CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

RESOLUTION NO. R9-2015-0041

RESOLUTION TO SUPPORT RESTORATION OF AQUATIC ECOSYSTEMS IN THE SAN DIEGO REGION

WHEREAS, the California Regional Water Quality Control Board, San Diego Region, (hereinafter the San Diego Water Board) finds that:

Introduction

1. The primary objective of the federal Clean Water Act is to *restore* and maintain the chemical, physical, and biological integrity of the Nation's waters (Clean Water Act, § 101 (a)). The Porter Cologne Water Quality Control Act (Water Code) (Wat. Code, § 13000 et seq.) is California's comprehensive water quality control statutory framework, which implements portions of the federal Clean Water Act. Under the Water Code, water quality objectives are established to ensure the reasonable protection of beneficial uses[1] and the prevention of nuisance, in consideration of various factors including past, present and probable future beneficial uses of water (Wat. Code, § 13241).

2. In August of 1993, the Governor of California issued Executive Order W-59-93.[2] As the "no net loss and net gain policy," Order W-59-93 directed that California's government programs and policies that affect wetlands to, among other things, be coordinated to ensure no overall net loss and *long term net gain* in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.

3. Many of the San Diego Region's aquatic ecosystems - *rivers, streams, lakes, reservoirs, wetlands, vernal pools, enclosed bays, lagoons, and estuaries* – are home to sensitive beneficial uses and at-risk species. The structure, function, and biodiversity of aquatic ecosystems are vulnerable to disruption, and often require proactive, restorative measures to correct impairment, prevent further degradation, or increase resilience.

4. The pressures associated with population growth and development, impacts from land use activities, disruption of native plant and animal communities, changes to in-stream flows, effects of climate change including drought and sea level rise,

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[1] Beneficial uses that may be enhanced or protected as a result of restoration include, but are not necessarily limited to: recreation; aesthetic enjoyments; navigation; Native American cultural use, subsistence fishing, and preservation and enhancement of fish, wildlife and other aquatic resources and preserves.

[2] Available electronically at: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp2008/executive_order_w59_93.pdf.

and the cumulative effects of past and present impacts, continue to threaten and degrade many of the San Diego Region's aquatic ecosystems.

5. The goal of aquatic ecosystem restoration is the return of the chemical, physical, and biological attributes of an aquatic ecosystem to a closer approximation of its condition prior to disturbance or disruption by recreating the ecosystem's natural structure, function, or biodiversity.

6. To achieve the objectives of the Clean Water Act and the Water Code, the San Diego Water Board must take an active role in promoting the implementation of aquatic ecosystem restoration projects that are expected to help restore the chemical, physical, and biological integrity of the waters within the San Diego Region.

7. The structure, function and biodiversity of aquatic ecosystems are vulnerable to disruption by a variety of anthropogenic stressors (e.g., pollution, landscape and habitat modification, flow alterations, exotic species introduction) and natural stressors (e.g., floods, catastrophic wildfires, landslides, droughts). In many watersheds, the impacts of past land use activities may require decades or longer for recovery and to return to historic, natural, or functioning conditions. Some aquatic ecosystems have been so significantly altered that it is no longer reasonable or feasible to achieve historic conditions; but rather, restoration efforts must focus on the rehabilitation of an existing site to help stem losses and attain its best achievable structure, function and biodiversity.

8. The re-attainment of an impaired beneficial use, or uses, often requires some combination of pollution controls, restorative actions, adaptive management, and sufficient time for an undesirable condition or conditions to abate and recovery to occur. Often, no single action can be expected to recover an impaired beneficial use or to restore a cumulatively affected watershed.

9. Restoration is conducted for the purpose of providing a meaningful net benefit to the environment by eliminating, reducing or ameliorating a variety of conditions that can negatively impact aquatic ecosystems, including but not limited to: sources of water pollution, eutrophication, nuisance flooding, desiccation, habitat simplification, species displacement, migration barriers, erosion from diverted streams, riparian zone disturbance, or other impairments to the beneficial uses of waters of the State.[3]

[3] This Restoration Resolution does not include a specific definition of the type of activities that qualify as a restoration project as that determination is more appropriately made during the project specific review process. The determination of the "net benefit" of a given restoration project can be a factor for various permit fees, permit eligibility criteria, offset-ratios and/or prioritization of public funding sources.

