local residents or the traveling public.
Village Residential (VR-2.9, VR-2, VR-4.3, VR-7.3, VR-10.9, VR-14.5)	<p>Designation provides for High and Medium density residential development.</p> <ul style="list-style-type: none"> High density residential is typically duplexes or multifamily development. Depending on neighborhood size secondary and compatible uses such as neighborhood retail, schools, and parks should be encouraged. High density areas are referred to as a Village Core. Medium density residential uses are typically single-family developments, although some multi-family housing could be developed within this density range.

Source: County of San Diego (January 2005)

Bonsall and Fallbrook Community Plans

The Bonsall and Fallbrook Community plans were “developed in conjunction with the Regional Land Use Element of the General Plan to provide guidelines by which land uses can be made.” Figure 6 shows the boundaries of the Community Plans within the CSA. Figure 5 illustrates the land use designations from the GP 2020 update proposed within the CSA.

The following is a summary of the intent of Community Plans as described in the Bonsall Community Plan: “Within each chapter of the plan text are goals, findings, policies and recommendations. The term “goal” as used in this Plan Text refers to a purpose or ultimate end toward which an effort is directed. The goals, which follow, reflect a thoughtful analysis of the citizens of Bonsall and the kind of community that is desired. The goals are not regulations, nor do they substitute for detailed analysis of current issues. They are intended to give direction to detailed planning studies, which will result in definitive methods, programs, and recommendations for attaining these goals. The use of the term “findings” in this Plan Text refers to the basic statements of fact. The term “policy” as used in this Plan Text refers to those principles, which guide the allocation of County resources toward prescribed outcomes consistent with the goals. The policies contained within this Community Plan Text should be regarded as applications of

broad General Plan policies which are designed to fit the specific or unique circumstances existing in the individual communities.”

Bonsall Community Plan Goals and Policies

Table 3 summarizes the environmental goals and policies from the Bonsall Community Plan that are relevant to the proposed Master Plan effort.

Table 3
Bonsall Community Plan Goals and Policies
Relevant to Master Plan

Subject	Goal	Policy
Community Character	Preserve and Enhance the Rural Character of Bonsall through the protection of agriculture, estate lots, ridgelines and community's natural resources.	<ul style="list-style-type: none"> Slopes shall be a significant factor when determining the appropriate Plan designation. The Bonsall Bridge should be preserved. Buildings should be sited below ridges or set back to minimize visual impacts.
Land Use	To Preserve and Enhance the Rural Community Character of Bonsall, While providing adequate levels of local services to residents, and allowing a diversity of land uses.	<ul style="list-style-type: none"> All proposed urban uses shall be confined to Country Town and Specific Plan Areas. Grading should be contoured to blend with natural topography. Significant natural resources and features should be protected. Examples include: lakes, ponds, streams, marshes, riparian areas, wetland areas, habitats, large boulder clusters, individual trees or stands, and open space in its wild or natural state. The floodplain area may not be elevated to provide a buildable area for a habitable or permanent structure, nor may the waterway or natural drainage course be channeled unless it can be shown that they will not be detrimental to any natural resources within the floodplain and will result in a more environmentally sensitive project.
Agriculture	Protect and encourage existing and future agriculture/ horticulture as a prominent land use throughout the Bonsall Area.	
Circulation	Develop a circulation system, which will preserve the rural character of the community and provide a safe, balanced transportation system, which includes automobile, bicycle, equestrian, pedestrian and mass transit.	<ul style="list-style-type: none"> Establish and coordinate a separate system, within the community of bikeways, equestrian and pedestrian trails connecting residential to schools, recreational facilities and the Country Town. Promote safe and attractive pedestrian, bicycle and equestrian crossings at logical points on Circulation Element Roads.
Conservation	<ul style="list-style-type: none"> Promote an Ecological Approach to the Preservation, Conservation and Management of all natural resources. Preserve the unique natural and cultural resources of Bonsall and the San Luis Rey River and associated watershed while supporting its traditional rural and agricultural lifestyle. Preserve native vegetation and wildlife habitat in the Bonsall Plan area and especially in the dominant San Luis Rey River Floodplain and associated drainages to encourage natural processes and maintain genetic resources in a dynamic and evolutionary state. 	<ul style="list-style-type: none"> Encourage the identification, mapping and preservation of the most important viable agricultural lands in Bonsall.

Table 3 Continued

Cultural Resources	Identify and preserve historic and prehistoric archeological resources and provide adequate protection of new sites as they are discovered.	
Floodplains	Preserve all floodplains and watercourses in their natural state whenever feasible while providing protection from loss of life and property preventing or strictly regulating development in floodplains and other wetland areas.	<ul style="list-style-type: none"> • Provide adequate setbacks from all watercourses. • Avoid the alteration of natural riparian habitat within the San Luis Rey River. • Encourage the creation of "Mitigation Banks" within the floodplains of the Bonsall Plan area for development projects.
Open Space	<ul style="list-style-type: none"> • Provide a system of open space, which preserves the unique ecological elements, geologic features, and scenic resources. • Preserve Natural Habitat and Buffer Zones, other sensitive lands inappropriate for development, and active and passive recreation areas to create a healthy well-balanced viable community. 	<ul style="list-style-type: none"> • Recommend that a Comprehensive Resource Management Plan for the San Luis Rey River be established. • Encourage County to cooperate with other jurisdictions to consolidate holdings for conservation, preservation and recreational uses.
Vegetation and Wildlife	<ul style="list-style-type: none"> • Identify and preserve Federally and/or state listed endangered, threatened, or sensitive species, both animal and plant, and their associated habitats and communities. • Whenever possible, protect all sensitive lands and habitat as identified by federal, state, and County guidelines such as Oak and Willow Riparian, Coastal and Diegan Sage Scrub, Native Grasslands and Wetlands. • Create Naturally Vegetated opens space corridors of sufficient size to maintain biological diversity and functional access for wildlife between varying habitats and to prevent fragmentation of habitats and the creation of Biological "Islands." 	<ul style="list-style-type: none"> • Avoid the alteration of the natural riparian habitat along the San Luis Rey River. • Consider restoration and rehabilitation of former or degraded riparian areas as a form of mitigation. • Preserve and encourage wildlife corridors including buffer areas, which are essential to the long-term viability of wildlife populations through open space easements or other appropriate means.
Visual Resources	Prevent the degradation of high quality and unique visual resources of the San Luis Rey River Valley.	<ul style="list-style-type: none"> • Minimize grading to preserve natural landforms, major rock outcroppings, and mature trees. • Preserve ridgelines. • Encourage floodplains, watercourses and drainages to be protected and maintained in or, if necessary restored to their natural dynamic functional condition with appropriate buffer zones provided.
Parks and Recreation	Ensure that regional park facilities are compatible with the rural character of the community and that they enhance the recreational experience of the residents.	<ul style="list-style-type: none"> • Encourage the acquisition and development of park lands which will protect outstanding scenic and riparian areas, cultural, historic and biological resources. • Encourage the use of school sites for active recreation. • The San Luis Rey River and other wetlands will be incorporated into park areas for recreational, educational, and preservation purposes whenever possible. • Promote the location of a cultural information center in Bonsall to facilitate community understanding of the region's cultural history.

Source: County of San Diego

Fallbrook Community Plan Goals and Policies

Table 4 summarizes the environmental goals and policies from the Fallbrook Community Plan that are relevant to the proposed Master Plan effort.

County Zoning Ordinance

The Zoning Ordinance applies a land use zone to individual assessors parcels. According to the Zoning Ordinance recreation and park uses are generally allowed in any other zone such as residential, commercial, industrial, agricultural or special purpose either by right or with a use permit.

In San Diego County the zone that underlies a General Plan land use designation may not be the same land use type as the General Plan designation. For example, an area may be designated as residential by the General Plan but may be zoned for agriculture. As a result, the General Plan is considered the appropriate document to identify the land use anticipated for an area by the County. Typically when new development is proposed the parcel is rezoned to match the General Plan land use designation.

The Zoning Ordinance also provides a list of permitted uses within each zone. The permitted uses within a zone are divided into

Table 4
Fallbrook Community Plan Goals and Policies
Relevant to Master Plan

Subject	Goal	Policy
Floodplain and Open Space	<ul style="list-style-type: none"> • Preserve Natural Creek Channels. • Encourage preservation, as permanent open space areas unsuitable for intense development. 	<ul style="list-style-type: none"> • Floodplains and natural stream courses should be preserved in permanent open space and uses limited to recreational or light agricultural uses.
Agriculture	<ul style="list-style-type: none"> • Support light agricultural uses. • Support agriculture and agriculturally oriented services that promote Fallbrook's Unique Agricultural Specialties. 	
Parks and Recreation	<ul style="list-style-type: none"> • Encourage provision of recreational facilities. • Encourage provision of a well balanced system of recreational facilities (public and private) to serve the entire area and meet the needs of all ages through both active and passive recreational opportunities. 	<ul style="list-style-type: none"> • Support the continued improvement and development of regional and community parks. • Encourage acquisition of centrally located park sites. • Voluntary dedication and development of equestrian and hiking trails throughout the community should be encouraged. • No public recreational off-road vehicle use area should be designated in the Fallbrook Planning Area due to fire hazard and environmental sensitivity. • Encouragement should be given to private development of local golf course, archery ranges, riding stables and other recreational facilities.
Community Beautification and Design	Encourage sensitive design for all new development within Fallbrook as well as encourage the upgrading and beautification of existing development.	Mature trees and significant land forms shall be preserved in all public and private development projects.
I-15 corridor	Preserve to the extent possible, the scenic attributes of the I-15 corridor.	

Source: County of San Diego

uses that are allowed by right and uses that may be permitted under special circumstances such as in conjunction with approval of a Minor Use Permit or a Major Use Permit (MUP).

In general, passive and active recreational uses and open space uses are permitted in any zone either by right or with the approval of an MUP. Based on the language in the Zoning Code, it is anticipated that the uses proposed by the Master Plan would be covered under the Civic Use Type land use classification (Section 1300 of the zoning ordinance). Within the Civic Use Type it is anticipated that any passive recreation use projects required by the Master Plan would be included in the Essential Services Use Type (Section 1335). Any passive or active recreational facilities would likely be included in the Major Impact Services and Utilities portion of the Civic Use classifications. The Civic Use land use classification includes other categories such as Community Recreation (Section 1325), Cultural Exhibits and Library Services (Section 1330) that may cover other Master Plan uses such as recreation uses within buildings and exhibits of cultural resources.

According to the Zoning Ordinance Use and Enclosure Matrix, Civic Uses are allowed in any other zone such as residential, commercial, industrial, agricultural or special purpose either by right or with a use permit. Passive

recreational uses that can be defined as Essential Services are generally permitted by right in any zone. Uses requiring more intensive development such as Community Recreation and Major Impact Services and Utilities typically require approval of a major use permit. If it can be shown that future Master Plan uses can fall under these Civic Use categories it is anticipated that the County could approve an individual project in combination with a Major Use permit without needing a rezone.

County of San Diego Resource Protection Ordinance

The County of San Diego adopted the Resource Protection Ordinance (RPO) in 1991 to strengthen guidelines for development within County's wetlands, wetland buffers, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites such that preservation of these sensitive lands would be guaranteed. The RPO applies to Tentative Parcel Maps, Tentative Maps, Major Use Permits, Site Plans, Administrative Permits, Vacations of Open Space Easements, and Certificates of Compliance filed pursuant to County Code Sections 81.616.1 and 81.616.2. However, according to the County of San Diego, this ordinance does not apply to park projects, as they are not required to obtain any of the permits mentioned above.

Federal Emergency Management Agency – Floodplains

The following is a summary of the Opportunities and Constraints Report River Hydraulics and Flood Plain Issues prepared by Nasland Engineering (December 2004). The purpose of this study is to determine the regulatory and physical constraints resulting from potential floodwaters, and to identify resulting opportunities and constraints within the CSA.

This study has included a delineation of the 10-year and 100-year floodplains within the Core Study Area. A 100-year flood is one that is predicted to be exceeded in magnitude once in every 100 years on average. Stated another way, a 100-year flood has a 1% probability of occurring in any particular year. The hydrology and the hydraulic model utilized in this study were provided by the County of San Diego. Using that information, Nasland Engineering has evaluated the area inundated by the 100-year and 10-year flood events and compared the limits of inundation by the 100-year flood to current flood plain mapping.

The boundaries of the 10 year flood have also been estimated for the Master Plan. The limits of the 10 year flood are much more sensitive to minor physical changes in the riverbed and banks than are those for the 100 year floodplain.

The Federal Emergency Management Agency (FEMA) identifies areas within floodplains. The Mitigation Directorate's Flood Hazard Mapping Technical Services Division of FEMA maintains and updates the National Flood Insurance Program maps. Flood maps identify flood risk locations based on local hydrology, topography, precipitation, flood protection measures such as levees, and other scientific data.

Federal and County regulations regarding development in flood prone areas are intended to promote public safety and to limit property damage. Some types of activities such as residential structures and structures used as workplaces are clearly prohibited within designated flood hazard zones. Other activities such as agriculture, recreational uses and parking are allowed under certain circumstances. There is room for interpretation and judgment regarding certain non-residential structures. A floodplain must be capable of withstanding flood flows. Grading or anything constructed within a floodplain must not impede flood flows. As an example, a light pole would likely be acceptable, whereas a baseball backstop might not.

State code contains provisions for the alteration of floodplains, and the consequent revision of Flood Hazard Zones. Assuming a proposed physical alteration is acceptable from

an environmental standpoint, a Conditional Letter of Map Revision (CLOMR) must first be processed with FEMA. The alteration may be made only if and after the CLOMR is approved. Once the alteration is completed, a Letter of Map Revision (LOMR) must be processed. The FIRM is then changed to reflect the altered floodplain.

Floodplains are better suited to some uses than to others. Even where there is little or no danger to life or property, frequent flooding can present a maintenance problem for highly landscaped areas and certain types of facilities. Some judgment is necessary when planning recreational uses in floodplains. For example, a playing field intended for winter sports should not become inundated with minor rainfall. Similarly, a trail that is frequently under water may be costly to maintain and repair and may become unusable too often. Electrical systems that are subject to inundation need to be waterproofed and require a much higher degree of maintenance than similar systems that remain dry. Where possible, it is best to place such facilities outside the path of frequently occurring storm water flows. For the purpose of this study, the 10-year storm has been selected as a reasonable break point for siting facilities that may be sensitive to frequent inundation.

North County Multiple Species Conservation Program

The CSA is located outside of the currently approved boundaries of the County's Multiple Species Conservation Program (MSCP), but is within the Draft North County MSCP (NC-MSCP) subarea of the County's MSCP. The NCMSCP will provide a regional conservation planning framework for the unincorporated portions of northwestern San Diego County. The overall goal of the MSCP is "to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitats, thereby preventing local extirpation and ultimate extinction" (County of San Diego MSCP). The MSCP addresses the potential impacts of development to covered species and their habitats and creates a plan to mitigate for such impacts. As part of the development of the MSCP, the wildlife agencies [U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG)] and the County of San Diego developed a Habitat Evaluation Model map, which identifies areas of low, medium, high, and very high habitat value. The MSCP is designed to encourage development within lower habitat value areas and preservation within high and very high habitat value areas or Pre-approved Mitigation Areas (PAMA). The majority of the CSA has been located within a Draft PAMA (Figure 9) due to the presence of sensitive bio-

logical resources including sensitive habitats (i.e., San Luis Rey River and associated riparian habitats) and listed species (arroyo toad, coastal California gnatcatcher, least Bell's vireo, etc.). The San Luis Rey River corridor, and its associated vegetation communities, has been identified as an important preserve area for the NCMSCP.

Planned Development Within Core Study Area

Development is currently planned within and adjacent to the CSA. Development projects with applications on file (as of January 2005) with the County of San Diego Department of Planning and Land Use are illustrated in Figure 10.

The projects anticipated in the vicinity of the CSA include primarily tentative maps (TM) and tentative parcel maps (TPM) for residential subdivisions. As shown in Figure 10, the larger planned development projects within and immediately adjacent to the CSA are Tentative Maps that are in various stages of processing. Other projects on file for large parcels within the CSA include modifications to existing Specific Plans associated with the Sycamore golf course on Gird Road, the Vessels Limited property and, the Pala Mesa Golf Resort. A Major Use Permit (MUP) for an existing mobile home park near I-15 is also proposed on a large property within the CSA.

Smaller projects that will not involve any additional land disturbance including plan checks for grading permits, lot line boundary adjustments, minor use permits, and property line variances are also shown on Figure 10. As shown on Figure 10, the minor development projects proposed within the CSA are limited to small parcels near the Mission Road/ SR-76 intersection and the northeastern corner of the CSA in proximity to I-15.

The development projects shown in Figure 10 are at various stages of processing by the County. The timing of project approval and construction will vary. Certain projects may be completed within a year and some have been on file with the County for multiple years and schedules for construction have not been identified.

A major public project proposed in the CSA is the widening and realignment of SR-76 by Caltrans. Caltrans has identified alternatives for the realignment or widening of SR-76 from the East Vista Way/ SR-76 intersection to the SR-76/ I-15 intersection. Caltrans is currently preparing a draft Environmental Impact Report (EIR) for the portion of the project that extends to the SR-76/ Mission Road intersection, which is anticipated to be distributed for public review in 2005. Although the official alignments have not been released, it is understood based on information provided to the County that the

realignment or widening alternatives would involve extending the roadway further into the river valley floor. This expanded right-of-way would be adequate to accommodate a 6 lane expressway if future traffic necessitated this additional capacity.

CONSTRAINTS WITHIN CORE STUDY AREA

The literature and data search and associated analysis resulted in the identification of the following environmental/ planning constraints within the CSA. These constraints may restrict the location of physical improvements. However, features such as steep slopes, sensitive biological resources, visual resources, and cultural resources may also be incorporated into the design of proposed improvements or provide interpretive opportunities.:

Land Acquisition Potential: The lack of public property within the CSA creates a fundamental constraint to park development, as the County will have to enter into agreements with private property owners before implementation of any park improvements;

Steep Slopes: Areas with a slope gradient over 10% are not suitable for active recreational uses;

Land Use Considerations: Presence of existing land uses or restrictions including urban development or land use restrictions such as easements or Planned development of a project on vacant land present a constraint to park development;

Sensitive Biological Resources: Presence of sensitive biological resources including wetlands and rare upland vegetation communities, sensitive plant and animal species and their proposed or designated critical habitat, and resources under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Game, and the Regional Water Quality Control Board present constraints to park development;

Visual Resources: Critical visual resources such as historic sites (i.e. Bonsall Bridge), areas of mature native vegetation, wetland habitats, major rock outcroppings, agriculture, and equestrian facilities present constraints to park development; Avoiding visual resources such as rock outcroppings may restrict the location of certain improvements. However, opportunities exist to design proposed improvements to incorporate visual resources such as rock outcroppings, native vegetation, equestrian and agricultural facilities;

Floodplains: Presence of 100-year flood plain and 10-year flood present constraints to park development;

Geotechnical Hazards: Presence of known geotechnical hazards such as faults, landslides, areas subject to liquefaction, or

highly erosive soils present constraints to park development; and

Cultural and Historic Resources: Known significant cultural, historic, and prehistoric sites present constraints to park development.

Figure 11 illustrates anticipated opportunities and constraints within the CSA related to existing cultural or historical resources. Cultural sites that are considered to be opportunities may be either stand alone destinations, or smaller components of the overall cultural/ biologic interpretive thread integrated into the trail network. The Master Plan could recommend that these sites be placed in permanent open space and that interpretive kiosks be located in the area to provide information on the sites to park visitors.

The results of the constraints evaluation are presented in Figures 12 and 13. Figure 12 provides additional details on the constraints within the CSA in terms of the vegetation categories within the CSA. The graphic is described in greater detail in the Biological Resources Opportunities and Constraints Report prepared by Mooney • Jones & Stokes (July 2005). As shown on the Figure, vegetation communities present within the CSA can be grouped into the following general vegetation categories: 1) Wetlands; 2) Rare Uplands

(which include native grasslands, scrubs/chaparral and oak woodlands); and; 3) Common Uplands (which include agriculture, disturbed habitat, eucalyptus woodland and non-native grasslands). In general, areas characterized by non-disturbed wetland and Rare Upland habitat are considered to be precluded from park development that would require significant grading or intensive disturbance of existing terrain. Disturbed land or land containing urban uses is not constrained by the presence of sensitive biological resources.

Figure 13 indicates areas where one or more of the following constraints exist within the CSA: steep slopes (over 10 percent), Wetland and Rare Upland Vegetation Categories (from Figure 12), 10 year flood, and existing development. While Figure 13 identifies areas with constraints to park development, it does not indicate levels of constraints or levels of sensitivity. For example, an area that supports existing slopes with a gradient greater than 10 percent and an area that supports sensitive biological resources do not represent areas with the same level of sensitivity. Park facility site design will differ between an area that is characterized by steep slopes and an area that contains sensitive biological resources. A description of these constraints by segment is presented below.

Constraints in Segment 1

As shown in Figures 12 and 13, within Segment 1 areas where constraints exist include the river valley floor and the northern slopes of the valley. Constraints in this area consist primarily of high quality habitat associated with riparian areas, the 10-year floodway and areas containing steep slopes. Where Figure 13 shows areas subject to multiple constraints within Segment 1 those constraints are typically a combination of floodplain and wetland habitat.

Constraints within a major drainage that connects with the river valley are also shown on Figure 13. Two or more constraints also exist along Little Gopher Canyon Road. These constraints consist primarily of riparian habitat and floodway within Little Gopher Canyon Creek.

Areas that include significant archaeological resources are located throughout the valley floor in Segment 1 (See Figure 11). Approximately five prehistoric sites including bedrock milling and campsite features are included in Segment 1. The individual sites do not cover a relatively large area. However, disturbance of the sites with park facilities would be precluded.

The Bonsall Bridge is a historic resource within Segment 1. Existing interpretive features are located in proximity to an area where the

bridge can be viewed from an existing public vantage point.

Constraints in Segment 2

Constraints within Segment 2 (See Figure 13) include combination of 10-year floodplain, wetland habitat and existing urban development in Bonsall including commercial development, residential development, and the San Luis Rey Downs golf course located near the SR-76/ Olive Hill Road intersection and along Old River Road. Constraints to the north and south of Little Gopher Canyon Creek consist primarily of steep slopes and existing residential development. Constraints located along Camino Del Rey in Segment 2 include primarily riparian and floodway issues associated with Moosa Creek and steep slopes.

Areas surrounding the golf course include significant cultural resources sites (See Figure 11). Approximately two prehistoric bedrock-milling features and campsite features are located in within Segment 2. These sites do not cover a large area and should not present a substantial constraint to implementation of park facilities. However, park facilities should avoid disturbance of these individual sites.

Constraints in Segment 3

Constraints in Segment 3 are primarily associated with wetland areas, existing

development and steep slopes. Constraints shown in Figure 13, near the SR-76/ Mission Road and SR-76/ Gird Road intersections include riparian habitat and the boundaries of the 10-year floodplain. Other constraints in the Segment 3 valley floor include: riparian habitat and 10 year flood areas combined with existing development including: 1) the equestrian/ recreation facilities at the Vessels Limited property and 2) the Sycamore Ranch golf course.

Significant cultural resources are located in Segment 3 (See Figure 11). A prehistoric village site is located in proximity to SR-76. Any disturbance of the village site must be avoided in sighting park facilities.

Constraints in Segment 4

As shown in Figure 13, Segment 4 consists primarily of vacant land. Constraints within Segment 4 include presence of riparian habitat and 10 year flood. In the northern portion of Segment 4 constraints include steep slopes. Additional constraints in Segment 4 include: riparian habitat and 10 year flood areas combined with existing development including: 1) existing mobile home park and Rancho Monserate Country Club west of Old Highway 395 near I-15; 2) Existing agricultural/ equestrian use near Sage Road/ SR-76 intersection; 3) Rainbow Municipal Water

District Facilities; and 4) The San Diego County Water Authority Second Aqueduct easement.

Important archaeological sites are located within Segment 4 (See Figure 11). The specific location of the sites should be considered in sighting any park facilities. Multiple prehistoric bedrock milling and campsite features are located within the valley floor and slope areas within Segment 4. A prehistoric settlement is located immediately adjacent to the CSA east of I-15.

OPPORTUNITIES WITHIN CORE STUDY AREA

The opportunities for park development must address the goals of the Community as expressed in the public community meetings and in the Bonsall and Fallbrook Community Plans. The primary opportunities for Master Plan programs should take advantage of the natural resources of the river valley by limiting the amount of park development allowed within areas characterized by native vegetation and steep slopes. Opportunities exist to implement low impact passive recreational uses that take advantage of the visual, biologic, and cultural resources within the river valley, including extension of pedestrian/ equestrian trails.

Based on the goals of the community, as expressed in the Community Plans, public meetings, and focus group meetings, the following criteria have been identified for locating park facilities.

Tier A Park Sites:

Tier A sites can accommodate park programming that requires significant grading or site disturbance. The types of programming that could occur on Tier A sites are athletic fields, staging areas, parking lots, paved roadway access areas, interpretative center, equestrian center, community gathering/ performance venue, etc. In general, these are sites onto which the more intense (active) park program elements, and more intense park use, should be consolidated. Criteria for locating Tier A park programming include the following:

Land that is characterized by a slope gradient of 0-10 percent.

Vacant land consisting of disturbed non-native vegetation or active/ fallow agricultural uses.

Areas outside 10 year flood – Tier A programming between the 10 year flood and 100 year floodplain is generally acceptable, and is a good use of this constrained land.

Accessibility from major roadways by automobile.

Land occupied by school – possible joint use park/ school.

Tier B Park Sites:

Tier B sites can accommodate relatively low-intensity passive park programming that is primarily additive (no significant grading, no significant removal of vegetation, and minimal direct/ indirect impacts on sensitive species and biological resources). The types of programming that could occur in Tier B sites are picnicking, bird watching, interpretative gardens, interpretive kiosks, etc. These small Tier B park/ program nodes would be dispersed throughout the River Park and integrated into the trail network.

The Tier B park program elements are relatively small (generally less than 0.25-acre), involve minimal grading, minimal removal of existing native vegetation, do not require access by automobile, and would involve minimal maintenance by the County. These sites also have existing pedestrian/ horse access (such as a road edge or unofficial trail), are currently disturbed and/or have minimal vegetative cover. Potential criteria for locating Tier B park programming include the following:

Vacant land within 100 year. floodplain/ riparian areas that has been previously disturbed and remains in a significantly disturbed condition, with minimal native riparian vegetation cover. If within the 10 year. flood, program element must be either raised on piles above 10 year flood, structured to resist flood, or readily replaceable/ maintainable.

Vacant land in upland areas that consist of disturbed vegetation, or minimal cover by native vegetation.

Accessibility from existing unofficial pedestrian/ equestrian trails or road edges (if within riparian zone), or from existing/ potential new trails or road edges (if within upland areas).

Parcels that are partially within constrained areas and partially characterized by vacant developable land.

Tier C Park Sites:

Tier C sites will consist of the hiking, biking, and equestrian trails. These sites will be linear in nature. The locations of the trails will need to be solidified in coordination with the landowners, although the planning team will make recommendations regarding critical linkages to Tier A and Tier B park sites, surrounding communities, and existing activity nodes, and regional trail connections.

Fragments of the existing unofficial trail network could be improved and utilized as the framework of the future official trail system with minimal marginal impacts upon the surrounding biologic communities, as these linear systems are currently in a disturbed state. The construction of new trails or improvement of existing unofficial trails will require minor grading, minimal vegetation clearing, and possibly fence installation. Criteria for locating Tier C park programming include the following:

Vacant land within floodway/ riparian areas or through vacant land within parcels occupied by urban development or disturbed habitat.

Vacant land in areas with a slope gradient of 0-50 percent. Trails can be developed on areas containing steep slopes. Trails on steep slopes can take advantage of views.

Where passing through sensitive habitat, official/ improved trails should be located upon existing unofficial trails when possible, to minimize impacts.

Opportunities by Segment for Tier A and B Uses

Based on these criteria and the constraints evaluation in the previous section, general areas where Tier A and B park programming

could be located were identified. These areas and sites are identified in Figure 14. Tier A and B areas identified in Figure 14 are intended to show where multiple small park facilities could be located. Many of the Tier B areas include sensitive vegetation and steep slopes. Impacts to these resources would need to be minimized at the site design level. The Tier B sites are generally small areas of disturbed land surrounded by riparian areas and within the 10 year flood. Tables 5 and 6 show how each Tier A and B area and each Tier B site conform to the opportunity criteria listed above for Tier A and B uses.

As shown in Figure 14 and Table 5, the Tier A areas meet the criteria for locating larger active recreation uses. The terrain on all but two of the Tier A areas consist of slopes with a less than 10 percent gradient. A majority of the areas contain vacant disturbed land that is free of sensitive biological resources. None of the Tier A sites contain wetland or rare upland vegetation. Mitigation for impacts to biological resources, if required, would be limited to offsite preservation of upland habitats. An important factor in choosing Tier A areas is that a majority of the areas are completely or mostly outside of the 10 year flood. It was assumed for purposes of this analysis that structures could not be placed in the 10 year flood.

As shown in Figure 14 and Table 6, it was assumed for purposes of locating Tier B opportunity areas that areas characterized by constraints were not necessarily areas that would be precluded from development. It is anticipated that with many constraints such as riparian habitat, floodway and steep slopes that a project could be designed that addresses these constraints and accommodates the proposed use. For purposes of this analysis it was also assumed that the County would seek to enter into agreements with private landowners to implement park developments. As a result, facilities do not need to be restricted to public land.

Potential locations for Tier B sites related to trails such as trail heads, bird watching areas and small picnic areas within the valley floor and in proximity to established riparian areas are shown in Figure 14. The locations of these Tier B sites are based on review of a recent aerial and are intended to reflect areas where mature riparian vegetation is absent. It is assumed, for purposes of this analysis, that any of the Tier B sites shown on Figure 14 would be limited to extremely small park facilities and that impacts to riparian vegetation associated with site construction would be avoided.

The Tier A and B areas and sites were identified based on the constraints and the opportunity criteria listed above. A majority of the opportunities are on privately owned land and placement of any park facilities in these areas would be subject to approval by the private landowner. The Vessels Limited property was not identified as an opportunity area for Tier A and B sites because the existing recreation, residential and equestrian uses on the site are considered to be examples of the rural visual character of the area.

Cultural Resources Opportunities and Constraints within CSA

As shown by comparing Figures 11 and 14, Tier A, Areas A1 and Tier B areas and sites B1 through B9 and B12 are located in an area that contains sensitive cultural and historic resources that could be accessible to park visitors. Historic resources include the original Bonsall Bridge that would be partially visible from these areas. Consideration should be given to connecting these areas with this historical feature. Significant cultural resources are also located in proximity to the Bonsall Bridge that could also be a destination for park visitors. These resources should be placed in an open space easement and potentially an interpretive kiosk and trail could be located in the easement that would provide information on the sites to visitors.

Tier A Areas A5, A6 and A8 and Tier B areas and sites B19 and B20 are located in proximity to significant prehistoric sites (See Figure 11). Although the individual sites must be avoided, interpretive kiosks and a trail could be extended near the sites.

As shown in Figures 11 and 14, an area consisting of cultural resource sites is located south of Tier A areas A9-A11. This site is a large prehistoric village. Opportunities exist to locate an interpretive kiosk at the village site and extend a trail to the site.

As shown in Figures 11 and 14, the area in proximity to Tier A Area A12 and Tier B areas and sites B33 and B34 includes cultural resources sites that could represent an opportunity for park visitors. These sites consist of both surface and subsurface components that, if preserved, in open space could represent a destination for pedestrians on the trail network.

Cultural resource sites are located in proximity to Tier B Area B35 and Tier A Area A-15. These sites consist of fragile prehistoric resources and trails or interpretive kiosks should not be located in proximity to these sites. The specific setbacks from these sites will need to be determined when specific park facilities are proposed near these areas.

As shown in Figures 11 and 14, a cultural resources site is located immediately to the east of Area B39. The site is a large prehistoric settlement. The opportunity exists for trails to be extended to the site and interpretive kiosks to be located at the settlement.

Opportunities for Tier B and C Trail Uses

Figure 15 illustrates existing unofficial existing trails where Tier B and C pedestrian/equestrian trail uses could be located. The focus for locating any trail corridors would be to utilize existing trails. As described above, the opportunity criteria for Tier C uses require that trails and trailheads be located in areas devoid of native vegetation where feasible.

However, based on the topography and riparian vegetation characteristics in the valley as well as the extent of the local trails, any interconnected trail system would need to extend partially within areas characterized by native riparian vegetation, the 100 year floodplain and 10 year flood. As discussed previously, potential locations for Tier B uses related to trails such as trail heads, bird watching areas and small picnic areas within the valley floor and in proximity to established riparian areas are shown in Figure 14. It is assumed, for purposes of this analysis, that any of the Tier B sites shown on Figure 14 would be limited to extremely small park facilities and that impacts to riparian vegetation associated

with site construction would be avoided. In addition, the Master Plan trail system would not necessarily require use of all of the Tier B sites shown in Figure 14. The availability of these sites would be based on authorization from the landowner. In addition, some of these sites could be considered for wetland restoration efforts.

Based on the vegetation characteristics and topography of the CSA, it appears that a trail corridor could be located along the southern valley floor and upland areas. Locating a trail corridor along the southern portion of the river valley would take advantage of both the accessibility of the valley floor and the adjacent upland areas. As shown in Figure 13, areas characterized by disturbed vegetation or existing agricultural uses are located throughout the southern portion of the valley floor. These areas are accessible by West Lilac Road and Old River Road. Disturbed areas or areas characterized as agricultural uses near the valley floor north of Old River Road should be the focus of any equestrian staging areas or trail heads with parking.

The corridor along the southern portion of the valley floor could include upland areas where trails could also be extended south of Old River Road. Many of these upland areas are characterized by either agricultural lands or native upland vegetation such as coastal sage scrub. Based on the vegetation characteristics

RECOMMENDATIONS

of these areas it is anticipated that a trail could be designed in a sensitive manner to avoid extensive disturbance of existing mature vegetation. However, to take advantage of potential vantage points some trails may need to be extended into areas containing sensitive upland vegetation. Expansive views of the valley floor are available from higher elevations on southern slopes of the valley. Areas with expansive views are primarily located within Segment 3 near Old River Road and north of West Lilac Road.

Another option for a trail corridor could involve placing a trail along the right of way of any SR-76 expansion. The trail could not be located adjacent to the travel lanes considering the amount of traffic that would utilize the expressway. The optimal situation for locating a trail in the right-of-way would be situations where the trail could be located at, above, or below grade from the travel lanes but within the right-of-way.

It is anticipated that the specific alignment of any trail planned within the CSA would be determined by the presence of willing sellers or private property owners that would be willing to place an easement over their property in favor of the County. Considering, as shown in Figure 3, that a majority of the property within the CSA consists of private landowners, extensive public coordination should occur before any trail corridor is included in the Master Plan.

The San Luis Rey River Park presents a unique opportunity to provide a much needed recreational amenity to the North County region. As such, Tier A, B, and C sites and park programming should provide for both local and regional recreational demands.

All park sites should be developed in a manner that minimizes impacts upon sensitive biologic resources, while providing desirable access to, and interpretation of, the diverse biologic, cultural, and hydrologic resources within the San Luis Rey River corridor. Where Tier B and C programming must be inserted within sensitive biologic areas to achieve recreational goals, it is recommended that they are placed on disturbed or sparsely vegetated sites that are currently accessible from the existing unofficial trail network. These park elements will have to be carefully designed to minimize impacts upon the surrounding resources. Any park development in sensitive biologic areas would require coordination with the USFWS and the CDFG and possibly permits in accordance with the Endangered Species Act to allow any disturbance of this vegetation.

It is recommended that a mitigation program be identified in the Master Plan for any specific park development that would involve impacts to sensitive biological resources. By including a general mitigation program for any proposed programming impacts in the Master Plan,

the state and federal agencies could be assured that the Master Plan as a whole, if implemented, would not adversely impact how the river valley supports sensitive biological, cultural and hydrologic resources. To assist in the creation of this plan, potential locations for wetland creation and restoration efforts are illustrated in the Biological Opportunities and Constraints Report. As a part of an overall mitigation strategy, disturbed areas within the riparian habitat (unofficial trail/ road areas, and previously disturbed industrial sites) could be restored to riparian habitat.

Tier A programming should be located out of the 10-Year Floodplain, out of the most wetland and Rare Upland vegetation categories (shown in Figure 12), and in low slope areas (under 10%). Structures and lighting should also be located above or out of the 100-year floodplain. Tier B programming should be located in disturbed or unvegetated areas where park facilities can be connected with the Tier C trail network to foster appreciation, and interpretation, of the river corridor's diverse resources. The Tier C trail network should provide access to the diverse range of river corridor environments (and experiences), from exposed upland chaparral hillsides with expansive views over the river to secluded dense riparian woodlands and the river itself. To the extent feasible the official trail network should capitalize upon the existing network unofficial trails, thus minimizing the estab-

ishment of new trail corridors through sensitive biologic areas. Minimal impacts of improved or new trails, and Tier B programming, should be mitigated within the river corridor through the enhancement or recreation of habitat on unnecessary unofficial trails and disturbed areas within the riparian zone.

The Master Plan should be fully coordinated with all current studies and planning initiatives including, but not limited to, the North County Multiple Species Conservation Program, the future expansion or improvement of State Route 76, and the General Plan 2020. Park programming goals of the Master Plan should, where feasible, be incorporated into the text of the North County Multiple Species Conservation Program and the General Plan 2020 update documents including the Regional Land Use element and any community plan updates. Although approval of the Master Plan by the County of San Diego does not require that a development permit be issued, future implementation of park programming recommended by the Master Plan would be subject to the requirements of the California Environmental Quality Act (CEQA).

The exhibits in this analysis provide tools for identifying, siting, and evaluating potential park sites and park programming rather than indicating specific boundaries where park sites will or must be developed.

