

COASTAL CONSERVANCY

Staff Recommendation

May 24, 2007

**HISTORICAL ECOLOGY STUDY:  
VENTURA AND SOUTH COAST WETLANDS**

File No. 07-036-01

Project Manager: Peter S. Brand

**RECOMMENDED ACTION:** Authorization to disburse up to \$525,000 to the San Francisco Estuary Institute for an historical ecology study of coastal rivers and wetlands of Ventura County and historic mapping of southern California coastal wetlands.

**LOCATION:** Portions of the Santa Clara River and Ventura River watersheds, the Oxnard Plain and selected coastal wetlands of southern California

**PROGRAM CATEGORY:** Resource Enhancement

---

**EXHIBITS**

Exhibit 1: [Project Location Map](#)

Exhibit 2: [Historic Wetland Map – Ballona](#)

Exhibit 3: [Letters of Support](#)

---

**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to five hundred twenty five thousand dollars (\$525,000) to the San Francisco Estuary Institute (SFEI) to prepare an historical ecology study of selected rivers and coastal wetlands in southern California, as described in the accompanying staff recommendation. Prior to the disbursement of any Conservancy funds, SFEI shall submit for review and approval of the Executive Officer of the Conservancy a work program and budget, and the names and qualifications of any contractors that it intends to employ in the study.”

Staff further recommends that the Conservancy adopt the following findings:

---

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the purposes and criteria set forth in Chapter 6 of the Public Resources Code (31251-31270) regarding enhancement of coastal resources, and with the authority of the Conservancy under Public Resources Code Section 31111 to award grants to nonprofit organizations for planning and feasibility studies relating to those purposes.
2. The proposed project is consistent with the guidelines and criteria set forth in the Conservancy’s Project Selection Criteria and Guidelines adopted on January 24, 2001.
3. The San Francisco Estuary Institute is a nonprofit organization existing under Section 501(c)(3) of the United States Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

---

**PROJECT SUMMARY:**

The proposed action is the authorization of a grant of \$525,000 to the San Francisco Estuary Institute for an historical ecology study of coastal rivers and wetlands of Ventura County and historic mapping and analysis of southern California coastal wetlands.

One of the fundamental tools for restoration and conservation is an understanding of the historical landscape and how it has changed through time. SFEI has developed state-of-the-art historical ecology methods and tools which have begun to transform the science of wetland restoration using new techniques for historical research, analysis and mapping. Under the proposed grant, SFEI will undertake in partnership with the Conservancy two complementary studies: the Ventura Historical Ecology Study and the Historical Mapping of Southern California Coastal Wetlands. Both studies will support restoration planning for current Conservancy projects.

Ventura County contains some of the least developed coastal valleys and watersheds of Southern California. Several major restoration, conservation, and environmental planning efforts, led largely by the Coastal Conservancy, are currently underway to preserve and enhance the natural heritage of the area. These include the Conservancy’s Santa Clara River Parkway, Ormond Beach Wetland Restoration, the Ventura River Parkway, and floodplain restoration projects on lower Calleguas Creek to Mugu Lagoon.

However, the restoration feasibility studies underway for both the Santa Clara River and the Ormond Beach/Mugu wetlands have indicated that we still do not have a clear understanding of how the river and wetlands looked and functioned prior to Euro-American impacts to guide the interpretation of landscape trajectories and potential restoration scenarios. The Ventura Historical Ecology Study will focus on filling this data gap by developing a detailed and scientifically defensible picture of earlier, native conditions of the Ventura River, Santa Clara

River, the Oxnard Plain, and the Ormond/Mugu wetlands.