10. Millions of dollars are spent annually in California by federal, State, and local agencies to restore and protect wetlands and riparian resources through longstanding public policies and programs, yet it is difficult to account for the effects of this investment. The State cannot report on the health of wetlands and riparian areas because ambient conditions are not routinely or systematically assessed, projects are monitored in disparate ways, there is little assurance of data quality, and the few existing data are not readily available. Development of a coordinated wetland and riparian monitoring and assessment program is a key recommendation in the Natural Resource Agency's 2010 State of the State's Wetlands Report[4]; such a program is crucial for accurately assessing the impacts of the Governor's "no net loss and net gain" policy (Executive Order W-59-93), and is consistent with the central mandate of Senate Bill 1070 that requires the boards, departments and offices within the California Environmental Protection Agency and the California Natural Resources Agency to integrate and coordinate their water quality and related ecosystem monitoring, assessment, and reporting. The ability to meet these goals and mandates will require both technical and administrative changes to the way wetland data are collected and managed.

11. The California Wetland Monitoring Workgroup (CWMW) was established in 2009 as a subcommittee of the California Water Quality Monitoring Council. A primary goal of the CWMW is to effectively function as the forum for State-wide coordination of wetland and riparian monitoring and assessment and also to provide a mechanism for cooperation among State and federal agencies, non-governmental organizations, and research institutions. To achieve its primary goal of coordinated wetland monitoring, assessment, and reporting, the CWMW recommended that a Wetland and Riparian Area Monitoring Program (WRAMP) be developed to serve all State agencies. The goal of the WRAMP is to produce regular reports on trends in wetland extent and condition and to relate these trends to management actions, climate change, and other natural and anthropogenic factors in way that informs future decisions.

Restoration in the San Diego Region

12. Restoration projects in the San Diego Region typically include, but are not limited to: bioengineering of eroding hill slopes and stream banks; migration barrier removal; decommissioning of roads and stream crossings; in-stream flow optimization; habitat improvements, exotic species removal; and the rehabilitation and re-establishment of native wetland and riparian vegetation, functions and values. Restoration projects can also include larger scale activities associated with estuary modification, creation of off-channel refuge, augmentation of in-

[4] Available electronically at:
http://www.resources.ca.gov/docs/SOSW_report_with_cover_memo_10182010.pdf

stream flows, correction of stream diversions, and the dismantling or removal of materials associated with dams and reservoirs.

13. The San Diego Water Board oversees other regulated activities such as land development, offset programs, compensatory mitigation projects, enforcement actions, or supplemental environmental projects (SEP)[5] that may include restorative actions or requirements. Although these projects can also include actions that are restorative in nature, they differ from other restoration projects in the net effect they may have on the environment when viewed in context with the impacts of the larger project or activity. Nevertheless, these types of projects must also be similarly regulated to ensure that they are protective of beneficial uses while also being expeditiously administered, particularly when these actions are requirements under a permit or other order.

14. Restoration efforts in the San Diego Region are performed by multiple groups including the Southern California Wetlands Recovery Project (WRP), San Diego River Conservancy, the San Diego River Park Foundation, the San Dieguito River Valley Join Powers Authority, lagoon and other water body conservancies, and other non-governmental organizations.

15. Many restoration projects in the San Diego Region are vetted and funded through the WRP. The WRP was formed in 1997 under the directive of Executive Order W-59-93. The WRP works to identify coastal watershed restoration priorities, prepare plans for priority project sites, pool funds to undertake projects, implement priority plans, and oversee post-project maintenance and monitoring. The San Diego Water Board is one of the 17 signatories on the WRP Working Agreement. There are currently fourteen projects identified by the WRP for restoration in the San Diego Region.

Regulating and Permitting Restoration Projects

16. Although many restoration projects are intended to improve aquatic ecosystems, and can aid in the recovery of impaired beneficial uses, there are a number of obstacles that are frequently cited as impediments to the implementation of restoration actions: permitting and fees; project design complexity; incomplete applications; implementation costs; endangered species; and exposure to liabilities. At times, these barriers can demotivate project proponents from conducting restoration and conservation activities altogether, thus allowing an undesirable condition to persist or further degrade beneficial uses.

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[5] The Water Boards may allow a discharger to satisfy part of the monetary assessment imposed in an administrative civil liability (ACL) order by completing or funding one or more SEPS. These are projects that restore or enhance the beneficial uses of the waters of the State, that provide a benefit to the public at large and that are not otherwise required of the discharger.

17. The State and federal permitting process is frequently cited as a major impediment to conservation activities and restoration projects. The process for obtaining permission to conduct a restoration project is complex, costly, and time consuming, even for restoration projects that the agencies recommend and support. Often, only experienced restoration practitioners are equipped to navigate through the complex regulatory processes that are required to successfully implement a restoration project.

