# FINAL ASSESSMENT

Prepared For: San Diego Earthworks



In Association With: Merkel & Associates, Inc. Susan Hector Consulting

Biological Assistance Provided By: San Diego Natural History Museum

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The Rose Creek Watershed is a 36-square mile area that extends from the Marine Corps Air Station Miramar sixteen miles along San Clemente and Rose creeks through Clairemont Mesa and University City to the east end of Mount Soledad; later draining to the ~4,236-acre Mission Bay Park in Pacific Beach where Rose Creek meets the ocean.

The watershed contains great natural beauty, recreational opportunities and biological diversity. The ecological value of the undeveloped land in the watershed is in its diversity of native vegetation communities, which provide a wide variety of essential animal habitats, including those supporting endangered and threatened species.

Unfortunately, the watershed suffers from many of the same ills as other watersheds at the edge where wild lands meet urban development. Invasive exotic (non-native) species have overrun many areas, and urban problems such as crime and vagrancy are acute in the lower watershed. While the overall health of the Rose Creek Watershed (RCW) is better than many urban-wildland watersheds in Southern California, portions of lower Rose Creek, in particular, are unhealthy, unsafe and a detriment to water quality in Mission Bay and the Pacific Ocean.

Compounding those urban problems, are problems of management and oversight – in particular a lack of a comprehensive vision or management approach that respects the watershed as a natural functioning system. While the watershed is entirely within the City of San Diego, it is under two governmental jurisdictions; the eastern portion under Marine Corps Air Station (MCAS) Miramar and the western portion under the City of San Diego. Of the 12,201 acres of MCAS Miramar within the Rose Creek Watershed 7,477 acres are comprehensively managed as a natural open space system for as-needed training. However, responsibility for management of the ~2,900 acres of undeveloped lands west of Interstate 805 is split between multiple City of San Diego Departments and private land owners. The result is inconsistent or non-existent management.

For example, the City-owned park lands in San Clemente and Rose canyons west of Interstate 805 are managed by the Parks and Recreation Department as part of the city's open space system. Park rangers provide oversight and protection for both the natural and public resources of the two linear parks totaling 779 acres. In addition, both parks are overseen by official City of San Diego citizens' advisory committees and there is a high level of community oversight and use.

However, once San Clemente and Rose creeks leave Parks' jurisdiction and join to become Rose Creek (where Interstate 5 and State Route 52 meet), management and public oversight of the remainder of the City of San Diego-owned creek, (designated as a flood control channel), is almost non-existent until it reaches Mission Bay. Further complicating matters, the political, community and public safety oversight of this small ~80-acre, 3-mile largely industrial section of lower Rose Creek is split between two communities (Pacific Beach and Clairemont), three council districts (1,2 and 6), two county supervisorial districts (1 and 4) and two City police beats. The result: no one entity is providing focused oversight to make certain that the public land of lower Rose Creek is comprehensively managed for the public's benefit. This is further complicated by the City's current fiscal problems which have stretched the City's staff resources and limited or eliminated collaboration between departments. The end result has been that lower Rose Creek has been severely neglected.

Fortunately, steps are being taken to make the watershed a healthier and safer place.

The California Coastal Conservancy, the County of San Diego, the City of San Diego, San Diego Earthworks and the Rose Creek Watershed Alliance have joined together to create this Rose Creek Watershed Opportunities Assessment (Assessment), a comprehensive analysis of opportunities and recommendations to enhance the natural, cultural, public safety, and recreation attributes of the RCW. San Diego Earthworks is acting as the project manager; the consulting team includes landscape architects KTU+A, biologists Merkel and Associates, and archaeologist Dr. Susan Hector. The San Diego Natural History Museum has provided additional biological review and insight.

This Assessment is intended to engage and inform the public, guide volunteers and professionals, and build policy level support within the appropriate public and private agencies to enhance and preserve the watershed.

San Diego Earthworks convened a public steering committee called the "Rose Creek Watershed Alliance (Alliance)" to help guide the development of the Assessment, as well as the implementation of its action recommendations. A number of community, business and environmental organizations joined the Alliance and developed an initial comprehensive vision for the Rose Creek Watershed that was incorporated into this Assessment. More information about the watershed and the Alliance can be found at www.rosecreekwatershed.org.

This Assessment is not the sole product of the watershed planning effort, but the culmination of several interim technical studies and overviews that were developed. Five additional work products are available for review at www.rosecreekwatershed.org and include: an Existing Conditions report, and technical memoranda on Cultural Resources; Recreational Trails; Biological Resources; and Hydrologic Modifications.

## Reading the Rose Creek Watershed Opportunities Assessment

Chapter 1 provides an overview of the project and the Rose Creek Watershed Alliance's vision for the watershed. It also summarizes some key elements Alliance members identified while striving to achieve the vision of an integrated approach to watershed preservation and enhancement. These elements were linked to a variety of next steps to move the planning process from issue identification, through development of solutions, and on to implementation. The combination of the vision points, key elements to consider, and next steps provided the foundation on which the action recommendations in Chapter 2 were developed.