The Ventura Historical Ecology Study will synthesize the abundant but generally overlooked historical data resources available to create a practical understanding of fluvial, riparian, and wetland resources prior to significant Euro-American modification, and how they have changed through time. The project will document landscape patterns and hydrogeomorphic controls and discuss where/how they have changed or remained the same, to develop a framework for realistic, locally appropriate restoration and management. The tools and understanding developed through the project will help establish sustainable restoration strategies, identify valuable habitat remnants, and recognize existing trends and potential future landscape trajectories. This information is not currently available and represents a significant data gap for restoration design and conservation plans. It will also provide the basis for broader public understanding and appreciation of the local natural heritage and evolving restoration plans.

The Ventura Historical Ecology Study is designed to address a number of related technical questions using an interdisciplinary approach. The study will develop a seamless baseline picture of the coastal and valley landscape from the Ventura River to Mugu Lagoon to achieve an integrated, landscape-level understanding of tributaries, mainstem rivers, riparian zones, valley floor wetlands, oak savanna, and coastal features. Specific objectives include the following:

- Research and document information about the pre-modification fluvial and tidal channel geometry and habitat characteristics of the rivers and wetlands.
- Assess historical channel stability/migration trends, as a basis for appropriate floodplain width and flood protection measures.
- Document the historical extent of perennial, seasonal, and tidal wetland habitats as a basis for setting realistic, defensible, and proportional restoration targets.
- Provide specific historical ecological and geomorphic information about local habitats as reference data to guide restoration design.
- Document the historical drainage network pattern, including discontinuous channels and how tributaries connected to main channels. This information will have direct relevance to watershed management, urban runoff management, natural flood protection, and groundwater recharge strategies.
- Identify sites of natural perennial flow and groundwater discharge to wetlands, which will likely have greater resilience under fluctuating climatic conditions.
- Develop compelling imagery and description of the native river and estuarine landscapes of Ventura County.
- Increase the understanding of habitat conservation and restoration through the development of publicly accessible mapping, report, and presentations, and resources for educational displays and public outreach events.

The second element of the historical ecology project is the Historical Mapping of Southern California Coastal Wetlands. A key tool in the mapping of historical wetland extent on the coast is the U.S. Coast and Geodetic Survey Topographic Maps, commonly referred to as T-sheets, completed between 1851 and 1893 (Exhibit 2). These maps have never been completely integrated into a georeferenced database at a sufficiently high resolution to be a reliable tool for

coastal planners. This element of the proposed study, in addition to the providing accurate, consistent georeferencing and resolution, would analyze the maps to identify different basic coastal wetland types from the historical cartography. The new, integrated maps will show accurately the inland extent of the historic wetlands and allow for a much better calculation of the area of wetlands regionally (prior to substantial settlement) and the variety of habitats within them.

With the completion of the historic maps, scientists will finally have an adequate calculation of the amount of wetland acres and wetland types lost and therefore a better way to determine restoration goals and ecosystem viability for southern California. The new information from this mapping effort will be directly applied to wetland restoration projects, such as Ballona and Ormond Beach, guiding both the setting of appropriate habitat targets and restoration design strategies. The Science Advisory Panel for the Southern California Wetlands Recovery Project (SCWRP), a partnership of 18 federal and state agencies, consider the digitized historic maps critical for regional planning and prioritization of wetland recovery for the entire coast of southern California.

SFEI is a nonprofit organization established by a broad range of public and private organizations to fill the niche between environmental science and environmental management/policy. SFEI is a center for developing new tools and methods for environmental assessment for use throughout the state. SFEI works with numerous partner organizations to develop the best science to inform environmental conservation. Over the past 12 years, SFEI has pioneered the use of historical ecology to help both natural resource managers and the broader public to understand landscape changes in the Bay Area and, increasingly, coastal California. This grant will help apply and adapt SFEI's historical ecology methods to new coastal ecosystems with differing climatic and physical habitat controls, greatly increasing the overall understanding of California coastal systems. The project will also help build a comparative understanding of the natural ecosystem functions along the north-south climatic gradient--understanding that will be invaluable for regional and statewide conservation strategies to deal with climate change.