18. The environmental laws that govern restoration projects are administered by many different local, State, tribal and federal agencies. Before a restoration project can be implemented, permit approval may be required from any or all of the following agencies: the State Water Resources Control Board (State Water Board), the Regional Water Quality Control Boards, the California Department of Fish and Wildlife, the California Coastal Commission, the United States Army Corps of Engineers, the NOAA-National Marine Fisheries Service, the United States Fish and Wildlife Service, State Lands Commission, federally recognized tribes, and various city or county agencies. State agency approvals require compliance with the applicable California Environmental Quality Act (CEQA) requirements (Pub. Resources Code,§ 21000 et seq.). Close coordination among not only agency staff, but consultants, and stakeholders can better facilitate more efficient permitting of projects.

19. Under federal law, section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit that may result in a discharge into navigable waters to obtain water quality certification from the State that the project or activity will comply with water quality standards and any other appropriate requirement of State law (33 U.S.C. §§ 1313, 1341(d)). This includes the Water Code and other State requirements protecting surface waters from both point source[6] and nonpoint source[7] discharges of pollution.[8] (33 U.S.C. §

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[6] The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

[7] Nonpoint source (NPS) pollution is a broad category of sources of pollution under State law. NPS discharges can come from many diffuse sources and is caused by rainfall, snowmelt, or irrigation water that moves over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants and deposits them into lakes, rivers, wetlands, ground water, and other inland and coastal waters. NPS pollution can also include controllable water quality factors not associated with discharges such as salt water intrusion and water diversions.

[8] While the term "discharge" applies to point sources under section 401, this is distinct from the term "discharge of a pollutant" under the Clean Water Act. For the purposes of this Resolution, restoration projects subject to water quality certification are generally discussed in the context of NPS pollution. If a restoration project includes a point source "discharge of pollutants" to surface waters, it may require a National Pollutant Discharge Elimination System permit.

1313.) Section 401 typically applies to dredge-and-fill activities in wetlands and other waters that require permits from the U.S. Army Corps of Engineers or hydropower projects seeking a license from the Federal Energy Regulatory Commission.

20. Some restoration projects in the San Diego Region are permitted through the State Water Board's *General Water Quality Certification for Small Habitat Restoration Projects* and rely on the corresponding CEQA Categorical Exemption for Small Habitat Restoration (Cal. Code Regs., tit. 14, § 15333). Projects that do not meet the eligibility requirements for this Certification must seek other permit coverage through an individual or general water quality certification, waste discharge requirements, or a waiver of waste discharge requirements.

Support for Restoration Projects

21. There are a number of ways in which San Diego Water Board and its staff have been actively engaged in, and are providing support towards, the implementation of restoration projects in the Region. These efforts include but are not necessarily limited to the following ongoing activities:

a. Clean Water Act Section 401 Water Quality Certifications: Interacting with the public and regulated community through education, outreach, technical review, permit conditioning, monitoring, and inspections as part of the certification process.

b. Revision to the State Water Board General Water Quality Certification for Small Habitat Restoration Projects: The State Water Board is developing a new *General Water Quality Certification for Small Habitat Restoration Projects* including guidance materials for enrollees. The San Diego Water Board is working with the State Water Board during its development of this new general certification.

c. Wetland Restoration via Regional Municipal Separate Storm Sewer Systems Permit Alternative Compliance Provision: Working with the San Diego Water Board Storm Water Management Program to identify opportunities for stream or riparian area restoration projects that could potentially be used as alternative compliance options for Priority Development Projects.

d. Participation in the Southern California Wetland Recovery Project: Serving as members of, and actively participating in, the Southern California Wetland Recovery Project Board of Governors and Wetland Managers Group.

e. California Wetlands Monito ring Workgroup: Working with the CWMW to improve the monitoring and assessment of wetland and riparian resources by developing a comprehensive wetland monitoring plan for California and

increasing coordination and cooperation among local, State, and federal agencies, tribes, and non-governmental organizations. The workgroup reviews the technical and policy aspects of wetland monitoring tool development, implementation and use of data to improve wetland management in California.

f. Provide Support for the State Water Board's Office of Information Management and Analysis (OIMA) California Wetlands Status and Trends Initiative. Working with OIMA to develop a process to allocate SEP funds from our Region to the California Wetlands Status and Trends Initiative. The California Wetlands Status and Trends Initiative will conduct a probabilistic condition analysis of California's wetlands to provide a scientifically defensible estimate of State-wide extent and distribution of wetlands. This project will provide the Water Boards with the ability to report on wetland, stream, and other water body extent, distribution, and trends.

22. In October 2014, the Water Boards' Water Quality Coordinating Committee, with the support of the State Water Board, assigned each Regional Water Board the task of supporting three restoration projects until they reach completion, using all of the tools and authorities available to the Water Boards.