Table 5

Tier A Park Sites - Selection and Evaluation Criteria

Tier A Programming - (Sports Fields, Staging/ Parking Areas, Equestrian Center, Interpretive Center, Community Performance Venue, etc.)

Site Number	Trigger Criteria		Existing Physical Criteria								
	Slope (Under 10%)	(D) Disturbed (A) Agriculture	Vegetation Category	County Mitigation Ratio	Car Access (E) Existing (P) Potential	Unofficial Trail Access	Floodplain 100 YFP	Cultural Resources	Acreage	Distinguishing Characteristics	Potential Programming
SiteA1	3/4 is 10%	D	Disturbed Habitat	none	P	yes	outside 100 YFP	no	10	vicinity to Oceanside residential population density, off 76	active recreation, performance/ gathering
SiteA2	yes	D	Disturbed Habitat	none	E	yes	outside 100 YFP	no	1	disturbed areas north of Little Gopher Canyon/Old River Road intersection	areas w/o native vegetation, steep slopes near road for staging areas
SiteA3	yes	D	Common Uplands, Developed	0.5:1 to 1:1 preservation/ none	E	yes	w/ in 100 YFP	no	18	vicinity to 76 and river	all programming except performance/ gathering
SiteA4	yes	D	Disturbed Habitat	none	E	yes	outside 100 YFP	no	1	Disturbed areas near Old River Road/Detroway intersection	areas w/o native vegetation, steep slopes near road for active recreation
SiteA5	No	D	Developed	none	E	no	outside 100 YFP	no	1	vacant area surrounding school	performance/ gathering
SiteA6	yes	D	Disturbed Habitat	none	E	yes	outside 100 YFP	yes	1	disturbed area immediately adjacent to road	staging areas
SiteA7	3/4 is 10%	D	Disturbed Habitat	none	E	NA	outside 100 YFP	no	16.5	vicinity to the school, Bonsall center	active recreation, performance/ gathering
SiteA8	yes	A	Disturbed Habitat	none	E	yes	w/ in 100 YFP	no	6	vicinity to residential population density, river, bridge and commercial area at Mission Road	all programming except performance/ gathering

Table 5 (Continued)

Site Number	Trigger Criteria		Existing Physical Criteria								
	Slope (Under 10%)	(D) Disturbed (A) Agriculture	Vegetation Category	County Mitigation Ratio	Car Access (E) Existing (P) Potential	Unofficial Trail Access	Floodplain 100 YFP	Cultural Resources	Acreage	Distinguishing Characteristics	Potential Programming
SiteA9	2/3 is 10%	D	Common Uplands	0.5:1 to 1:1 preservation	E	yes	outside 100 YFP	yes	42.3	views of the river and rolling hills	performance/ gathering
SiteA10	yes	D	Developed	none	E	no	outside 100 YFP	no	2.5	off the river corridor and away from the traffic of 76	active recreation, serving local community
SiteA11	yes	D	Rare Uplands/ Common Uplands	2:1 preservation/ 0.5:1 to 1:1 preservation	E	no	outside 100 YFP	no	5.8	off the river corridor and away from the traffic of 76	active recreation, serving local community
SiteA12	yes	A	Disturbed Habitat	none	E	yes	1/2 w/in 10 YFP	yes	17.3	vicinity to I-15 and 76 and river with trail access, w/in 10 YFP	all programming except performance/ gathering
SiteA13	yes	D	Disturbed Habitat	none	E	yes	2/3 w/in 10 YFP	yes	10	vicinity to I-15 and 76 and river with trail access, 10 YFP	active recreation, staging area
SiteA14	yes	A	Common Uplands	0.5:1 to 1:1 preservation	E	yes	outside 100 YFP	no	9.7	vicinity to housing development and I-15.	active recreation, performance/ gathering
SiteA15	yes	D, A	Disturbed Habitat/ Agriculture	none	P	yes	2/3 w/in 10 YFP	no	54.4	vicinity to housing development and I-15, Site has access issues	active recreation, interpretive center, staging area

Table 6
Tier B Park Sites - Selection and Evaluation Criteria
Tier B Programming - (Picnic Areas, Botanic Native Garden, Bird Watching, Interpretive Kiosks etc.)

Site Number	Slope (Under 50%)	(D) Disturbed (S) Sparsely vegetated	Existing Physical Criteria		Unofficial Trail or Road Edge Access	Floodplain 10 YFP 100 YFP	Cultural Resources (A) Amenity (R) Restricted	Planned Development
			Vegetation Category	County Mitigation Ratio				
SiteB1	yes	D	Wetlands/ Rare Uplands	3:1 creation, 1:1 enhancement/ 2:1 preservation	yes	no	yes	
SiteB2	yes	S	Rare Uplands/ Disturbed Habitat	2:1 for Sensitivity 3	yes	no	yes	
SiteB3	yes	D	Disturbed Habitat	none	yes	no		
SiteB4	yes	D	Disturbed Habitat	none	yes	100 YFP		
SiteB5	yes	S	Disturbed Habitat	none	yes	100 YFP		
SiteB6	yes	S	Rare Uplands/ Developed	3:1 preservation/ none	yes	no	yes	
SiteB7	yes	D	Wetlands	3:1 creation 1:1 enhancement	uncertain	10 YFP		
SiteB8	yes	S	Disturbed Habitat	none	yes	no	yes	
SiteB9	yes	S	Rare Uplands/ Disturbed Habitat	2:1 preservation/ none	yes	no	yes	

Table 6 (Continued)

Site Number	Slope (Under 50%)	(D) Disturbed (S) Sparsely vegetated	Existing Physical Criteria		Unofficial Trail or Road Edge Access	Floodplain 10 YFP 100 YFP	Cultural Resources (A) Amenity (R)Restricted	Planned Development
			Vegetation Category	County Mitigation Ratio				
SiteB10	yes	S	Common Uplands	0.5:1 preservation	yes	no	no	planned tm
SiteB11	yes	S	Rare Uplands	2:1 preservation	yes	no	no	planned tm
SiteB12	yes	S	Common Uplands	0.5:1 to 1:1 preservation	yes	10 YFP	no	
SiteB13	no	D	Disturbed Habitat	none	yes	no	no	
SiteB14	yes	D	Disturbed Habitat	none	yes	10 YFP	no	
SiteB15	yes	S	Common Uplands	0.5:1 to 1:1 preservation	yes	100 YFP	no	
SiteB16	yes	S	Common Uplands	County Mitigation Ratio	yes	100 YFP	no	
SiteB17	yes	S	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB18	yes	S	Rare Uplands	2:1 and 3:1 preservation	yes	no	no	
SiteB19	yes	S	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB20	yes	S	Rare Uplands/ Common Uplands	2:1 preservation/ 0.5:1 to 1:1 preservation	yes	no	yes	planned TM
SiteB21	yes	S	Wetlands/ Common Uplands	3:1 creation/ 1:1 enhancement	yes	100 YFP	no	

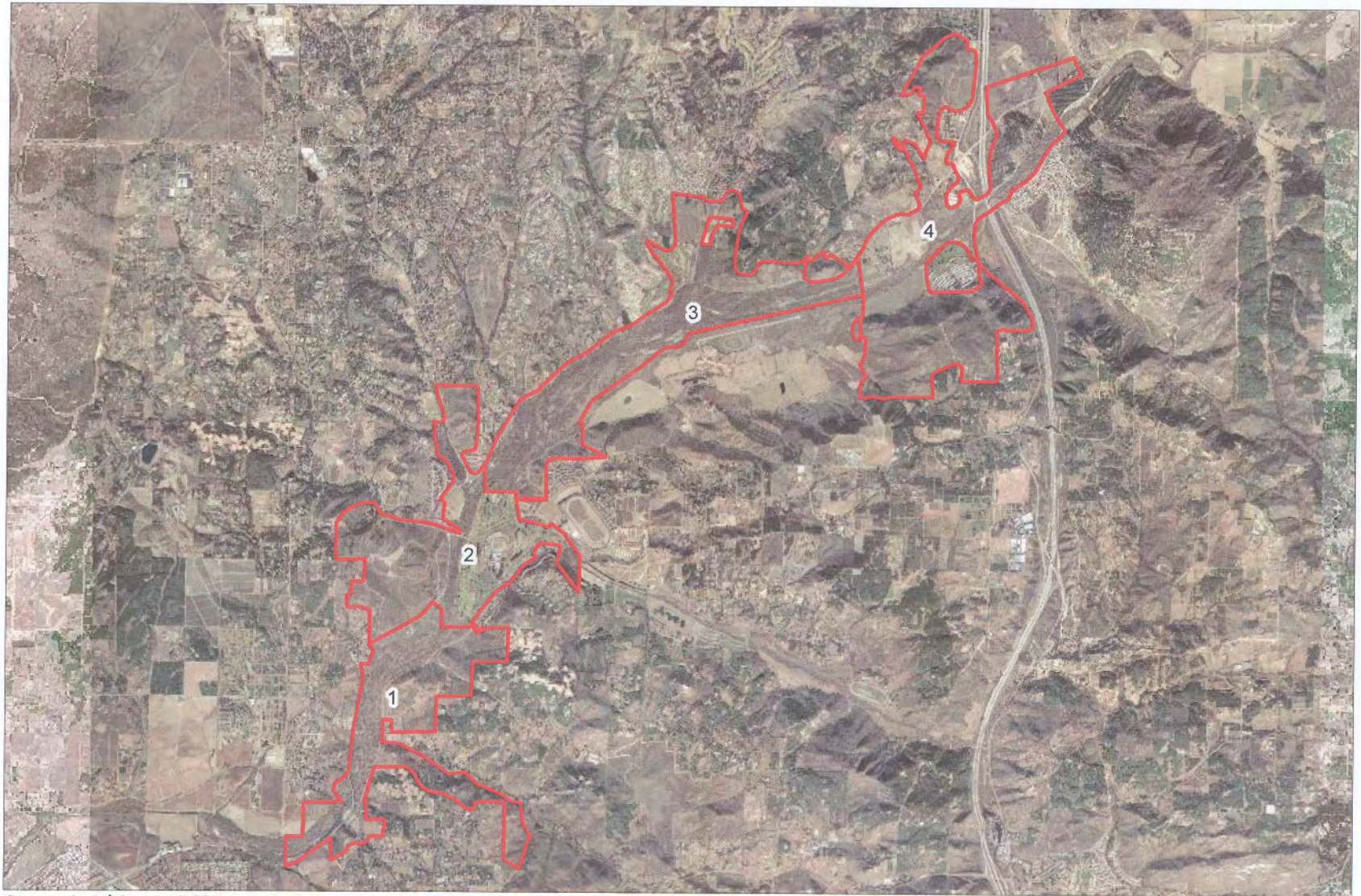
Table 6 (Continued)

Site Number	Slope (Under 50%)	(D) Disturbed (S) Sparsely vegetated	Existing Physical Criteria		Unofficial Trail or Road Edge Access	Floodplain 10 YFP 100 YFP	Cultural Resources (A) Amenity (R)Restricted	Planned Development
			Vegetation Category	County Mitigation Ratio				
SiteB22	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	100 YFP	no	
SiteB23	yes	S	Rare Uplands/ Common Uplands	3:1 preservation/ 0.5:1 to 1:1 preservation	no	no	no	planned TM
SiteB24	yes	S	Rare Uplands	2:1 preservation	yes	no	no	
SiteB25	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB26	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB27	yes	S	Common Uplands	0.5:1 to 1:1 preservation	yes	no	no	
SiteB28	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB29	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB30	4/5 is below 50%	S	Rare Uplands/ Common Uplands	2:1 preservation/ 0.5:1 to 1:1 preservation	yes	no	no	
SiteB31	4/5 is below 50%	S	Rare Uplands/ Common Uplands	2:1 preservation/ 0.5:1 to 1:1 preservation	yes	no	no	

Table 6 (Continued)

Site Number	Slope (Under 50%)	(D) Disturbed (S) Sparsely vegetated	Existing Physical Criteria		Unofficial Trail or Road Edge Access	Floodplain 10 YFP 100 YFP	Cultural Resources (A) Amenity (R) Restricted	Planned Development
			Vegetation Category	County Mitigation Ratio				
SiteB32	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB33	yes	S	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB34	3/4 is below 50%	D	Rare Uplands/ Common Uplands/ Disturbed Habitat	2:1 preservation/ 0.5:1 to 1:1 preservation/ none	yes	no	yes	
SiteB35	2/3 is below 50%	S	Rare Uplands/ Common Uplands	3:1, 2:1 preservation/ 0.5:1 to 1:1 preservation	yes	no	yes	
SiteB36	yes	S	Wetlands	3:1 creation 1:1 enhancement	yes	10 YFP	no	
SiteB37	yes	D	Wetlands	3:1 creation 1:1 enhancement	yes	no	no	
SiteB38	yes	S	Wetlands	0.5:1 to 1:1 preservation	yes	no	no	
SiteB39	4/5 is below 50%	D	Wetlands/ Rare Uplands/ Common Uplands/ Disturbed Habitat	3:1 creation, 1:1 enhancement/ 2:1 preservation/ 0.5:1 preservation/ none	yes	1/3w/in 100 YFP	no	

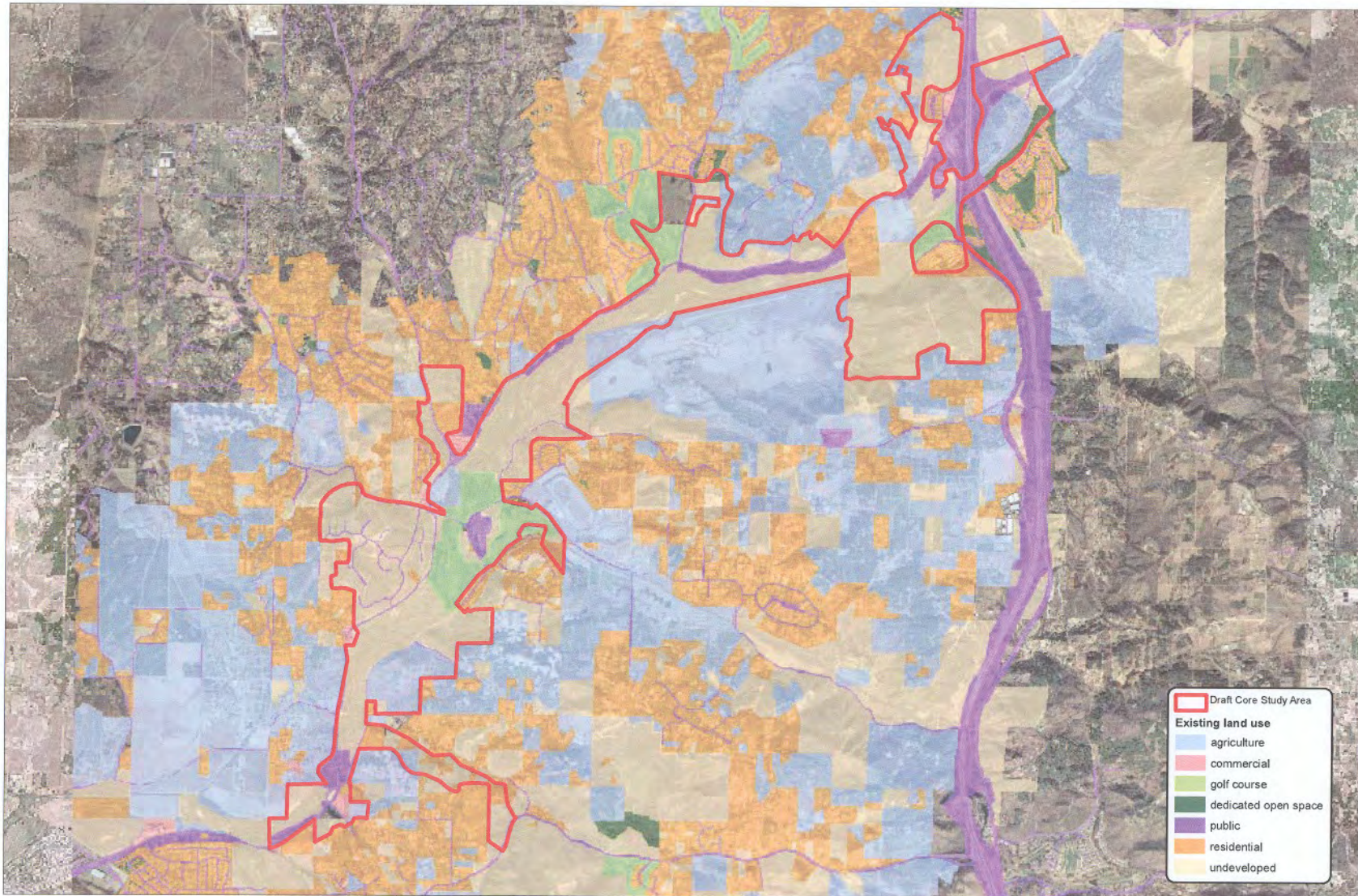
FIGURE 1
Draft Core Study Area & Segments



Source: Aerial Access (2004)