### **Site Description:**

The combined Ventura Historical Ecology Study and the Historical Mapping of Southern California Coastal Wetlands is the largest historical ecology study yet undertaken spanning all of the primary coastal watershed areas of Ventura County and all of the major coastal wetlands in southern California.

The scope of the Ventura County study will include the Ventura River mainstem from Matilija Dam to the mouth including the City of Ventura shoreline, the Santa Clara River corridor and lowest reaches of tributaries from the I-5 to the mouth, and the alluvial fan of the Santa Clara River across the Oxnard Plain to Calleguas Creek from Conejo Creek to Mugu Lagoon. The coastal mapping will include all of the major coastal wetlands, estuaries, and related dune complexes from Point Conception to Tijuana including the Ventura coast.

Ventura River Parkway: The Ventura River watershed encompasses about 226 square miles and is roughly 31 miles long from its headwaters in upper Matilija canyon in Los Padres National Forest and the outfall into the Pacific. The mainstem of the river originates at the junction of North Fork Matilija Creek and Matilija Creek and flows about 15.6 miles to the ocean.

The major environmental issue within the watershed has been the dramatic decline of Southern California steelhead trout (*Oncorhynchus mykiss*), a federally listed endangered species. Until the late 1940's the river ran essentially unimpeded to the ocean, and 4,000 to 5,000 adult steelhead would migrate up the river each year to spawn and rear, creating within the Ventura River one of the largest steelhead runs in the state.

Within the past decade, a concerted effort has been made to develop a coordinated engineering and funding strategy for removal of the dam. Removal of Matilija Dam would not only allow for fish passage to historic steelhead breeding waters in the upper watershed, and greatly enhance the opportunities for restored habitat for the other species of concern, but it would also restore natural sediment transport downstream to nourish the region's beaches.

Because much of the river corridor has retained its rural character, there are a number of relatively intact examples of riparian cottonwood, California black walnut, sycamore and oak woodlands, as well as chaparral, flood plain, and grassland habitats along the river. The diverse habitats of the river and its watershed include high numbers of plant and animal species. Habitats in and near the Ventura River area sustain some of the highest diversity of vertebrate species in Southern California; nearly 300 vertebrate species are known in the lower reaches of the Ventura River alone. At least 26 special status species inhabit or utilize the aquatic, riparian and wetland habitats in the watershed, including 13 listed species (endangered, threatened or fully protected) and 13 California species of special concern. In addition to steelhead, the listed species include tidewater goby, Least Bell's vireo, Southwestern willow flycatcher, California brown pelican, California least tern, peregrine falcon, Belding's savannah sparrow, ringtail, black-shouldered kite, western snowy plover, California red-legged frog and the California condor.

Santa Clara River Parkway: The Santa Clara River is the largest river in southern California and one of the last major rivers in the region that exists in a relatively natural state. The Santa Clara originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County and flows into the Pacific Ocean halfway between the Cities of San Buenaventura and Oxnard. Its total length is approximately 100 miles with its watershed covering approximately 1,200 square miles. The headwaters of the Santa Clara and all of its major tributaries originate on National Forest lands. The majority of the main river corridor is privately owned and not protected.

From a biological perspective, the river is unmatched in southern California. Extensive patches of high quality riparian habitat are present along the entire length of the river. These patches serve as "stepping stones" for migratory birds traveling between riparian areas and wetlands on the south coast.

The river is also home to many species in decline throughout the southern California

region: seven endangered and two threatened species and thirteen other species of concern. Without protection of areas along the Santa Clara River, the federally-listed, endangered least Bell's vireo and unarmored threespine stickleback, and the other endangered or candidate species (*e.g.*, least tern, tidewater goby, *etc.*) will face localized extinction and possible extirpation from the region.