Chapter 2 is the heart and sole of the Assessment as it discusses all of the actions being recommended for implementation. The chapter is organized into six sections: Proactive Conservation; Biological Resources; Cultural Resources; Public Safety; Recreational Resources; and Water Resources. The actions are designed to be used alone or in combination to systematically improve the use and function of the watershed's resources. An "adaptive" approach is recommended that will allow for mid-course corrections, as needed, as recommended that will allow for mid-course corrections.

- ☑ Create a Rose Creek Watershed Conservation Bank
- ☑ Enhance the biological connection to Mission Bay
- ☑ Control invasive species
- ☑ Restore and enhance native habitats
- ☑ Protect and enhance wildlife corridors
- ☑ Establish consistent land management of the open space lands (private and public)
- ☑ Document and protect cultural resources
- Assess potential effects on cultural resources from other action recommendations
- ☑ Interpret cultural resources
- ☑ Manage fire risk
- Reduce landslides
- Reduce illegal activities on open space lands
- ☑ Improve access to the open space system
- ☑ Improve access within and between open space areas
- ☑ Create regional recreational connections and loops
- ☑ Create safe and legal railroad crossings
- Develop data and models to improve understanding of hydrology and hydraulics
- ☑ Reduce erosion from multiple sources
- Modify or remove concrete flood control channels
- Monitor and reduce water pollution

Chapter 3 provides an overview of the Existing Conditions report and Technical Memoranda, serving as background information in support of the action recommendations. The information provided is intended to act as a bridge between the brief summaries provided with the action recommendations in Chapter 2 and the full versions of the reports.

Chapter 4 provides supplemental information on several of the actions described in Chapter 2. Information includes more detailed descriptions on recommendations such as potential restoration sites, new trail segments, stream channel restoration techniques, and concrete flood control channel restoration.

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## 1 Introduction



#### 1.1 Study Area

The Rose Creek Watershed is part of the Penasquitos Hydrologic Unit. The San Diego Regional Water Quality Control Board (SDRWQCB) has sub-divided the Penasquitos Hydrologic Unit into two Watershed Management Areas: 1) the Penasquitos Watershed Management Area; and 2) the Mission Bay Watershed Management Area which is comprised of the Scripps (906.3), Miramar (906.4), and Tecolote (906.5) Hydrologic Areas. The Miramar Hydrologic Area (aka Rose

Creek Watershed) is roughly 27,667 acres or 37 square miles (Figure 1-1).

Figure 1-1: Regional Overview



To further analyze the Rose Creek watershed and its boundaries, a topographic delineation was performed to correctly assess runoff and stream flow that discharges from the mouth of Rose Creek into Mission Bay. The watershed delineation refined the boundary of the Hydrologic Area to 23,427 acres or 36 square miles. The area excluded occurs toward the mouth of Rose Creek where it flows into Mission Bay, and includes portions of Pacific Beach and Clairemont (shown as red cross-hatch) that do not drain into Rose Creek, but instead drain directly into Mission Bay (Figure 1-2). For the purposes of this assessment three planning basins were also developed: Rose Cranyon, San Clemente Canyon, and Lower Rose Creek, which are also shown in Figure 1-2.

## 1.2 Project Purpose

The initial purpose of the Rose Creek Watershed Opportunities Assessment (Assessment) was to comprehensively assess existing conditions, opportunities and constraints for habitat protection, habitat restoration, enhancement and protection of cultural resources and public access improvements in the Rose Creek Watershed (RCW). As the assessment progressed, public safety and water quality were also added to the list of issues to assess by the stakeholders group. The California Coastal Conservancy provided primary funding to the assessment; he County of San Diego provided additional funding support.



Figure 1-2: Planning Basins

## 1.3 Rose Creek Watershed Alliance

The Rose Creek Watershed Alliance (Alliance) is an alliance of existing organizations and individuals (Table 1) formed to help guide the planning and implementation of actions within the RCW. The Alliance believes that by taking a watershed-based approach, the watershed will more likely be comprehensively preserved, restored and enhanced for the enjoyment of current and future generations.

	~ '		
Table 1-1: Rose	Стеек	Watershed Allianc	e Members

Organizations
Clairemont Town Council
Friends of Rose Creek
Friends of Rose Canyon
Marian Bear Natural Park Committee
Natural Resources Committee for the League of Women Voters
Pacific Beach Business Improvement District
Rose Canyon Recreation Council
San Diego Audubon
San Diego Bicycle Coalition
San Diego Earthworks - Convener

## Introduction

The Rose Creek Watershed Alliance has proposed these Vision Points to help guide the development of the Rose Creek Watershed Opportunities assessment. *The Assessment should propose:* 

Linking the problems and opportunities of the Rose Creek Watershed and addressing them concurrently;

Creation of a continuous and healthy ribbon of natural habitat and open space from the top to the bottom of the watershed;

Improvements to water quality and natural hydrologic function, to restore the watershed's natural functions and features wherever possible;

Creation of a continuous non-motorized off-road public trail access from upper Rose canyon to upper San Clemente canyon and further connecting to Mission Bay Park;

Improvements to general public safety, including pedestrian and bicycle safety, throughout the watershed;

Reducing the threat of natural hazards such as fire and landslides;

Telling the story of San Diego thru interpretation of the watershed;

Building watershed awareness through public education and outreach;

Enhancing the biological and recreational connection to Mission Bay Park; and

Compatible economic opportunities throughout the watershed.