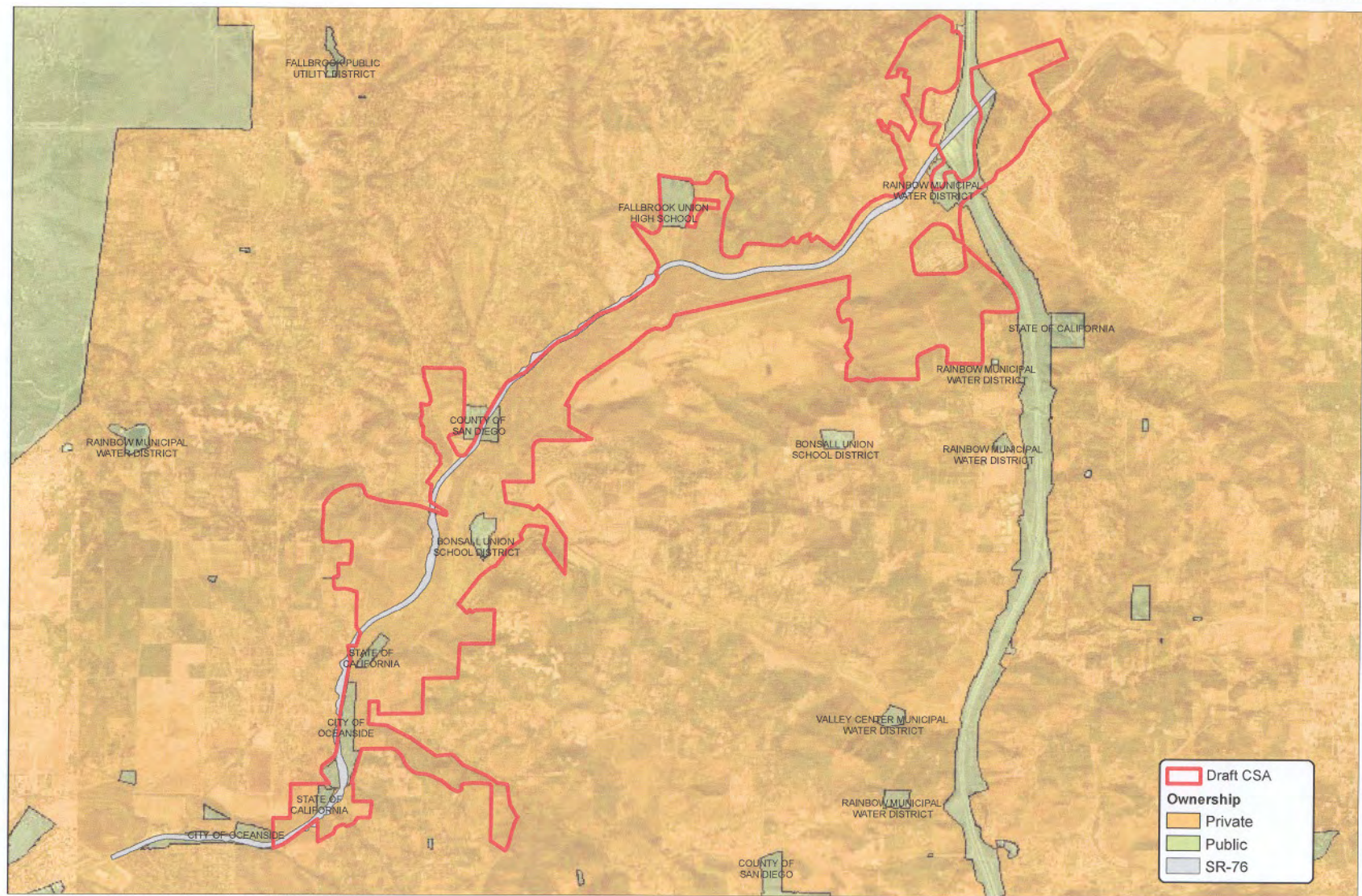
FIGURE 2

Existing Land Use



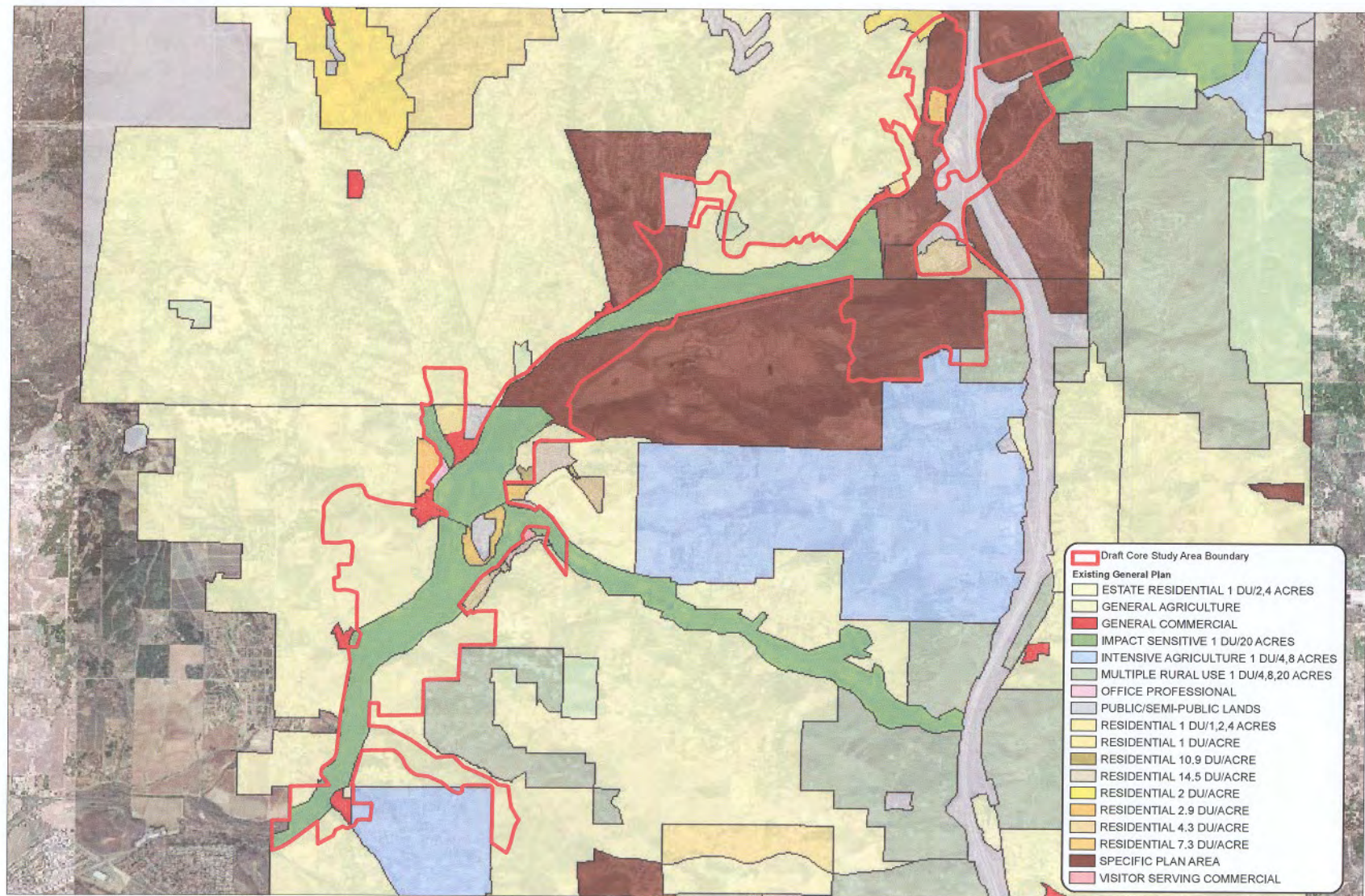
Source: Aerial Access (2004), SanGIS

FIGURE 3
Land Ownership



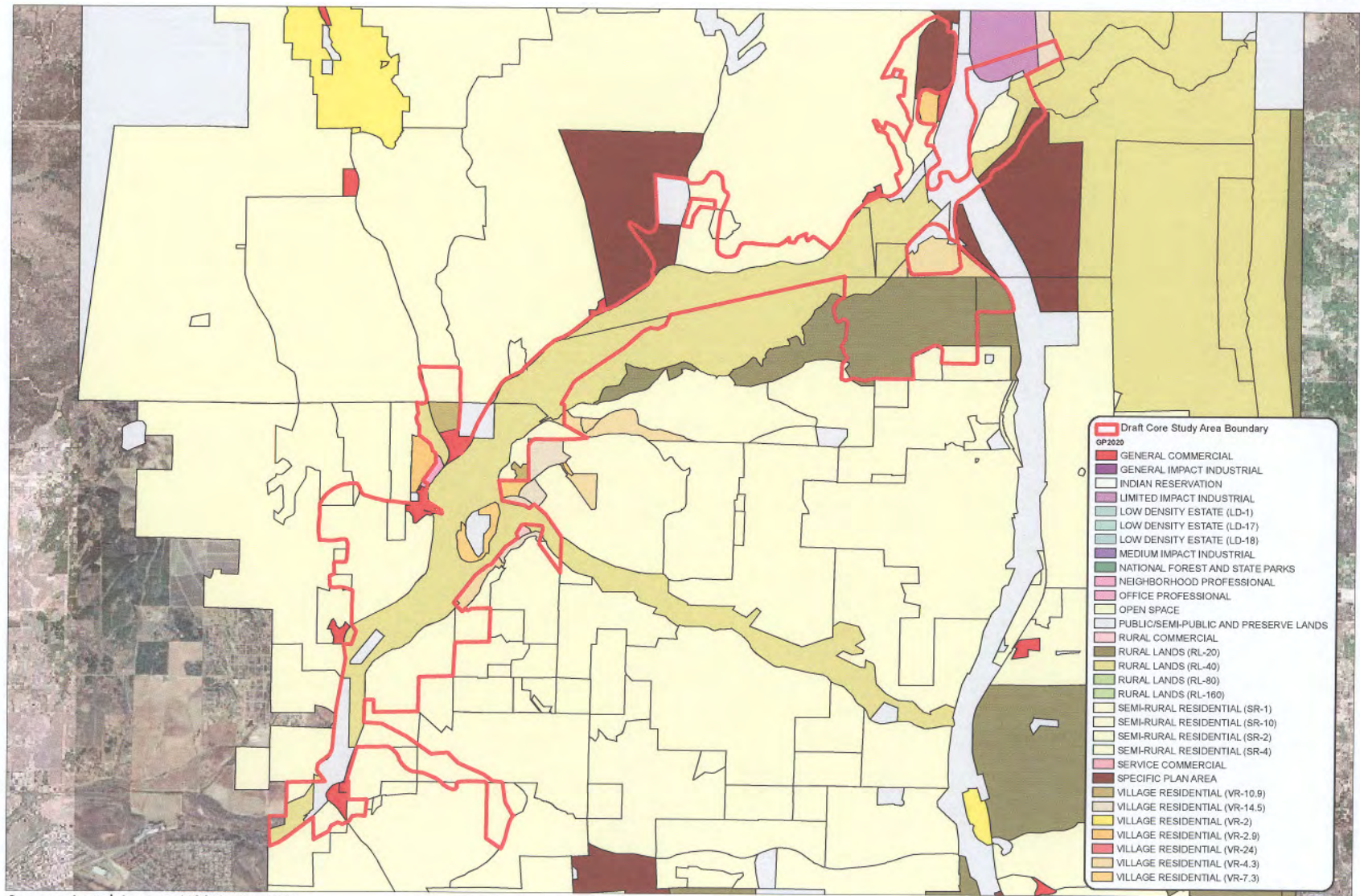
Source: Aerial Access (2004), SANDAG

FIGURE 4
Existing General Plan



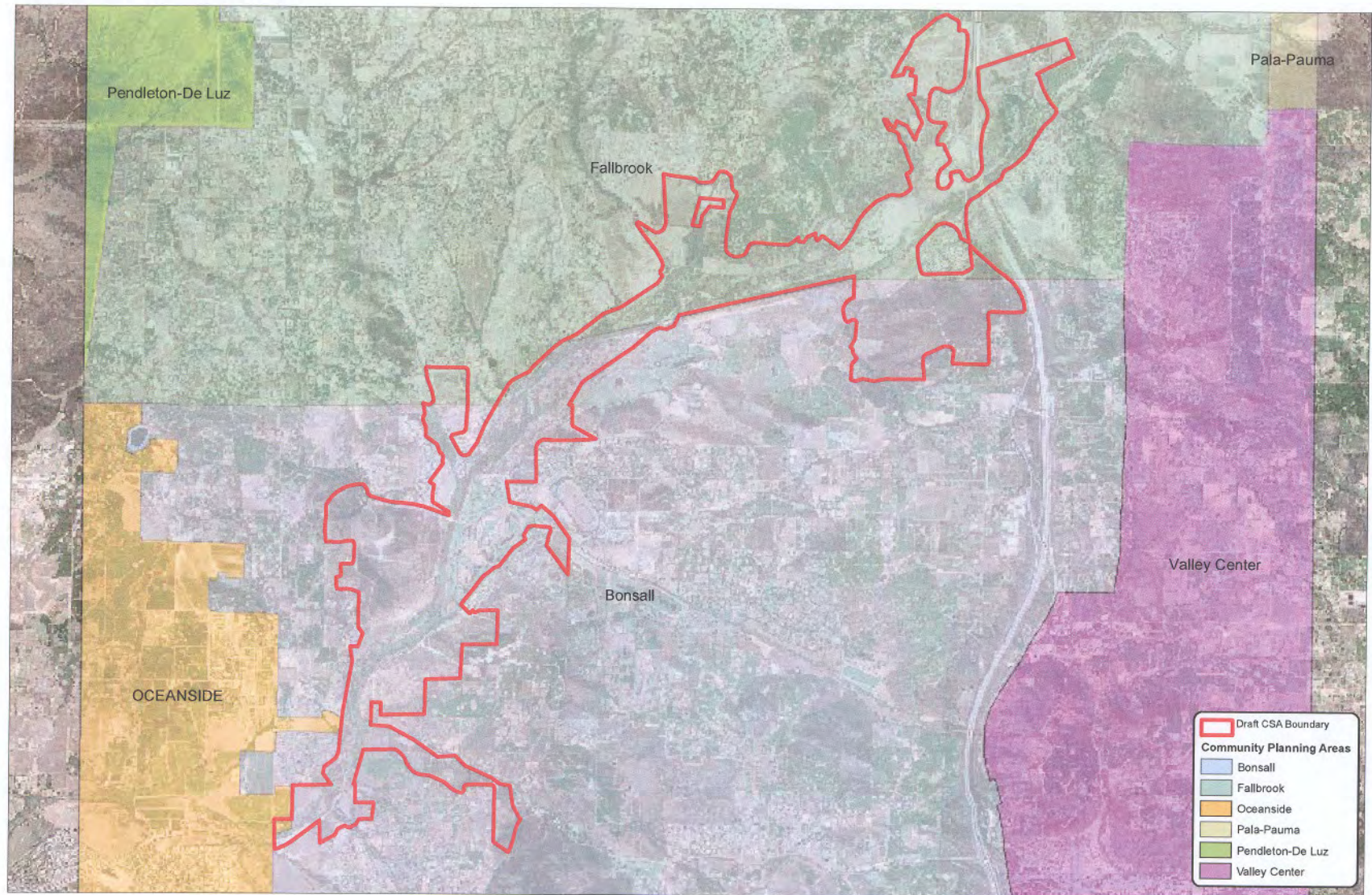
Source: Aerial Access (2004), SanGIS

FIGURE 5
General Plan 2020



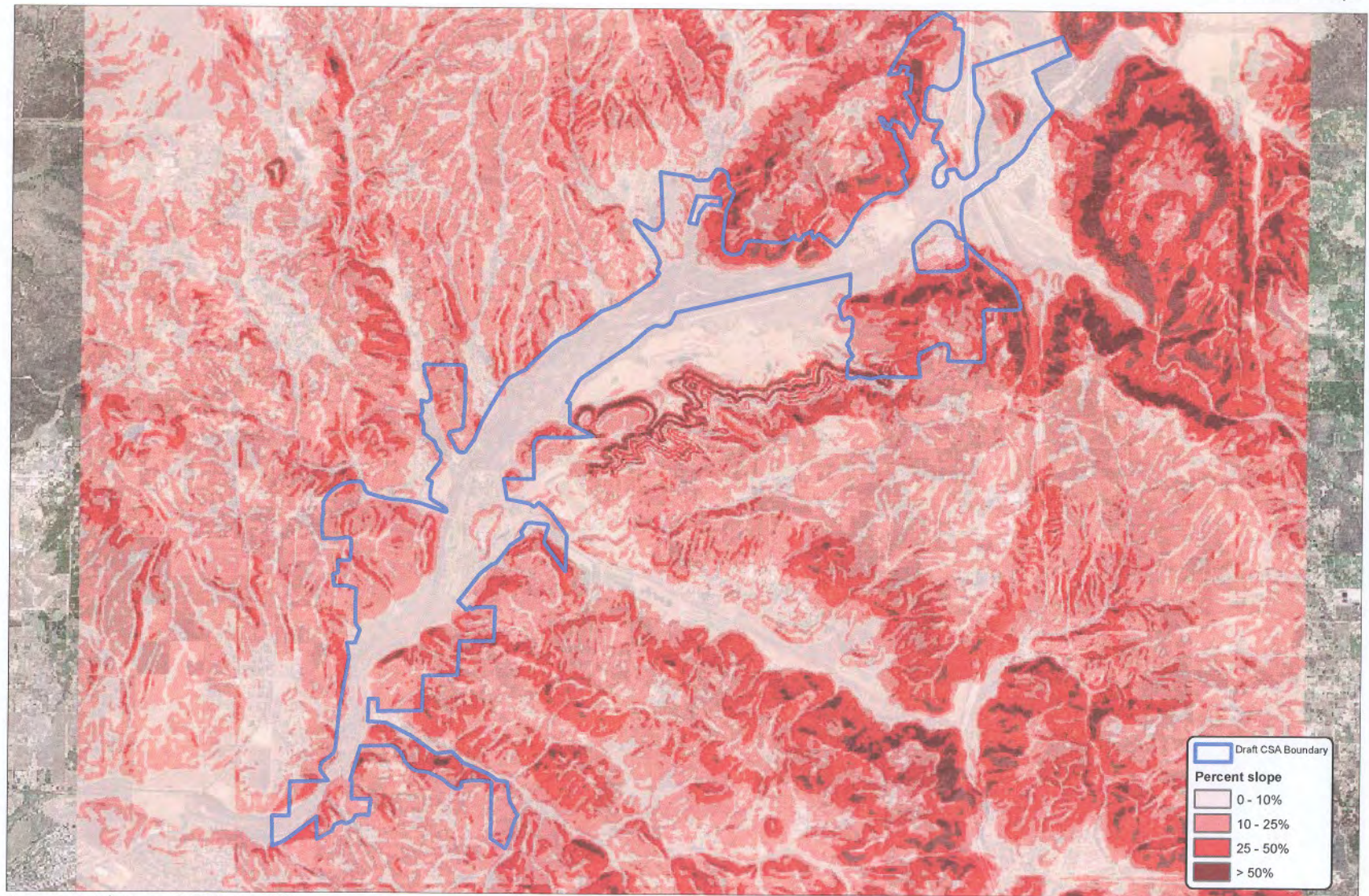
Source: Aerial Access (2004), SanGIS

FIGURE 6
Community Planning Areas



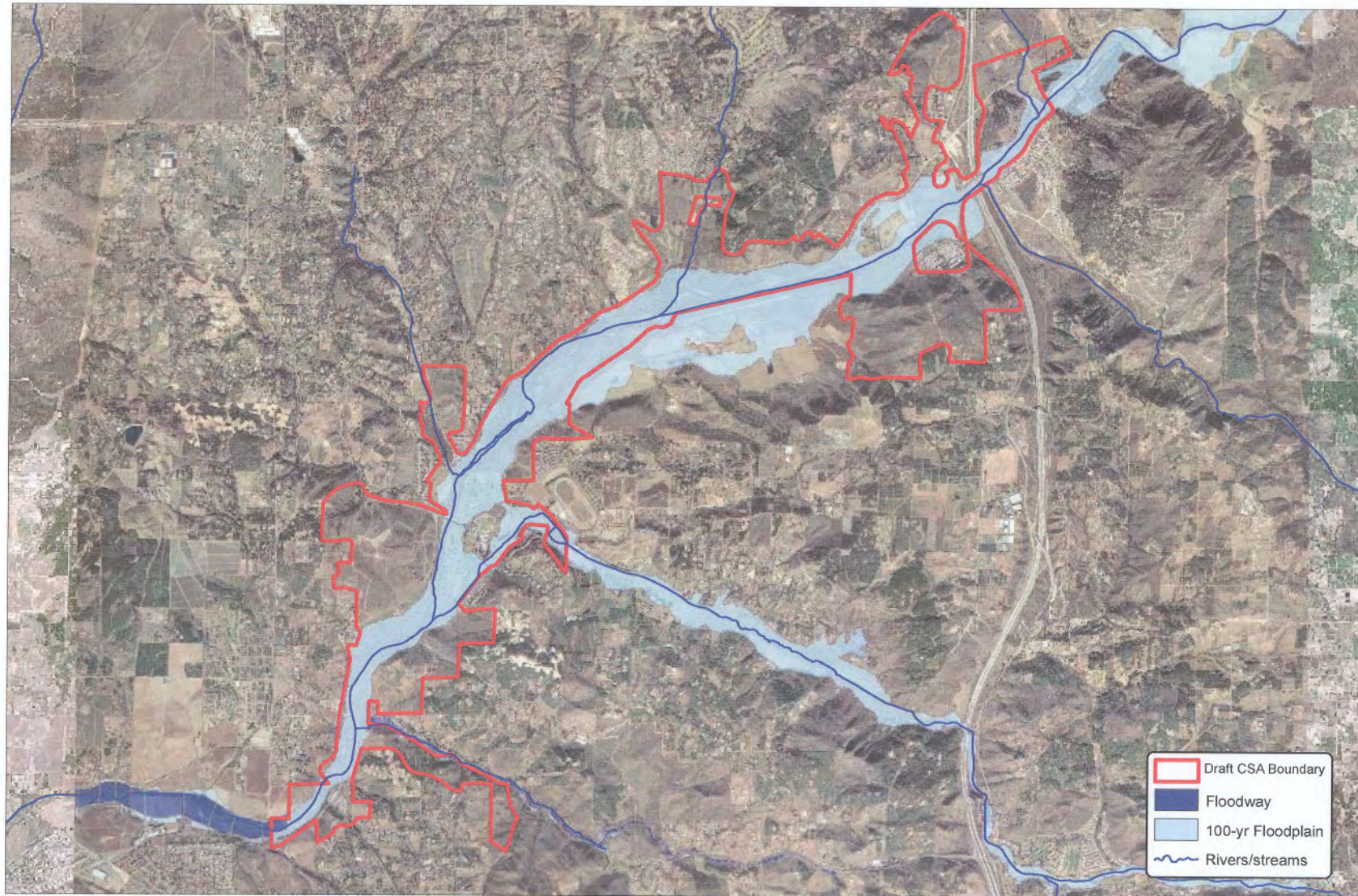
Source: Aerial Access (2004), SanGIS

FIGURE 7
Percent Slope



Source: Aerial Access (2004), SanGIS

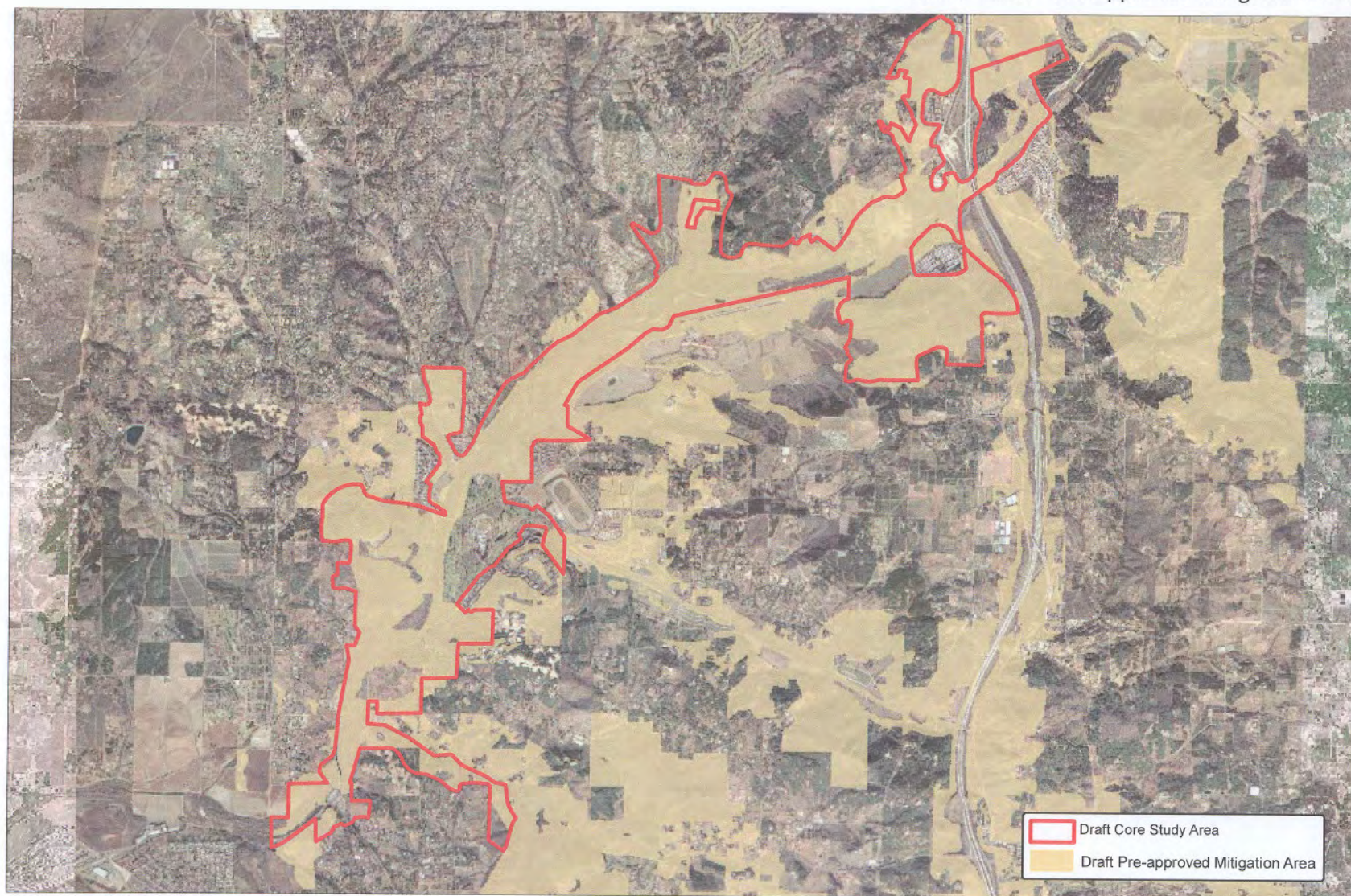
FIGURE 8
Flood Plain



Source: Aerial Access (2004), SanGIS

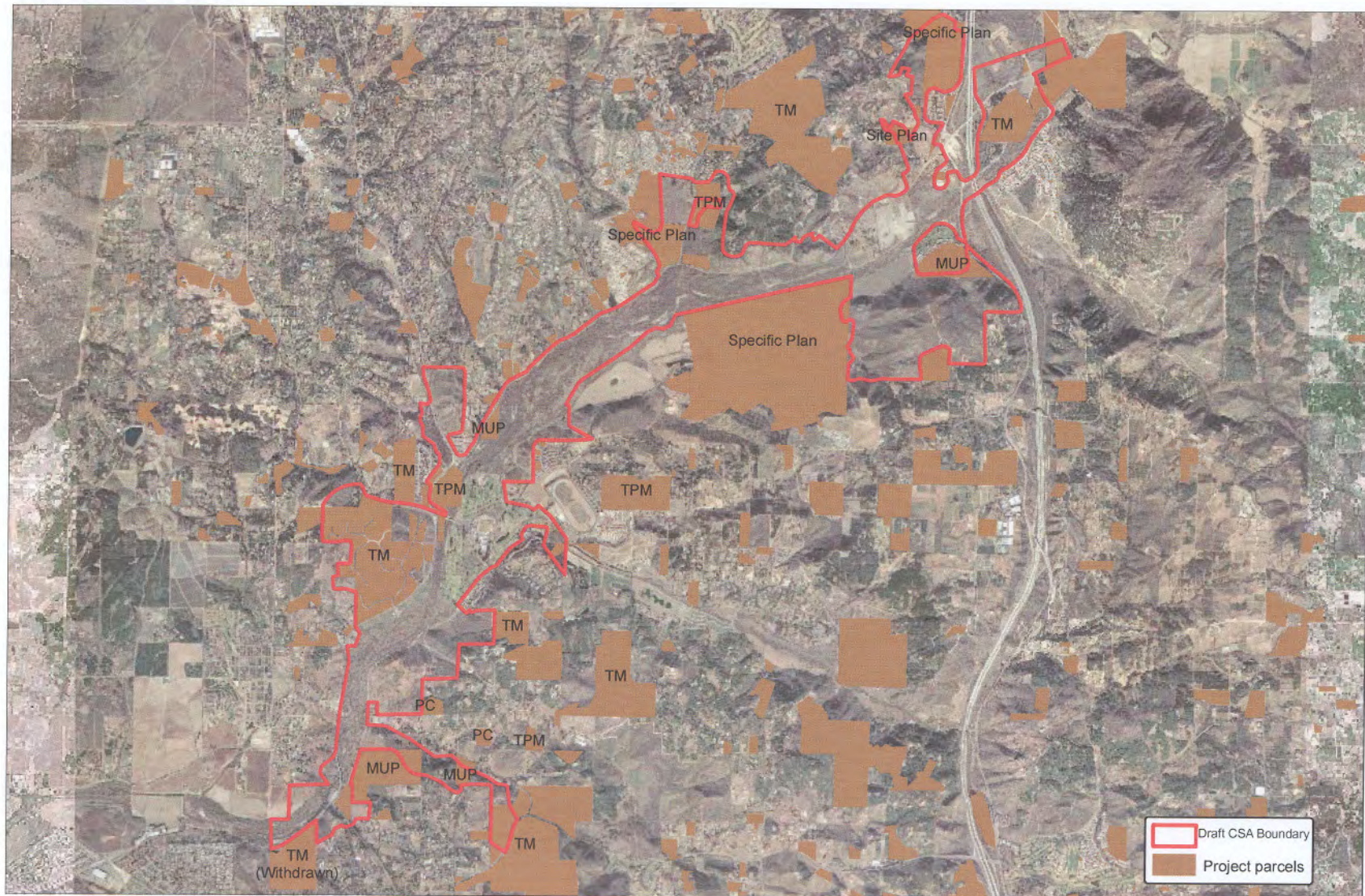
FIGURE 9

MSCP Draft - Pre-Approved Mitigation Areas



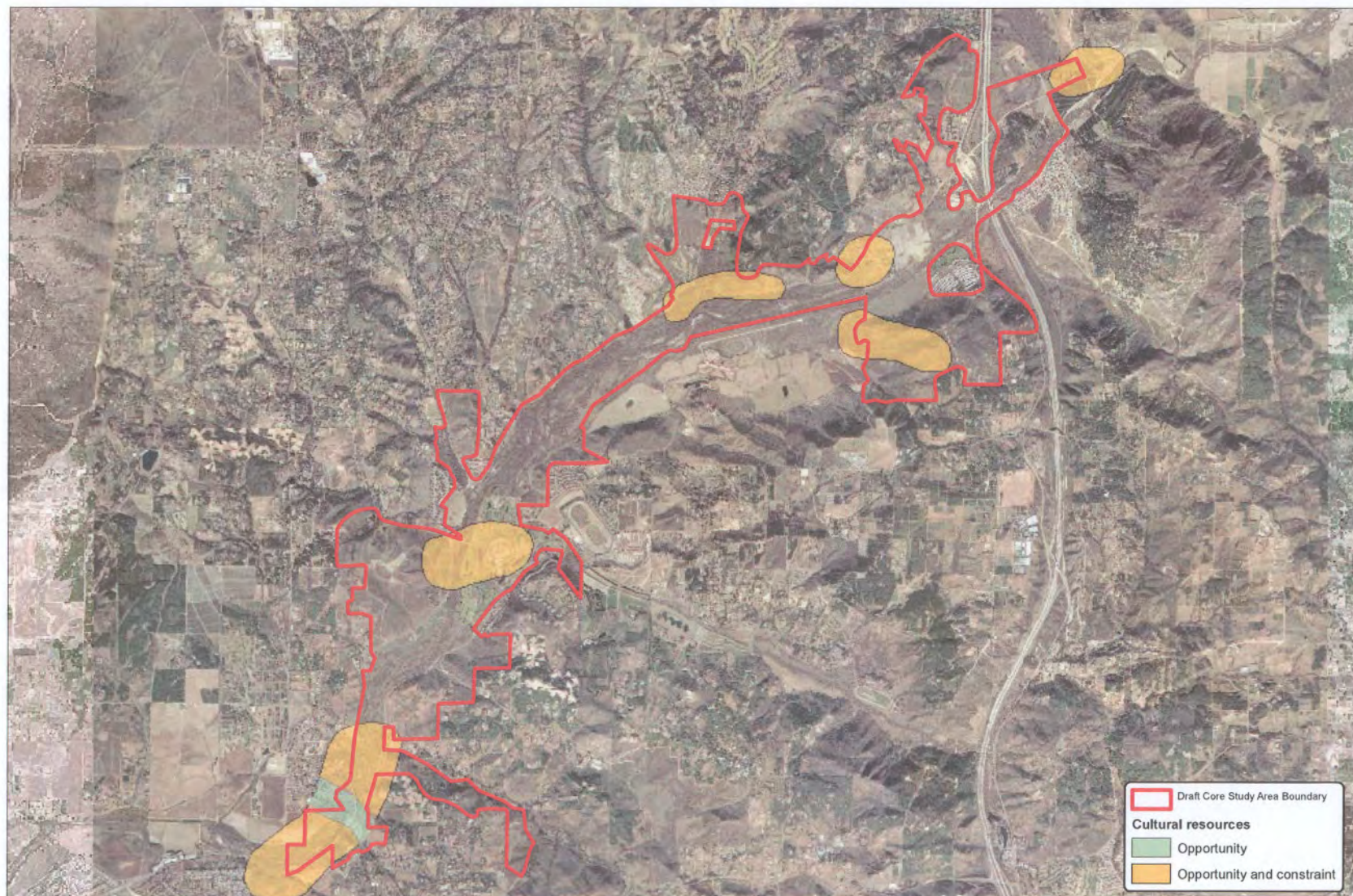
Source: Aerial Access (2004), SanGIS

FIGURE 10
Discretionary Projects



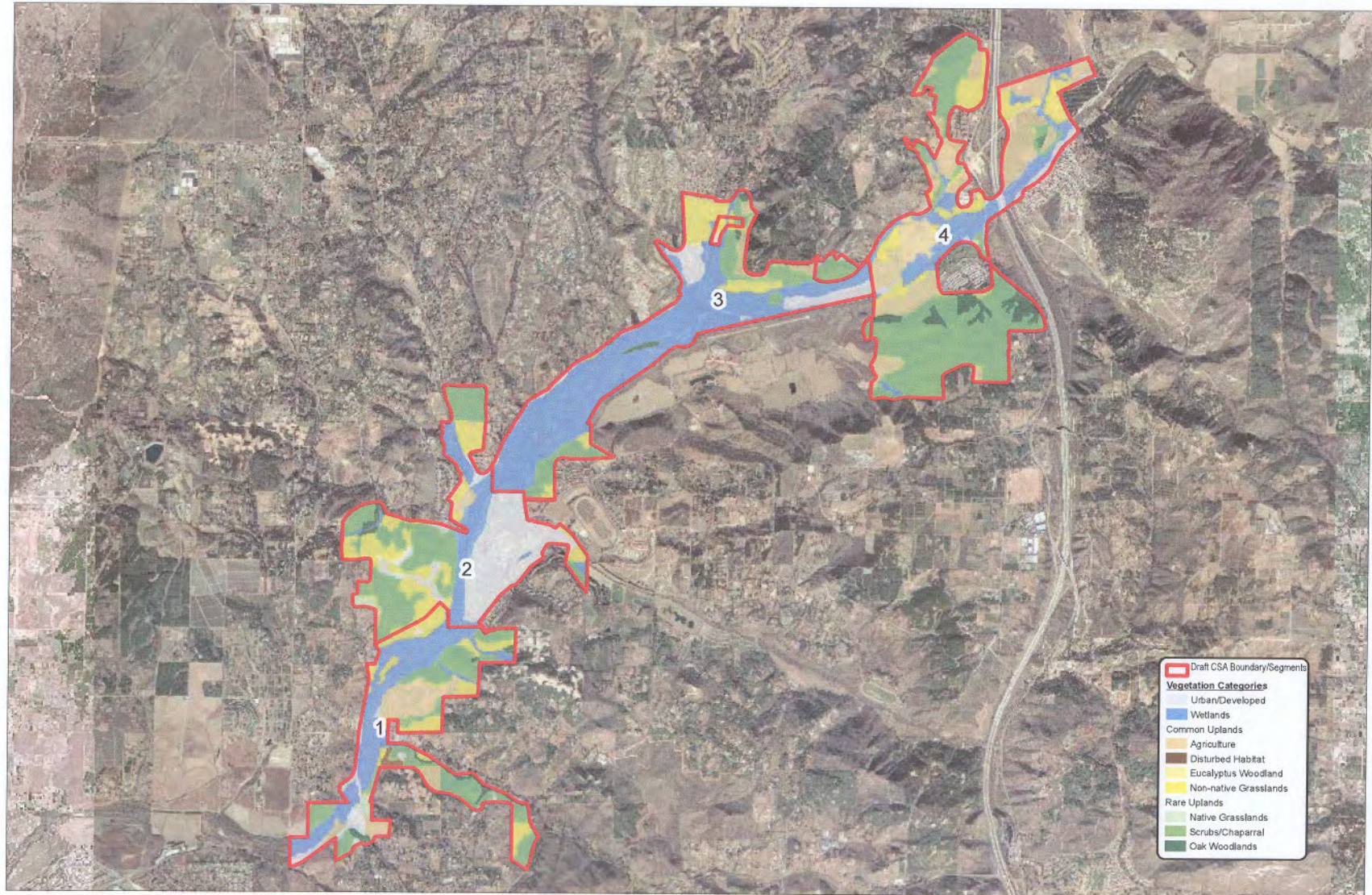
Source: Aerial Access (2004), SanGIS

FIGURE 11
Cultural Resource Areas



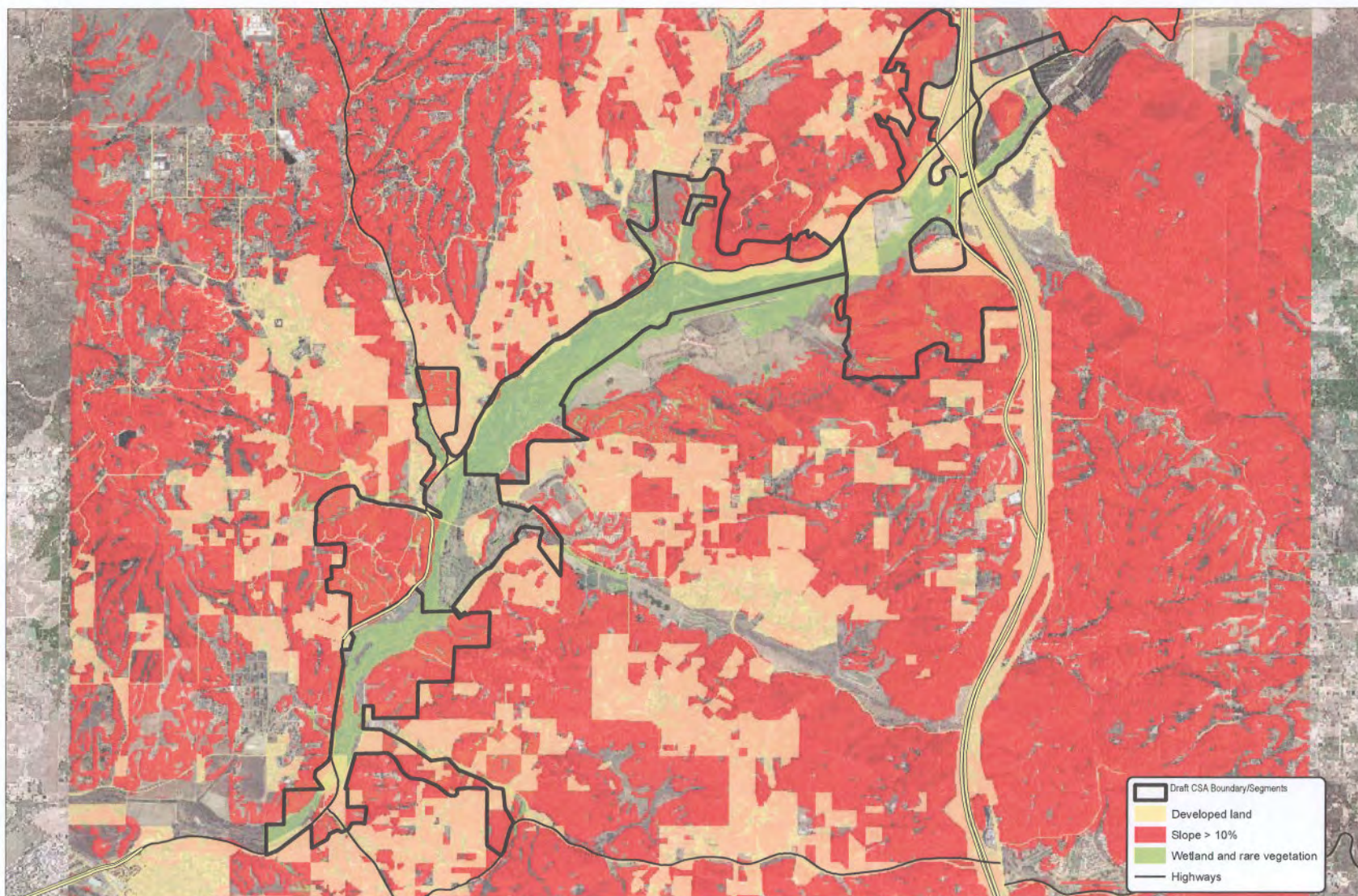
Source: Aerial Access (2004)

FIGURE 12
Generalized Vegetation



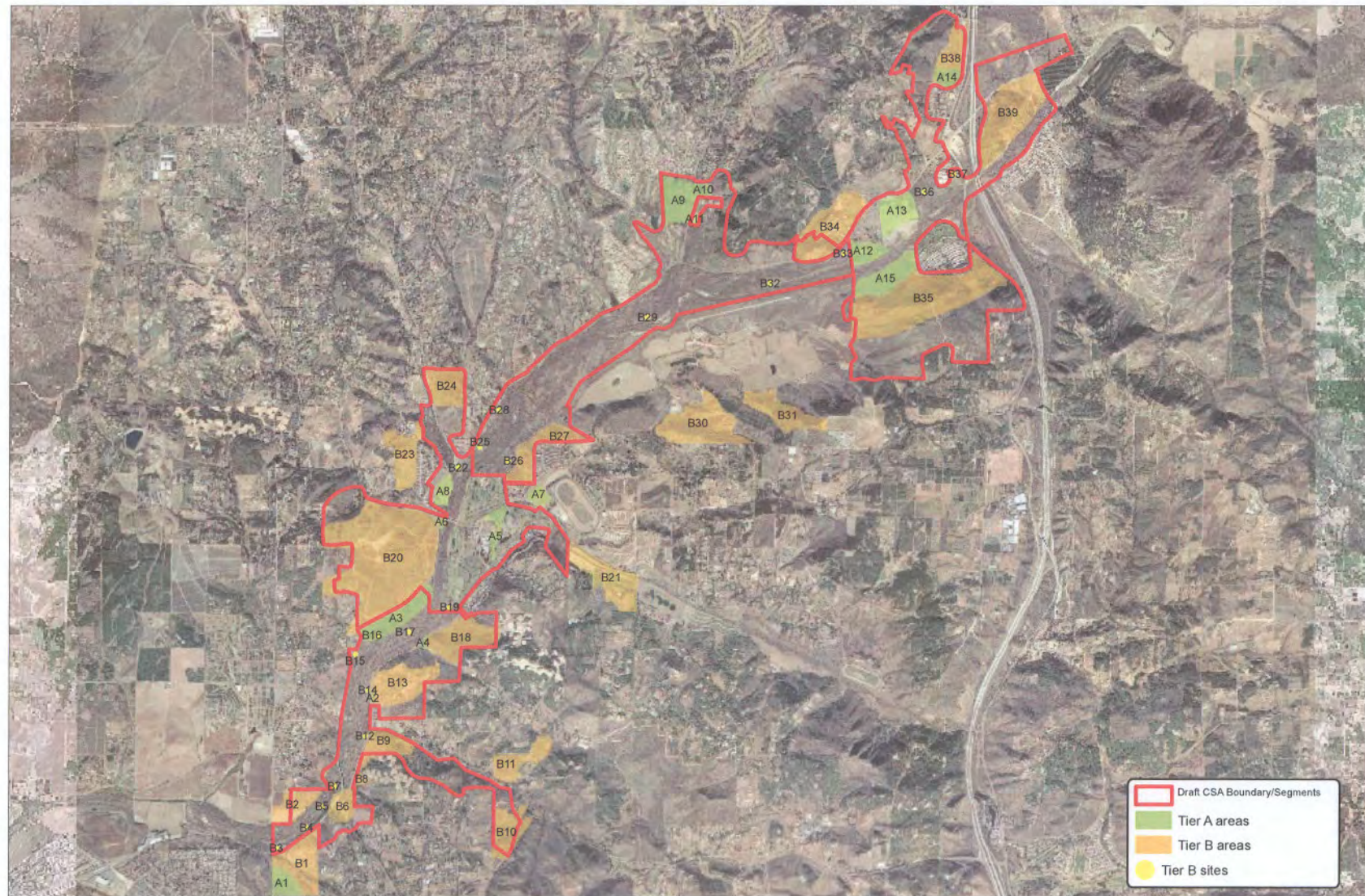
Source: Aerial Access (2004), SANDAG

FIGURE 13
Tier A Constraints



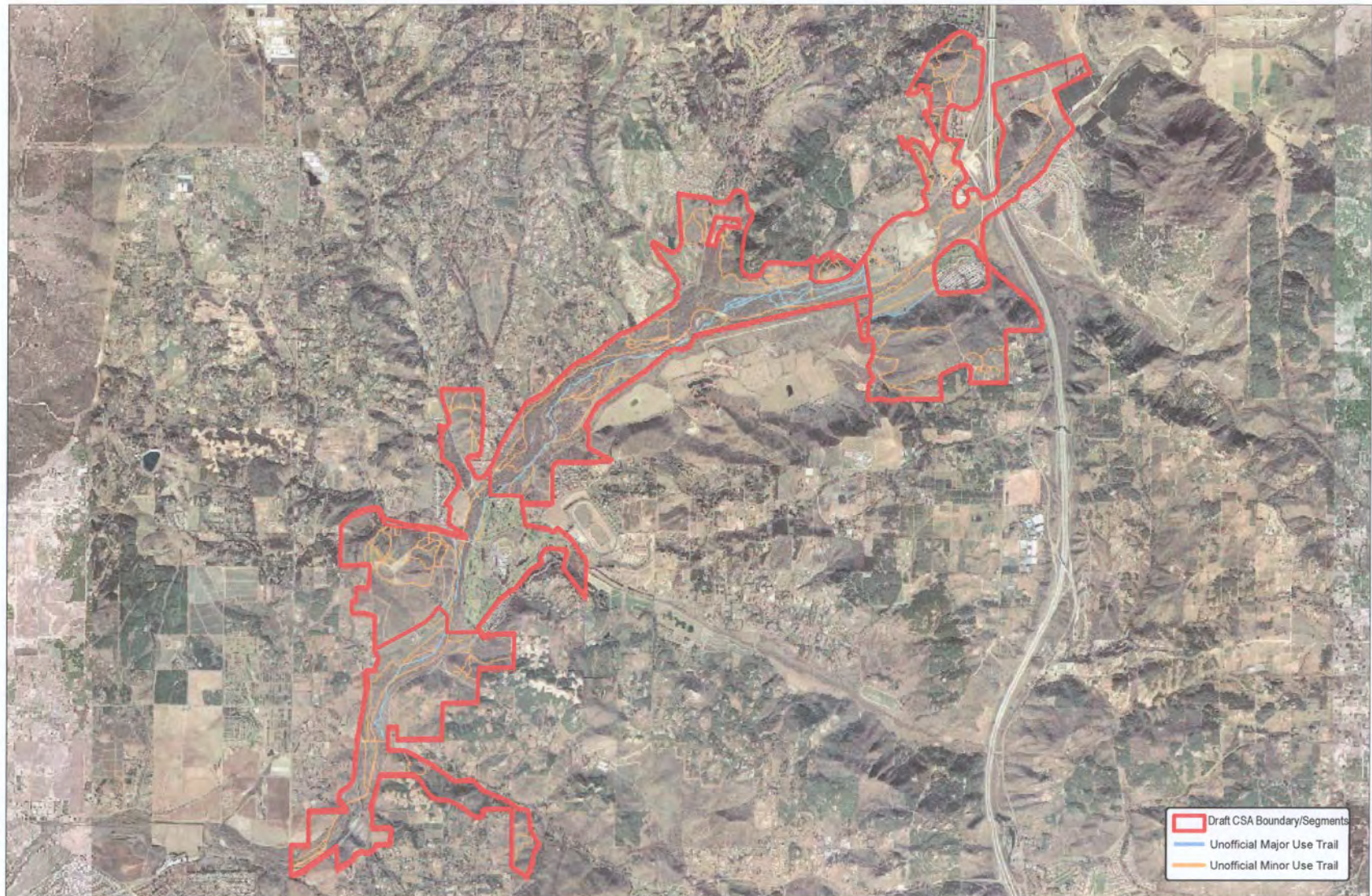
Source: Aerial Access (2004), SanGIS

FIGURE 14
Opportunity Locations



Source: Aerial Access (2004)

FIGURE 15
Existing Unofficial Trails



Source: Aerial Access (2004)

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APPENDIX B

BIOLOGICAL OPPORTUNITIES AND CONSTRAINTS REPORT

SAN LUIS REY RIVER PARK MASTER PLAN

SAN DIEGO COUNTY, CALIFORNIA

Prepared for:
Hargreaves Associates
398 Kansas Street
San Francisco, CA 94103

and

County of San Diego
Department of Parks and Recreation
5201 Ruffin Road, Suite P
San Diego, California 92123

Prepared by:
Ted N. Lee
Director of Biological Resources
Erin Robbins
Senior Biologist
Mooney • Jones & Stokes
San Diego, California

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PURPOSE

The County of San Diego Department of Parks and Recreation is pursuing, through the preparation of a Master Plan, the development of a vision for the San Luis Rey River Park. The Master Plan will establish the framework for the development of a river park within the eight-mile corridor of the San Luis Rey River between Interstate 15 (I-15) and the Old Bonsall Bridge. This Biological Opportunities and Constraints Report is being prepared in support of the San Luis Rey Riverpark Master Plan, to identify biological constraints and opportunities within the Master Plan Draft Core Study Area (CSA).

The goals and objectives of this Biological Opportunities and Constraints Report for the San Luis Rey River Park Master Plan are as follows:

- Identify areas within the CSA boundary that have the least biological constraints to park development;

- Identify areas within the CSA boundary that are important for preservation and that may be utilized as mitigation for project impacts to biological resources associated with park development as well as other development proposals in the area (i.e., widening of SR-76);

- Identify areas within or adjacent to the CSA boundary that offer opportunities for

- habitat restoration/enhancement, which would improve the overall biological value of the San Luis Rey River corridor; and

- Identify regulatory approvals associated with park development within the CSA.

METHODOLOGY

The majority of the CSA consists of privately held lands. Therefore, as access to private property could not be guaranteed, biological studies focused primarily on compiling and reviewing existing available data and reviewing recent aerial photographs of the CSA. This level of effort is consistent with the scope of work associated with the development of a Master Plan, which does not necessitate detailed field-level analysis. Data reviewed and utilized in the preparation of this opportunities and constraints report include:

- Biological Study – San Luis Rey River: Arundo Control and Restoration from Keys Creek to College Blvd. (Mission Resource Conservation District 2004);

- Draft North County Multiple Species Conservation Program (NCMSCP) Maps;

- California Natural Diversity Database (2004);

- U.S. Fish and Wildlife Service 2004 GIS Data (sensitive plant and wildlife data); and

- County of San Diego Geographical Information Systems (GIS) Data including: Draft NCMSCP Pre-approved Mitigation Areas; Draft NCMSCP low, high and very

STUDY RESULTS

high habitat value areas; general vegetation communities; etc.

While detailed information was not available during the preparation of this report, this Biological Opportunities and Constraints Report acknowledges the future expansion and improvements to SR-76 within and adjacent to the CSA.

In addition to a review of the existing available biological data, Mooney · Jones & Stokes conducted general surveys of the CSA, which consisted primarily of driving all accessible areas of the CSA. However, limited field-level reconnaissance surveys, which consisted of walking portions of the CSA, were also conducted. Vegetation mapping was conducted using a high-resolution 2004 aerial photograph on which existing GIS vegetation data was overlaid. Field surveys were conducted to “spot check” the accuracy of the GIS data.

EXISTING CONDITIONS WITHIN THE CSA

The CSA for the proposed San Luis Rey River Park Master Plan consists of approximately 3,661 acres along an eight-mile corridor of the San Luis Rey River, extending from just east of I-15 to the Old Bonsall Bridge within the communities of Fallbrook and Bonsall, San Diego County (Figure 1). Existing land uses within and adjacent to the CSA consist primarily of residential development, agricultural development, and vacant land. The low, flat San Luis Rey River basin and adjacent steep slopes characterize the topography within the CSA.

The soil types within the CSA consist of: Altamont clay, Bonsall sandy loam, Cieneba coarse sandy loam, Cieneba very rocky coarse sandy loam, Cieneba rocky coarse sandy loam, Cieneba-Fallbrook rocky sandy loam, Fallbrook sandy loam, Fallbrook-Vista sandy loam, Grangeville sandy loam, Greenfield sandy loam, Los Posas fine sandy loam, Las Posas stony fine sandy loam, Placentia sandy loam, Ramona gravelly sandy loam, Ramona sandy loam, Redding cobbly loam, Riverwash, Steep gullied land, Tujunga sand, Visalia sandy loam, Vista coarse sandy loam, Vista rocky coarse sandy loam, and Wyman loam (Bowman 1973).

Regulatory Environment

Draft North County Multiple Species Conservation Program

The CSA is located outside of the currently approved boundaries of the County’s Multiple Species Conservation Program (MSCP) Subarea Plan, but is within the Draft North County MSCP (NCMSCP) subarea of the County’s MSCP. The NCMSCP will provide a regional conservation planning framework for the unincorporated portions of northwestern San Diego County. The overall goal of the MSCP is “to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitats, thereby preventing local extirpation and ultimate extinction” (County of San Diego MSCP). The MSCP addresses the potential impacts of development to covered species and their habitats and creates a plan to mitigate for such impacts. As part of the development of the MSCP, the wildlife agencies [U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG)] and the County of San Diego develop a Habitat Evaluation Model map, which identifies areas of low, medium, high, and very high habitat value. The MSCP is designed to encourage development within lower habitat value areas and preservation within high and very high

habitat value areas or Pre-approved Mitigation Areas (PAMA).

The majority of the CSA has been identified as high and very high value habitat according to the Draft NCMSCP Habitat Evaluation Model (Figure 2) and has been located within a Draft PAMA (Figure 3). This ranking is due to the presence of sensitive habitat and listed species and proximity to the San Luis Rey River corridor. This corridor, and its associated vegetation communities, has been identified as an important preserve area for the NCMSCP. While there is no denying that the CSA contains sensitive biological resources and high value habitat, it should be noted that the NCMSCP Habitat and Evaluation Model and the Draft PAMAs were developed utilizing GIS technology and aerial photography and that data was not verified through field-level surveys. Therefore, on a parcel or project-specific level these designations may not be accurate (i.e., existing residential development may erroneously be included within an area classified as high value habitat).

Resource Protection Ordinance

The County of San Diego adopted the Resource Protection Ordinance (RPO) in 1991 to strengthen guidelines for development within the County's wetlands, wetland buffers, floodplains, steep slopes, sensitive biological

habitats, and prehistoric and historic sites such that preservation of these sensitive lands would be guaranteed.

The RPO mandates the avoidance and preservation of RPO wetlands to the maximum extent feasible; any allowable impacts would require mitigation to ensure no-net-loss of RPO wetlands (i.e., for every acre impacted, one acre must be created).

The RPO applies to Tentative Parcel Maps, Tentative Maps, Major Use Permits, Site Plans, Administrative Permits, Vacations of Open Space Easements, and Certificates of Compliance filed pursuant to County Code Sections 81.616.1 and 81.616.2. According to the County of San Diego, this ordinance does not apply to park projects, as they are not required to pull any of the above-mentioned permits. However, the San Luis Rey River Park will still comply with local rules, regulations and ordinances.

Endangered Species Act

The USFWS is responsible for administering the Federal Endangered Species Act (ESA) of 1973, the goal of which is to conserve federally endangered and threatened species and their habitats. The CDFG is responsible for the protection of rare, threatened, and endangered plant and animal species pursuant to the California ESA. Impacts to threatened or

endangered species require consultation with these agencies under the ESA to obtain "take" authorization. The term "take" is defined in the ESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Consultation with these agencies involves the preparation of a Biological Assessment which addresses impacts to listed species and their habitats and proposed conservation measures, and the issuance of a Biological Opinion which allows for the taking of listed species and outlines the conservation measures that must be implemented in association with the proposed action.

The County of San Diego is in the process of preparing the NCMSCP and has been meeting with the resource agencies to discuss incorporating the proposed San Luis Rey River Park project, and associated mitigation requirements, within the framework of the NCMSCP. If approved, this would eliminate the need for separate consultation with the resource agencies as discussed above.

Clean Water Act, Porter-Cologne Act, and Fish and Game Code

Wetlands and other waters (known to occur within the CSA) are considered to be sensitive biological resources and are protected by various federal, state, and local jurisdictions. The U.S Army Corps of Engineers (USACE)

and the Regional Water Quality Control Board (RWQCB) regulate waters of the U.S., including wetlands, under the authority of Sections 404 and 401, respectively, of the Clean Water Act (CWA). The term “waters of the U.S.” encompasses many types of waters, including waters currently or historically used in interstate or foreign commerce; all waters subject to the ebb and flow of tides; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including ephemeral and intermittent streams), mudflats, sandflats, wetlands, sloughs, etc., the use, degradation or destruction of which could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the U.S.; tributaries of waters of the U.S.; territorial seas; and wetlands adjacent to waters of the U.S. (USACE 1987). Under the Porter-Cologne Act, the RWQCB’s jurisdiction also includes isolated wetlands and other waters that are not jurisdictional under the CWA. The CDFG takes jurisdiction over lakes, rivers, and streams under Section 1600 et seq. of the Fish and Game Code.