THEREFORE, BE IT RESOLVED THAT:

Given the extent of historical loss and the limited opportunities remaining, restoration of natural aquatic ecosystems in the San Diego Region is essential for achieving a *meaningful net gain* in the quantity, quality, and acreage of aquatic resources and associated services. The San Diego Water Board therefore supports continued efforts to advance and promote aquatic ecosystem restoration and directs its staff to conduct such activities in accordance with the following objectives:

1. Actively promote and advance restoration projects that play an essential role in the protection, enhancement, and recovery of beneficial uses, and lead to a meaningful net gain in aquatic ecosystems.

2. Continue to regulate the design, implementation, and water quality outcomes of restoration projects to ensure that associated activities are protective of the chemical, physical, and biological integrity of State and federal waters.

3. Ensure that permits for restoration projects are consistent with all requirements of the federal Clean Water Act, the Water Code, and the Water Quality Control Plan for the San Diego Basin (Basin Plan).

4. Improve coordination between restoration practitioners, landowners, and agency contacts to help facilitate the submittal of complete permit applications and technical information to support successful project outcomes.

5. Support the implementation of small-scale restoration projects that are expected to enhance or restore an aquatic ecosystem or impaired beneficial use, and which meet the eligibility requirements for permitting under the State Water Board's *General Water Quality Certification for Small Habitat Restoration Projects,* as it may be amended or re-issued.

6. Support the implementation of medium to large scale restoration projects that are expected to restore the functions of an aquatic ecosystem, improve impaired beneficial uses, reduce nuisance flooding conditions, or that implement approved Total Maximum Daily Load requirements.

7. Support the development of policies and/or permits to encourage aquatic resource offset programs and mitigation (e.g., in-lieu fee programs and wetland or riparian mitigation banks), as well as working through the San Diego Water Board Storm Water Management Program to support alternative compliance projects when appropriate.

8. Support restoration activities required by enforcement actions to counter the negative impacts resulting from illegal or unpermitted activities such as land grading and development, vegetation clearing, waste dumping, and road construction.

9. Promote implementation of restoration actions, conservation practices, and policy decisions designed to improve ecosystem resilience to environmental stressors, including the effects of climate change and drought.

10. Collaborate with other State and federal agencies to identify and prioritize candidate locations for implementation of high priority restoration projects.

11. Coordinate with partner agencies to promote the implementation of projects detailed in the WRP work plan.

12. Participate in efforts between State and federal agencies, non-governmental organizations, environmental non-profits, and other stakeholders working to coordinate permitting and application requirements, develop new permitting pathways, secure funding sources, and remove barriers that hinder restoration projects.

13. Support the acquisition of public funding assistance in the form of grants, contracts, and loans that support implementation of restoration projects that are expected to protect beneficial uses, improve water quality, or avoid degradation.

14. Require all restoration and mitigation projects to develop and implement appropriate monitoring goals and plans, including data management and quality assurance, consistent with the CWMW *Tenets of a State Wetland and Riparian Monitoring Plan.*[9]

15. Support the State Water Board, Office of Information Management and Analysis, California Wetlands Status and Trends Initiative that will provide a scientifically defensible estimate of State-wide extent and distribution of wetlands; and

16. Consistent with the Water Boards' Water Quality Coordinating Committee goals, support the following three regional restoration projects through various means such as coordinated and/or priority permit review and providing assistance with obtaining funding. San Diego Water Board staff are directed to follow and track these projects over time, reporting back to the Board periodically, in order to better understand ways in which the San Diego Water Board can support restoration projects in the Region:

    a. **Brown Fill Property Restoration Project -** The Brown Property Restoration Project is located at a site where unauthorized fill activities occurred in the past. Removal of the fill and restoration of the site to riparian forest floodplain will substantially improve the hydrology of the Tijuana River Valley. Additional details on the Project are provided in Attachment 1 of this Resolution.

    b. **Mission Bay Wetlands Conceptual Plan** -The Mission Bay Wetlands Conceptual Plan is a WRP supported project to develop plans for the restoration of approximately 130 acres of wetland and upland habitat on a site that was filled to create a recreational vehicle campground. This WRP project will also provide for the protection and enhancement of 40 acres of existing tidal wetland habitat. Additional details on this WRP are provided in Attachment 1 of this Resolution.

    c. **San Juan and Trabuco Creek Steelhead Recovery Watershed Management Plan -** The San Juan and Trabuco Creek Steelhead Recovery Watershed Management Plan is a WRP supported project to implement the top three priority projects identified in the Watershed Management Plan. These projects include: alteration of the Metrolink crossing of Trabuco Creek; assessment and restoration of the San Juan Creek Lagoon (hydrologic, sedimentation, and habitat assessment and floating island habitat pilot project); and restoration of a 3,000-foot long

[9] Available electronically at:
http://www.mywaterquality.ca.gov/monitoring council/wetland workgroup/docs/2010/tenetsprogram.pdf

reach of Trabuco Creek including alteration of the stream structure and removal of exotic species. Additional details on this WRP are provided in Attachment 1 of this Resolution.