In addition to these Vision Points, the Alliance members identified a variety of elements that needed to be addressed while striving to achieve the vision. A dozen of the most crucial elements are listed below.

## Elements to Consider:

- 1. Active participation by public agencies, the private and non-profit sectors and volunteers is crucial to success.
- All planning efforts should be coordinated to ensure that projects are planned and implemented in a manner that is environmentally sound, that minimizes damage to the watershed while maximizing opportunities to enhance the watershed.
- 3. Invasive plant and animal infestations have degraded the health of the watershed.
- 4. Restoring the natural functions and values of the watershed could improve its health.
- 5. Storm drains are cutting gullies throughout the watershed.
- 6. Additional hydrology studies, including sediment transport analyses, monitoring and gaging are necessary to define restoration potential throughout the watershed.
- 7. Off-road hiking and bicycling trails are needed that:
  - a. Connect upper Rose and San Clemente canyons near Interstate 805 and to Mission Bay.
  - b. Provide alternative routes (along a non-trafficked street) for cyclists and pedestrians.
  - c. Best serve the needs of bicycle commuters and recreational riders including the young and elderly.
  - d. Include clear signage within the watershed and to the watershed.







- 8. It is currently illegal to cross the railroad tracks in Rose Canyon; crossing is punishable by a fine of \$1,000. To ride or walk continuously from the upper to lower watershed will require at least one crossing.
- 9. Address current homeless and crime issues in public open space, especially in the lower watershed.
- 10. The watershed can be a living laboratory for children if utilized by teachers. At least five schools abut the canyon or creek, no transport required for site visits.
- 11. The City's Mission Bay Park Master Plan addresses wetlands creation at the mouth of Rose Creek; creation hasn't been implemented. How best to create viable, sustainable wetlands at the mouth of Rose Creek?
- 12. The lower Rose Creek corridor along Santa Fe, Damon and Morena streets may provide an opportunity for economic revitalization with the creek as a focal point. The creek should be seen as an asset, not a liability, to economic development.

Many of these were also linked with thoughts regarding the logical next steps to move from issue identification to the development of solutions and on to implementation. Many of these can be found explicitly within the Action Recommendations of this assessment, while others are supported by the actions, but are not directly called out.

## Next Steps:

- 1. Seek to build and strengthen partnerships and collaboration including:
  - a. Amend the MOU with the City to include public safety (crime, natural hazards such as fire and landslides) and other components;
  - b. Create agreement with Miramar to encourage cooperation on trail alignments, cultural/ historic interpretation and base security; and
  - c. Continue to build and strengthen the Rose Creek Watershed Alliance and member organizations.
- 2. Make certain the final Assessment meets the city's data needs for a natural resources management plan. Create a city-natural resources management plan for Rose Canyon to complement the Marian Bear plan. Extend the plan to Mission Bay.
- 3. Define implementation plan to remove invasive plant species.
- 4. Secure hydrology studies to determine feasibility of concrete storm drain removal and restoration of lower watershed. Design and develop plan to implement.
- 5. Address on-going debris removal and debris source reduction, including from medians and trail access points.
- 6. Integrate recommendations with city trails and bike master plans and address volunteer trails.
- 7. Create plan to address homeless and crime issues in the lower watershed. Involve police department, area business owners, council offices, civic and social service providers.
- 8. Identify safe public access points throughout the watershed and add appropriate signage.
- 9. Fire Prevention:

4

- a. Create three regional fire safe councils encompassing Upper Rose Canyon, Upper San Clemente Canyon and Lower Rose Canyon. Each regional council to be organized under a community group for that area.
- b. Create neighborhood fire safety councils in each region to comply with city regulations for brush management or thinning plus to encourage invasive species removal and use of fire-safe native plants to enhance watershed health.
- c. Develop a fire management plan for the watershed.
- 10. Land Slide Prevention: Educate the public on less slide-prone native plant alternatives to ice plant.
- 11. Follow up on cultural recommendations to do further surveys.
- 12. Recommend interpretive opportunities.
- 13. Partner with environmental education group like Aquatic Adventures to write grants to provide outdoor classroom opportunities for schools in the watershed.
- 14. Encourage service projects where youth can participate.
- 15. Develop public education materials on such subjects as invasive species and pollution reduction for distribution to residents throughout the watershed.