The USACE defines wetlands as areas that are dominated by hydrophytic plant species that exhibit wetland hydrology, and that have hydric soils. Areas that do not meet these criteria but exhibit a defined channel are considered non-

wetland waters of the U.S. CDFG jurisdiction extends across the bed, banks, and channel of these features and includes areas beneath a riparian canopy, even if the canopy areas are well away from the stream channel (such as in riparian areas). CDFG jurisdiction may also extend to the edge of the 100-year floodplain. The RWQCB takes jurisdiction of waters of the U.S. as defined by the USACE as well as other surface waters, which include isolated wetlands (e.g., vernal pools) and stream channels.

Formal wetland delineations were not conducted within any portion of the CSA as part of this analysis. However, prior to project implementation wetland delineations would need to be conducted within each project site to identify (and quantify) proposed impacts to jurisdictional resources and associated proposed mitigation measures.

Vegetation Communities

Biological resources located within the approximately 3,661-acre CSA consist of eucalyptus woodland, disturbed habitat, agriculture, coastal sage scrub, southern mixed chaparral, coastal sage-chaparral scrub, non-native grassland, disturbed wetlands, open water (freshwater), non-vegetated channels, freshwater marsh, southern riparian forests, riparian woodlands, riparian scrubs, and coast live oak woodland. Urban/developed areas, consisting of existing roadways (i.e., I-15, SR-76, etc.),

residential development, and commercial development are also located within the CSA. Although field-level mapping was not conducted for the entire approximately 3,661-acre CSA, a vegetation map was prepared utilizing a recent aerial photograph, existing available biological data, and limited field checks (Figures 4a-4d). Table 1 identifies general vegetation communities and estimated percent cover within each segment of the CSA.

Upland Vegetation Communities

Eucalyptus woodland consists of open to dense stands of eucalyptus trees, which are invasive, non-native species.

Disturbed habitat consists of previously disturbed areas that are either devoid of vegetation (dirt roads/trails) or support scattered non-native species such as mustard (*Brassica* sp.), radish (*Raphanus sativus*), tumbleweed (*Salsola tragus*), and star thistle (*Centaurea* sp.). While these species are non-native, they are not considered to be invasive species as they typically are found along the borders between native and naturalized vegetation communities and disturbed areas and do not typically out-compete adjacent vegetation communities.

Agricultural operations, consisting of avocados, row crops, nurseries, and equestrian facilities, are scattered throughout the CSA, both within

the upland areas north and south of the San Luis Rey River and within the 100-year floodplain of the river.

Coastal sage scrub consists of low, soft-woody shrubs, typically measuring 0.5-2 meters tall (Holland 1986). Species composition generally consists of California sagebrush (*Artemisa californica*), buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and laurel sumac (*Malosma laurina*).

Southern mixed chaparral consists of broad-leaved sclerophyll shrubs, 1.5-3 meters tall, forming dense often nearly impenetrable stands (Holland 1986). Common species composition of this habitat within San Diego County consists of scrub oak (*Quercus berberidifolia*), chamise (*Adenostoma fasciculatum*), lemonade berry (*Rhus integrifolia*), manzanita (*Arctostaphylos* sp.), white-stemmed lilac (*Ceanothus leucodermis*), and mission manzanita (*Xylococcus bicolor*).

Coastal sage-chaparral scrub is a transition community containing species typical of both southern mixed chaparral and Diegan coastal sage scrub such as chamise, California sagebrush, white sage, lilac (*Ceanothus* sp.), and laurel sumac.

Non-native grassland consists of a dense to sparse cover of annual grasses with flowering culms measuring approximately one meter high. Native wildflowers are often associated with this community, especially in years of favorable rainfall. Common plant species observed within non-native grasslands within San Diego County include wild barley (*Hordeum murinum*), rip-gut (*Bromus diandrus*), slender wild oat (*Avena barbata*), and foxtail (*Bromus madritensis*).

Coast live oak woodland consists of open or closed canopy woodland dominated by coast live oak (*Quercus agrifolia*). The coast live oak is an evergreen that may grow from 10 to 25 meters in height. Coast live oak woodland is the dominant oak woodland community in southern California and will often integrate with Engelmann oak woodland (Engelmann oak is a County Group D sensitive species). The shrub understory is often poorly developed but may include toyon (*Heteromeles arbutifolia*), currant (*Ribes* sp.), laurel sumac, and non-native grasses (Holland, 1986).

Riparian Vegetation Communities

Disturbed wetland consists of areas adjacent to riparian areas (areas within the San Luis Rey River corridor) that have been previously disturbed and currently support species such as castor bean (*Ricinus communis*), tamarisk

(*Tamarix* sp.), giant reed (*Arundo donax*), and curly dock (*Rumex crispus*).

Open water consists of areas of open, standing water (e.g., ponds).

Non-vegetated channels consist of areas within the San Luis Rey River channel that are currently devoid of vegetation. These areas may also include the unofficial trails that currently exist within the San Luis Rey River, which presently are utilized by the community for equestrian, pedestrian, and off-road motorized vehicle activities. In addition, areas classified as non-vegetated channels may also represent currently disturbed areas within the drainage channel resulting from the historic mining and industrial uses within the floodplain.

Freshwater marsh consists of wetland areas dominated by herbaceous plants such as cattails (*Typha* spp.), bulrush (*Scirpus* spp.) and sedges (*Carex* spp.).

Southern riparian forest, riparian woodlands, and riparian scrub habitats consist of tall, open, broadleaved riparian forests, woodlands, and dense, broadleaved riparian thickets, respectively (Holland 1986). Common components of riparian forests/riparian scrub habitats include cottonwoods (*Populus fremontii*), sycamores (*Platanus racemosa*), willows (*Sal-*

lix spp.), and mule fat (*Baccharis salicifolia*). Non-native, invasive species typically found in riparian forests/scrub habitats and found throughout the San Luis Rey River include giant reed and tamarisk. In addition, while not mapped separately as disturbed wetland or disturbed habitat, existing unofficial trails are located throughout the areas classified as southern riparian forest, riparian woodlands, and riparian scrub.

Sensitive Species

Plant and animal species are considered sensitive if they have been listed as such by federal or state agencies or one or more special interest groups, such as the California Native Plant Society (CNPS) (Skinner and Pavlik 1994). The California Department of Fish and Game (CDFG) publishes separate comprehensive lists for plants and animals through the California Natural Diversity Database (CNDDDB) (CDFG 2004). These include taxa officially listed by the state and federal governments as Endangered, Threatened, or Rare, and candidates for state or federal listing. The County also considers a list of narrow endemic plant species as sensitive biological resources.

Please see Attachment 1 for further discussion of the state, federal, County, and CNPS guidelines used to determine the sensitivity of resources.

Sensitive Plants

A record search of the CNDDDB was conducted to identify sensitive plant species historically noted in the vicinity of the CSA (i.e., Bonsall Quadrangle). The search identified three sensitive plant species historically noted within the vicinity of the CSA including: San Diego ambrosia (*Ambrosia pumila*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), and chaparral nolina (*Nolina cismontana*) (CNDDDB 2004). Only one of these species, San Diego ambrosia, has historically been observed within (or immediately adjacent to) the CSA (Figures 5a-5d).

San Diego ambrosia. San Diego ambrosia, a federally endangered and CNPS List 1B species, occurs in Riverside, San Diego, and Baja California, Mexico. This herbaceous perennial of the sunflower family is found in chaparral, coastal scrub, grassland, and vernal pool communities. It occurs along creek beds, seasonally dry drainages, and floodplains usually in open areas that are on the periphery of willow woodlands. San Diego ambrosia persists where disturbance has been superficial. It generally blooms from May to September. San Diego ambrosia has potential to occur within the CSA, primarily in the following vegetation communities: coastal sage scrub, coastal sage-chaparral scrub, southern mixed chaparral, non-native grassland, and agricultural areas adjacent to the San Luis Rey River corridor.

Orcutt's pincushion. Orcutt's pincushion, a CNPS List 1B species, is associated with coastal bluff scrub and coastal dunes. The elevation range of this species is 3-100 meters AMSL. The species is not expected to occur within the CSA due to a lack of suitable habitat.

Chaparral nolina. Chaparral nolina, a CNPS List 1B species, is associated with chaparral and coastal sage scrub habitats. This species is found primarily on sandstone and shale substrates between 140-1275 feet AMSL. Although not identified by the CNDDDB as historically occurring within the CSA, this species has potential to occur due to the presence of suitable habitat requirements (i.e., soils and chaparral/sage scrub habitats).

Sensitive Wildlife

A record search of the CNDDDB was conducted to identify sensitive wildlife species historically noted in the vicinity of the CSA (i.e., Bonsall Quadrangle). The search identified 18 sensitive wildlife species historically noted within the vicinity of the CSA including: arroyo toad (*Bufo californicus*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo pusillus bellii*), southwestern willow flycatcher (*Empidonax traillii extimus*), Stephens' kangaroo rat (SKR) (*Dipodomys*

stephensi), Cooper's hawk (*Accipiter cooperii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), orange-throated whiptail (*Cnemidophorus hyperythrus*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), coastal cactus wren (*Campylorhynchus brunneicapillus couesi*), rosy boa (*Lichanura trivirgata*), northern red-diamond rattlesnake (*Crotalus ruber ruber*), yellow warbler (*Dendroica petechia*), Coronado skink (*Eumeces skiltonianus interparietalis*), yellow-breasted chat (*Icteria virens*), least bittern (*Ixobrychus exilis*), San Diego desert woodrat (*Neotoma lepida intermedia*), and the white-faced ibis (*Plegadis chihi*) (CNDDDB 2004). All of these species, with the exception of the northern red-diamond rattlesnake, the Coronado skink, and the San Diego desert woodrat, have historically been observed within (or immediately adjacent to) the CSA (Figures 6a-6d).

Arroyo toad. The federally endangered arroyo toad occurs in sandy arroyos and river bottoms adjacent to marginal zones of willows and mule-fat on loose soil. For breeding, the arroyo toad is restricted to rivers and creeks of low stream gradient, usually in the range of 0 to 3% with persistent water. Breeding occurs along the edges and within streams and rivers with shallow, gravelly pools adjacent to sandy terraces. Terraces must be stable and usually possess a moderately well developed, scattered

shrub and tree overstory typically containing mulefat, California sycamore, Fremont cottonwood, or coast live oak (Jennings and Hayes 1994). Arroyo toads may disperse into adjacent upland habitats including coastal sage scrub, chaparral, and grasslands. Although most arroyo toads remain on sandy terraces adjacent to breeding sites, some will remain in upland habitats if soil conditions are appropriate (that is, if the soils are friable and mostly sandy). The distribution of the arroyo toad is limited to coastal southern California and Baja California, Mexico.

Critical habitat was recently proposed by the USFWS for this species, and included the section of the San Luis Rey River located within the CSA as well as adjacent uplands. However, the final designated critical habitat for this species does not include any areas within or adjacent to the CSA.

Coastal California gnatcatcher. The coastal California gnatcatcher, a federally threatened species, is known to occur in San Diego County and is closely associated with coastal sage scrub habitats. The coastal California gnatcatcher occurs below 610 meters (2,000 feet) elevation in the coastal slopes of southern California from the Ventura County and the Los Angeles basin south to Baja California, Mexico. This species is an obligate, permanent resident of low sage scrub in arid washes, on mesas,

and on slopes. Designated critical habitat for this species occurs within the CSA (Figure 7).

Least Bell's vireo. The least Bell's vireo, a federally endangered species, is known to occur in Santa Barbara, Riverside and San Diego Counties. The least Bell's vireo inhabits low riparian growth in the vicinity of water or in dry river bottoms. Nests are placed along margins of bushes or in twigs of willows, mulefat, or mesquite. The least Bell's vireo has historically been recorded throughout the San Luis Rey River, portions of which, including the section along the CSA, are designated as critical habitat for this species (Figure 8).

Southwestern willow flycatcher. The southwestern willow flycatcher, a federally endangered species, is present in San Diego County in late spring and summer where it is known to breed in only a few locations (Unitt, 1984). The southwestern willow flycatcher nests in willow thickets in riparian woodlands. Typical plants associated with nest locations are willows, stinging nettle, baccharis, alder, ash, California wild rose, California blackberry, and wild grape. Although oaks are not a typical species for the willow flycatcher to nest in, a population on the San Luis Rey River is known to use oaks almost exclusively for nesting (Haas, pers. comm.). Three drainages in San Diego County support breeding southwestern willow flycatchers: Santa Margarita River, the

upper San Luis Rey River, and the San Dieguito River. Large portions of the CSA are located within proposed critical habitat for this species, which was recently proposed by the USFWS (Figure 9).

Stephens' kangaroo rat. SKR is a federally endangered and state threatened species known to occupy portions of Riverside and San Diego Counties. This species is typically associated with grasslands, fallow agricultural fields, and sparse coastal sage scrub vegetation types in areas with penetrable soils and a flat to moderately sloping topography.

Cooper's hawk. The Cooper's hawk, a California species of concern, is a common resident of San Diego County. This species is typically associated with woodlands, parks, or residential areas (unit 1984).

Southern California rufous-crowned sparrow. The rufous-crowned sparrow, a CDFG species of concern, is associated with steep and rocky areas or bunches of grass within coastal sage scrub habitats.

Orange-throated whiptail. The orange-throated whiptail, a CDFG species of concern, is found in dense strands of sage scrub, chamise chaparral, and floodplain areas.

Coastal western whiptail. The coastal whiptail, a federal species of concern, occupies the California coastal region from Ventura south to western Baja. It utilizes open sage scrub and mixed chaparral among otherwise moderate to dense vegetation.

Coastal cactus wren. This species, a CDFG species of concern, is associated with coastal sage scrub habitats and require tall opuntia cactus for nesting and roosting (CNDDDB 2003).

Coastal rosy boa. This species, a federal species of concern, is found throughout San Diego County in dry, rocky, chaparral and desert habitats, usually near intermittent streams.

Northern red-diamond rattlesnake. The northern red-diamond rattlesnake, a CDFG and federal species of concern, is associated with rocky brushlands throughout San Diego County. This species, although not identified by the CNDDDB as historically occurring within the CSA, has a high potential to occur due to the presence of suitable habitat.

Yellow warbler. The yellow warbler, a CDFG species of concern, is associated with riparian habitats. This species prefers areas dominated

by willows, cottonwoods, sycamores, and alders for nesting and foraging.

Coronado skink. The Coronado skink, a California Species of Concern, inhabits mountainous areas of Baja California del Norte and adjoining areas of extreme southern San Diego County. Habitat for this species includes rocky areas within grasslands, open woodland and forest, and broken chaparral (Stebbins 1985; Behler and King 1979). This species, although not identified by the CNDDDB as historically occurring within the CSA, has a moderate potential to occur due to the presence of potentially suitable habitat.

Yellow-breasted chat. The yellow-breasted chat is a CDFG species of concern associated with riparian woodlands.

Least bittern. The least bittern, a CDFG species of concern, nests colonially in marshlands and along the borders of ponds and reservoirs. Nests are typically located low in tules over water.

San Diego desert woodrat. This species, a CDFG species of concern, is found primarily in areas vegetated with scrub oak, oak, and chaparral. This species, although not identified by the CNDDDB as historically occurring within

the CSA, has a moderate potential to occur due to the presence of potentially suitable habitat.

White-faced ibis. This species, a CDFG species of concern, is associated with shallow freshwater marsh habitats. Habitat requirements include dense tule thickets with areas of shallow water for foraging.

CONSTRAINTS WITHIN THE CSA

The literature/data search and biological surveys resulted in the identification of the following biological constraints within the CSA:

Sensitive riparian vegetation communities;

Sensitive upland vegetation communities;

Sensitive plant species (known and/or considered to have potential to occur);

Sensitive wildlife species (known and/or considered to have potential to occur);

Designated critical habitat for the coastal California gnatcatcher and the least Bell's vireo;

Proposed critical habitat for the southwestern willow flycatcher; and

Wetlands and/or waters under the jurisdiction of one or more of the following agencies: USACE, CDFG, and RWQCB.

Vegetation communities present within the CSA can be grouped into the following general vegetation categories:

Wetlands;

Rare Uplands (which include native grasslands, coastal sage scrub, coastal sage-chaparral scrub, chaparral, and oak woodlands);

Common Uplands (which include agriculture, disturbed habitat, eucalyptus woodland and non-native grasslands); and

Urban/Developed areas.

Descriptions of each of the vegetation categories and associated constraints to development are outlined below.

Wetlands

Park development would be most constrained within areas classified as wetlands due to the presence of resources that are most strictly regulated by local, state and federal regulations. These areas consist of riparian vegetation communities including: disturbed wetlands, open water, non-vegetated channels, freshwater marsh, southern riparian forest, riparian woodlands, and riparian scrubs

(Figure 10a). Impacts to wetland vegetation communities would require mitigation at a ratio of 3:1 according to the County of San Diego's standard mitigation ratios for areas located outside of the MSCP, of which a minimum of 1:1 must be in the form of wetland creation (the remaining 2:1 may be in the form of enhancement). Areas classified as wetlands would likely fall under the jurisdiction of one of more of the following resource agencies: USACE, CDFG, and RWQCB. While the standard County ratio for wetlands is 3:1, the resource agencies may allow mitigation at ratios of 1:1 to 3:1. Permits and/or approvals from these agencies would be required in order to impact resources under their jurisdiction. The resource agencies, as well as the County, will also require wetland buffers, which typically range from 25 to over 200 feet. Wetland buffer areas have not been included within the areas mapped as wetlands.

While not limited to only areas classified as wetlands, all or portions of the areas classified as wetlands have been designated or are proposed to be designated as critical habitat for the California gnatcatcher, least Bell's vireo, and the southwestern willow flycatcher, all of which are known to occur within the CSA. Critical habitat was recently proposed by the USFWS for the arroyo toad, which included the section of the San Luis Rey River located

within the CSA as well as adjacent uplands. Although the final designated critical habitat for this species does not include any areas within or adjacent to the CSA, this species is known to occur within the CSA. While the presence of listed species and their proposed/ designated critical habitats does not eliminate all development potential within these areas, it does severely constrain the development potential of these areas as avoidance and minimization of impacts are required. In addition, impacts to these federally listed species and their critical habitat would require formal consultation with the resource agencies under the ESA. Impacts could consist of both direct impacts resulting from clearing of habitat and indirect impacts resulting from the isolating of areas of suitable/occupied habitat (for the arroyo toad) from the river channel or increased noise levels (for avian species). The resource agencies consider noise levels over 60 dBA to be a significant impact to sensitive avian species.

Rare Uplands

Areas classified as rare uplands consist of sensitive upland vegetation communities that, according to the County's standard mitigation ratios for areas located outside of the adopted MSCP, would typically require in-kind habitat preservation at ratios ranging from 1:1 to 3:1 for project impacts (i.e., coast

live oak woodland, native grasslands, coastal sage scrub, coastal sage-chaparral scrub, and chaparral). Although some of these areas would require mitigation at the same ratio as wetlands, they are not considered as sensitive because impacts to these areas do not require habitat creation and these areas are not strictly regulated by state and federal laws.

Oak woodlands are known to provide suitable nesting habitat for sensitive raptor species (i.e., Cooper's hawk). Nests are less sensitive outside the breeding season when they are not in active use; some species however (e.g. raptors) often use the same nest sites over many years and the loss of inactive nests is considered to have an adverse effect. In order to avoid potential impacts to raptors during the nesting season, restrictions are typically placed on clearing/grading between February 1 through August 31 annually, unless pre-construction surveys by a qualified biologist determine no nesting raptors are located within 300 feet of grading/construction activities. Due to the sensitivity of oaks, the County also considers impacts within 50 feet of the oak canopy to be an impact to the oak.

Native grasslands, frequently indicated by species in the genus *Nasella*, are rare in southern California. They also provide suitable

habitat for sensitive plants and wildlife including raptors.

Coastal sage scrub and coastal sage-chaparral scrub are known to support sensitive species including, but not limited to, the California gnatcatcher and the coastal cactus wren. While not limited to only areas classified as rare uplands, portions of the areas classified as rare uplands have been designated as critical habitat for the California gnatcatcher (proposed/designated critical habitat for the southwestern willow flycatcher and the least Bell's vireo also occur within areas classified as rare uplands; critical habitat has not been proposed/designated for the coastal cactus wren – a CDFG species of concern). While the presence of listed species and their proposed/designated critical habitats does not eliminate all development potential within these areas, it does severely constrain the development potential of these areas as avoidance and minimization of impacts are required. In addition, impacts to this federally listed species and its critical habitat would require formal consultation with the resource agencies under the ESA. Impacts could consist of both direct impacts resulting from clearing of habitat and indirect impacts resulting from increased noise levels. The resource agencies consider noise levels over 60 dBA to be a significant impact to sensitive avian species.

Chaparral, while less than the other habitat types discussed above, is known to support sensitive plant and wildlife species, including San Diego ambrosia, chaparral nolina, orange-throated whiptail, and coastal western whiptail, which are discussed above.

Common Uplands

Areas classified as common uplands consist of upland vegetation communities that, according to the County's standard mitigation ratios for areas located outside of the adopted MSCP, would typically require in-kind habitat preservation at ratios ranging from 0.5:1 to 1:1 for project impacts (i.e., non-native grassland) or that typically would not require mitigation for project impacts (i.e., agriculture, disturbed habitat, and eucalyptus woodland).

While non-native grassland is typically not considered to be a sensitive vegetation community, it is known to provide suitable foraging habitat for several raptor species and is known to support sensitive species including the Stephens' kangaroo rat. Impacts to the federally listed Stephens' kangaroo rat, or other federally listed species, would require formal consultation with the resource agencies under the ESA.

Non-native grasslands located adjacent to the San Luis Rey River channel and within the

100-year floodplain, although not classified as wetlands, may fall under the jurisdiction of one or more of the following resource agencies: USACE, CDFG, and the RWQCB. These areas may support wetland hydrology and potentially hydric soils (wetland indicators) and, before recent or historic disturbance, may have supported riparian vegetation. If determined to fall under the jurisdiction of the resource agencies, permits and/or approvals from these agencies would be required prior to any impacts. Alternatively, due to their adjacency to the river, potential presence of wetland hydrology/hydric soils, and disturbed nature (i.e., past conversion from riparian vegetation), these sites would offer opportunities for wetland restoration/creation (Figures 11a-11d).

Agricultural areas and disturbed areas located adjacent to the San Luis Rey River channel and within the 100-year floodplain, although not classified as wetlands, may fall under the jurisdiction of one or more of the following resource agencies: USACE, CDFG, and the RWQCB. Some of these areas may support wetland hydrology and potentially hydric soils (wetland indicators) and, before recent or historic disturbance, may have supported riparian vegetation. If determined to fall under the jurisdiction of the resource agencies, permits and/or approvals from these agencies

would be required prior to any impacts. Alternatively, due to their adjacency to the river, potential presence of wetland hydrology/hydric soils, and disturbed nature (i.e., past conversion from riparian vegetation), these sites would offer opportunities for wetland restoration/creation (Figures 11a-11d).

Eucalyptus woodlands are known to provide suitable nesting habitat for sensitive raptor species (i.e., Cooper's hawk). Nests are less sensitive outside the breeding season when they are not in active use; some species however (e.g. raptors) often use the same nest sites over many years and the loss of inactive nests is considered to have an adverse effect. In order to avoid potential impacts to raptors during the nesting season, restrictions are typically placed on clearing/grading between February 1 through August 31 annually, unless pre-construction surveys by a qualified biologist determine no nesting raptors are located within 300 feet of grading/construction activities.

While not limited to only areas classified as common uplands, all or portions of the areas classified as common uplands have been designated or are proposed to be designated as critical habitat for the California gnatcatcher, least Bell's vireo, and the southwestern willow flycatcher, all of which are known to occur

within the CSA. Critical habitat was recently proposed by the USFWS for the arroyo toad, which included the section of the San Luis Rey River located within the CSA as well as adjacent uplands. Although the final designated critical habitat for this species does not include any areas within or adjacent to the CSA, this species is known to occur within the CSA. While the presence of listed species and their proposed/designated critical habitats does not eliminate all development potential within these areas, it does severely constrain the development potential of these areas as avoidance and minimization of impacts are required. In addition, impacts to these federally listed species and their critical habitat would require formal consultation with the resource agencies under the ESA. Impacts could consist of both direct impacts resulting from clearing of habitat and indirect impacts resulting from the isolating of areas of suitable/occupied habitat (for the arroyo toad) from the river channel or increased noise levels (for avian species). The resource agencies consider noise levels over 60 dBA to be a significant impact to sensitive avian species.

Urban/Developed

Urban/developed areas consist of existing paved roadways and residential, recreational, and commercial development. According to the County's standard mitigation ratios, these areas would not require mitigation for impacts

areas as they have low to no potential to support sensitive biological resources and therefore, do not present a constraint to development of park facilities from a biological perspective.

OPPORTUNITIES WITHIN THE CSA

The literature/data search and biological surveys resulted in the identification of the following biological opportunities within the CSA:

- Habitat preservation and long-term maintenance and management within the San Luis Rey River corridor;

- Removal of exotics (i.e., arundo) within the San Luis Rey River corridor; and

- Wetland restoration, enhancement, and creation within the San Luis Rey River corridor.

Approximately 62% of the CSA consists of sensitive riparian or upland vegetation communities (wetlands and rare uplands), while 38% consists of common uplands or existing development (common uplands and urban/developed). Sensitive vegetation communities provide opportunities for habitat preservation and management. The preservation in perpetuity of sensitive vegetation communities could fulfill habitat-based mitigation requirements for project impacts. For example, impacts to 50.0 acres of southern mixed chaparral could be mitigated through the preservation in perpetuity of 50.0 acres (1:1 ratio) of southern mixed chaparral.

The San Luis Rey River channel contains large patches of arundo, which is a non-native, invasive species. The Mission Resource Conservation District recently (2004) mapped the arundo located within portions of the San Luis Rey River, including the section of the river located within the CSA (Figure 12). The presence of arundo and other non-native invasive species within the San Luis Rey River channel provides opportunities for removal of exotic species, which could partially fulfill mitigation requirements (enhancement credit) for impacts to wetland vegetation communities. In addition, these areas, as well as areas within the 100-year floodplain for the San Luis Rey River that are currently disturbed, utilized for agricultural operations, or vegetated with non-native grasses (see Figures 11a-11d) provide opportunities for wetland restoration/enhancement and potentially wetland creation. These areas may support wetland hydrology and potentially hydric soils (wetland indicators) and, before recent or historic disturbance, likely supported riparian vegetation. Therefore, they would be ideal sites for wetland restoration and enhancement. However, as sensitive species (i.e., the arroyo toad) may currently be utilizing these areas, restoration/enhancement activities would need to be designed and implemented to avoid/minimize impacts to these species while providing increased/enhanced habitat areas.

RECOMMENDATIONS

Based on the field surveys, the literature review, and experience with other projects with similar biological issues, general recommendations for park development include the following:

- The preservation, restoration, and long-term maintenance/management of areas classified as wetlands and areas supporting sensitive plant and wildlife species and their proposed/designated critical habitat while providing some access to, and interpretation of, the river corridor's biological resources (i.e., passive recreation);

- Strategies for the removal of non-native, invasive species within the San Luis Rey River corridor (See Figure 12);

- Wetland enhancement/restoration efforts on areas identified as opportunity sites for wetland creation/enhancement (see Figures 11a-11d);

- Focus the placement of active Tier A park sites and programming (i.e., parking lots, staging areas, active recreation, etc.) within areas of lower sensitivity levels (i.e., common uplands); and

To the extent feasible while still meeting the park goals, focus the placement of passive park development (Tiers B and C – interpretive kiosks, bird watching platforms, etc.) within areas of lower sensitivity levels (i.e., common uplands). Passive park programming located within areas classified as wetlands should be placed within areas of current or previous disturbance and carefully designed to minimize impacts on sensitive biological resources including sensitive plant and wildlife species and their proposed/ designated critical habitat.

The recommendations listed above general recommendations for park planning and were used as tools to guide the development of the Master Plan alternatives. These recommendations, and associated figures, do not represent specific boundaries where park program elements are precluded. It is anticipated that negotiations with the resource agencies will ultimately determine what park features are acceptable within specific areas of the CSA. Concerns likely to be raised by the resource agencies include: any impact, whether resulting from active park programming (play fields, etc.) or passive park programming (picnic tables, trails, etc.), to jurisdictional resources (USACE wetlands and non-wetland waters, RWQCB waters, and CDFG streambeds) and impacts to federally listed species or

their proposed/ designated critical habitat. It should be noted that project-level analysis will ultimately be required to determine exact impacts to sensitive vegetation communities, sensitive species and their proposed and designated critical habitats, and jurisdictional wetlands/waters. Mitigation measures will also need to be identified that will reduce impacts to below a level of significance.

FIGURE 1
Regional Location



Source: Aerial Access (2004), SANDAG

FIGURE 2
Draft North County MSCP - Habitat Evaluation Model

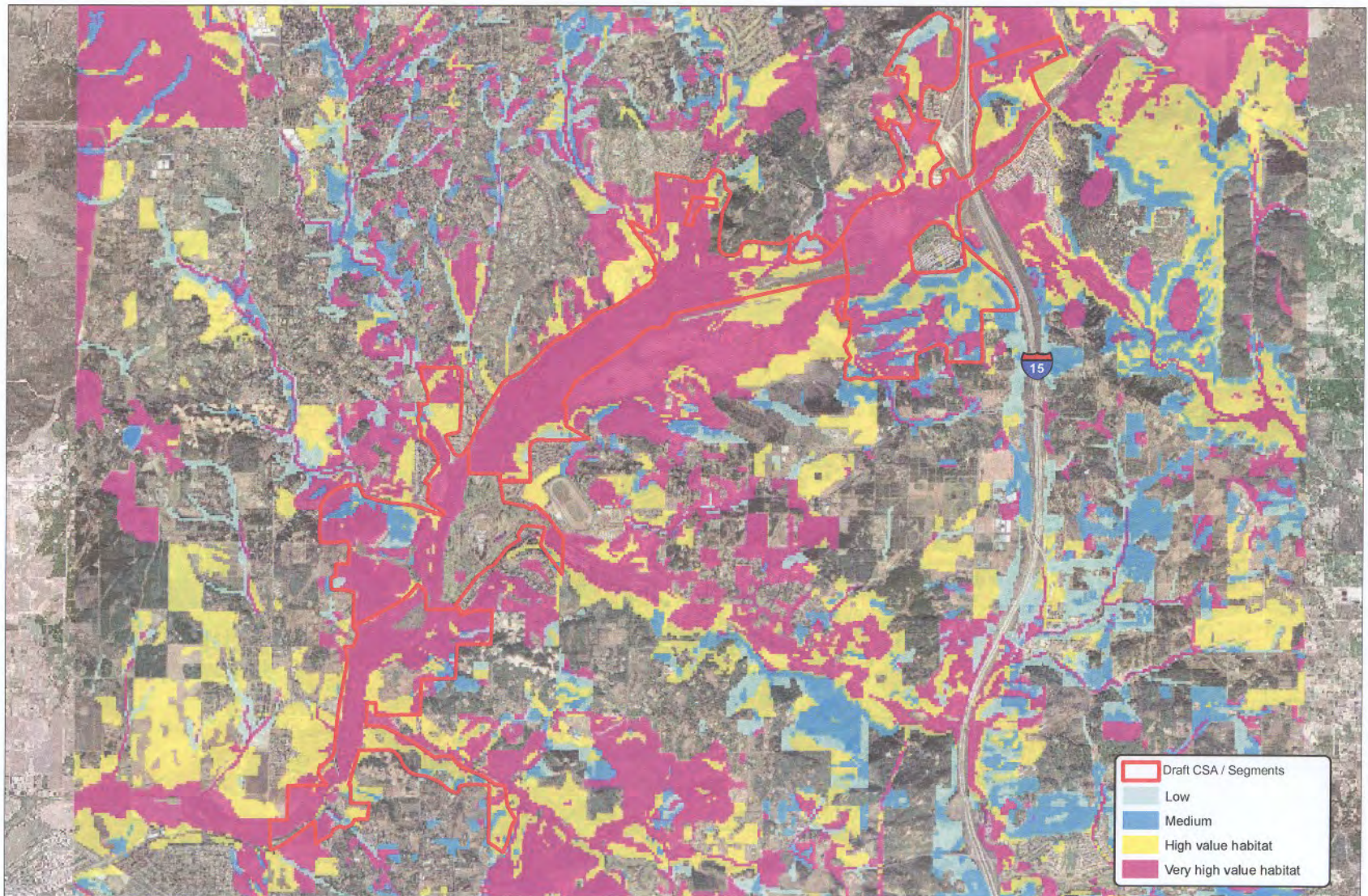
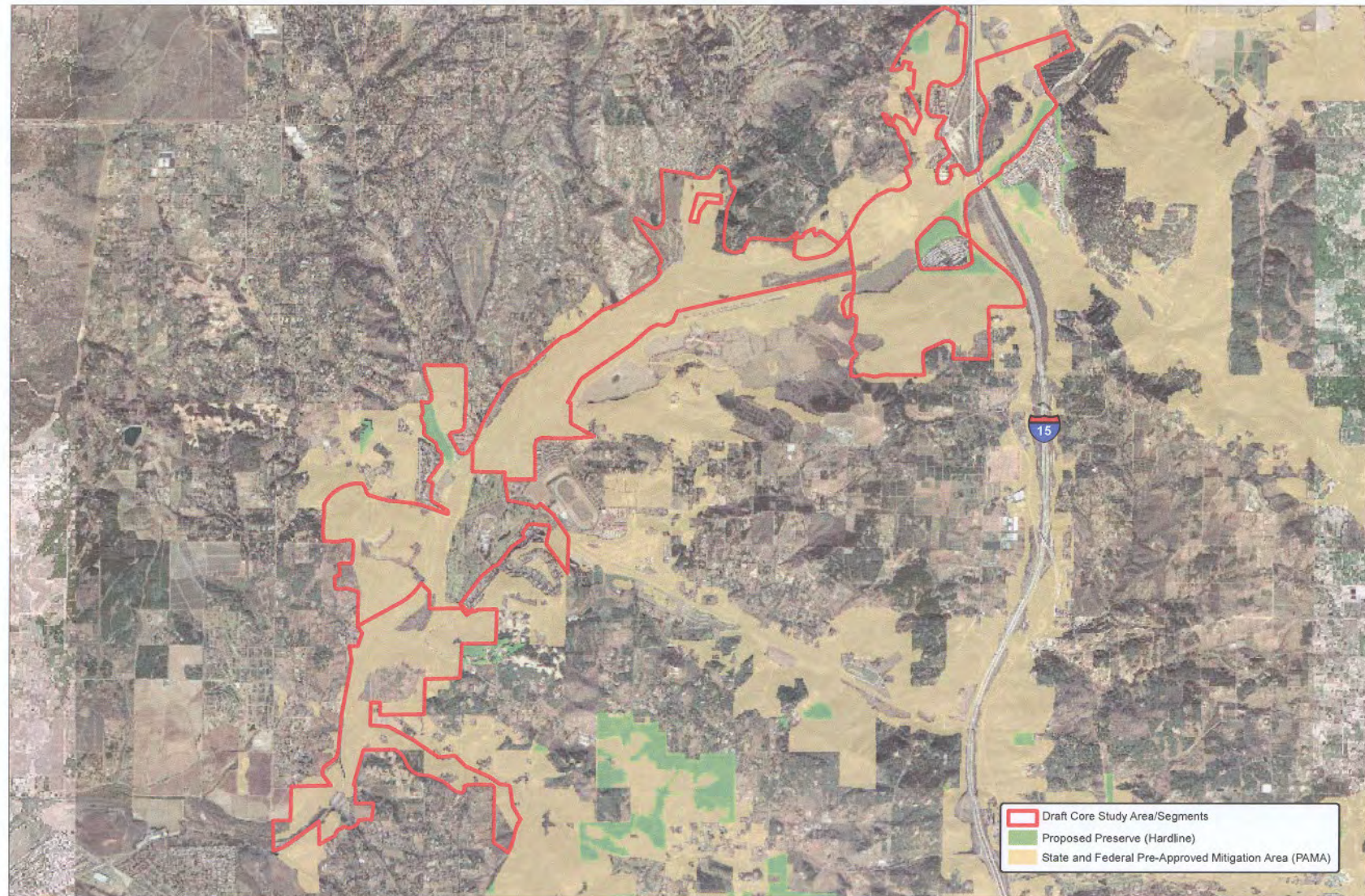