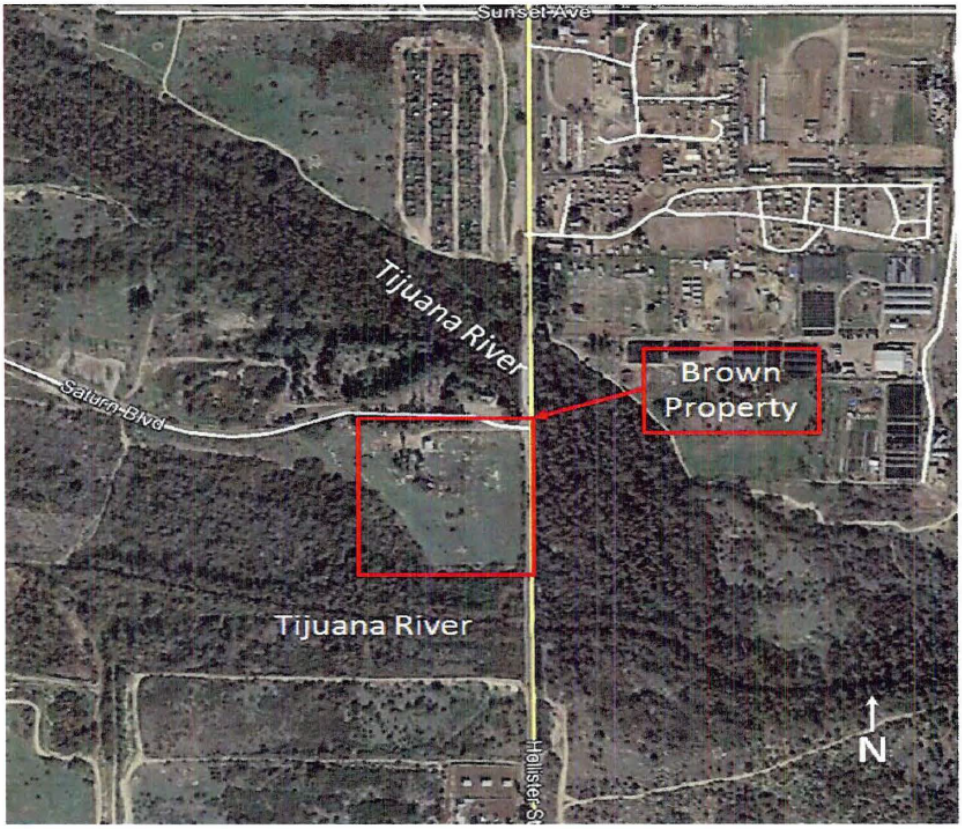
I, David W. Gibson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Diego Region, on June 24, 2015.

DAVID W. GIBSON
Executive Officer

Regional Restoration Project Summaries

In an effort to support restoration in the San Diego Region, the San Diego Water Board has selected the following restoration projects to support through various means such as coordinated and/or priority permit review and assistance with funding. Staff will follow and track these projects over time to better understand ways in which the San Diego Water Board can support restoration projects and restoration processes in the Region.

Brown Fill Property Restoration



The Brown Property, located on Hollister Avenue, is a site where unauthorized fill was placed into the Tijuana River floodplain in the past. The fill material has been evaluated by CalRecycle as inert and nonhazardous waste. The Brown Fill Property Restoration project proposes the removal of the unauthorized fill and restoration of the site to riparian forest floodplain. This restoration will substantially improve the hydrology of the Tijuana River Valley. In order to plan the Brown Fill Property Restoration project, an additional focused hydrology study is needed for California Environmental Quality Act (CEQA) compliance and permitting of the fill removal and restoration to ensure impacts are mitigated and an appropriate, sustainable, post-project design is developed for the restoration of the site.

With additional studies, the property could be restored to riparian forest, wetland habitat, and recreational uses. As previously stated, the Brown Fill Property Restoration project will provide significantly improved hydrology in the Tijuana River Valley, potentially reducing the need for the Pilot Channel maintenance by the City of San Diego and reducing flood risks and channel

erosion in the northern reach of the Tijuana River. The restoration will reestablish the braided channel condition expected in this type of river system and reduced flood impacts from 25-year and smaller storm events. The post-project area would be able to support certain recreational uses (trails for equestrian use, biking, hiking, and bird watching) currently not fully realized.