The Santa Clara River is a highly dynamic system susceptible to episodic flood events, most recently in 1969, 1978, 1995, 1997 and 2003. Natural processes such as flooding and fire, and historic land use practices such as grazing, agriculture, urban development, and aggregate mining have influenced the geomorphic characteristics of the watershed. Use of the watershed has changed from grazing to agriculture and urban development in Los Angeles and Ventura Counties over the past two centuries. In the 1900s the trend of narrowing the river for agricultural land reclamation and increasing urban development up to the river banks have created a narrower river/riparian corridor with a greater potential for erosion damage. Diversion dams such as the Freeman Diversion Dam on the mainstem and the Harvey Diversion Dam on Santa Paula Creek have caused severe incision of the downstream channels.

Calleguas Creek Watershed and the Oxnard Plain: The Calleguas Creek Watershed is more urbanized than the other two Ventura County watersheds. Nevertheless, sixteen threatened and/or endangered species are found in the Calleguas Creek Watershed and at least 37 other species are candidates for listing. Mugu Lagoon, at the mouth of Calleguas Creek, is one of the largest relatively undisturbed salt marsh areas in southern California. All of the major water bodies leading to the lagoon and the lagoon itself are listed as impaired water bodies by the State Water Board. The intertidal marsh of Mugu Lagoon is filling due to accelerated erosion and sedimentation in the watershed. Urban acreage in this watershed was expected to nearly double from 1995 to 2010. Riparian habitat is now less than 0.2 percent of the watershed. Besides causing the loss of highly productive natural habitat throughout the watershed, the combination of flooding and sedimentation has resulted in major economic losses to farmers and the coastal agricultural industry. There are no trails providing access to the coast or to the 14-mile stretch of the Santa Monica Mountains adjoining Calleguas and Conejo Creeks.

The Calleguas Creek watershed is a 30-mile-long, 14-mile-wide area in southern Ventura County that descends from 3,700 feet to the ocean. Calleguas Creek and its tributaries, the major drainage in the watershed, drain an area of 325 square miles. The northern boundary of the watershed is formed by the Santa Susana Mountains, South Mountain, and Oak Ridge, while the south boundary is formed by the Simi Hills and the Santa Monica Mountains. These mountainous segments of the watershed occupy approximately half of the total drainage. In the upper watershed, the main channel of Calleguas Creek is known as Arroyo Simi; the central portion is known as Arroyo Las Posas; and the remaining segment along the Oxnard Plain to the ocean is known as Calleguas Creek. At the mouth of Calleguas Creek is Mugu Lagoon, considered to be the highest quality remaining tidal wetland in Southern California.

Mugu Lagoon (formerly approximately 3,000 acres) is now 1,474 acres, a marine system consisting primarily of salt marsh and intertidal mudflats. Most of the lagoon lies in the U.S. Navy's Mugu Naval Air Station and is federally owned and managed. Approximately 900 acres of adjoining freshwater marsh are owned and maintained by two private duck clubs. All of Mugu Lagoon, as well as adjoining freshwater marsh, and approximately two miles up Calleguas Creek

are within the coastal zone.

The saltwater marsh and intertidal mudflats of the lagoon are critical habitat for several endangered or threatened species including the California brown pelican, the California least tern, the light footed clapper rail, Belding's savannah sparrow and the California brackish water snail. The lagoon supports the greatest concentrations of water-associated birds (191 species in all) between Morro Bay and Anaheim-Bolsa Bay. Mugu Lagoon is an integral stopoff and wintering area for millions of shorebirds and waterfowl. The lagoon supports at least 36 resident or seasonal fish. Two of the more abundant fish species, shiner perch and topsmelt, are particularly important in the diet of the endangered California least tern. The endangered peregrine falcon and bald eagle are occasionally observed at the Naval Air Station. The central lagoon serves as the last remaining hauling ground for the harbor seal in southern California. In addition to the above, there are 11 candidate species and 22 sensitive bird species listed for the lagoon. The Pacific Ocean offshore of Mugu Lagoon is also an important environmental resource. The area from Mugu Lagoon to Latigo Point in Malibu is designated by the State as an "Area of Special Biological Significance." Species using the offshore that are of particular concern to the U.S. Fish and Wildlife Service are grunion, the California sea lion, and the harbor seal.