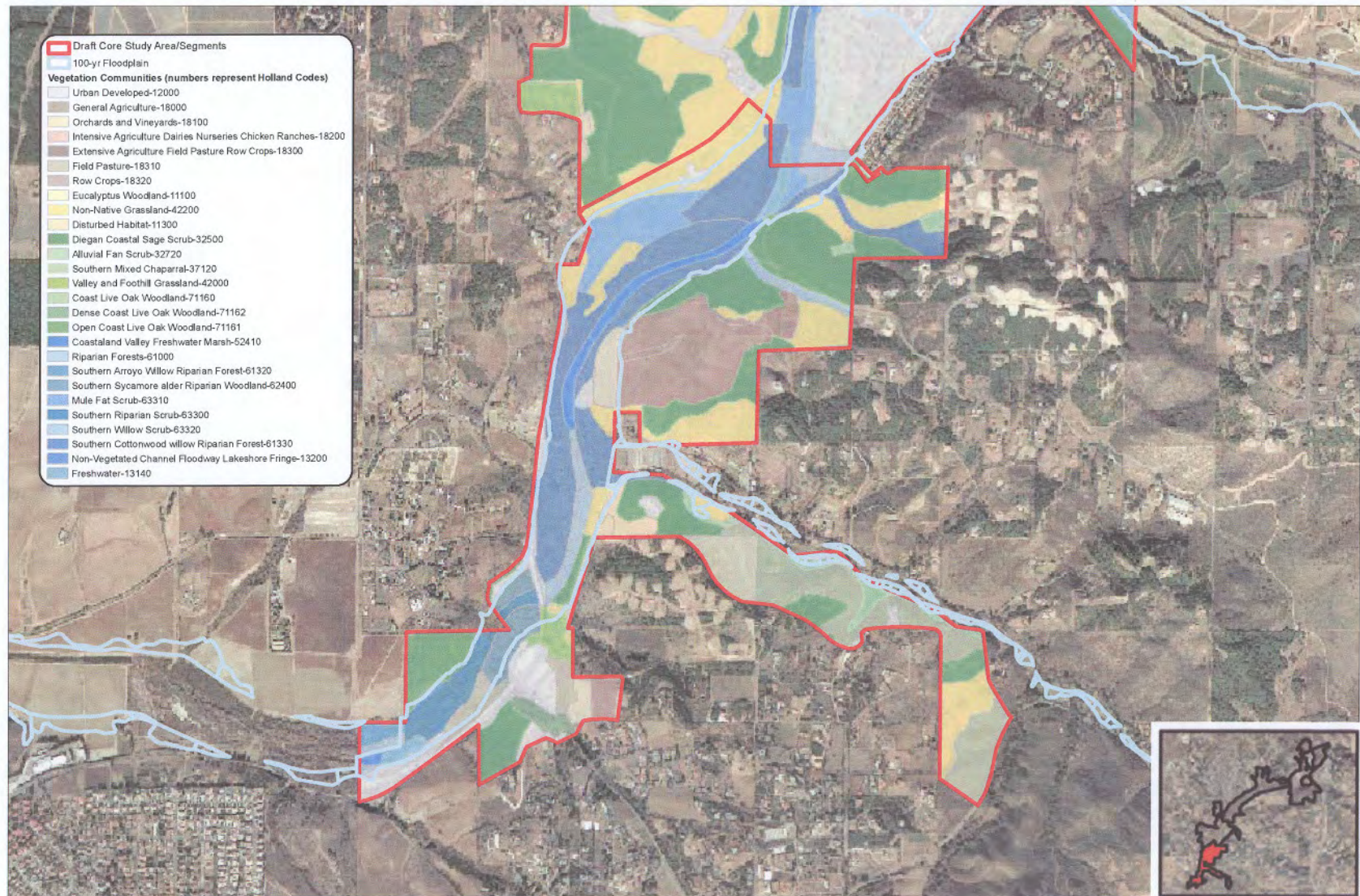
FIGURE 3

Draft North County MSCP - Pre-Approved Mitigation Areas



Source: Aerial Access (2004), SanGIS

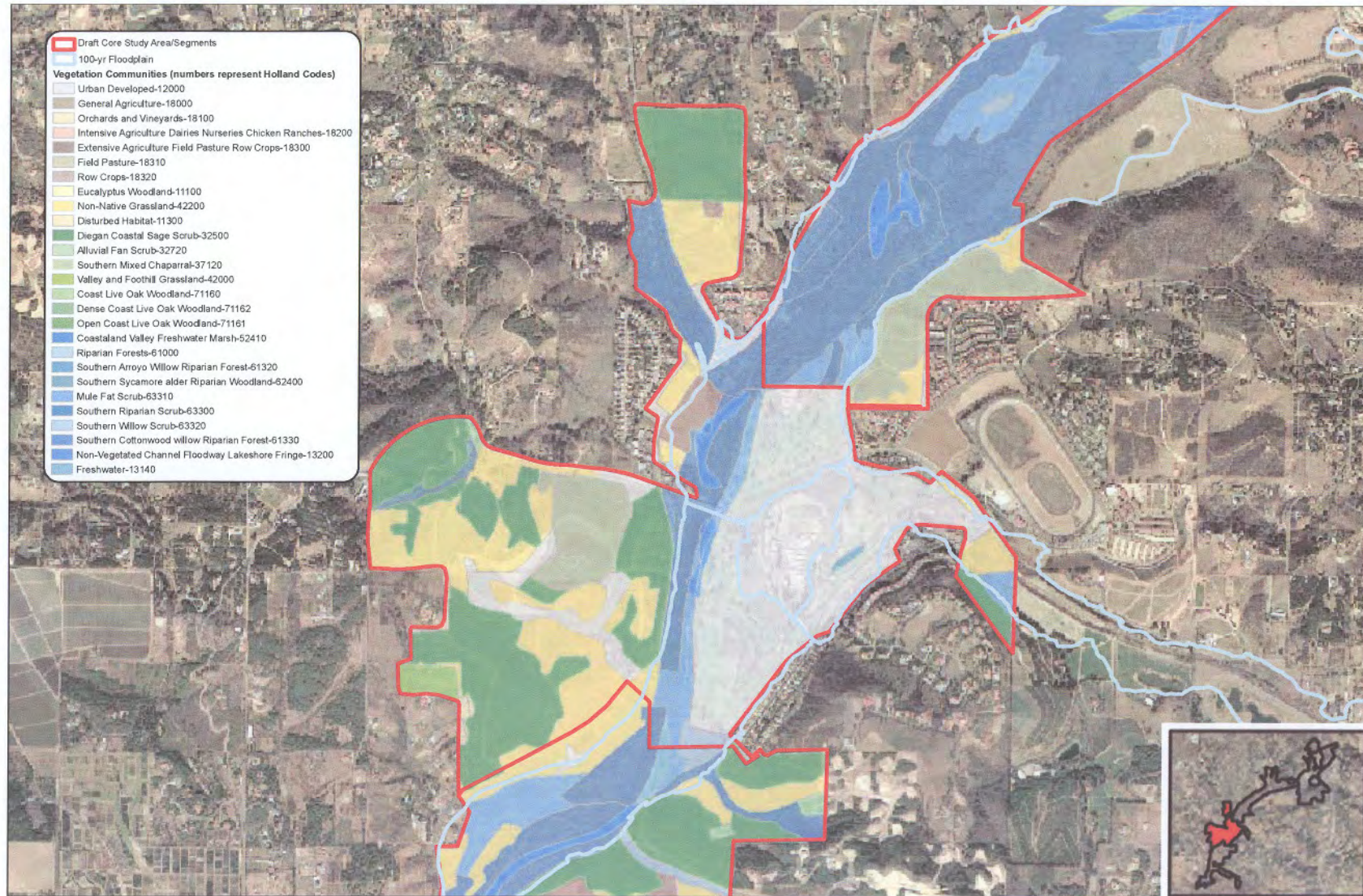
FIGURE 4a
Vegetation Communities - (Segment 1)



Source: Aerial Access (2004), SANDAG

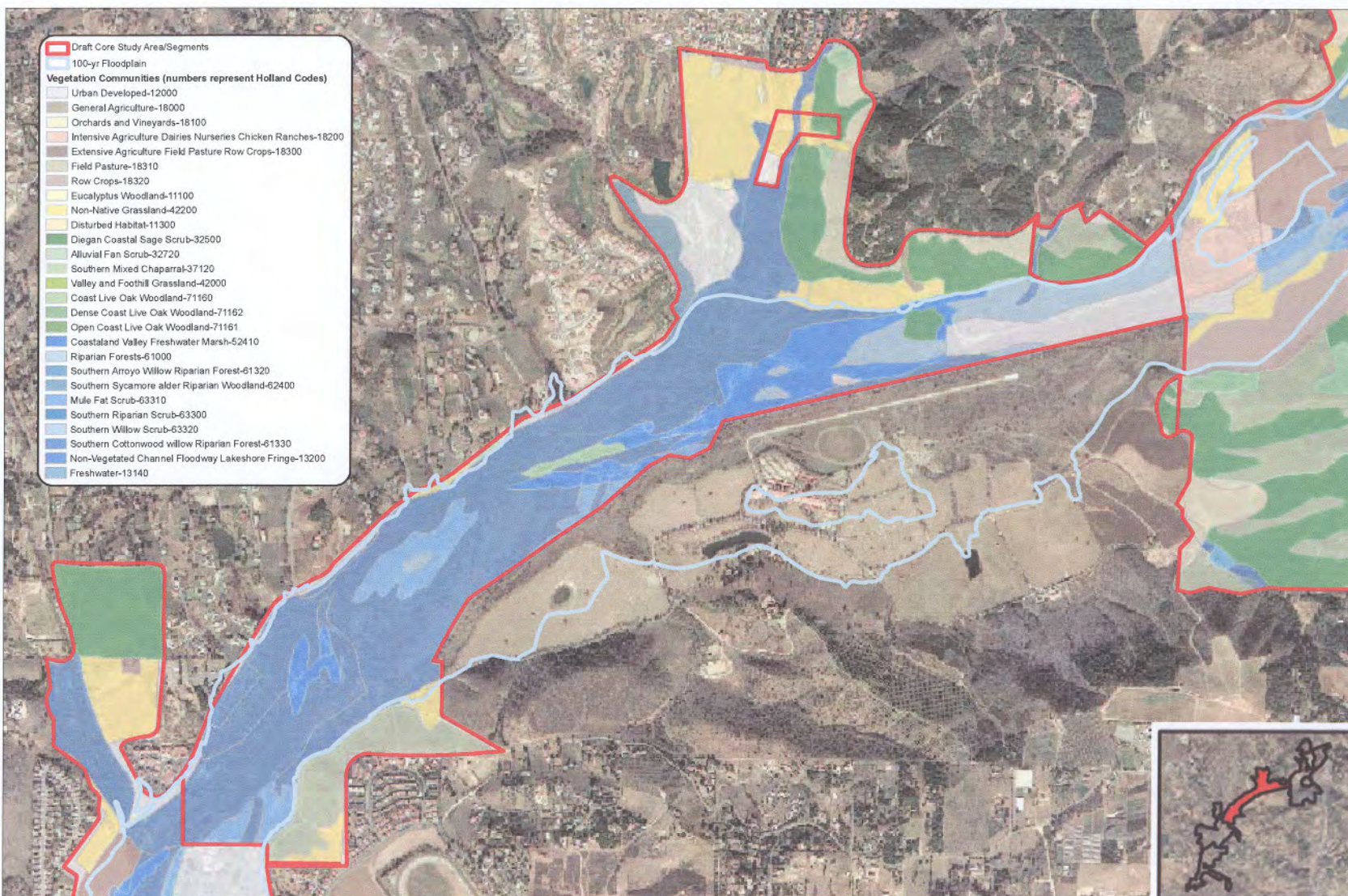
FIGURE 4b

Vegetation Communities - (Segment 2)



Source: Aerial Access (2004), SANDAG

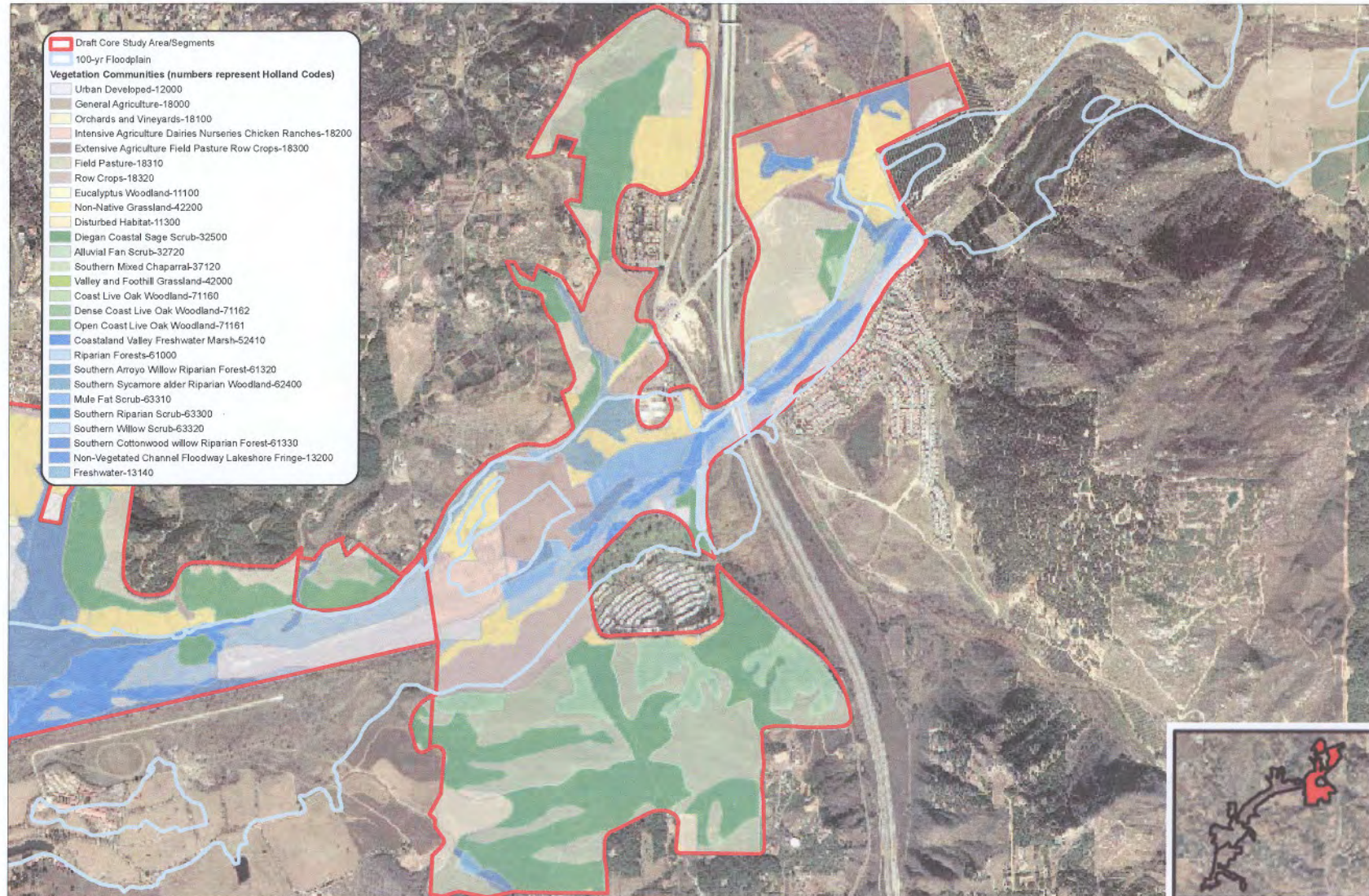
FIGURE 4c
Vegetation Communities - (Segment 3)



Source: Aerial Access (2004), SANDAG

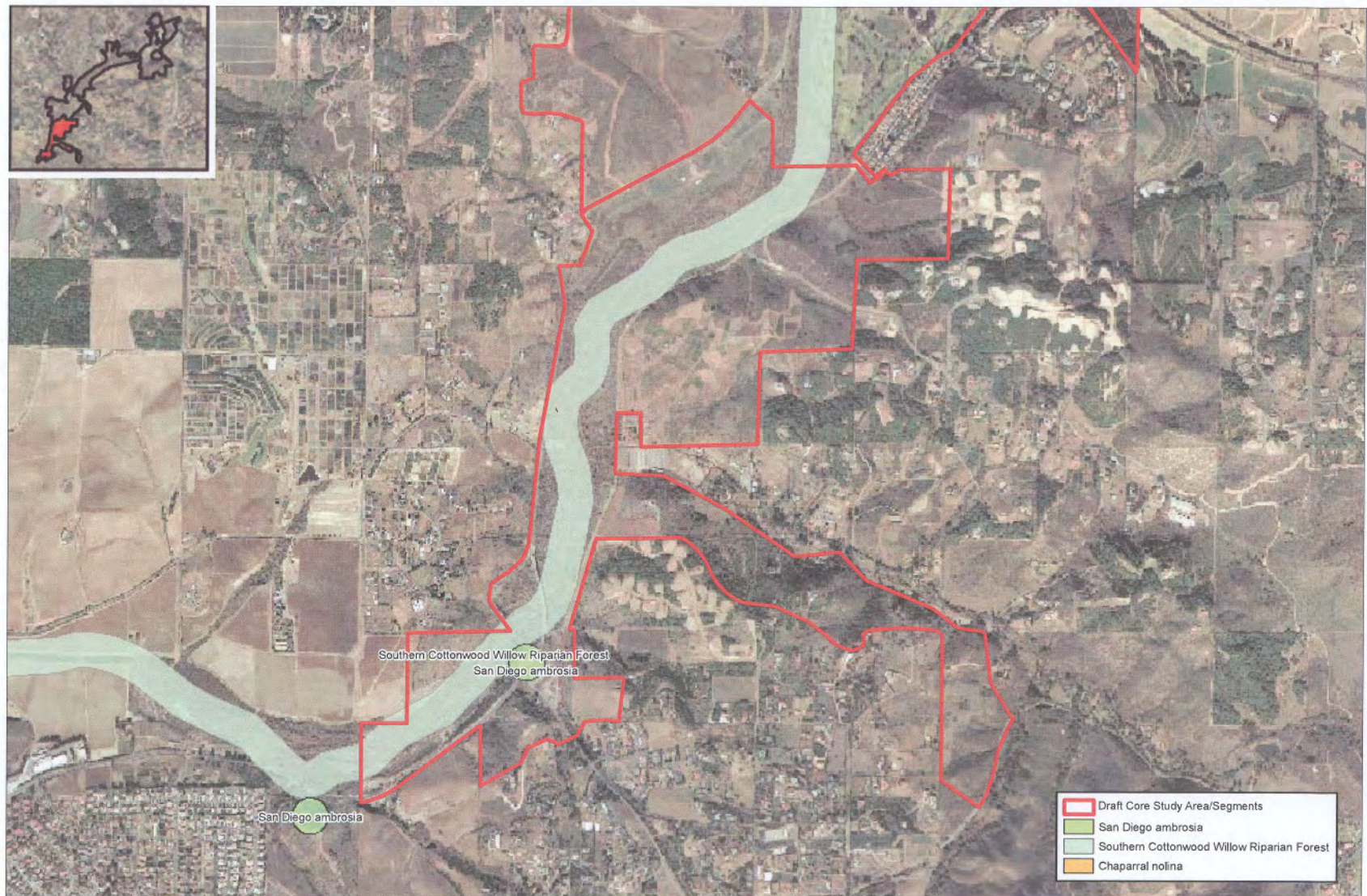
FIGURE 4d

Vegetation Communities - (Segment 4)



Source: Aerial Access (2004), SANDAG

FIGURE 5a
Sensitive Plant Locations- (Segment 1)



Source: Aerial Access (2004), SANDAG

Sensitive Plant Locations - (Segment 2)

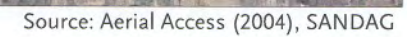
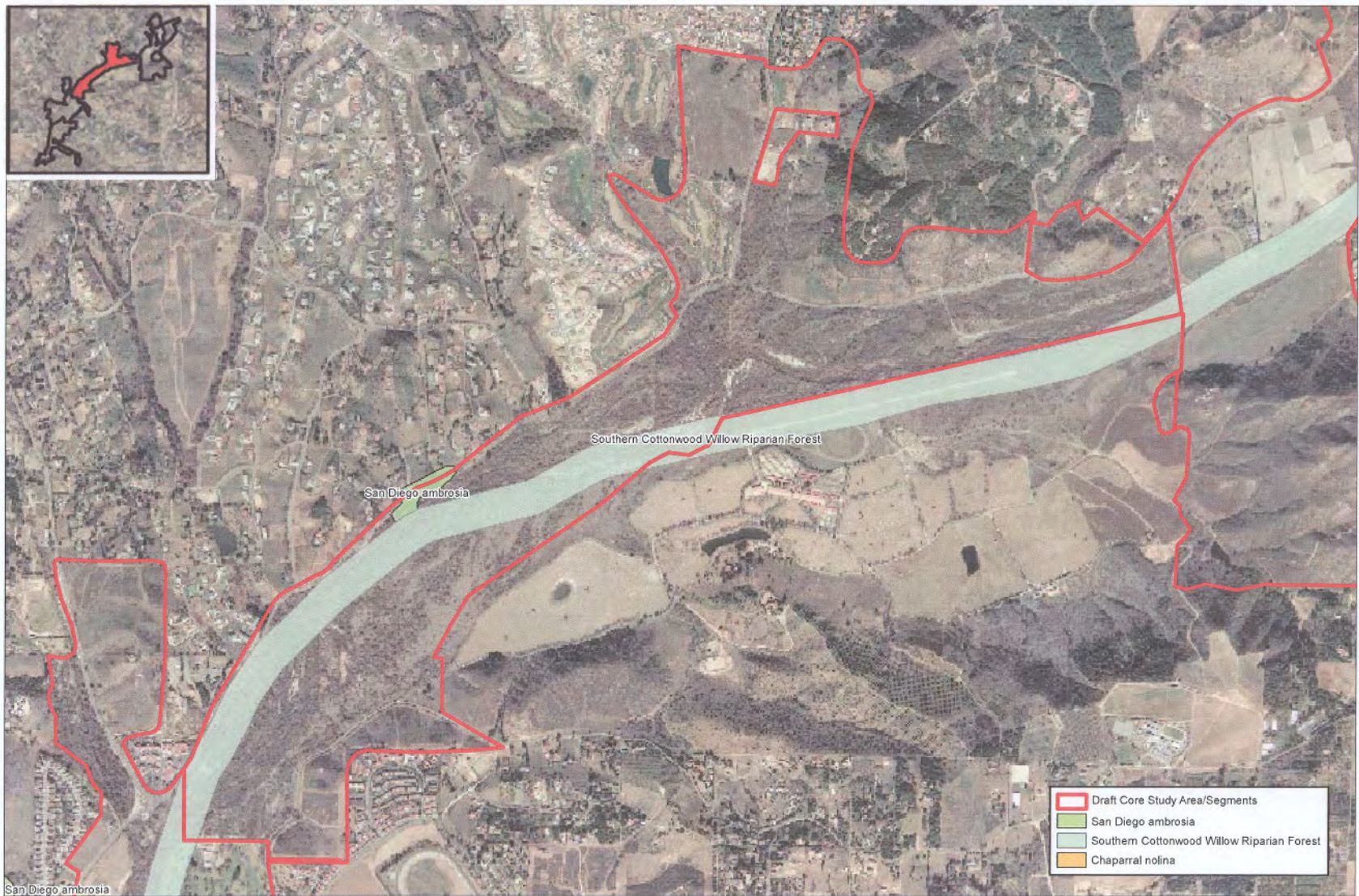


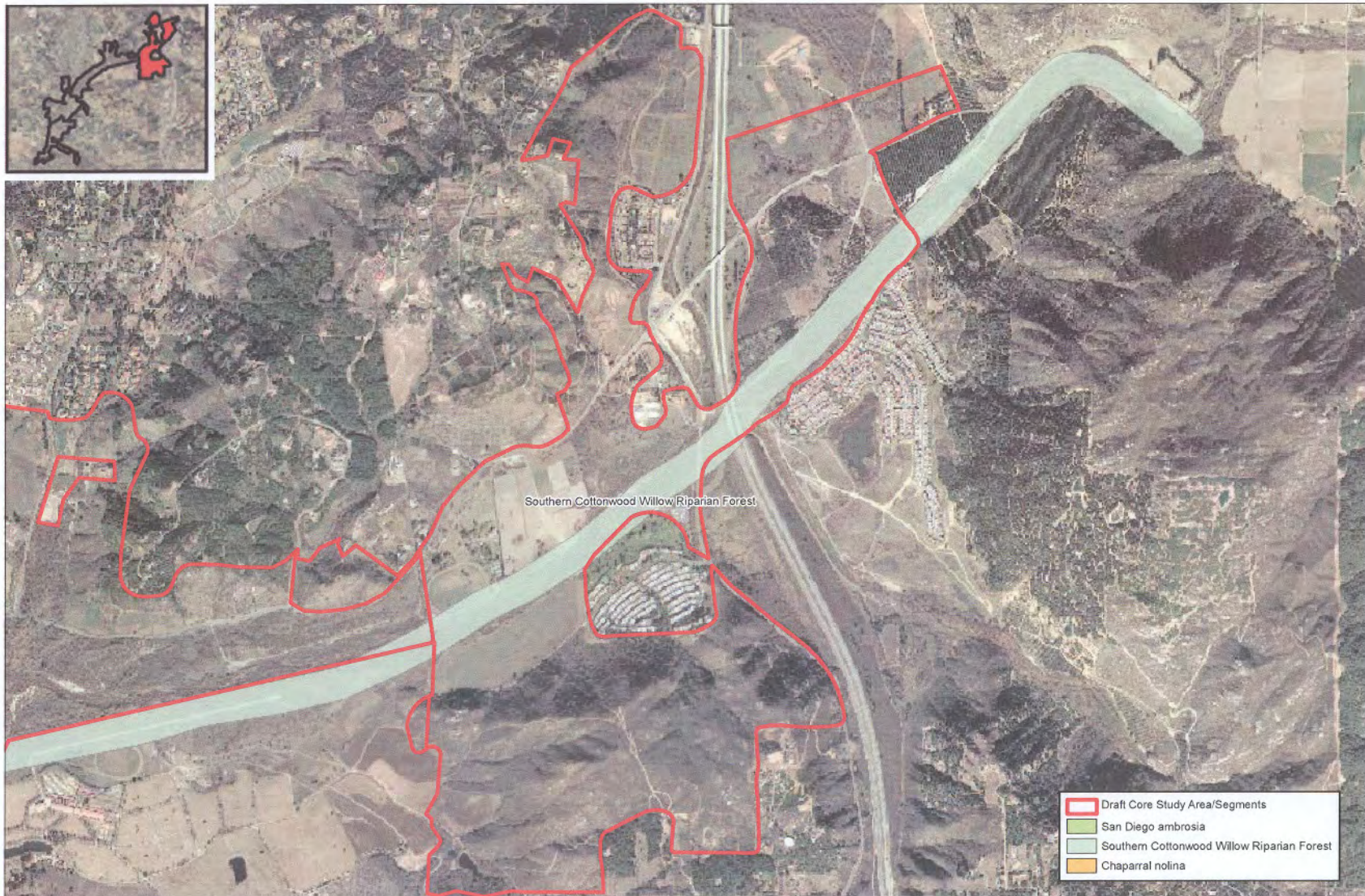
FIGURE 5c
Sensitive Plant Locations - (Segment 3)



Source: Aerial Access (2004), SANDAG

FIGURE 5d

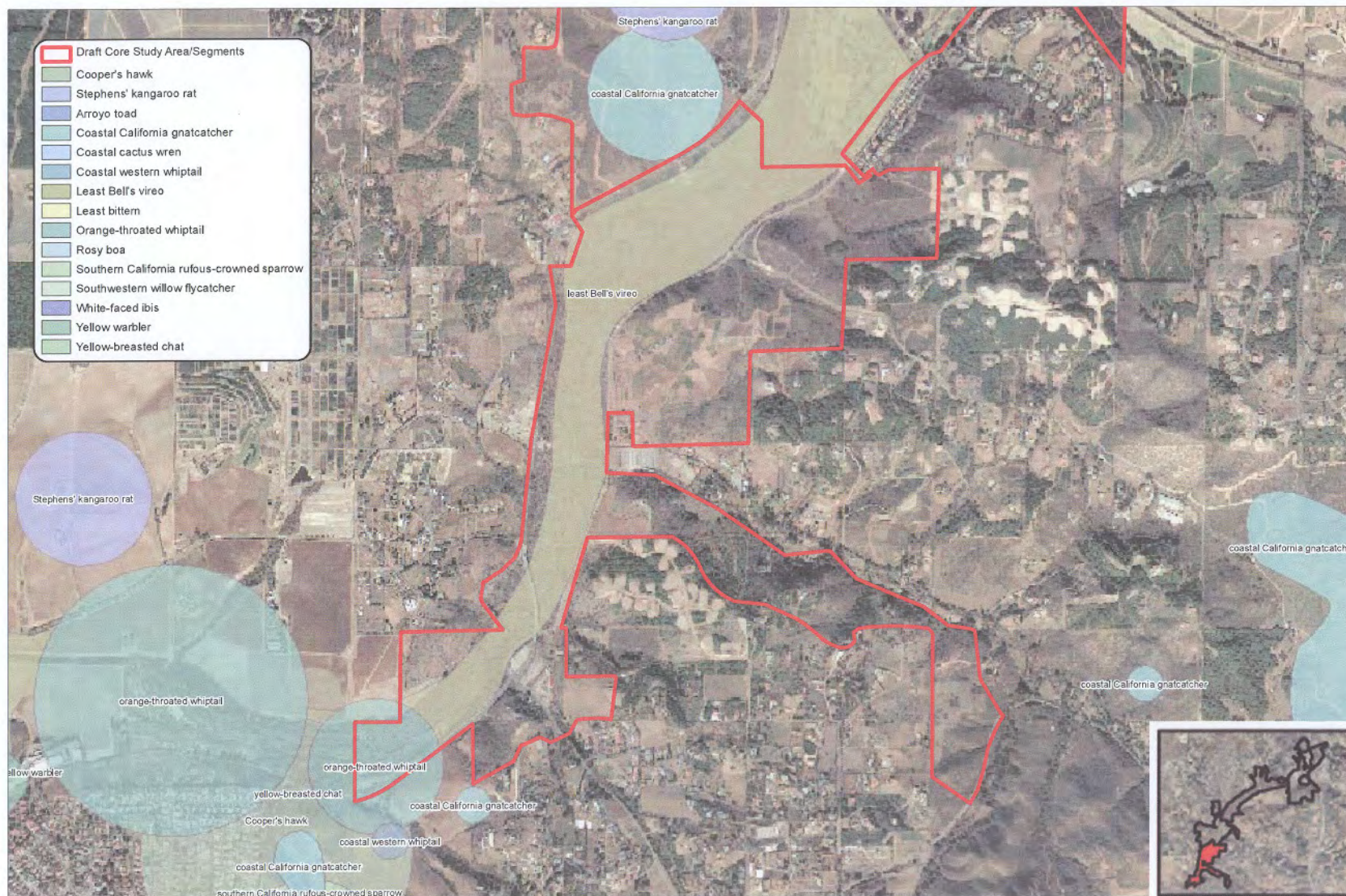
Sensitive Plant Locations - (Segment 4)



Source: Aerial Access (2004), SANDAG

FIGURE 6a

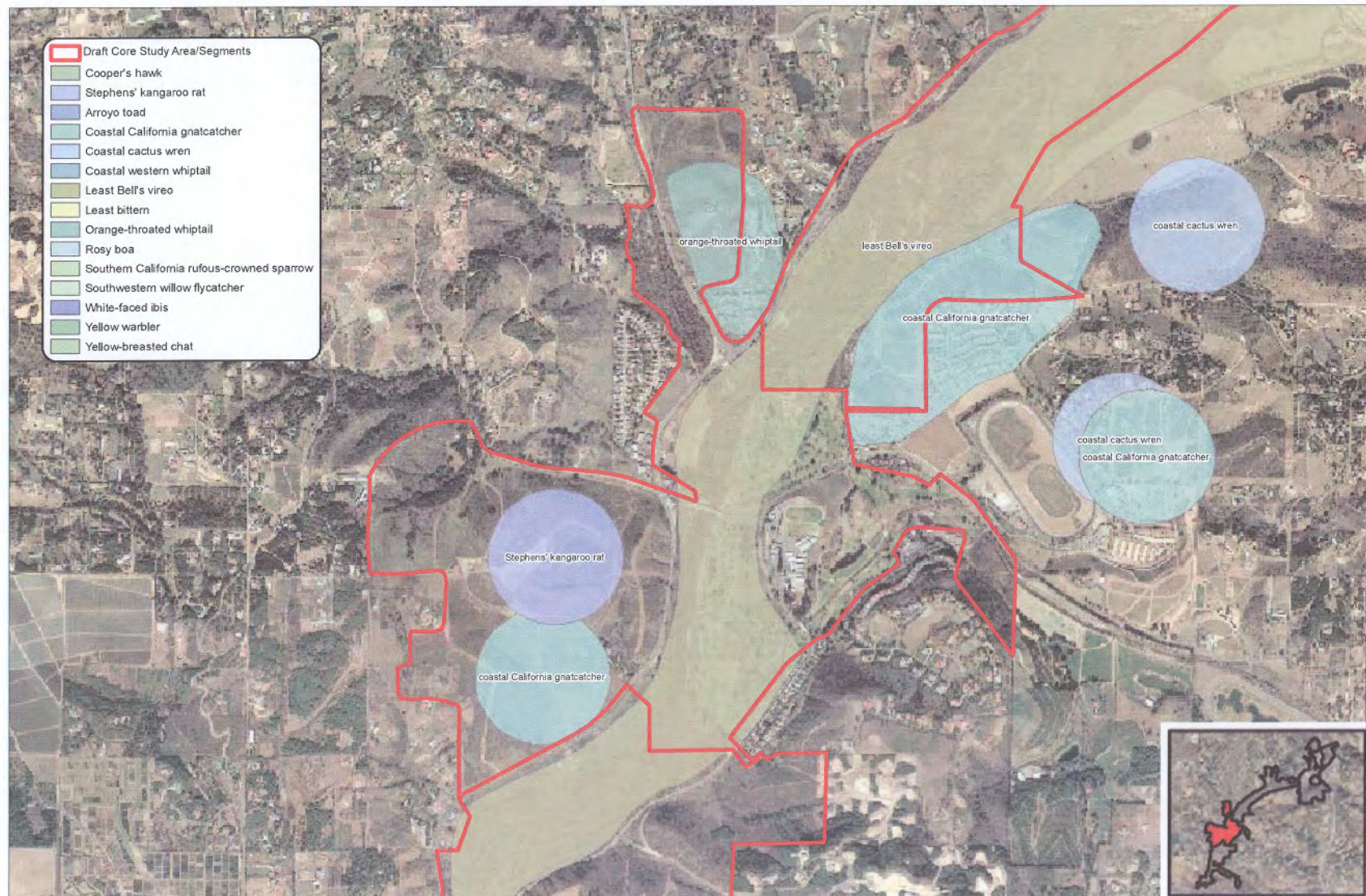
Sensitive Wildlife Locations - (Segment 1)



Source: Aerial Access (2004), CNDDB

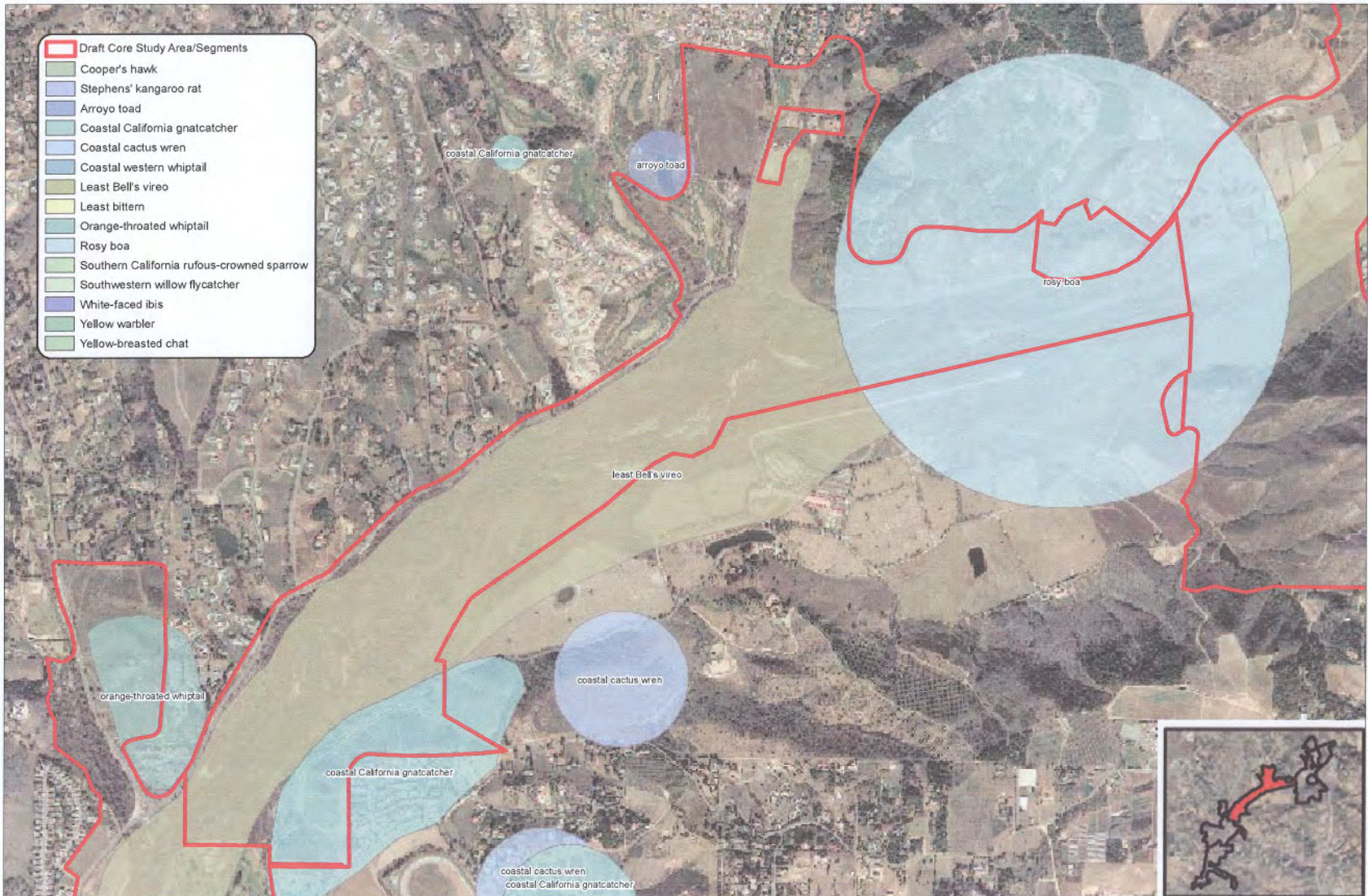
FIGURE 6b

Sensitive Wildlife Locations - (Segment 2)