The sediment removed could potentially be placed in the Nelson Sloan quarry for reclamation or other purposes. Additionally, the Brown Fill Property site could potentially be used as a mitigation bank for projects that impact wetlands or as a Watershed Water Quality Improvement Plan Alternative Compliance Site for storm water permit implementation.

This project was also proposed by the Tijuana River Valley Recovery Team (TRVRT) to the U.S. International Boundary and Water Commission (USIBWC) on October 22, 2014 as a minute project under IBWC's upcoming Treaty Minute No. 320, which will implement the 1944 U.S.-Mexico Water Treaty to address issues in the Valley. The process to designate minute projects may be lengthy so the TRVRT will continue to move forward while USIBWC and its Mexican counterpart, Comisión Internacional de Limites y Aguas (CILA), decide if this project could be implemented through a treaty minute.

On December 31, 2014, the San Diego Water Board submitted a request to the State Water Resources Control Board to provide Cleanup and Abatement Account (CAA) grant funds for conditions in the Tijuana River Valley as there are no viable responsible parties available to undertake the work. The CAA-funded work that this request would fund is called "Phase I of the Tijuana River Valley Recovery Team Five-Year Action Plan Implementation." The proposed CAA-funded work consists of five components one of which addresses planning activities for restoring the Brown Property; preparing a hydrology study, feasibility study, and environmental documents. Funding from an alternative source will be requested if the abovementioned CAA request is not approved, not approved fully, or not approved in a timely manner.

Once funds are secured, a consultant will be hired to prepare a hydrology study to explore the hydrologic impacts due to various fill removal and restoration scenarios. This will inform the feasibility study. Once the hydrology study has identified the potential fill removal and restoration scenarios, a consultant will be hired to prepare a feasibility study that evaluates the practicality and cost estimates of these potential restoration plans. This information will be the basis for choosing a preferred alternative for fill removal and restoration.

Schematic design plans for fill removal and restoration will be produced for the preferred alternative, taking into account what must be identified to perform a CEQA review. Once the schematic design plans are approved by the agency that will manage the property, preliminary design plans will be produced to examine in detail whether or not the ideas developed in the schematic design phase should be committing to construction documents. The preliminary design plans will include enough detail for a CEQA review. Next, a CEQA review for Brown Property restoration will be conducted by the San Diego Water Board, in accordance with Chapter 3 of Title 14 of the California Code of Regulations, to identify the significant environmental impacts of the preferred alternative and to avoid or mitigate those impacts, if feasible. At a minimum, an initial review of the preferred alternative and its environmental effects will be conducted. Depending on the potential effects, a further, and more substantial, review may be conducted in the form of an environmental impact report. CEQA will reveal if

the preliminary design plans may be approved. If anticipated environmental effects prompt a change in the preferred alternative and/or mitigation measures, the design plans will be modified accordingly and finalized. These construction documents may then be used by the agency that will manage the property to request construction bids and obtain any required permits or other approvals.

Once CEQA and permitting are complete, and a construction contractor has been selected, fill removal and restoration activities will be performed in accordance with construction documents. Finally, the property will be managed and maintained in accordance with factors considered in the feasibility study and construction documents.

Mission Bay Wetlands Conceptual Plan

The project area addressed by the Mission Bay Wetlands Conceptual Plan encompasses approximately 270 acres in the northeast corner of Mission Bay, San Diego, surrounding the mouth of Rose Creek. This includes protected salt marsh habitat, as well as disturbed and urbanized areas. Portions of the project area lie within Mission Bay Park and are included in the South Coast unit of the Natural Community Conservation Planning (NCCP) Multiple Species Conservation Plan for San Diego County and the San Diego Multiple Habitat Conservation Program (MHCP) plan. Mission Bay Park has been identified as a Global Important Bird Area by Birdlife International and the National Audubon Society. The salt marsh habitat included in the site, the approximately 40-acre Kendall-Frost Marsh Reserve/Northern Wildlife Preserve, is currently cut off from Rose Creek, its historic source of marsh-sustaining freshwater, sediment, and nutrients. As a small, fragmented habitat, this portion of the site is also suffering the negative ongoing results of edge effects. This area supports one of the few remaining habitat sites in California for the federally-listed endangered Light-footed Ridgway's Rail and state-listed Belding's Savannah Sparrow.