Ormond Beach Wetlands: Prior to development, the coast of Ventura was a vast complex of dunes, lakes, lagoons, and salt and freshwater marshes. From the Santa Clara River estuary to the beginning of Mugu Lagoon, it appears from historic maps that there were seven lagoons. Most have either disappeared, been severely degraded, or been converted to marinas or ports. Nevertheless, this is one of the few areas in southern California with an intact dune-transition zone-marsh system.

Ormond Beach is a 1,500-acre area composed of agriculture, industry, and wetlands. A two-mile-long beach extends from Port Hueneme to the northwestern boundary of Point Mugu Naval Air Station, which encompasses Mugu Lagoon.

The wetlands at Ormond Beach once covered approximately 1,000 acres; approximately 250 acres remain. All of the remaining wetlands are within the city's incorporated boundary. Approximately half of the remnant wetlands are on the Conservancy property (former Edison site) and half on the adjoining 309-acre property owned by the City of Oxnard and the Metropolitan Water District. Six threatened and endangered species and six species of concern have been identified in the area.

Ormond Beach is considered by wetland experts to be the most important wetland restoration opportunity in southern California. The Ormond Beach wetlands offer a unique opportunity in the highly developed landscape of southern California to not just enhance but also greatly increase coastal wetlands. In addition, the biological vitality and diversity of the wetlands can be enhanced at Ormond Beach by the restoration of associated habitat such as dunes and surrounding grasslands, which will re-establish wetland-upland ecological connections, fostering edge-dependent species and predator-prey relationships and thereby create a self sustaining system. Because of conversion to urban uses, no other coastal wetland in southern California offers the opportunity that exists here to restore the wetland to most of its historic extent or surround it with its full complementary habitat.

Southern California Coastal Wetlands: The Southern California Coastal Wetlands Inventory, a database created by the Coastal Conservancy in 1997 and a precursor to SCWRP, mapped forty two coastal wetlands from Point Conception to the Mexican border. The proposed project will focus on twenty five priority wetlands such as Bolsa Chica, Ormond Beach, Ballona, Los Cerritos and the Tijuana Estuary.

### **Project History:**

During the last fourteen years, the San Francisco Estuary Institute has been developing the science and art of historical ecology. The result of these studies has been better regional goals, better habitat wetland restoration plans, and better understanding and support from communities that live in these watersheds. The various historical ecology studies have also leveraged expanded participation and funding from a growing list of partners once their usefulness and practical applications have become clear. SFEI established and tested its methodologies primarily in the San Francisco Bay. Its most recent studies are an in-depth and comprehensive historical ecology study of the Santa Clara Valley in the south Bay and a smaller one for the San Gabriel River in southern California.

Historic maps of portions of the California shoreline have been used for restoration planning for many years. However, their legibility and accuracy have always been unsatisfactory. Also, identification of different habitat types has always been inconclusive or piecemeal. In 1997, using the best technology available at that time, the Southern California Wetlands Inventory, a precursor to SCWRP, compiled the southern California T-sheets into a GIS data layer. It has become clear that a new version is needed including a breakdown into habitat types which is now possible.

Many restoration planning processes for rivers and wetlands in southern California are currently underway. The conceptual restoration plans have been until now based on limited historical research and on models and extrapolations from other portions of other rivers and wetlands that may be relevant to each unique circumstance or not. This study will change that. All of the Conservancy's coastal restoration projects will benefit from this study but several plans for Ventura and along the coast such as Ballona and Ormond Beach are at a stage where the results of this study will be particularly timely before proceeding to conclusive designs.

Ventura River Parkway: In 2003, the Coastal Conservancy initiated the Ventura River Parkway project with a grant of \$3.1 million to the Ojai Valley Land Conservancy for the acquisition of Farmont Ranch (1,556 acres and 2.5 miles of river). Since then the Conservancy has provided additional grants for restoration planning, trail development, and the acquisition of another 1.5 miles of river. Also, the Conservancy with the Ojai Valley Land Conservancy proposed a programmatic approach for the Ventura River Parkway which was submitted to the Southern California Wetlands Recovery Project and resulted in the qualification of the Ventura River Parkway for the WRP Work Plan.