Source: Aerial Access (2004), CNDDb

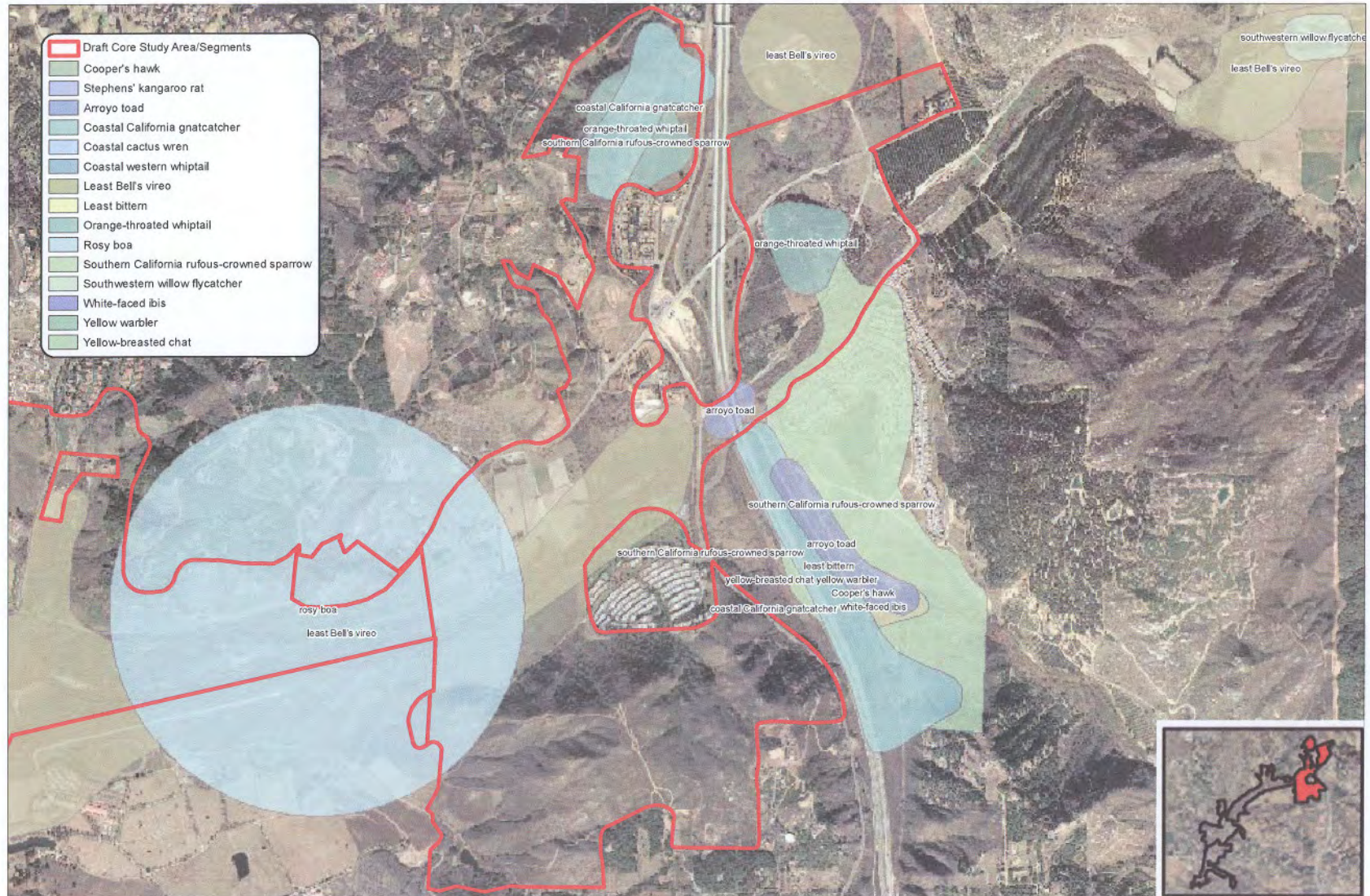
FIGURE 6c
Sensitive Wildlife Locations - (Segment 3)



Source: Aerial Access (2004), CNDDDB

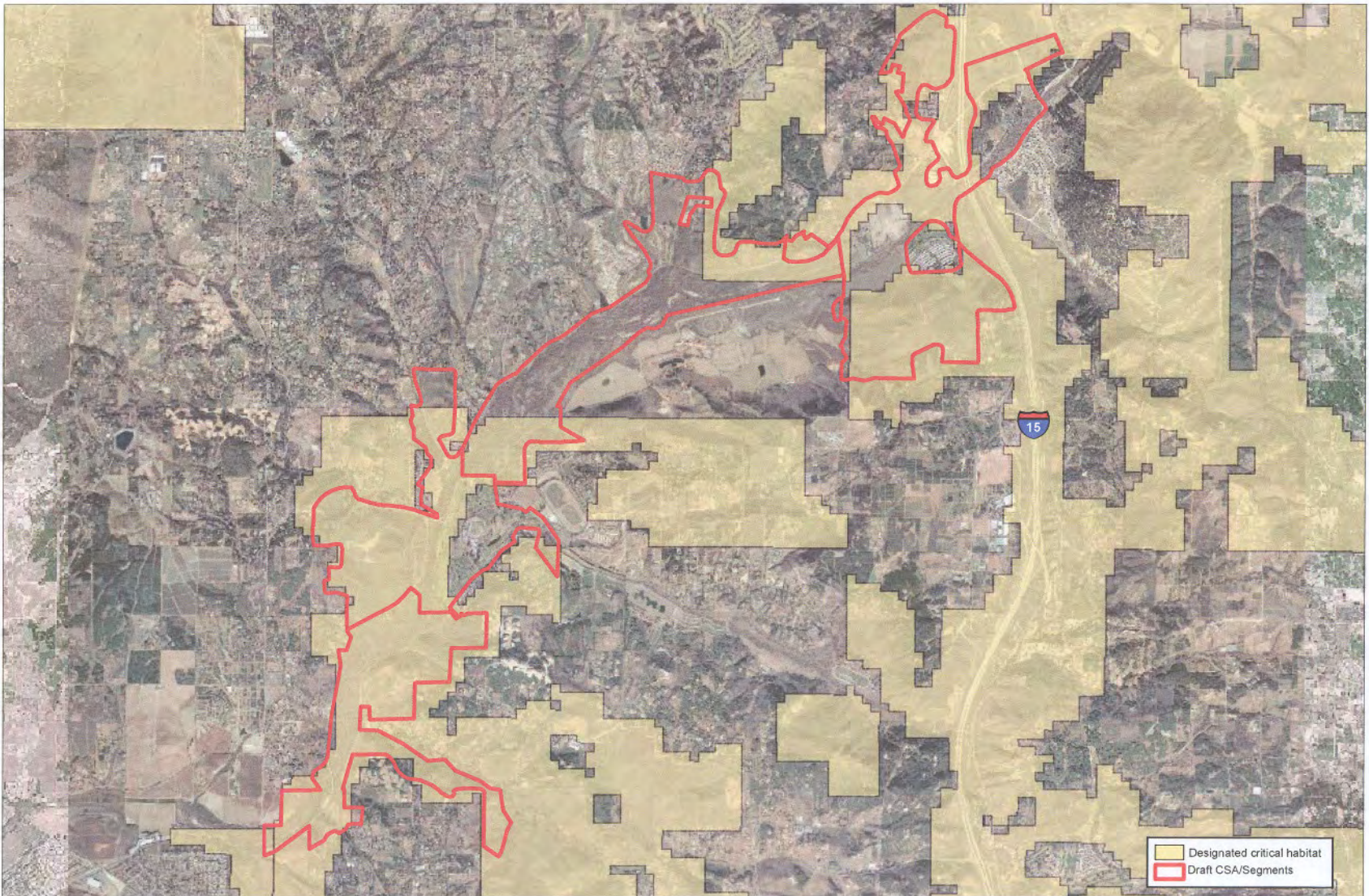
FIGURE 6d

Sensitive Wildlife Locations - (Segment 4)



Source: Aerial Access (2004), CNDDb

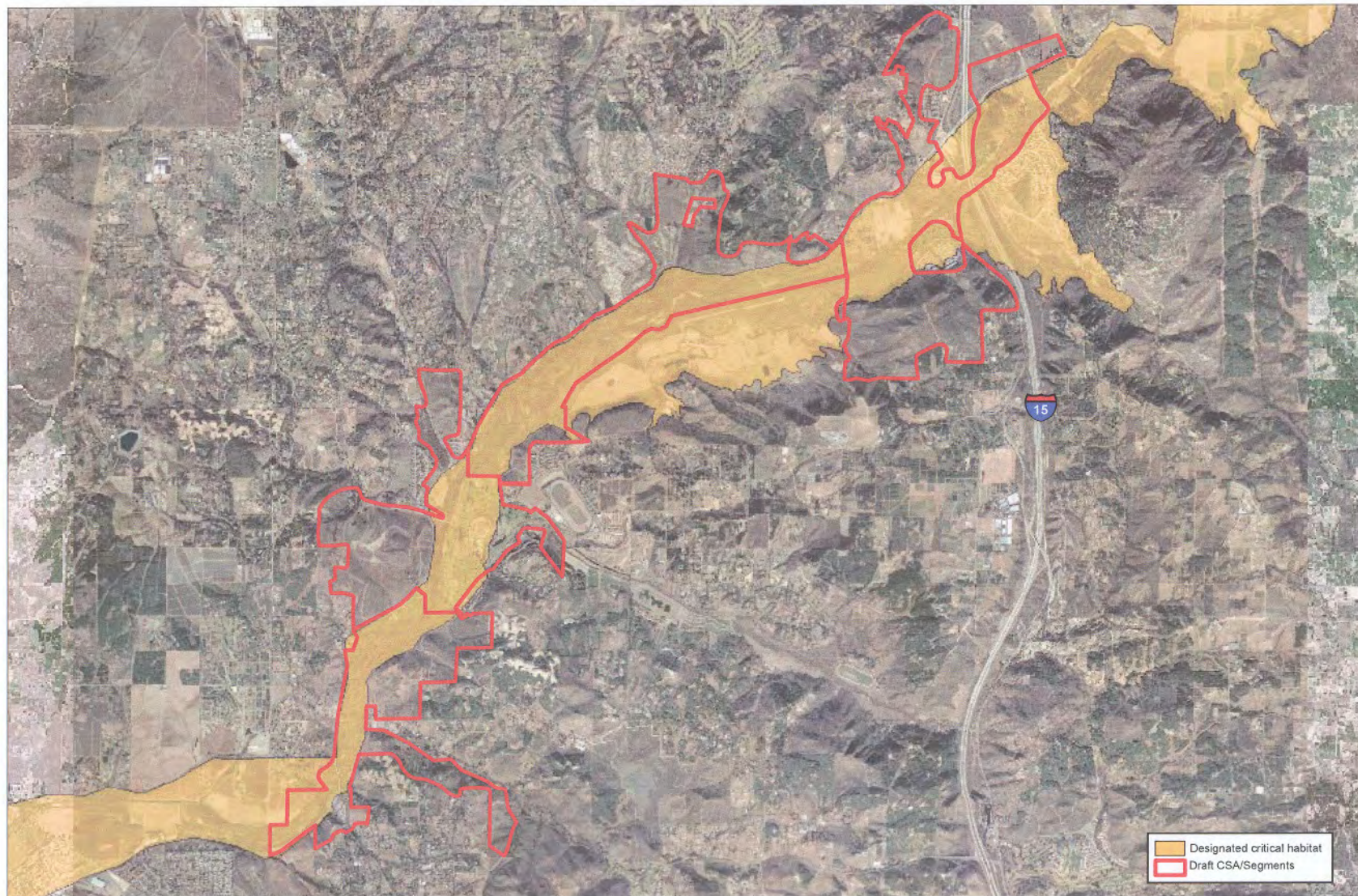
FIGURE 7
Coastal California Gnatcatcher - Designated Critical Habitat



Source: Aerial Access (2004)

FIGURE 8

Least Bell's Vireo - Designated Critical Habitat



Source: Aerial Access (2004)

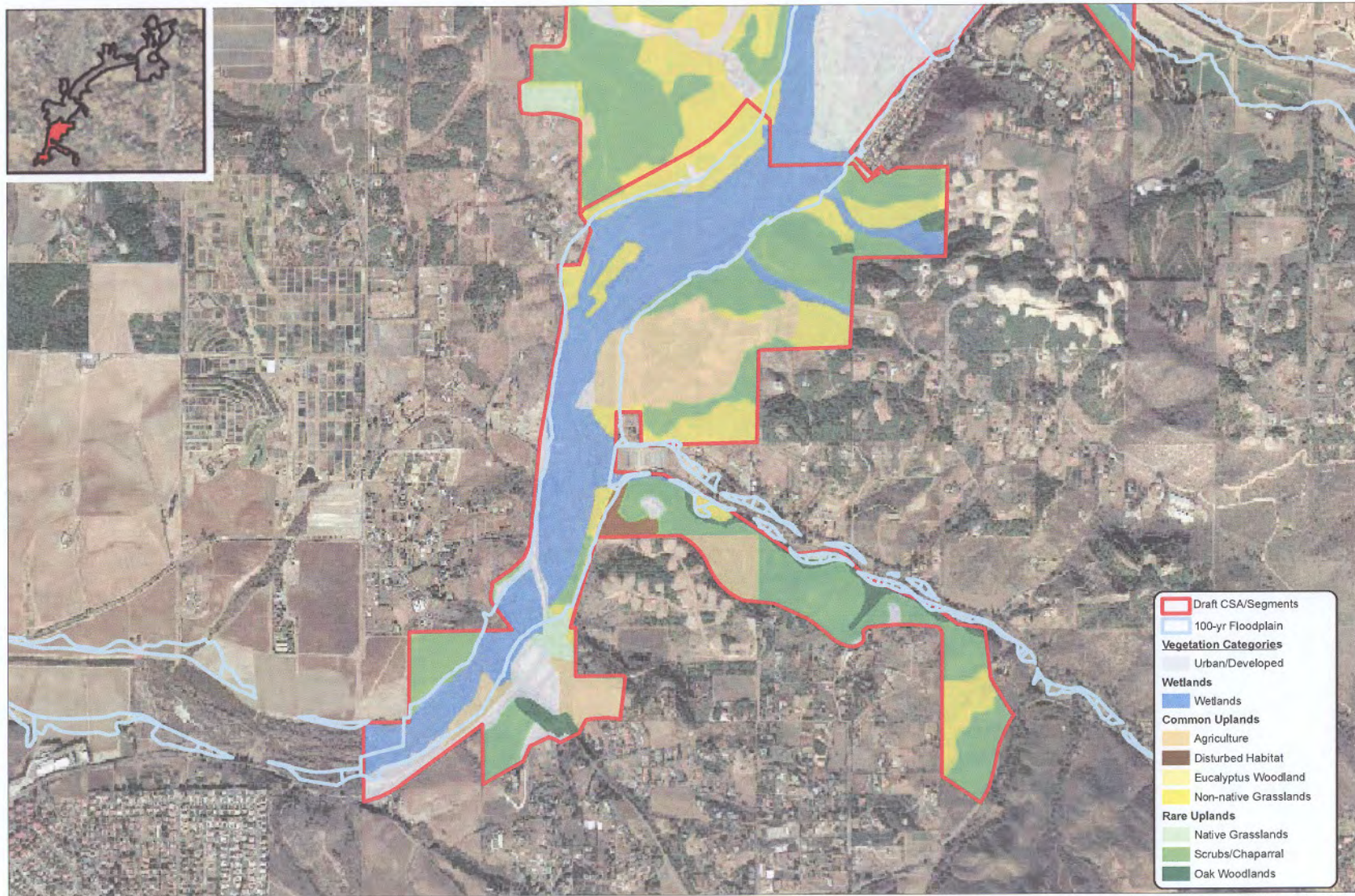
FIGURE 9
Southwestern Willow Flycatcher - Proposed Critical Habitat



Source: Aerial Access (2004), SANDAG

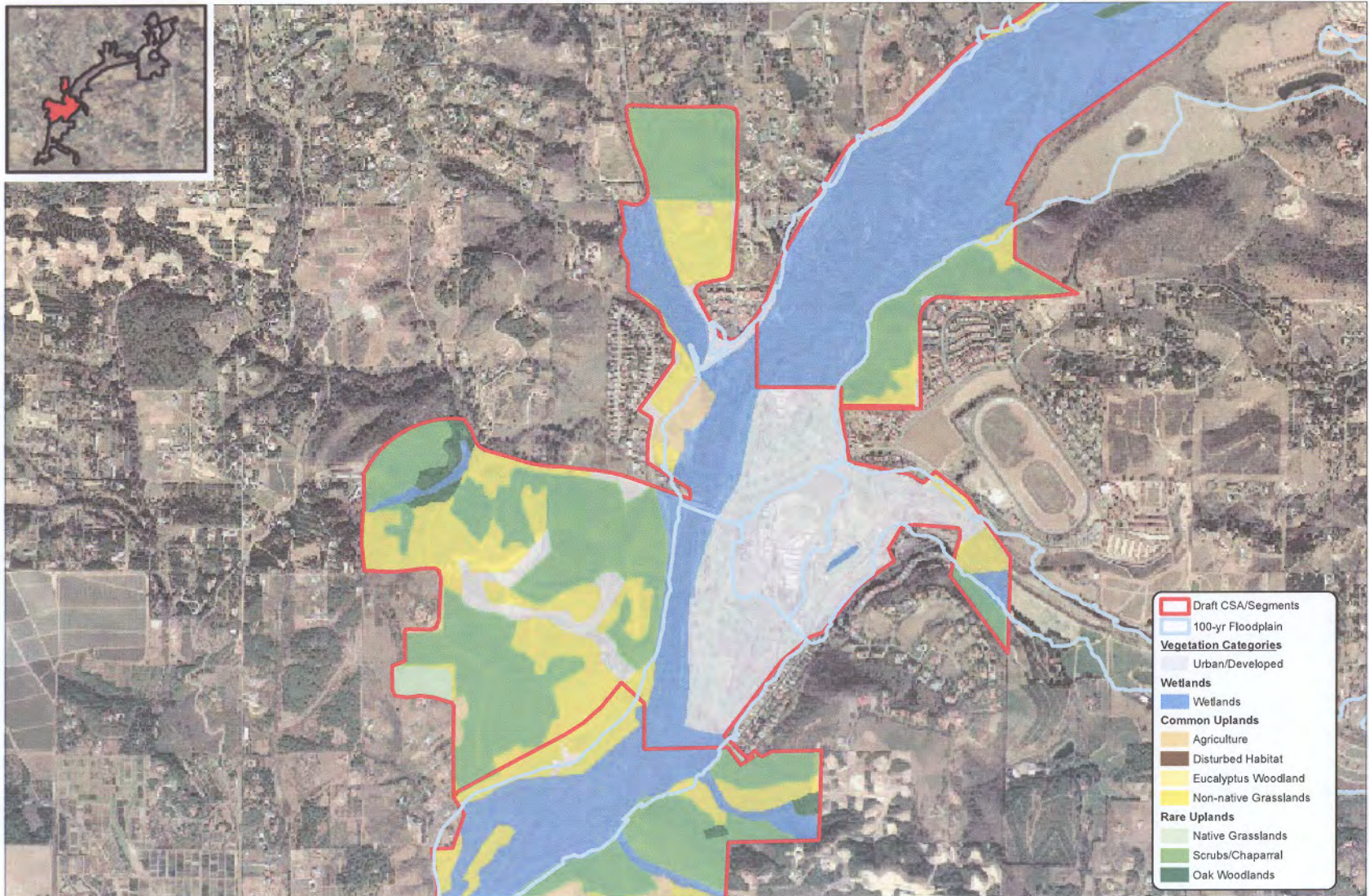
FIGURE 10a

Generalized Vegetation - (Segment 1)



Source: Aerial Access (2004), SANDAG

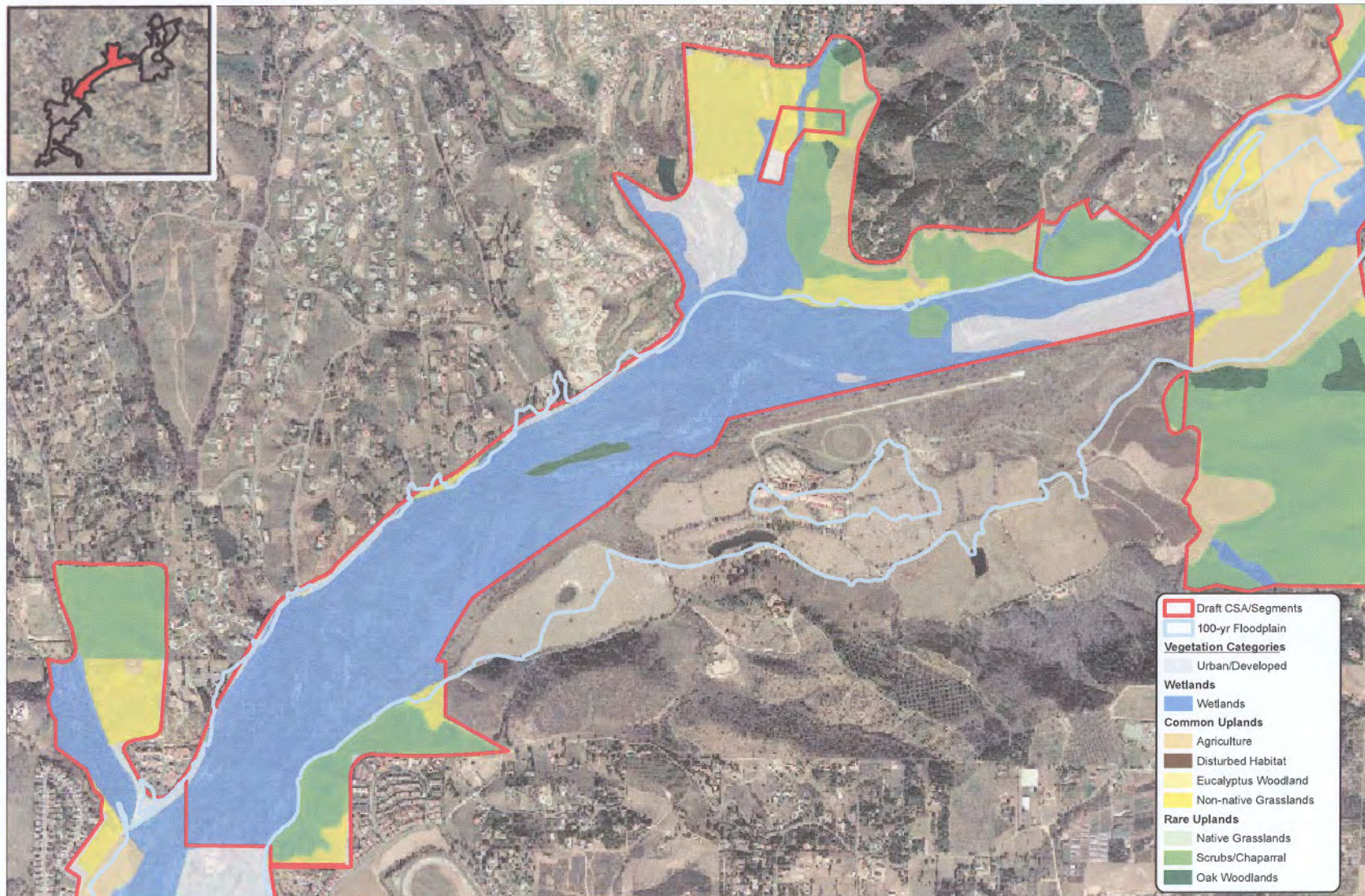
FIGURE 10b
Generalized Vegetation - (Segment 2)



Source: Aerial Access (2004), SANDAG

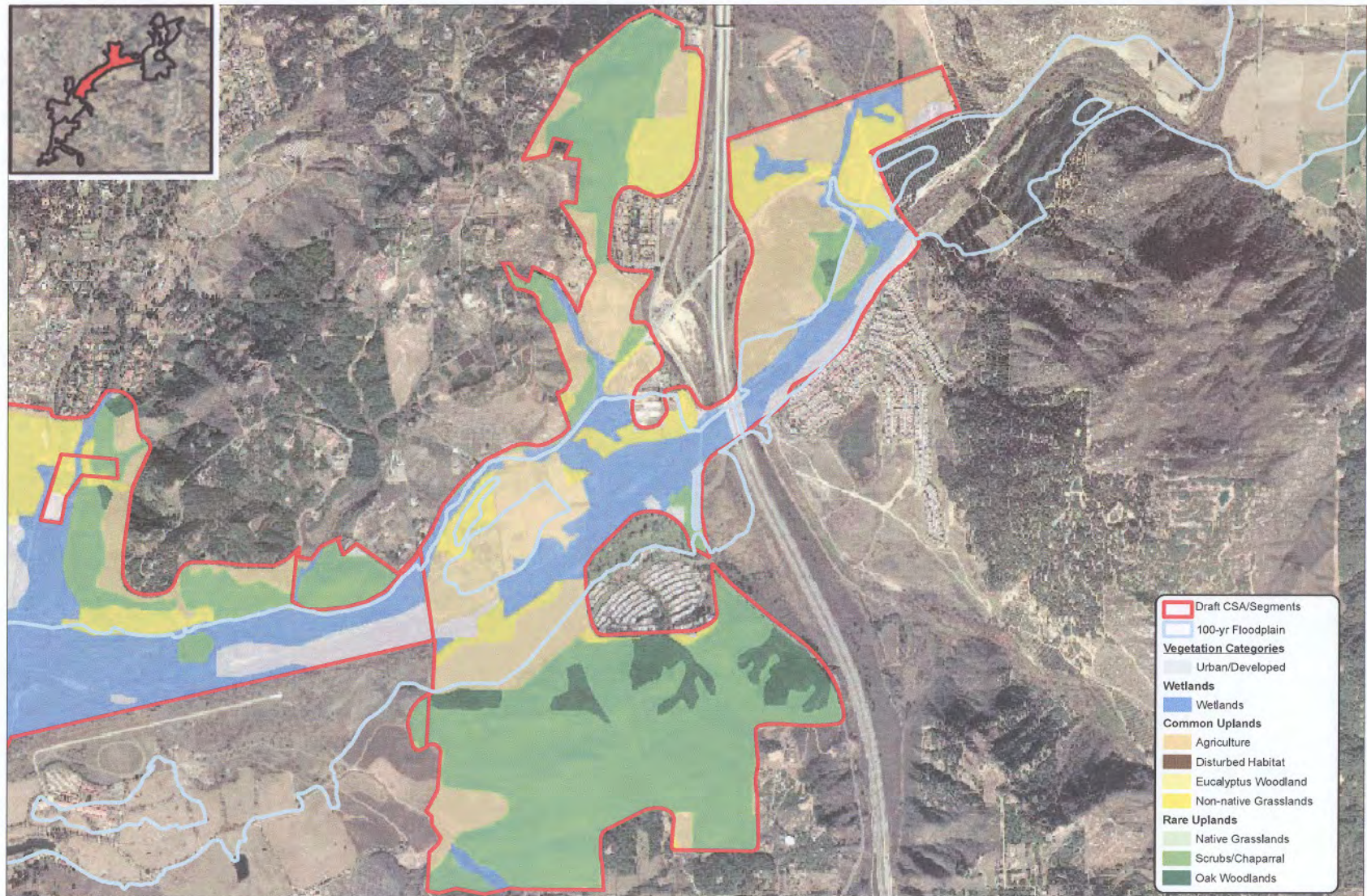
FIGURE 10c

Generalized Vegetation - (Segment 3)



Source: Aerial Access (2004), SANDAG

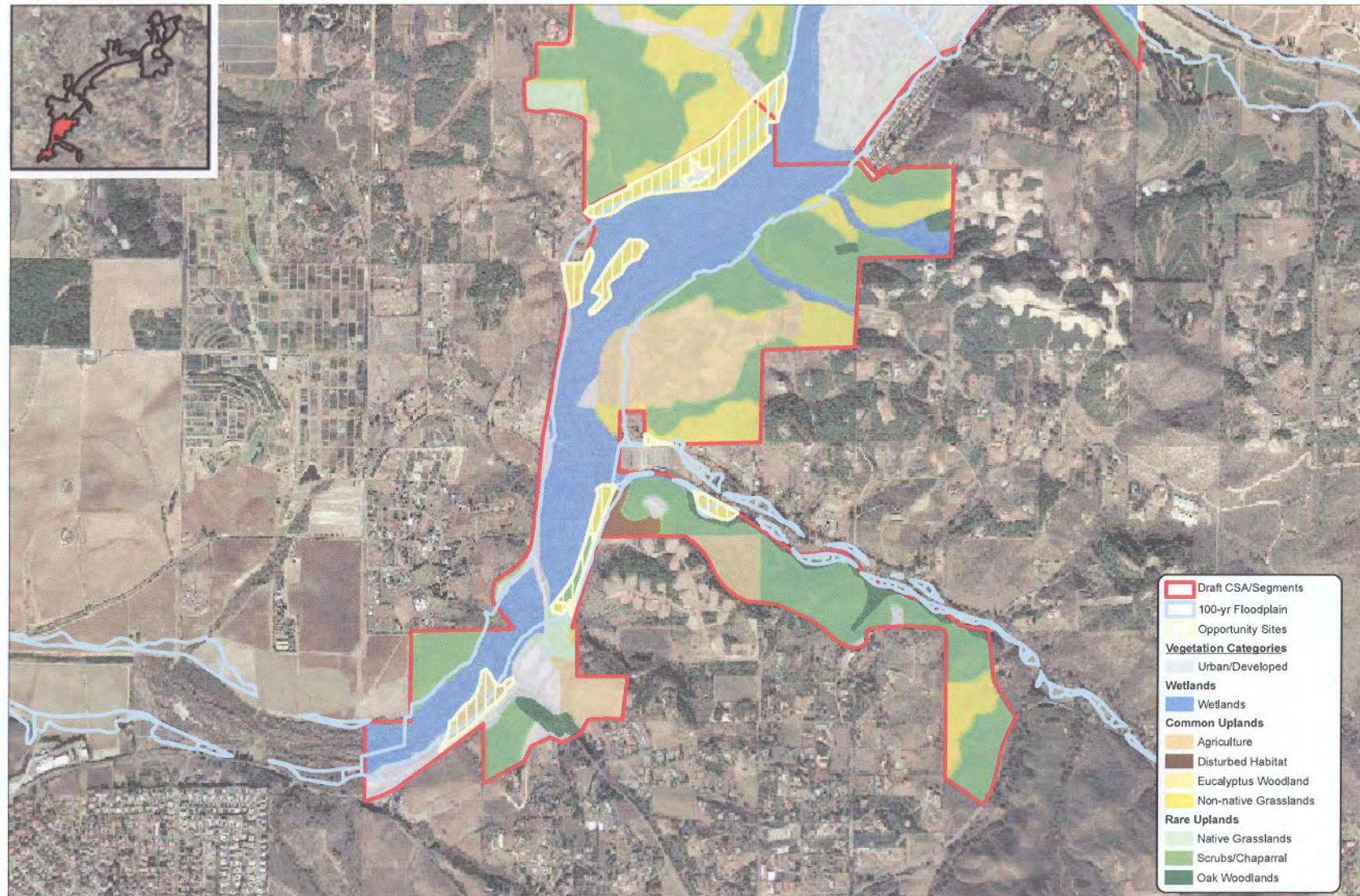
FIGURE 10d
Generalized Vegetation - (Segment 4)



Source: Aerial Access (2004), SANDAG

FIGURE 11a

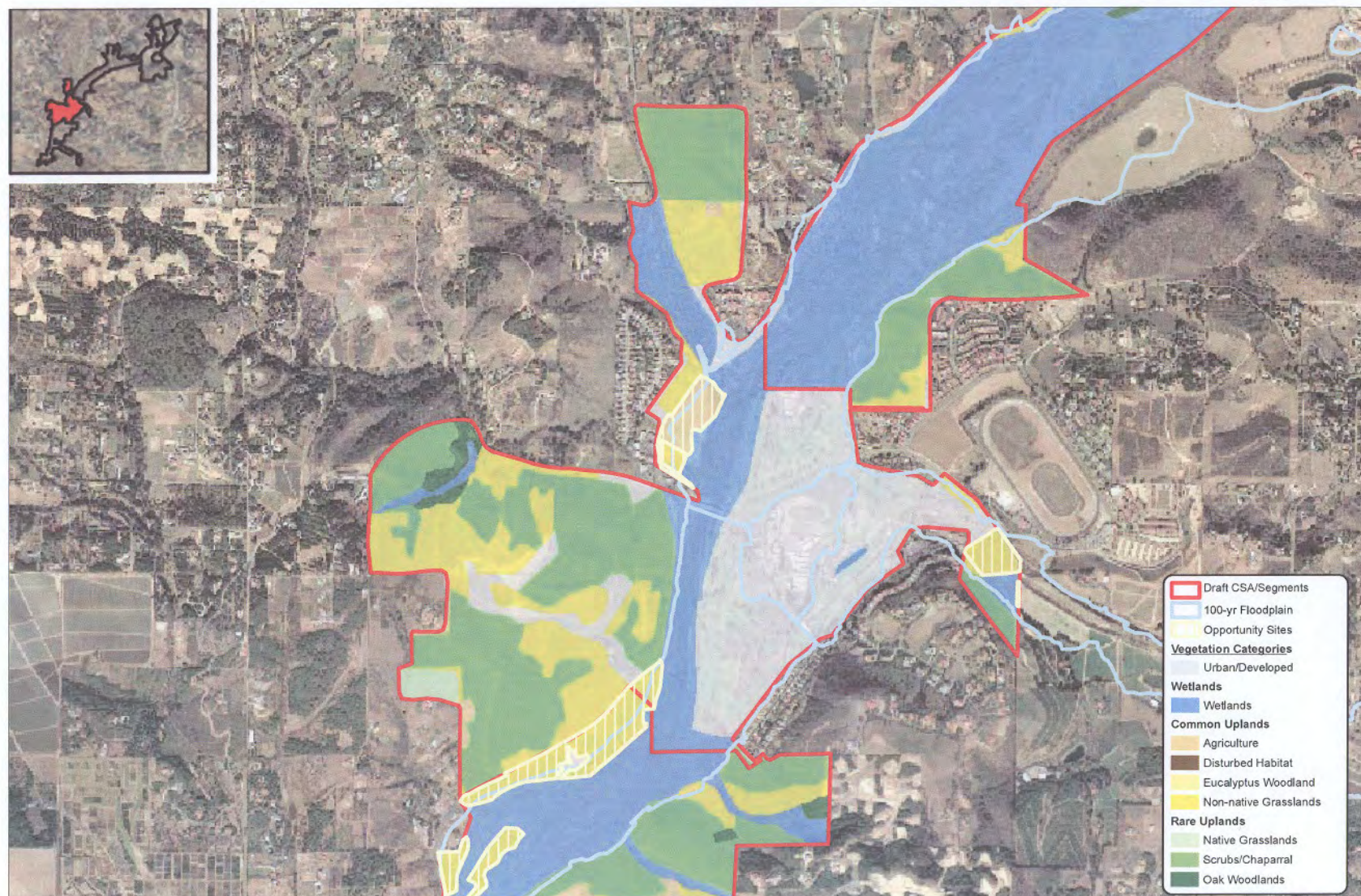
Wetland Creation/ Enhancement Opportunity Sites - (Segment 1)



Source: Aerial Access (2004), SANDAG

FIGURE 11b

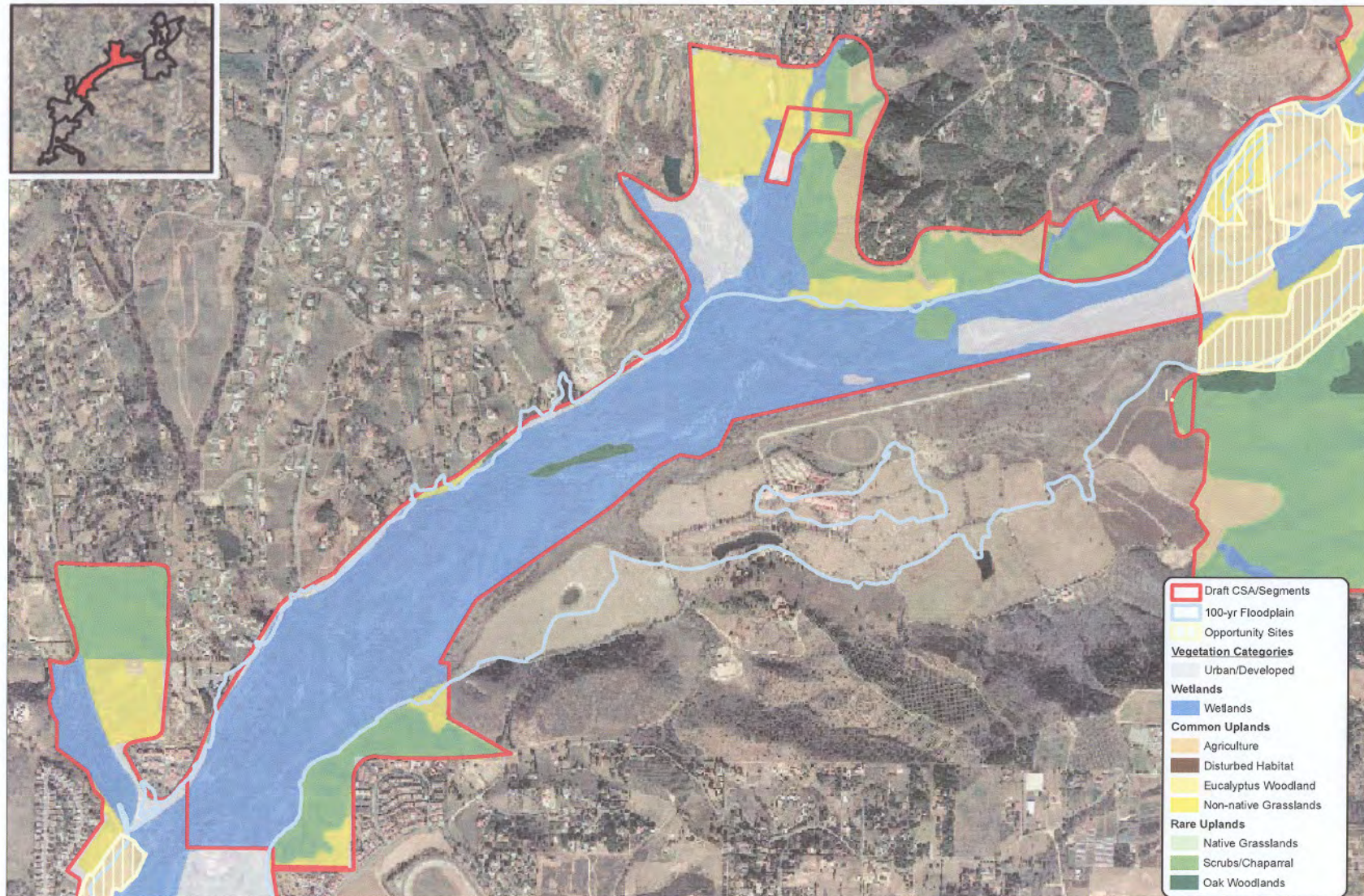
Wetland Creation/ Enhancement Opportunity Sites - (Segment 2)