In addition to the wetland habitat, the proposed site includes substantial acreage of currently mixed-use areas that could fulfill habitat linkage, transitional buffer, or public recreation needs, as well as area for upslope marsh migration as sea levels rise. This includes upland area acquired by the City of San Diego for public parkland but which currently supports no identified purpose (the Frost parcel), and City of San Diego-owned lands currently used for recreation (golf *course,* tennis courts). Two portions of the site are state tidelands within Mission Bay Park whose current leases by private entities have expired (DeAnza Point, expired 2003) or are

expiring soon (Campland on the *Bay,* expiring 2017). The parcel currently occupied by Campland on the Bay is specifically called out for wetlands restoration in the City of San Diego's Mission Bay Park Master Plan (MPBMP) and its associated Natural Resources Management Plan (most recently updated in 2002). The DeAnza parcel was called out in the MBPMP as a "special study area" with opportunities for restoration back to wetland habitat.

As in much of Southern California, wetlands in Mission Bay have been drastically altered and destroyed over the past 200 years. Approximately 5 percent of the historic estuarine ecosystem (i.e., salt marsh, mudflat, salt panne) in Mission Bay remain today. This system-wide destruction has left much of Mission Bay without the functional benefit of wetlands to provide sediment trapping, nutrient uptake, and habitat/cover for native biota. Anticipated sea-level rise poses a significant threat to the remaining wetlands, since little transitional habitat is available for migration. The project area is the most likely area in Mission Bay where wetlands and their associated ecosystem processes can be recovered. Commitments for wetland restoration in the project area have been in place for almost 20 years, starting with the Mission Bay Master Plan Update (1995), yet no public process with this focus has been initiated by the City of San Diego. Localized factors make the timing of this planning effort particularly auspicious. Properties within this site are designated state tidelands within the coastal zone, which limits private uses to leases granted by the City of San Diego. As previously stated, these leases have expired or will expire soon and decisions will need to be made regarding future uses for these (already designated) tidelands sites.

The project includes completing a feasibility analysis within the project area for restoration of a self-sustaining estuarine/upland ecosystem supporting native habitats and species and a broad array of ecosystem functions and services. The outcome of this effort will be at least three feasible conceptual restoration alternatives that will be appropriate and sufficiently robust for environmental analysis as part of the subsequent implementation phase. These conceptual plans will likely be distinguished by factors including, but not limited to: effort (cost), goals (different wetland functions), and/or geographical extent of habitat restoration.

The San Diego Audubon (SDAS) will oversee the project with input from landowners and stakeholders. SDAS will convene a Working Group (WG) to advise the overall implementation of the feasibility study. In addition to SDAS staff and key volunteers, representation in this group is expected to include the University of California Natural Reserve System, U.S. Fish and Wildlife Service's Coastal Program, California Coastal Conservancy, and local non-profits (including Friends of Mission Bay Marshes and Rose Creek Watershed Alliance). The WG will then establish a Scientific/Technical Advisory Committee (STAC) by inviting participation from the relevant departments within the City of San Diego, such as Parks and Recreation (including the Open Space Division), Engineering, Public Utilities, Planning and Real Estate Assets. The STAC will also include representation from Scripps Institute of Oceanography, Tijuana River National Estuarine Research Reserve, additional wetland scientists from local universities, and resource agency personnel. The primary responsibilities of the STAC will be to: 1) refine project goals, objectives, and working assumptions; 2) advise SDAS staff on the evaluation and selection of a consultant firm to perform feasibility study tasks; 3) in collaboration with the selected consulting firm, evaluate data gaps and identify data collection needs required to complete the feasibility study, and 4) participate in feasibility study workshops and review resulting products.

San Juan and Trabuco Creek Steelhead Recovery Watershed Management Plan

The San Juan Creek Watershed has been identified by the California Department of Fish and Wildlife (DFW) and the National Marine Fisheries Service (NMFS) as critical habitat for the Southern California Steelhead Trout (Oncorhynchus mykiss irideus). The suite of restoration/enhancement projects included in the management plan is the result of over two decades of stakeholder-lead efforts toward the recovery of Steelhead in the Watershed. The San Juan and Trabuco Creeks Steelhead Recovery Watershed Management Plan (Watershed Plan), funded by DFW, NMFS, and the California Coastal Salmon Recovery Program, identifies manageable and financially feasible projects that can be implemented to restore this coastal watershed. The projects outlined in the management plan are integral to the implementation of the Watershed Plan and are in support of the Southern California Wetlands Recovery Project goal of a regional prioritization plan to restore coastal wetlands and watersheds.