Source: Aerial Access (2004), SANDAG

FIGURE 11c

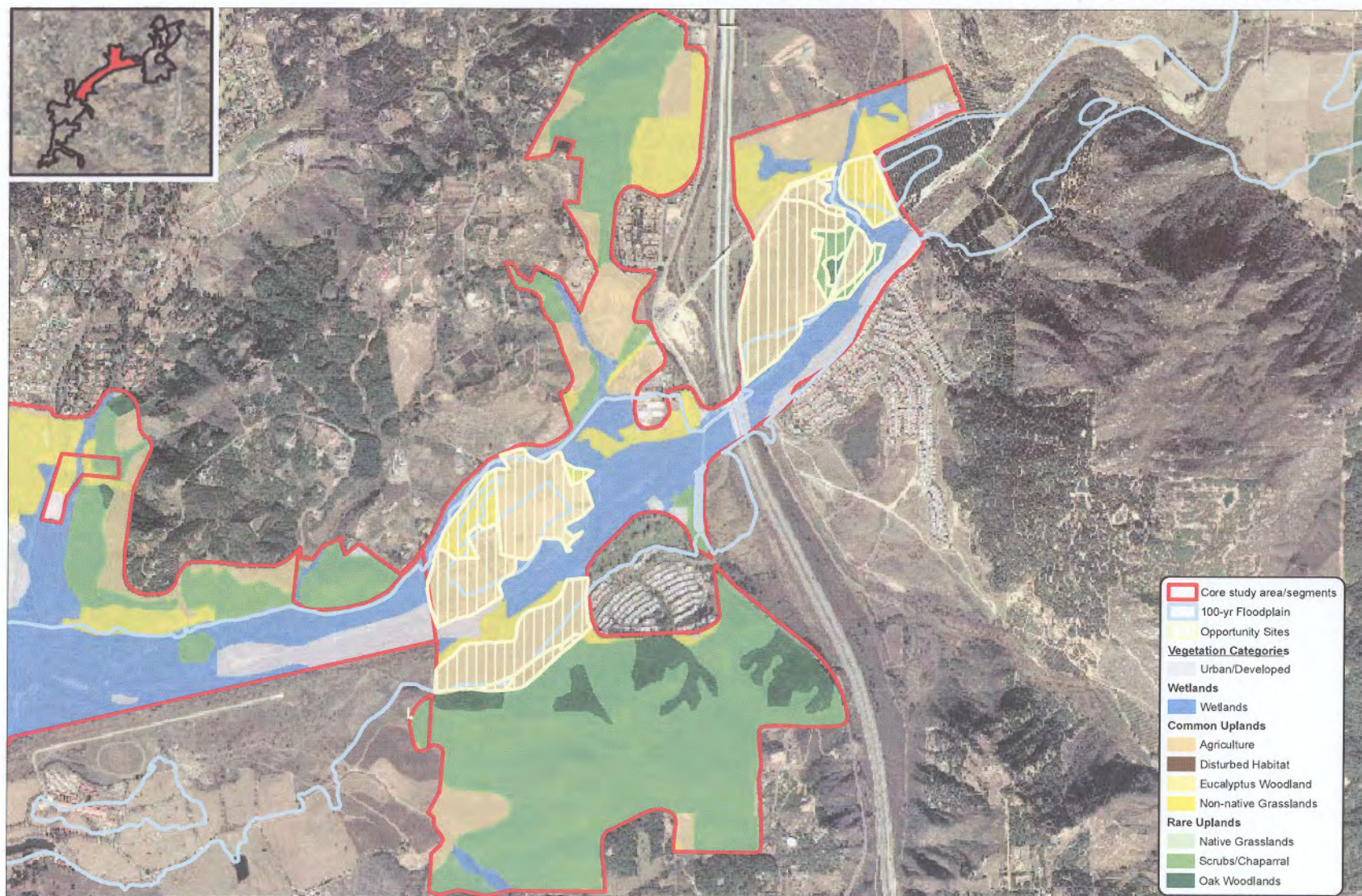
Wetland Creation/ Enhancement Opportunity Sites - (Segment 3)



Source: Aerial Access (2004), SANDAG

FIGURE 11d

Wetland Creation/ Enhancement Opportunity Sites - (Segment 4)



Source: Aerial Access (2004), SANDAG

FIGURE 12
Arundo Locations



Source: SANDAG and Mission Resource Conservation District

Table 1. Vegetation Communities and Percent Cover Within the Core Study Area

Habitat Type	Holland Code	Total Acreage On Site				% Cover On Site			
		Segment 1	Segment 2	Segment 3	Segment 4	Segment 1	Segment 2	Segment 3	Segment 4
Eucalyptus Woodland	11100	--	--	3	--	--	--	< 1	--
Disturbed Habitat	11300	7	--	--	--	<1	--	--	--
Urban/Developed	12000	45	262	89	42	6	32	9	
Freshwater	13140	6	2	--	2	< 1	< 1	--	
Non-vegetated Channel	13200	15	11	80	32	2	1	8	
General Agriculture	18000	--	--	2	31	--	--	< 1	
Orchards and Vineyards	18100	30	4	30	126	4	< 1	3	
Intensive Agriculture (dairies, nurseries, chicken ranches)	18200	--	--	--	30	--	--	--	
Extensive Agriculture (field pasture/row crops)	18300	68	14	--	81	10	2	--	
Field Pasture	18310	12	--	--	--	2	--	--	--
Row Crops	18320	1	--	1	47	< 1	--	< 1	
Diegan Coastal Sage Scrub	32500	145	199	87	269	20	24	9	
Alluvial Fan Scrub	32720	--	--	--	3	--	--	--	
Southern Mixed Chaparral	37120	56	40	57	190	8	5	6	
Valley and Foothill Grassland	42000	7	9	--	--	1	1	--	--
Non-native Grassland	42200	102	152	92	123	14	19	10	
Coastal and Valley Freshwater Marsh	52410	--	--	--	3	--	--	--	
Riparian Forests	61000	<1	--	--	--	< 1	--	--	--
Southern Arroyo Willow Riparian Forest	61320	4	--	--	--	< 1	--	--	--
Southern Cottonwood Willow Riparian Forest	61330	113	80	397	31	16	10	42	
Southern Sycamore Alder Riparian Woodland	62400	14	5	13	33	2	< 1	1	
Southern Riparian Scrubs	63300	19	--	--	--	3	--	--	--
Southern Willow Scrub	63320	22	4	52	29	3	< 1	5	
Mule Fat Scrub	63310	26	26	41	43	4	3	4	
Coast Live Oak Woodland	71160	13	1	9	61	2	< 1	1	
Dense Coast Live Oak Woodland	71162	6	--	--	--	< 1	--	--	--
Open Coast Live Oak Woodland	71161	--	9	--	--	--	1	--	--
Subtotals		711	819	953	1178	100%	100%	100%	100%
TOTAL		3661				100%			

PLANT AND ANIMAL SENSITIVITY GUIDELINES

Listings by U.S. Fish & Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) carry regulatory authority, while other listings herein are generally advisory in nature and serve to monitor and inform.

FEDERAL = U.S. FISH & WILDLIFE SERVICE

FE Federal Endangered Species. Listed as Endangered by the federal government under the Endangered Species Act of 1975. Taxa that are in danger of becoming extinct throughout all or a significant portion of their range.

FT Federal Threatened Species. Listed as Threatened by the federal government under the Endangered Species Act of 1973. Taxa which are likely to become Endangered in the foreseeable future in the absence of special protection.

PT/PE Proposed Federal Threatened or Endangered Species. Proposed species are those for which a proposed rule to list as Endangered or Threatened has been published in the Federal Register.

FC Federal Candidate Species. Former Federal Candidate, Category 1 species for which the USFWS has sufficient biological information to support a proposed rule to

list, but issuance of the proposed rule is precluded.

FS Federal Species of Concern. Former Federal Candidate, Category 2 species for which existing information suggested listing, but substantial information to support a proposed rule was lacking. No longer maintained by the USFWS, however, such species are the pool from which future candidates for listing will be drawn.

STATE = CALIFORNIA DEPARTMENT OF FISH AND GAME

CE California Endangered Species. A native California taxa which is in serious danger of becoming extinct throughout all or a significant portion of its range (CDFG Code 2062).

CT California Threatened Species. A native California taxa which, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of special protection and management efforts (CDFG Code 2967).

CP California Fully Protected Species. Taxa which fall under special protection within the CDFG Codes (3511, 3700, 4800, 4900, 5000, 5050, 5515).

CA California Special Animals. Taxa listed as Special Animals fall into one or more of the following categories:

Taxa that are biologically rare, very restricted in distribution, or declining throughout their range.

Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California.

Taxa closely associated with a habitat that is declining rapidly in California (e.g., wetlands, riparian, old growth forests).

CS California Species of Special Concern. Taxa for which sufficient information exists which warrants concern over that species' status and may warrant future listing as Threatened or Endangered. Protective status falls under State government Code 66474.

COUNTY = COUNTY OF SAN DIEGO

- Group A Plants rare, threatened or endangered in California and elsewhere.
- Group B Plants rare, threatened or endangered in California, but more common elsewhere.
- Group C Plants which may be quite rare, threatened, or endangered in California but more common elsewhere.
- Group D Plants of limited distribution and are uncommon, but not presently rare or endangered.

CNPS = CALIFORNIA NATIVE PLANT SOCIETY

- List 1A Plants presumed extinct in California.
- List 1B Plants rare, threatened or endangered in California and elsewhere.
- List 2 Plants rare, threatened or endangered in California, but more common elsewhere.
- List 3 Plants about which more information is needed (a review list).

List 4 Plants of limited distribution (a watch list).

AS = AUDUBON SOCIETY

BL Blue List. The Blue List includes species showing signs of noncyclical population declines or range contractions in North America (Tate 1986).

Th Threatened. Status is accorded to those species/subspecies which have undergone dramatic, noncyclical, long-term population declines in San Diego County, to the point where the situation has reached the critical level throughout their range (Everett 1979).

De Declining. Status is given to species whose San Diego County breeding populations have been steadily reduced, or in some cases extirpated (Everett 1979).

Se Sensitive. Those species for which declines in San Diego County have not been documented, but are regarded as such because of: (a) extremely localized or limited distribution; (b) sensitivity to disturbance; (c) actual or impending destruction of essential habitat; or, (d) lack of sufficient data

on current or past status which significantly increased the potential for serious reduction of a local population (Everett 1979).

SDHS = SAN DIEGO HERPETOLOGICAL SOCIETY

En Endangered. The population and habitat distribution have been reduced to such a widespread extent that the species is unable to reproduce at a normal rate and is imminently near extinction throughout the majority of its remaining San Diego County distribution.

Th Threatened. The species has had a significant population depletion and/or habitat destruction and is potentially endangered in San Diego County, but is presently reproducing at or near normal where it still occurs.

St Stable. Those species/subspecies whose San Diego County population levels appear to be holding their own.

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APPENDIX C

RIVER HYDRAULICS AND FLOODPLAIN ISSUES OPPORTUNITIES AND CONSTRAINTS REPORT

SAN LUIS REY RIVER PARK MASTER PLAN

SAN DIEGO COUNTY, CALIFORNIA

Prepared for:
Hargreaves Associates
398 Kansas Street
San Francisco, CA 94103

and

County of San Diego
Department of Parks and Recreation
5201 Ruffin Road, Suite P
San Diego, California 92123

Prepared by:
Nasland Engineering
San Diego, California

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PURPOSE

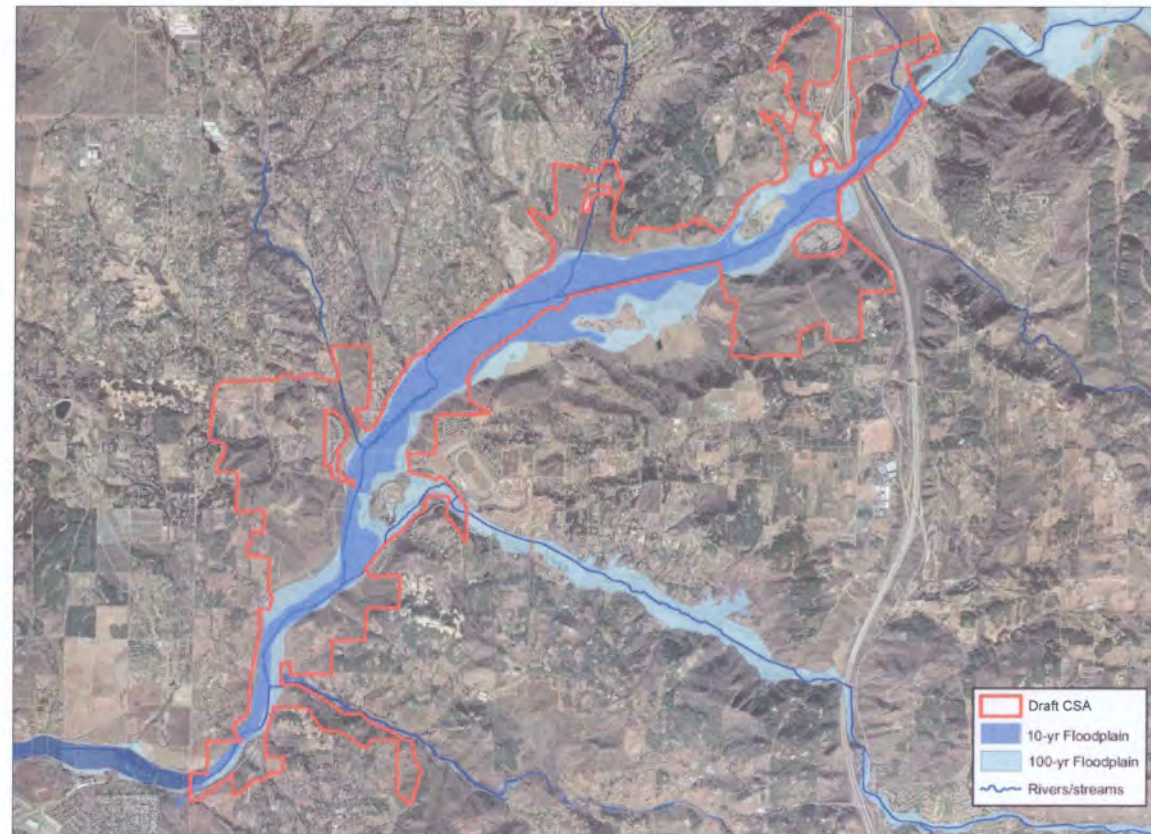
The San Luis Rey River Floodplain runs the length of the Core Study Area. The core study area also includes a portion of Moosa Canyon Creek, a tributary that joins the San Luis Rey River near Bonsall. At Bonsall, the San Luis Rey River watershed is approximately 513 square miles in size. The purpose of this study is to determine the regulatory and physical constraints resulting from potential floodwaters, and to identify resulting opportunities and constraints relating to the proposed development of the San Luis Rey River Park.

METHODOLOGY

The County of San Diego furnished Nasland Engineering with copies of various hydrology studies, digital and paper copies of hydraulic modeling and floodplain mapping information. In addition, we have made use of Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency pursuant to the National Flood Insurance Program, a visual reconnaissance of the river and topographic information from available aerial surveys. We have researched applicable County ordinances and the Code of Federal Regulations regarding development in and around floodplains.

This study has resulted in a delineation of the 10-year and 100-year floodplains within the Core Study Area. A 100-year flood is one that is predicted to be exceeded in magnitude once in every 100 years on average. Stated another way, a 100-year flood has a 1% probability of occurring in any particular year. The hydrology

and the hydraulic model utilized in this study were provided by the County of San Diego. Using that information, Nasland Engineering has evaluated the area inundated by the 100-year and 10-year flood events and compared the limits of inundation by the 100-year flood to current flood plain mapping.



10-Year and 100-Year Floodplain Map

STUDY RESULTS

EXISTING AND FUTURE CONDITIONS WITHIN CORE STUDY AREA

The Core Study Area has been the subject of a number of storm water hydrology and hydraulic analyses. A hydrology study for all major County streams including the San Luis Rey River was undertaken by the California Department of Water Resources in 1964 (Bulletin 112). This study utilized stream flow records from County streams under a wide variety of hydrologic characteristics, and resulted in flood lines being drawn for the predicted 50-year and 100-year floods.

In 1968, the Corps of Engineers published a Review Report for Flood Control in the San Luis Rey River, including definitions of the standard project and other floods for the lower 7 miles.

In 1974, the County of San Diego Department of Sanitation and Flood Control published a report that summarized the results of a detailed hydrology study undertaken by the County for the San Luis Rey River utilizing data from stream flow and rainfall gages within the watershed. The studies were conducted for the purpose of facilitating floodplain mapping as required by the Federal Flood Insurance Program. The study produced predictions for the 10-year and 100-year peak storm flow at points along the river using various assumptions regarding the outflow from Lake Henshaw. The resulting flood flows were generally consistent

with those in Bulletin 112.

Below is a summary of the peak flows for the 10-year and 100-year storms based on the County's 1974 hydrology study.

PEAK FLOWS (CUBIC FEET PER SECOND)		
	10-year	100-Year
SLR River Below Confluence	6,200	48,000
SLR River Above Confluence	5,000	41,000
Moosa Canyon Creek	-	13,500

The County completed floodplain mapping in December, 1975 using the HEC-2 computer program. Input into this program included a model of the physical aspects of the river together with the peak flood flows predicted in the hydrology study.

In October, 1988 the County of San Diego released a report entitled "A Floodplain Management Study for Moosa Canyon Creek." The study, conducted by Cooper Engineering Associates under contract with the County focused on the reach of Moosa Canyon Creek within a mile upstream of the confluence with the San Luis Rey River. The report included a comparison of topographic data of the river channel from 1960, 1973, 1980 and 1983. Over that time, major changes had occurred in the shape of the river cross sections including the relocation of the low flow into several incised chan-

nels and significant aggradation of the river bed near the confluence.

The limits of the 100-year floodplain are depicted on FIRM panels 06073C0479, 0483, 0486 0487, 0488, 0491. These maps were most recently updated in June of 1997; apparently relying on the County supplied hydraulic modeling from 1975. The majority of the floodplain is designated as "Zone A" (Special flood hazard areas inundated by 100-year flood – no base flood elevations determined)) with a note that the area is "subject to possible erosion / sedimentation hazards." Outside of "Zone A", some portions of the floodplain are designated as shaded "Zone X" (Areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile).

CONSTRAINTS WITHIN CORE STUDY AREA

Regulatory Constraints

Federal Floodplain Regulations

Title 44, Part 60 of the Code of Federal Regulations (44CFR) contains a number of floodplain development standards and provides that flood insurance shall not be sold or renewed within any community unless the community has adopted adequate flood plain management regulations consistent with the federal criteria. The regulations “must be legally-enforceable, applied uniformly throughout the community to all privately and publicly owned land within the flood-prone...areas, and the community must provide that the regulations take precedence over any less restrictive conflicting local laws, ordinances or codes.” Thus, the federal law establishes minimum criteria that must be followed by any community eligible for flood insurance. The County of San Diego is a participating community in this program, and has adopted a regulatory floodway that is identical to “Zone A” on the FIRM.

Minimum standards in 44CFR for Flood Hazard “Zone A” include the following:

The community must require permits for all proposed construction and review all permit applications to ensure that all governmental approvals such as 404 permits are obtained, and to ensure buildings are reasonably safe from flooding.

The community must require that all proposed developments more than 5 acres in size include base flood elevation data. For the San Luis Rey River, the County has such data, but it is not currently reflected on the FIRM.

The community must obtain the elevation of the lowest floor (including basement) of all new or substantially improved structures.

Once a base flood elevation is established, all new and substantially improved residential structures must have the lowest floor elevated above the base flood level unless the community is granted an exemption. Non-residential new or substantially improved structures must have the lowest floor elevated to above the base flood level or be flood-proofed and capable of resisting hydrostatic and hydrodynamic loads as well as the effects of buoyancy. Although not specifically called for in the regulations, it is the practice of FEMA to require the ground surrounding residential structures in a flood prone area to be one foot above the base flood elevation. A “structure” is defined in 44CFR as a building with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site, a manufactured home

built on a permanent chassis or a travel trailer without wheels, built on a chassis and affixed to a permanent foundation.” The term “residential structure” is not specifically defined in 44CFR.

The community must assure that the flood carrying capacity within any altered or relocated watercourse is maintained.

There are no federally mandated restrictions relating to hydraulic issues outside of “Zone A” on the FIRM. However, those areas in shaded “Zone X” may be subject to inundation unless they are filled to an elevation above the level of the 100-year flood.

County Floodplain Regulations

County regulations regarding development in floodplains are contained in Section 87.601 et seq of the County Code of Regulatory Ordinances (Chapter 6, Watercourses), Section 5307 (b) of the Zoning Ordinance (Floodways) and Section 5450 of the Zoning Ordinance (Flood Channel Regulations).

Chapter 6 generally mirrors 44 CFR. The Ordinance prohibits the construction or substantial improvement of structures within a designated floodplain “unless the lowest floor (including basement) is elevated to or above the level of the 100-year flood or the structure including attendant utility and sanitary facilities, is

flood-proofed up to the level of the 100-year flood.” A grading permit is required for any acts that might impair or accelerate the flow of water in a watercourse, reduce the capacity of a watercourse, construct, alter or remove any flood control structures, place any structure in upon or across a watercourse or create any encroachment that would increase the flood level or impair the ability of a floodway to carry and discharge the waters resulting from a 100-year flood. Exceptions are allowed for emergencies, some agricultural activities, certain utilities construction, specified surface mining operations, maintenance and repair of structures that does not represent a substantial improvement, and parking facilities that will not impede the flow of floodwaters or which serve a non-residential building.

Section 5307(b) of the County Zoning Ordinance specifically prohibits the development of permanent structures for human habitation within a designated floodway. Permitted uses are limited to “agricultural, recreational and other such low intensity uses” that will not harm the environmental values of the floodway and to mineral extraction subject to an approved Major Use Permit with specified mitigation measures.

Section 5450 et seq of the County Zoning Ordinance regulates development within floodplains for the purpose of protecting persons

and property. Section 5468 states as follows:

“Except as provided in Section 5464, no building or structure may be placed, erected, constructed or expanded in a floodway unless the facility is not designed or used for human habitation or as a place of work or by the public and unless the Director of the Department of Sanitation and Flood Control determines such building or structure will not adversely affect or unduly hinder, restrict or alter the water-carrying capacity of the floodway and will not result in any increase in flood levels during the occurrence of a 100-year flood.”

Summary of Regulatory Constraints

Federal and County regulations regarding development in flood prone areas are intended to promote public safety and to limit property damage. Some types of activities such as residential structures and structures used as workplaces are clearly prohibited within designated flood hazard zones. Other activities such as agriculture, recreational uses and parking are allowed under certain circumstances. There is room for interpretation and judgment regarding certain non-residential structures.

Any permanent structure constructed within a floodplain must be capable of withstanding flood flows. Also, grading or anything constructed or planted within a floodplain must not impede flood flows. For example, a light

pole would likely be acceptable, whereas a baseball backstop might not. Tree planting within a floodplain is normally acceptable but must be carefully planned. All proposed work within the 100-year floodplain must be analyzed to determine the resultant effect during flood flows. Any action that might endanger public safety or cause property damage is prohibited. Also, approval must be obtained from FEMA before any significant alteration of the floodplain.

44CFR contains provisions for the alteration of floodplains, and the consequent revision of Flood Hazard Zones. Assuming a proposed physical alteration is acceptable from an environmental standpoint, a Conditional Letter of Map Revision (CLOMR) must first be processed with FEMA. The alteration may be made only if and after the CLOMR is approved. Once the alteration is completed, a Letter of Map Revision (LOMR) must be processed. The FIRM is then changed to reflect the altered floodplain.

Practical Constraints

Floodplains are better suited to some uses than to others. Even where there is little or no danger to life or property, frequent flooding can present a maintenance problem for highly landscaped areas and certain types of facilities. Some judgment is necessary when planning recreational uses in floodplains. For example, a playing field intended for winter sports should not become inundated with minor rainfall. Similarly, a trail that is frequently under water may be costly to maintain and repair and may become unusable too often. Electrical systems that are subject to inundation need to be waterproofed and require a much higher degree of maintenance than similar systems that remain dry. Where possible, it is best to place such facilities outside the path of frequently occurring storm water flows. For the purpose of this study, the 10-year storm floodplain has been selected as a reasonable break point for the siting of Tier A facilities that may be sensitive to frequent inundation. Low impact recreational facilities (Tiers B & C) are suitable for placement within the 10-year floodplain if they are designed to withstand flooding.

Limits of 100-year and 10-year floods

Nasland Engineering has utilized the HEC-2 models that were previously used for floodplain mapping by the County. The program has been run using the 100-year peak flows for both the San Luis Rey River and Moosa Canyon Creek.

From the HEC-2 output, the limits of inundation have been plotted. The results are generally consistent with, although not identical to existing floodplain mapping. For a planning level study, the differences are not significant. However, prior to final design of any facilities, the model should be updated based on current and accurate topography. For San Luis Rey River the program also has been run using the 10-year peak flow. The limits of the 10-year flood are much more sensitive to minor physical changes in the river bed and banks than are those for the 100-year flood. The October, 1998 study indicated profound changes occurring over time in the Moosa Canyon Creek, enough to make any analysis of the 10-year floodplain meaningless.

Planned improvements of State Route 76

The State Department of Transportation (Caltrans) is currently studying various alternatives for improving SR-76 through the study area. Alternatives under evaluation include widening the road in its current location as well as the construction of a relocated, wider road along several possible alignments. All of the alternatives will have some effect on the San Luis Rey River floodplain, and thus will require revision to the FIRM and the designated floodway.

OPPORTUNITIES WITHIN CORE STUDY AREA

Areas outside of the designated 100-year floodway

It is anticipated that most structures will be placed outside of the designated floodway. Property outside of the designated floodway is not subject to regulation by FEMA or to the County regulations relating to flood prone areas, although the land may be classified as wetlands. Any structure constructed in shaded "Zone X" as shown on the FIRM will require fill to bring the lowest floor above the level of the 100-year flood. Neither 44CFR nor County floodplain regulations prohibit the placement of fill in shaded "Zone X".

Areas within the 100-year floodway but outside the limits of the 10-year flood

It may be desirable to place some structures within the designated 100-year floodway. Is so, such structures must be consistent with federal and county regulations. It may be appropriate and legally permissible to construct certain structures such as observation decks out over the floodway, using either cantilever or pier foundations. Any structure placed below the level of the 100-year flood must be flood-proofed, designed to withstand the forces associated with floodwaters and must not impede the flood flow.

The zone between the 10-year and 100-year floodplain limits is an appropriate location for recreational uses including athletic fields, trails and passive activities. Such uses are permitted provided they do not impede the flood flow. It is likely that tree planting and grading will be necessary for facilities planned within the designated 100-year floodplain. The potential effect of any such activities will need to be studied. There must be no threat to property or public safety and no resulting property damage. If the limits of the floodway will be changed, or if there will be significant change to the elevation or velocity of floodwaters it will be necessary to obtain a CLOMR from FEMA before the work is accomplished, and then to modify the flood plain maps and process a LOMR after construction is completed.

Areas within the limits of the 10-year flood

Land within the 10-year floodplain is suitable only for recreational uses such as sports fields and trails that will not suffer significant damage as a result of frequent flooding. Trail bridges across the floodway and permanent architectural structures should be built above the 100-year floodplain levels. Any significant alteration of the flood water surface elevation will require processing with FEMA.

Utilities and park amenities that would be damaged by flooding should be kept out of the 10-year floodplain.

Improvements to State Route 76

The widening and/or relocation of SR-76 will almost certainly result in the alteration of the 100-year floodplain. There should be an opportunity to integrate some river park elements into the proposed construction. At the least, design for the road improvements will include updating of the floodplain studies, and allow for more precise park planning.

RECOMMENDATIONS

The opportunities and constraints described above should be considered in the development of the plan for the San Luis Rey River Park. The most intense development should be outside the limits of the 10-year floodplain. Within the designated 100-year floodway, grading activities should be carefully designed so as not to impede the flow of floodwaters. Prior to any detailed planning in or near the floodplain, it is strongly recommended that the hydraulic modeling be updated and revised as necessary to reflect the current topography and other physical features of the land. Continued coordination of park planning with the proposed widening and realignment of SR76 is strongly recommended. Opportunities for integrating some park elements into the SR-76 project should be pursued.

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APPENDIX D

WATER QUALITY AND WATER RESOURCES OPPORTUNITIES AND CONSTRAINTS REPORT

SAN LUIS REY RIVER PARK MASTER PLAN

SAN DIEGO COUNTY, CALIFORNIA

Prepared for:
Hargreaves Associates
398 Kansas Street
San Francisco, CA 94103

and

County of San Diego
Department of Parks and Recreation
5201 Ruffin Road, Suite P
San Diego, California 92123

Prepared by:
Ninyo & Moore
San Diego, California

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PURPOSE

The purpose of this study is to evaluate the hazardous materials issues and water quality and water resource issues of the Core Study Area (CSA) as they relate to the development of the San Luis Rey River Park. The key issues are: the existing land uses in the CSA, existing water quality issues, current water resources uses, hazardous materials issues, and potential park programming within the CSA. The impact of the proposed park on current, potential, and future water quality and water resources is also evaluated.

The current regulatory framework of the CSA related to water quality includes oversight by the Regional Water Quality Control Board (RWQCB), San Diego Region (Region 9) for surface water quality and protection of groundwater resources by implementation of the Basin Plan, the County of San Diego Stormwater Permit for protection of surface water during construction and post construction, and the San Diego County Department of Environmental Health (DEH) for enforcement of hazardous materials regulations.

METHODOLOGY

In order to assess the water quality issues for the Core Study area, several sources were used to develop the necessary information.

The RWQCB Basin Plan for Region 9 was reviewed to compile information regarding the hydrologic units that occur in the CSA, existing or potential beneficial uses of surface and groundwater within and downstream of the CSA, and any impairments to surface water quality of the river. The San Diego County Soil Survey was reviewed to assess the soil types within the CSA, the characteristics of each soil type, and the applicability of each soil type to planned park programming. The Bonsall Geologic Quadrangle Map prepared by the United States Geological Survey was reviewed to evaluate the unconsolidated and bedrock formations that underlie the CSA. The County of San Diego Watershed Urban Runoff Management Plan (WURMP) was reviewed to assess the constraints of the park related to stormwater runoff quality. The list of 303D water bodies was reviewed to evaluate any known impairments to the San Luis Rey River and the potential to exacerbate those issues by the park programming.

Information was obtained through the Department of Water Resources, the San Diego County Department of Environmental Health, and the San Diego County Water Authority and its local member agencies regarding existing water resources uses within the CSA, and outside the CSA in the San Luis Rey watershed.

A database of known hazardous materials listings within a 1/2-mile buffer around the CSA was obtained and reviewed to evaluate the potential for hazardous materials spills and releases to affect park programming and impact water quality.

STUDY RESULTS

EXISTING AND FUTURE CONDITIONS WITHIN CORE STUDY AREA

Core Study Area Setting

Hydrology

The CSA is located entirely within the Bonsall Hydrologic Subarea (903.12) of the Lower San Luis Rey Hydrologic Area of the San Luis Rey Hydrologic Unit. The existing surface water beneficial uses include agricultural, industrial, contact and non-contact recreation, warm freshwater habitat, and wildlife habitat; surface water is exempted from municipal supply uses. Existing beneficial groundwater uses include municipal, agricultural, and industrial supply.

The San Luis Rey Hydrologic Unit is a rectangular 565-square mile area that contains all or portions of Oceanside, Bonsall, Rainbow, Valley Center, Fallbrook, and Camp Pendleton and several Indian reservations. The San Luis Rey River is the main stream system and flows west from the mountains of San Diego County in the Cleveland National Forest to the Pacific Ocean. The elevation of the basin ranges from sea level to approximately 6,500 feet above sea level at Hot Springs Mountain. Rainfall in the basin ranges from approximately 12 inches at the coast to 45 inches at Palomar Mountain. Lake Henshaw is the only lake of significance in the basin and is a man-made lake. The lake is used by the Vista Irrigation District for storage of pumped groundwater for downstream

potable use (RWQCB, 1994).

The two significant aquifers within the Lower San Luis Rey River are the Mission and Bonsall Basins. The Mission Basin lies almost entirely within the City of Oceanside from the Pacific Ocean to approximately the Bonsall Bridge. The Bonsall Basin lies east of the Bonsall Bridge to approximately one mile west of Rice Canyon Road and State Route 76

Soils

There are six predominant soil types within and adjacent to the river valley. Table 1 summarizes the characteristics of each soil unit. The table presents information related to soil erodibility and suitability of each soil type for different recreational uses including picnic areas, play/activity areas, trails, and campsites. Each soil type is ranked according to its suitability for each recreational use type. However, given the advances in technology and available materials for development, the level of effort required to make a site suitable, given the soil type, is likely lower than the level effort may have been when the report was issued in 1973.

Geology

The San Luis Rey River Valley in the CSA is characterized by two predominant geologic units. Active channel and wash deposits are poorly consolidated sand, silt, clay, and gravel in active washes of streams, and active flood-

plain deposits are comprised of sand, silt, clay, and gravel in active floodplains of the streams. Older surficial deposits consist of old floodplain deposits that are well consolidated, poorly sorted, permeable floodplain deposits of sand, silt, clay, and gravel.

Outside of the active river valley, within the CSA, five geologic units are represented. South of the river valley three geologic units are present including a coarse-grained massive tonalite of Cretaceous age, metasedimentary and metavolcanic rocks of Cretaceous and Jurassic age, and in the eastern portion of the CSA, a Cretaceous-age, white, fine to medium-grained, massive granodiorite. North of the river valley is Cretaceous-age, dark gray, medium to coarse-grained, massive granodiorite, a coarse-grained, light gray tonalite of Cretaceous age, and on the east side of the CSA the same Cretaceous-age granodiorite is present on the south side of the valley.

Current Uses of Ground and Surface Water within the Basin

Surface water is not currently used for potable supply with the exception of Lake Henshaw. There may be existing uses of surface water for irrigation, however none could be documented during the research for the CSA.

Groundwater within the basin is being utilized within certain sub-basins. The Mission Basin, within the City of Oceanside currently yields approximately 2,200 acre-feet per year (AFY) for the City of Oceanside. The withdrawn groundwater is treated, due to high mineral content, as part of the City's demineralization program. The Upper San Luis Rey basin contains several small basins in which groundwater withdrawal is occurring. The Yuima Municipal Water District (MWD) is pumping an average of 2,700 AFY from the Pauma groundwater basin. The Warner basin is being pumped at a rate of approximately 9,000 AFY by the Vista Irrigation District to recharge Lake Henshaw. Lake Henshaw is used for potable water, however, it is unclear whether the water is drawn directly from the lake or is allowed to flow downstream for later extraction.

The San Diego County Water Authority (SDCWA) and its member agencies do not currently withdraw groundwater from the Bonsall Basin within the CSA, nor does the SDCWA have wells in the Bonsall Basin. Although the scope of the Master Plan was not to determine uses of groundwater within the CSA and the project area, many wells (more than 100) are known to be present within the river valley between the Bonsall Bridge and I-15. The wells may be used for commercial, agricultural, and/or residential water supply purposes. Therefore, protection of surface water and groundwater quality within this active groundwater use basin is essential.

Potential Future Ground and Surface Water Uses

Several potential future uses within the San Luis Rey River Basin are being evaluated by the SDCWA. The City of Oceanside is evaluating the expansion of groundwater extraction in Mission Basin to withdrawal an additional 4,900 AFY above the existing project capacity. In addition, the possibility of an Aquifer Storage and Recovery (ASR) program in the Lower San Luis Rey River Valley (Mission and Bonsall Basins) is being evaluated to raise production by the City of Oceanside from the planned additional 4,900 AFY to a total of 15,300 AFY. The Rainbow (MWD) is evaluating the extraction and demineralization of 3,000 AFY from the Bonsall Basin, in which the CSA occurs. The Valley Center (MWD) is currently evaluating the extraction of 600 AFY from the lower Moosa Canyon Basin and 400 AFY from Upper Moosa Canyon which are tributary to the Bonsall and Mission Basins.

Regulatory Issues

Surface Water

The Lower San Luis Rey River is listed as a 303D water body for the pollutants of total dissolved solids and chloride, however, these are low priority pollutants that do not currently affect uses within the basin. The Clean Water Act requires states to identify waters that do not meet water quality criteria. States are required to compile a list of these water bodies and develop total maximum daily load criteria. The RWQCB monitors and assess water quality on the listed water bodies for these constituents. Any park programming should consider contribution of these pollutants to the surface water.

Any construction activities for park programming and permanent constructed programming within the park would need to consider the requirements of the County WURMP and obtain a Construction General Permit during construction of the park and a Standard Urban Stormwater Management Plan for post-park construction stormwater pollution prevention.

Groundwater

The existing downstream beneficial use of groundwater as a potable supply for the City of Oceanside suggest that any park programming be sensitive to this use and the water quality within the Bonsall Basin, since the Bonsall Ba-

sin lies upstream and contributes to Mission Basin.

The Department of Water Resources requires that all wells that are not actively being used and will not be used in the future, be abandoned (destroyed) according to DWR standards. Many wells are believed to exist within the CSA and should be abandoned if not in use.

Hazardous Materials

A total of 119 sites were listed in the hazardous materials database, however several sites had duplicate listings, and some sites listed were not actually located in the search area or were outside the CSA. Of the 119 listed sites, 33 were outside the search area, another 14 were outside the designated "Site" defined, for the purposes of the database search, as an irregular polygon that includes the CSA and areas outside but adjacent to the CSA, and 72 sites were identified within the "Site," some falling outside of the CSA but within the "Site" polygon.

Of the 72 Sites listed in the "Site" polygon, one site was listed as a federal and state site that was investigated for a potential release of hazardous materials. However, following the preliminary assessment, no further remedial action was determined to be necessary. The site was outside of the CSA. One site was iden-

tified as a generator of RCRA (federal) hazardous waste, however this does not indicate that a release of hazardous materials has occurred. One site was identified as being on the emergency response notification list for a release of red phosphorus in 1992, however, the release was cleaned up by the County. One site was listed as a solid waste disposal facility for the storage and disposal of tires. Thirty-five sites were listed as having permits to use hazardous materials and/or generate hazardous waste, however, this does not signify a release of hazardous materials. Fifteen sites have regulated underground storage tanks (USTs) or above ground storage tanks (ASTs).

Sixteen files were identified in the leaking UST database which relate to five physical locations. Nine release cases are closed, seven are open, active cases. the sites are 2370 Pala Road (SR 76), the San Luis Rey Downs at 5772 Camino Del Rey, an Arco station at 5555 Mission Road, the North County Fire Protection District at 157 Olive Hill Road, and Mobil at 4730 SR 76.

The only sites listed in the database file of concern to the park would be those with open release cases for hazardous materials. In this case, only the five leaking UST sites fall into that category. If park programming were to occur near the release sites, precautions would be necessary during construction that required significant subsurface excavation. If significant

grading is not planned in these areas, then the concerns over the release cases is not significant.

Land Use

Current land uses within the CSA consist of residential, agricultural, commercial, recreational, livestock, and open space. Some of the land uses that could potentially impact water quality include golf courses which apply significant quantities of fertilizers and herbicides, and the thoroughbred horse stables which may use fertilizers and dispose of quantities of waste produced by the livestock onsite. These two operations also typically use hazardous materials and generate hazardous waste through maintenance of onsite vehicle equipment. Several of these facilities were identified in the hazardous materials databases as having hazardous materials onsite, including ASTs and USTs.

CONSTRAINTS WITHIN CORE STUDY AREA

Soil types that occur within the CSA are generally conducive to park programming as it is currently envisioned. Five of the six major soil types are slightly to moderately susceptible to erosion, only the riverwash soils within the active river channels have a severe erosion potential. However, the recreation suitability of the soils within the CSA are primarily moderate to severe, indicating that greater than normal effort and expense may be required to develop the areas. Areas with severe suitability problems should only be developed if there is an outstanding aesthetic or other similar reason to develop them. However, with advances in construction technology, construction products, and the availability of a wider range of erosion and sediment control technology, development of even severely restricted soil types may be less difficult than when the soil study was published in 1973. Therefore, some constraints posed by the soil type underlying a given site may be overcome using the best available technology and best management practices to reduce impacts to the river valley.

Criteria that should be used to determine suitability for development of Tier A sites include, but are not limited to, slope, slight to moderate erodibility, and slight to moderate recreation suitability. Tier B and C sites can be constructed on soils with severe suitability and

erodibility classifications with the understanding that some ongoing maintenance will be required to keep these areas in good, useable condition. A geotechnical evaluation of sites with plans to construct permanent structures is recommended to assess the suitability of the locations for construction.

Severely erodible soils that are present within the core study can be developed with certain types of park programming that are compatible the soil type. Because the severely erodible soils occur largely within the 10-year floodplain, the considerations given to development within the 10-year floodplain would be applicable to considerations given to development on severely erodible soils. Park programming that would occur on these soils should be limited to trails (Tier C) and Tier B programming that consists of activities such as picnic tables and benches, i.e., structures of little value that may sustain damage and require replacement.

Wherever possible, park development on less suitable soils should be kept to a minimum. The Tier A sites for the park occur within five different soil types. The Tier B sites occur over three soil types, Riverwash, Tujunga Sand, and Grangeville Fine Sandy Loam. The Tier C sites primarily traverse two major soil types, Riverwash and Tujunga Sand. The opportunities and constraints of each soil type, related to each tier of park programming, are summarized in Table 2.

Areas that are being evaluated as Tier A locations should be evaluated for proximity to State Route 76. A common issue related to soils in the vicinity of heavily traveled roads is aerially deposited lead. Lead deposited from the exhaust of motor vehicles that used leaded gasoline has been documented in soils adjacent to the roadways. Caltrans has been dealing with this issue for many years and will likely be addressing this issue as it relates to the SR 76 improvements. Park programming should consider the potential for lead contaminated shallow soil in some areas.

The amount of use of the park may have a important impact on the water quality of the river. The greater the use of the park, the more opportunity for erosion to occur both during dry and wet periods. The more erodible soils that are heavily traveled may become dislodged more frequently, causing excessive sedimentation within the river. In areas where trails are created through vegetated areas, the more heavily traveled paths may experience greater vegetative loss and increased erosion. Where possible in easily erodible soils, paths should be either paved with asphalt/concrete or more modern pervious types of pavement and soil stabilizers.

Land uses within the CSA, which entirely overlies the Bonsall Basin, should be limited to those that do not have a significant potential to

threaten water quality. Facilities such as septic systems, USTs or ASTs containing petroleum or hazardous materials are not recommended within the park, as an unintended release from these facilities could significantly impact the groundwater quality within the basin. Other similar, but more moderate uses including the application of fertilizers and pesticides can be tolerated, provided that best management practices are employed to minimize the negative impact of chemicals and runoff to the surface and groundwater. Human waste disposal through a sewer system is favored over a septic disposal system within the park. However, septic systems can be designed to meet criteria for protection of water quality. Septic systems have been designed for sensitive land uses in similar sensitive areas, and if the systems are designed properly, there should be no adverse impact to water quality.

Parking lots in the CSA should be designed for protection of water quality while providing a reliable service to park users. Criteria that should be considered include a firm surface for vehicles that provides some degree of infiltration of precipitation, minimizes runoff, is not easily erodible. Pervious pavements have been developed that meet these criteria. Conventional asphalt parking lots do provide a firm surface, however, they also generate runoff that can entrain sediment when the runoff leaves the pavement. Detention basins could

be constructed at outflow locations where runoff is concentrated, to minimize sedimentation of the river during rain events. Unpaved, dirt lots can allow some infiltration, however, sediment is easily entrained and can discharge to the river, which may increase sedimentation in the river and reduce water quality. Dirt lots can also become compacted over time and infiltration rates may be reduced that of paved parking lots.

Because multiple groundwater wells are believed to still be present within the CSA, and the status of the wells is unknown, activity nodes should not be located close to the wells in order to prevent the wells from becoming an attractive nuisance. If the wells do not present a health and safety hazard, are located away from potential sources of contamination, the process of destroying the wells in accordance with Department of Water Resources (DWR) standards could have a significant impact to the surrounding habitat, and/or funds are not available to properly destroy the wells, the destruction of the wells may be delayed until such time as the destruction is necessary, feasible, and can be funded. When practicable, the wells should be abandoned according to DWR standards to ensure public safety and protection of groundwater quality. It could be possible to integrate one or more wells into an activity node or interpretive kiosk with an emphasis on the history of groundwater usage in the basin, if

the proper precautions are taken.

The impact of existing surface water and groundwater availability to flora and fauna in sensitive habitat areas or areas that are planned for habitat creation or enhancement may be an issue for some species given the increase in dissolved solids (salts) over the past 60 years. As imported water has been brought into the watershed either directly (e.g., pumping into reservoirs) or indirectly (e.g., irrigation), the level of dissolved solids in ground and surface water has increased.

OPPORTUNITIES WITHIN CORE STUDY AREA

A common sense approach should be utilized in selecting location of higher impact park programming (Tier A) away from sensitive habitat and water bodies including the San Luis Rey River. The potential for impacts to the surface water quality can be mitigated through a combination of locations away from the open water and best management practices to minimize land disturbance and stabilization of disturbed land to the extent practicable.

Park programming should be sensitive to existing groundwater uses as a municipal supply from the downstream Mission Basin. The Bonsall Basin lies upstream of the Mission Basin, therefore, impacts to the water quality of the groundwater that occur within the Bonsall Basin could negatively impact the Mission Basin. Additionally, the Bonsall Basin is being evaluated for future use as a water supply source by the Rainbow MWD and by the Project Advisory Committee of the Rainbow MWD, Carlsbad MWD, and the City of Oceanside as a potential ASR project area.

The San Luis Rey River Park is a unique opportunity to protect and improve the surface and groundwater quality within the CSA. For protection of groundwater quality, there are few alternatives that are as appealing to protect the natural groundwater system as a rela-

tively passive park. Reduced development and preservation of open space in a park can reduce the potential for contaminants in surface water and groundwater including siltation and dissolved chemicals including hydrocarbons, and allow for filtration and degradation of contaminants through the natural system prior to reaching water sources. The benefits of protecting surface water and groundwater quality include preservation of the aesthetic value of open spaces with water, protection of a potential and existing water supply in a semi-arid climate where water is a precious resource, protection of aquifers that may be used in the future for development of a water supply or for aquifer storage and recovery, and overall health of the habitat which utilizes surface water and groundwater for survival. It is anticipated that the local water districts would welcome a park that overlies a sensitive groundwater basin and potential water supply source (Bonsall Basin) and lies upgradient of an actively used aquifer (Mission Basin).

Given the important nature of the groundwater within the basin, an interpretive kiosk may prove helpful in explaining to the park user the importance of protecting water quality in the park. A discussion of the interaction between surface water and groundwater and the interaction of park utilization on water quality would help the user understand the importance of their activities within the park.

RECOMMENDATIONS

Soil type and slope should be considered in the park programming development stage. Soils with high potential for erodibility should be avoided for intense land uses. Erosion and sedimentation control measures should be utilized in any park programming to protect surface water quality degradation.

Park programming should be developed with stormwater pollution prevention as a high priority. Impervious areas should be minimized and utilization of pervious pavements and similar best management practices should be employed to minimize runoff and collect and treat runoff wherever possible. Stormwater collection and treatment facilities could be used in the park as an educational tool to inform park visitors of the environmental sensitivity of the river.

A water quality constraint is the possible high level of bacteria in the river, therefore, limiting the recreational use of the river itself is recommended.

Additional research should be conducted to evaluate the use and ownership of the water wells within the CSA. Once identified, the wells should either be abandoned if not in use, or properly protected so as to reduce the possibility of vandalism or potential groundwater contamination, and eliminate safety hazards.

Should future utilization of the Bonsall Basin occur for groundwater extraction or ASR, groundwater levels are likely to fluctuate. Prior to utilization, a study would likely occur that would evaluate the effects of either groundwater withdrawal or ASR. Within that study, the effect of raising or lowering the groundwater elevations in the aquifer should be analyzed. The impact of significant fluctuations of the groundwater levels on the base flow of the river and on any sensitive habitat (and flora and fauna within that habitat), including park programming that includes habitat protection, creation, and/or restoration, should be closely evaluated.

Additional information should be obtained regarding the sites with hazardous materials releases if those sites are in close proximity to park programming that will require extensive subsurface grading or excavation.

Table 1 : Soil Characteristics and Suitability

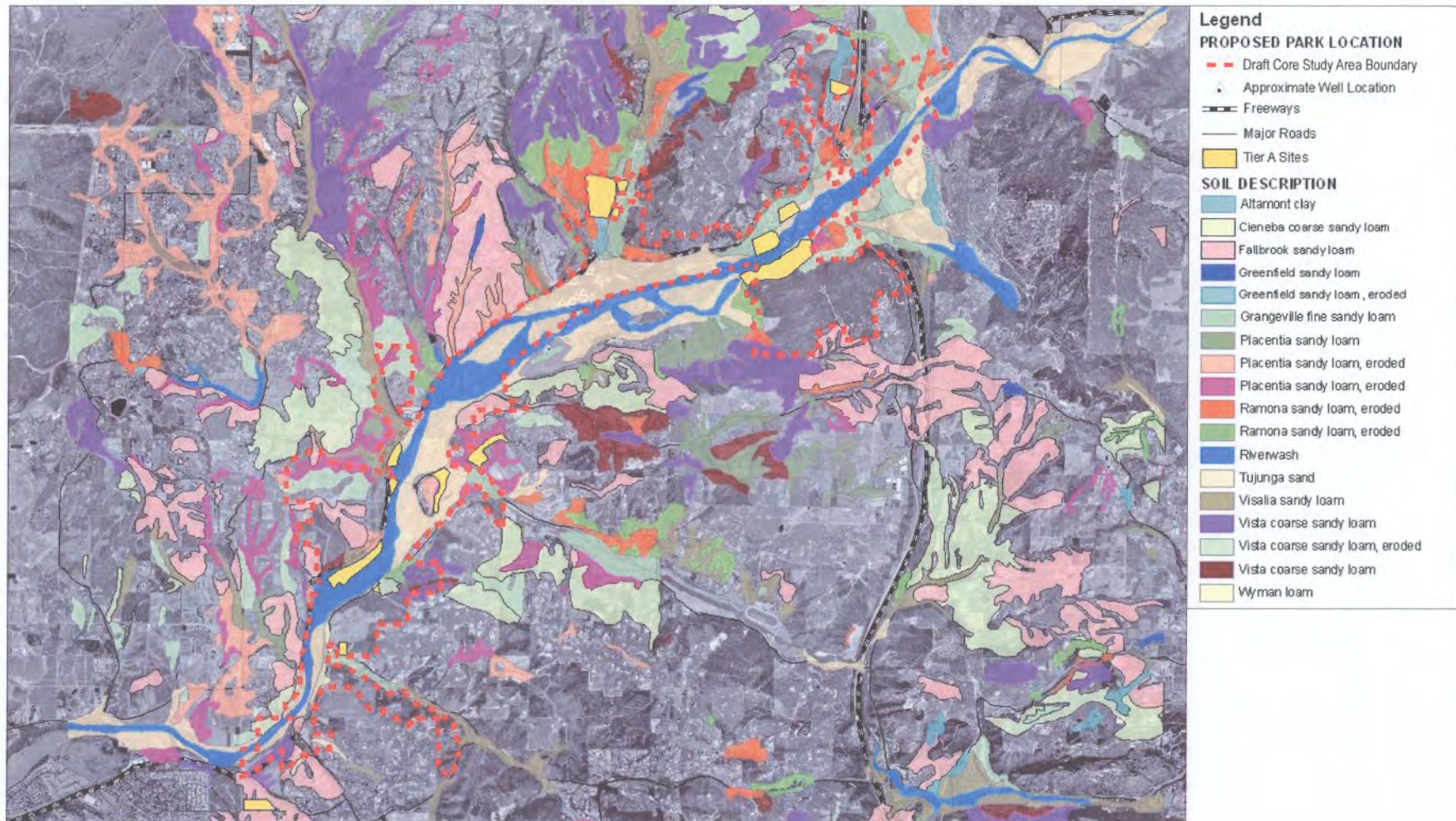
Soil Unit	Description	Erodibility	Common Uses	Recreation suitability				Tier A Site Number
				Play Areas	Campsites	Picnic Areas	Paths and Trails	
Riverwash	Sandy and gravelly, excessively drained and rapidly permeable	severe	recreation and wildlife habitat	severe	severe	severe	severe	3,6,12
Tujunga Sand	coarse sand to loamy fine sand, some gravelly sand, very rapidly permeable	slight	recreation and agriculture	severe	severe	severe	severe	8,12,15
Visalia Sandy Loam	loam, fine sandy loam, sandy loam, moderately rapid permeability	slight	agriculture	slight	slight	moderate	slight	3
Grangeville Fine Sandy Loam	very fine sandy loam to sandy loam, moderately rapid permeability	slight	recreation and agriculture	moderate	moderate	moderate	moderate	2,10,11,12,13
Placentia Sandy Loam	sandy loam to fine sandy loam and sandy clay to heavy clay loam, very slow permeability	slight to moderate	agriculture and range	severe	severe	moderate	slight	3,5,7
Ramona Sandy Loam	sandy loam, loam, to coarse sandy loam moderately rapid permeability	slight to moderate	agriculture, housing, pasture	severe	moderate	moderate	slight	9
Greenfield Sandy Loam	sandy loam to coarse sandy loam and clay loam to sandy clay loam, moderately slow permeability	severe	agriculture and pasture	severe	moderate	moderate	slight	14
Fallbrook Sandy Loam	Sandy loam, fine sandy loam, to sandy clay loam, moderate permeability	severe	agriculture, pasture, housing	severe	moderate	moderate	slight	1
Cieneba Coarse Sandy Loam	Coarse sandy loam, rapid permeability	severe	range, wildlife habitat, recreation	severe	severe	severe	severe	4
Recreation suitability Slight = normal site inspection and precaution during planning and construction are required Moderate = careful site inspection, more than normal precautions Severe = development costs may be high, esthetic value or location may justify expenditure to overcome limitations								

Table 2: Tier Programming Opportunities and Constraints

	Use Type	Constraints	Opportunities
Tier A	sports fields, equestrian center, staging areas, community gathering/performance venue, parking	minimize stormwater runoff where possible with the use of permeable pavement	Create water treatment basins and explain environmental benefits in interpretive kiosk
		create detention basins for runoff of impervious areas and treatment of runoff,	
		minimize use of fertilizers/pesticides	
		bathroom and concession areas should utilize sewer	
Tier B	picnicking, bird watching, interpretive kiosks, gardens	minimize disturbance of nodes and maintain vegetative cover where possible	create kiosks to explain development of nodes with environmental sensitivity
		allow portability of infrastructure to minimize continual use of one area in node	
		avoid excessive slopes	
		provide waste receptacles for trash/recyclables	
Tier C	hiking, biking, equestrian trails	restrict paths through watercourses, dry or wet, to minimize sedimentation of river	create signs to explain environmental sensitivity of staying on path
		create bridges over watercourses and sensitive habitat/easily erodible soil where possible	
		avoid excessive slopes and use best management practices to minimize erosion/sedimentation	
		create trails within vegetated areas to trap eroded sediment before entering watercourses	
		equestrian and biking trails should be as far from the river as possible	
		biking trails could be paved with high permeability pavement	

FIGURE 1

Proposed Activity Sites, Well Locations and Soils



APPENDIX E

CULTURAL RESOURCES CONSTRAINTS AND OPPORTUNITIES REPORT

SAN LUIS REY RIVER PARK MASTER PLAN

SAN DIEGO COUNTY, CALIFORNIA

Prepared for:
Hargreaves Associates
398 Kansas Street
San Francisco, CA 94103

and

County of San Diego
Department of Parks and Recreation
5201 Ruffin Road, Suite P
San Diego, California 92123

Prepared by:
Richard L. Carrico
Cultural Resources Specialist
Mooney & Associates
San Diego, California

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PURPOSE

The County of San Diego Department of Parks and Recreation is pursuing, through the preparation of a Master Plan, the development of a vision for the proposed San Luis Rey River Park. The Master Plan will establish the framework for development of a river park within the eight-mile corridor of the San Luis Rey River between Interstate 15 (I-15) and the Old Bonsall Bridge. This Cultural Resources Constraints and Opportunities Report is being prepared in support of the San Luis Rey River Park Master Plan, to identify archaeological, historical, and Native American constraints and opportunities within the Master Plan Draft Core Study Area (CSA).

The goals and objectives of this Cultural Resources Constraints and Opportunities Report for the San Luis Rey River Park Master Plan are as follows:

- Identify areas within the CSA boundary that have the least cultural resources constraints to park development;

- Identify areas within the CSA boundary that are important for preservation, enhancement, and interpretation;

- Identify regulatory approvals associated with park development within the CSA.

METHODOLOGY

The majority of the CSA consists of privately held lands. Access to private property was not feasible leading to a primary focus on compiling and reviewing existing available data. Data reviewed and synthesized in the preparation of this constraints and opportunities report include:

- Records search data from the South Coastal Information Center at San Diego State University;

- The National Register of Historic Places and the California Register of Historic Sites;

- Previous archaeological and historical studies conducted for the project area;

- Ethnographic accounts of the region including portions of J. P. Harrington's notes.

Field surveys were conducted to "spot check" the accuracy of the existing data but only to the extent that the field surveys did not require access to private lands.

STUDY RESULTS

EXISTING CONDITIONS WITHIN THE CSA

The CSA for the proposed San Luis Rey River Park Master Plan consists of approximately 6,200 acres along an eight-mile corridor of the San Luis Rey River, extending from just east of I-15 to the Old Bonsall Bridge within the communities of Fallbrook and Bonsall, San Diego County (Figure 1). Existing land uses within and adjacent to the CSA consist primarily of residential development, agricultural development, and vacant land. The low, flat San Luis Rey River basin and adjacent steep slopes characterize the topography within the CSA.

The soil types within the CSA consist of: Altamont clay, Bonsall sandy loam, Cienega coarse sandy loam, Cienega very rocky coarse sandy loam, Cienega rocky coarse sandy loam, Cienega-Fallbrook rocky sandy loam, Fallbrook sandy loam, Fallbrook-Vista sandy loam, Grangeville sandy loam, Greenfield sandy loam, Los Posas fine sandy loam, Las Posas stony fine sandy loam, Placentia sandy loam, Ramona gravelly sandy loam, Ramona sandy loam, Redding cobbly loam, Riverwash, Steep gullied land, Tujunga sand, Visalia sandy loam, Vista coarse sandy loam, Vista rocky coarse sandy loam, and Wyman loam (Bowman 1973).

As in more detail below, the cultural resource setting in the CSA spans thousands of years of human activity and includes prehistoric sites associated with the Luiseno and their predecessors, the Spanish period after 1769, the Mexican period after 1821 and the American period after 1848. It should be noted that less than twenty five percent of the CSA has been intensively surveyed for the presence/absence of cultural resources and that the existing data base reflects only a small percentage of the sites and site types that exist within the study area.

Regulatory Environment

Resource Protection Ordinance

The County of San Diego adopted the Resource Protection Ordinance (RPO) in 1991 to strengthen guidelines for development within the County's wetlands, wetland buffers, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites such that preservation of these sensitive lands would be guaranteed.

The RPO applies to Tentative Parcel Maps, Tentative Maps, Major Use Permits, Site Plans, Administrative Permits, Vacations of Open Space Easements, and Certificates of Compliance filed pursuant to County Code Sections 81.616.1 and 81.616.2. However, this ordinance does not apply to "Any essential public facility or project, or recreational facility

which includes public use when the authority considering an application listed at Article III, Section 1 above makes the following findings:

- a. The facility or project is consistent with adopted community or subregional plans;
- b. All possible mitigation measures have been incorporated into the facility or project, and there are no feasible less environmentally damaging location, alignment, or non-structural alternatives that would meet project objectives;
- c. Where the facility or project encroaches into a wetland or floodplain, mitigation measures are required that result in any net gain in the wetland and/or riparian habitat;
- d. Where the facility or project encroaches into steep slopes, native vegetation will be used to revegetate and landscape cut and fill areas; and
- e. No mature riparian woodland is destroyed or reduced in size due to otherwise allowed encroachments."

However, according to the County of San Diego, this ordinance does not apply to park projects, as they are not required to obtain any of the permits mentioned above.

California Environmental Quality Act

The California Environmental Quality Act (Section 15064.5) and Public Resources Code 5020.1(k) require that projects and actions that may affect the environment be assessed for the potential to disturb, destroy, or degrade important archaeological and historical resources. Important resources are those that are listed on local registers or on the California Register of Historic Resources or that would qualify for such registration. In the event that it is determined that actions will impacts important/significant resources, appropriate mitigating measures must be developed to reduce the level of impact to less than significant.

Federal Regulations

In the event that the United States Army Corps of Engineers assumes a role in the project and there is a requirement for a 404 permit, all, or portions of, the CSA would then fall under Section 106 of the National Historic Preservation Act. Section 106 requires that cultural resources (properties) within the area of potential effect be inventoried and evaluated for a determination of eligibility for nomination to the National Register of Historic Places.

Historic Sites

Historic sites are those features, buildings, places, objects, landscapes, and locales that date from circa 1769 to circa 1959. Known historical resources located within the approximately 6,200-acre CSA consist historic trash deposits, ranch buildings, the Bonsall Bridge, portions of old Highway 395, the Rancho Monserate land grant, and the route of Highway 76, which approximates the old trail and road linking the coast with the inland areas. Far more historical resources exist within the project area but have not been recorded or officially recognized.

Prehistoric Sites

Prehistoric resources located within the approximately 3,700-acre CSA are those sites, features, artifacts, landscapes, and objects that were in existence prior to circa 1769. In general, these sites are associated with the Luiseno people and their predecessors. In general prehistoric archaeological sites in the study area date back to at least 6,000 years ago and some site may be even older. Prehistoric site types in the study area include rock paintings (pictographs), bedrock milling features, campsites, quarry sites, trails, a possible village site, and other locales reflecting prehistoric land use. Prehistoric sites, and ethnographic sites as discussed below, are not shown on detailed maps within this report because of the

sensitive nature of the sites and to ensure that the sites will not be disturbed or looted.

Ethnographic Sites

Ethnographic sites are those sites that are of importance to local Luiseno and Kumeyaay people and may not necessarily be represented by a physical manifestation on the ground. Examples may include a place with spiritual or religious value, a place with mythic connotations, or a place of particular iconic value. In addition, places where certain types of vegetation were/are gathered for baskets making, construction materials, medicinal purposes, or other functions, may be of particular value to local Indian people.

CONSTRAINTS WITHIN THE CSA

The literature/data search and synthesis of existing data resulted in the identification of the following cultural resources constraints within the CSA:

Sensitive vegetation communities that may be of cultural value to Luiseno people;

Sensitive archaeological sites that are of value to the Luiseno community;

Sensitive archaeological sites that are of value to the archaeological and historical communities;

Historic site locations such as the Bonsall Bridge.

Constraints Within Segment 1

Areas that include significant archaeological resources are located throughout the valley floor in Segment 1 (See Figure 11). At least ten prehistoric sites including bedrock milling and campsite features are recorded in Segment 1. The individual sites do not cover a relatively large area but they do represent fragile resources. Disturbance of the sites with park facilities would be precluded.

The Bonsall Bridge is a historic resource within Segment 1 as is Highway 76. Existing

interpretive features are located in proximity to an area where the bridge can be viewed from a public vantage point.

Constraints in Segment 2

Areas surrounding the golf course include significant cultural resources sites. At least six prehistoric bedrock-milling features and campsite features are located within Segment 2. These sites do not cover a large area and should not present a substantial constraint to implementation of park facilities. However, park facilities should avoid disturbance of these individual sites.

Constraints in Segment 3

Significant cultural resources, perhaps the most sensitive area within the CSA, are located in Segment 3. Several of the more than seven sites in the area probably comprise a prehistoric village site that is located in proximity to SR-76. Any disturbance of the village site must be avoided in sighting park facilities.

Constraints in Segment 4

As shown in Figure 11, Segment 3 consists primarily of vacant land.

The more than ten archaeological sites located within Segment 4 reflect areas of cultural sensitivity (See Figure 11). The specific location of the sites should be considered in sighting any park facilities. Multiple prehistoric bedrock milling and campsite features are located within the valley floor and slope areas within Segment 4. A highly important prehistoric settlement with rock art and elements important to the Indian community is located immediately adjacent to the CSA east of I-15.

OPPORTUNITIES WITHIN THE CSA

The literature/data search and compilation of data resulted in the identification of the following cultural resources opportunities within the CSA:

- Preservation and long-term maintenance and management of sensitive and significant prehistoric and historic sites within the San Luis Rey River corridor;

- Opportunities for interpretation of the prehistoric and historic past of the area; and

- Re-establishment of a Native American (Luiseno) presence within the San Luis Rey River corridor.

RECOMMENDATIONS

Based on the synthesis of literature review, and experience with other large-scale linear park projects, general recommendations for park development include the following:

Incorporate within the Master Plan the preservation and long-term maintenance and management of sensitive prehistoric and historic resources;

Ensure that the local Native American communities (Luiseno and Kumeyaay) are included in all planning and development activities;

Conduct intensive archaeological field inventories prior to development of specific plans for land uses that could disturb or destroy sensitive and significant cultural resources;

Focus the placement of active park development within areas of lower sensitivity to include previously developed lands and areas that have been severely disturbed by agriculture; and

Focus the placement of passive park development within areas of lower sensitivity levels to include previously developed lands and areas that have been severely disturbed by agriculture.

The recommendations listed above are general recommendations for park planning and are intended as a tool to guide the development of Master Plan alternatives. These recommendations, and associated figures, do not represent specific boundaries where park program elements are precluded. It is anticipated that negotiations with the resource agencies and local Native American groups will ultimately determine what park features are acceptable within each sensitivity level. Concerns likely to be raised by the resource agencies include: any impact, whether resulting from active park programming (play fields, etc.) or passive park programming (picnic tables, trails, etc.), to cultural resources. Project-level analysis will ultimately be required to determine exact impacts to sensitive cultural resources. Mitigation measures will also need to be identified that will reduce impacts to below a level of significance. In general, avoidance and preservation of sensitive cultural resources should be considered as the first alternative for mitigation.

Summary of the Cultural Resource Sites in the CSA

Record No.	Resource Description	Initial Recorder	Record Update 1	Record Update 2
EAST OF I-395				
SDi-683	8 BRM & associated prehistoric scatter.	D. True 60	Whitney-Desautels & Beer 91	B. Glenn 97
SDi-8871	2 BRM & prehistoric scatter	Kasper 81		
SDi-773	Multiple BRM	D. True 60		
SDi-314	Rock art	Plonticov ?		
SDi-682	20+ BRM & prehistoric scatter. Probable village	D. True 60	J. Kasper 81	
SDi-16890	Probable site of Rancho Monserate	S. Andrews et al. 03		
SDi-9854	BRM & prehistoric scatter	Cottrell 84		
SDi-684	"small camp", FAR, & BRM	D. True 60		
SDi-9855	BRM	Cottrell 84		
PALA MESA TO BONSALL				
SDi-12207H	Historic scatter	Wells & Snyder 91		
SDi-12550	Rock ring & BRM	Cerretto & Adamson 91		
SDi-8237	Rock art	K. Hedges 80		
SDi-784	Potsherd scatter	D. True 60		
SDi-785	5 BRM & lithic scatter	D. True 60		
SDi-783	lithic scatter	D. True 60		
SDi-776A	Prehistoric scatter (midden) & BRM. 776 complex a potential settlement.	D. True 60	C. Bull et al. 77	
SDi-776B	Multiple BRM	D. True 60	C. Bull et al. 77	
SDi-776C	Isolate metate frag	C. Bull et al. 77		
SDi-776D	Isolate basalt flake	C. Bull et al. 77		
SDi-776E	Isolate metate frag	C. Bull et al. 77		
SDi-776F	5 metate frags	C. Bull et al. 77		
SDi-776G	BRM	C. Bull et al. 77		
SDi-776H	BRM	C. Bull et al. 77		
SDi-776I	Isolate metate frag	C. Bull et al. 77		
SDi-1083	Prehistoric scatter (midden)	D. True 60		
SDi-5590	BRM	C. Bull 78		
SDi-772	BRM, prehistoric scatter, hearth	D. True 60	T. Gross 72	
SDi-5589	Multiple BRM, prehistoric scatter(midden), rock art, FAR ,cremation. Probable village	Hatley & Walker 78		
SDi-681	Lithic scatter, "camp site"	D. True 60		
SDi-4543	?	?		

Record No.	Resource Description	Initial Recorder	Record Update 1	Record Update 2
SDi-675	BRM & prehistoric scatter (midden). Site disturbed due to construction by 82 survey	D. True 60	DeCosta 82	
SDi-12948	Shell scatter	D. Saunders 92		
SOUTH OF BONSALL				
SDi-8663A	6 BRM with ~50 milling features	Walker & Cheever 81		
SDi-8663B	BRM	Walker 81		
SDi-8663C	2 BRM	Walker 81		
SDi-674	Lithic scatter & BRM	D. True 60		
SDi-680	Potsherd scatter	D. True 60		
SDi-679	Lithic scatter	D. True 60		
SDi-10879	Prehistoric scatter	L. White 87		
SDi-16497	BRM	K. Moslak et al. 03		
SDi-782				
SDi-10880	BRM	L. White 87		
SDi-673	BRM & potsherd scatter	D. True 60		
SDi-6003	2 lithic tools	L. Eckhardt		
SDi-16884	Prehistoric & historic scatter	Guerrero & Tift 03		
SDi-12155	Lithic scatter	M. Rosen et al. 91		
SDi-1281	Lithic scatter, many patinated tools	T. Kearns 71		
SDi-1250	Lithic scatter, "quarry site"	T. Kearns 71		
SDi-9593	BRM	M. Rosen 82		
SDi-676	BRM & lithic, shell scatter. Potential camp site	D. True 60	McManus & Cirilo 79	
SDi-1251	Lithic scatter. Site disturbed due to construction by 73 survey	T. Kearns 71	Ezell & Kearns 73	
SDi-16498	2 BRM	K. Moslak et al. 03		
SDi-1253	Lithic scatter. "Village/Camp site"	T. Kearns 71		
SDi-1252	Lithic scatter. "Village/Camp site"	T. Kearns 71		
SDi-16499	BRM	K. Moslak et al. 03		
SDi-14046	3 BRM	Pignuolo & Bowden-Renna 95		
SDi-14047	3 BRM, prehistoric scatter, & FAR. Probable camp site.	Pignuolo & Bowden-Renna 95		

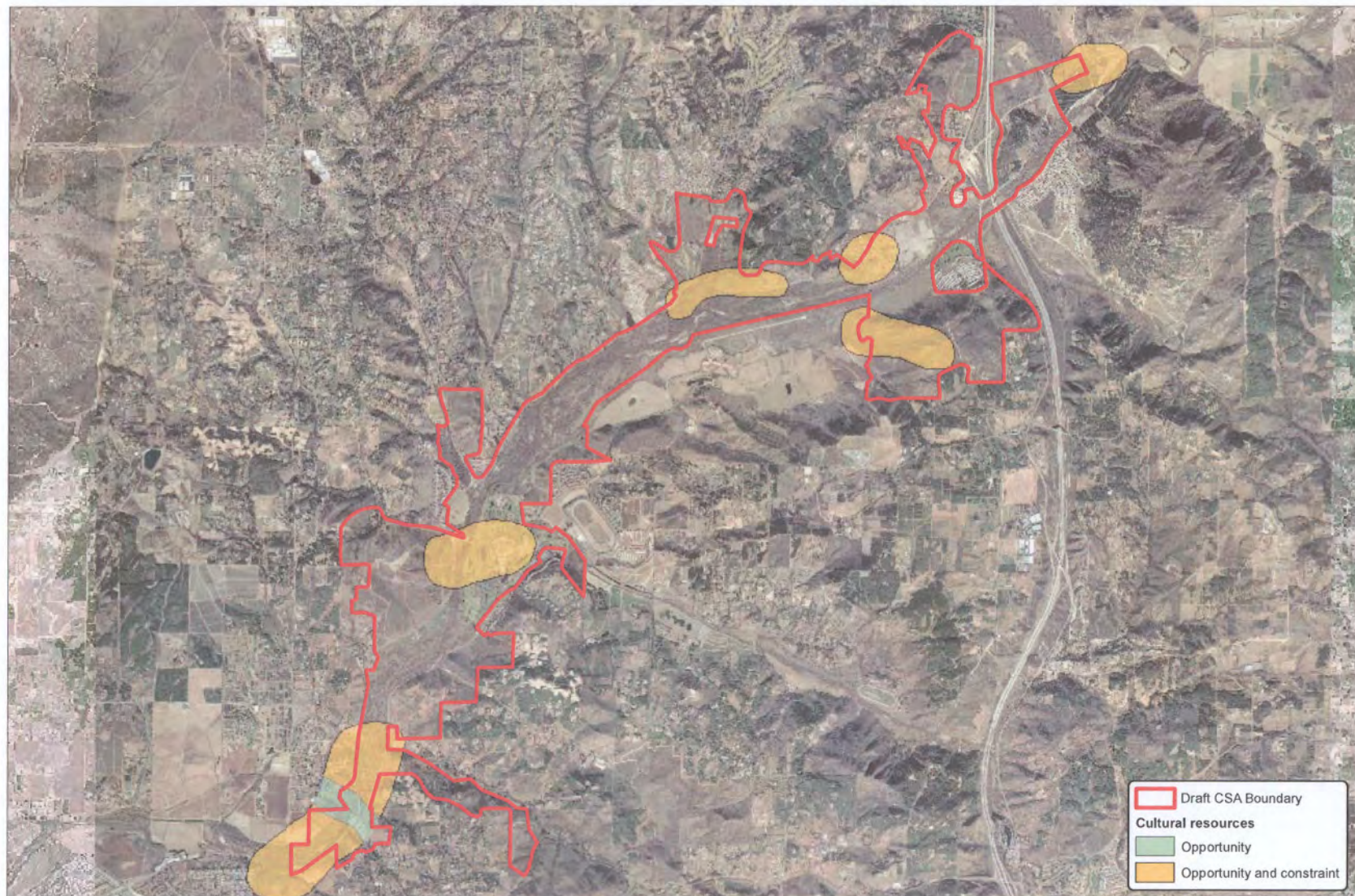
FIGURE 1
Draft Core Study Area & Segments



Source: Aerial Access (2004)

FIGURE 11

Cultural Resource Areas



Source: Aerial Access