The San Juan Creek Watershed encompasses a drainage area of 176 square miles extending from the Cleveland National Forest in the Santa Ana Mountains to the Pacific Ocean near Dana Point Harbor in Orange County. San Juan Creek is approximately 27 miles long with a peak elevation of 5,700 feet. This WRP project will implement the top three priority projects identified in the Watershed Management Plan.

These three projects include:

1. The San Juan Creek Lagoon Restoration Project
2. The Metrolink Fish Passage Project
3. The Trabuco Creek Wetland and Riparian Restoration Project

The San Juan Creek Lagoon Restoration Project

The San Juan Creek Lagoon consists of approximately 3 acres located at the mouth of San Juan Creek at Doheny State Beach. Highly impacted with sediment, the Lagoon is currently devoid of aquatic vegetation and habitat for fish, although there is potential for restoration of the federally-endangered Steelhead Trout and Tidewater Goby. The Lagoon is closed to the ocean most of the time by the beach sand berm, but the subsequent build-up of water causes it to break periodically, or it is intentionally breached for safety reasons. Just upstream, the lower 2.6 miles of San Juan Creek are channelized for flood control. Prior to channelization in 1962, much of the area outside of the floodplain was in agricultural use as crop production since the late 1800's. Currently, approximately 80% of the land adjacent to the channel is in residential or commercial use.

The San Juan Creek Lagoon presents several limiting factors to Steelhead recovery in the Watershed, including degraded habitat, impaired water quality, and a fish passage barrier to the ocean. Just upstream of the Lagoon, Orange County Flood Control is planning to increase the flood conveyance capacity of the lower San Juan Creek trapezoidal channel by making the banks vertical and turning the creek into a rectangular channel. This work will alter flow velocity and depths, and create an additional fish passage barrier. This Lagoon project is proposed as a phased project, where Phase I includes public outreach and education, baseline mapping, collection of existing data, habitat, hydrologic and sediment transport evaluation, and pilot habitat improvements. Phase II of the project includes public outreach and education program implementation, the design and construction of restoration projects, including sediment removal, alteration of existing instream structures and/or installation of new structures to address sedimentation and bank stabilization issues, creation of refugia in the form of pools and backwater areas to address flow velocity and depth problems from channel alteration, and native plantings instream and in riparian areas to restore wetland habitat for native fish and wildlife.

The Metro/ink Fish Passage Project

Upstream of the San Juan Creek Lagoon project site, the Metrolink Fish Passage Project site is located below the Metrolink crossing of Trabuco Creek, 2.4 miles upstream of the Trabuco Creek/San Juan Creek confluence in San Juan Capistrano. This area consists of approximately 400 feet of natural creek features surrounded by recreational hiking, biking, and equestrian trails, and a wildlife habitat corridor. Adjacent land uses include residential, transportation corridor, open space, and urban uses.

The Metrolink drop structure presents a significant barrier to fish migration and is one of the most significant limiting factors to Steelhead recovery in the San Juan Creek Watershed. Presently, there is a 30-foot drop which cannot be navigated by migrating Steelhead trying to reach upstream spawning grounds. This project includes structural modifications, including

development of a step/pool channel with hydraulic characteristics that accommodate movement of Steelhead. This project will also integrate with the City of San Juan Capistrano's trail improvement project and maximize education and interpretive opportunities.

The Trabuco Creek Wetland and Riparian Restoration Project

The Trabuco Creek Wetland and Riparian Restoration Project is a 3,000-foot long reach of lower Trabuco Creek between the Metrolink and the Interstate-5 crossings. In this reach, the channel is slow-moving with many quiescent pools that support invasive plants and animals. The area functions as a large siltation basin with a substrate of silt and clay. Surrounding land use includes residential, urban, and open space.

The Trabuco Creek Wetland and Riparian Restoration Project would address degraded habitat just upstream of the Metrolink drop structure to the Interstate-5 crossing. Currently, this area is ridden with invasive plant species (e.g., arundo) as well as non-native fauna (e.g. bullfrog and large-mouth bass) which prey on native fish . There is a grouted riprap drop structure in the channel upstream of the Metrolink crossing, which may be a Steelhead migration barrier. This project will include removal of non-native invasive plant species, removal of non-native fauna, wetland enhancement, interpretive and educational opportunities, and evaluate the need for structural improvements in this area to eliminate the flatwater pools that currently support these species. Based on the evaluation, the project may include removal of the grouted riprap drop structure and alteration of the channel elevation at the Metrolink crossing. This wetland and riparian restoration would enable use of this area by native fish as well as federally-listed species, including, but not limited to, Southwestern Willow Flycatcher, Least Bell's Vireo, and Arroyo Toad.