The Conservancy has also been a lead partner in the Matilija Dam Removal Project and has expended \$3 million so far for plans. Much of the expense for dam removal will be for distribution and mitigation of sediment downstream over a lengthy period of time before the river reaches equilibrium again. Lands acquired downstream will hold sediment either through

planned deposition or natural transport. Acquisition will help agencies deal with the inevitable adverse impacts on habitat and flood management.

In addition to the Matilija Dam Evaluation Project and Matilija Dam Removal Feasibility Study, other Conservancy funded projects include: a grant to the Casitas Municipal Water District to fund the design and construction of a fish ladder at the Robles Diversion on the mainstem; a \$132,000 grant to the Ventura County Watershed Protection District to help fund *Arundo* removal on a five-acre parcel along the Ventura River near Casitas Springs; and a \$100,000 grant to Santa Barbara Channelkeeper to conduct water quality monitoring and identify (and prepare conceptual plans for) habitat restoration opportunities in the Lower Ventura River watershed.

Because of the regional importance of the Ventura River corridor, the Conservancy is working with its partners to prepare a comprehensive river parkway program that would help restore habitat linkages and connectivity, reconnect creek and river corridors to their floodplains, restore riparian and aquatic habitat, remove invasive species, and stabilize streambanks through environmentally-sensitive measures. The Conservancy will use the historical ecology study and additional work by our biologists and hydrogeomorphologists to analyze, prioritize, and integrate acquisition and restoration projects proposed by the Ojai Valley Land Conservancy, the Trust for Public Land, Matilija Dam Removal Project, and other potential river partners.

Santa Clara River Parkway: In 2000, after discussions with river landowners and with the support of the adjoining cities, State and local politicians and environmental groups, the Conservancy proposed the establishment of the Santa Clara River Parkway, which would result in the acquisition and restoration of a 25 mile-long corridor from the mouth of the Santa Clara River to the Sespe Creek confluence.

The goals established for the Santa Clara River Parkway were: (1) to restore natural hydrologic and geomorphic processes affecting the Parkway area, while providing enhanced flood protection for adjacent private land and public facilities including removing and/or setting back levees and other permanent flood control structures within the planning area; (2) to restore aquatic and riparian habitat within the Parkway area to provide improved conditions for native species such as the anadromous steelhead; and (3) to provide for public access and environmental education including the creation of a continuous public trail system along the length of the Parkway. In 2001, initial funding of \$9.2 million was appropriated by the legislature to the Coastal Conservancy for the project.

At that time, the Nature Conservancy was analyzing the potential to protect the most threatened natural communities of the region. Their scientists having determined the biological significance of the river corridor, the Nature Conservancy began collaboration with the Coastal Conservancy to help implement the Santa Clara River Parkway project and at the same time begin to achieve the Nature Conservancy's goals for the ecoregion.

The Conservancy approved the Santa Clara River Conceptual Enhancement Plan and authorized the first acquisition in October 2000. Land acquisition began in March 2001, with the purchase

of the Camp property, 225 acres (approximately one and a half miles of the river) including 150 acres of orchard that will ultimately, after levee removal, be converted back to riparian habitat. Since then ten other properties have been acquired with Coastal Conservancy grant funds, for a total of 2,500 acres and 10.5 miles of river. The Nature Conservancy will hold and manage the properties until the majority of the acquisition goal of continuous ownership has been achieved and the Coastal Conservancy is prepared to implement a comprehensive levee removal (or setback) and habitat restoration effort. The Friends of the Santa Clara River has also acquired one property, Valley View Ranch, with Coastal Conservancy funds and is preparing plans for revegetation and removal of exotic plants.

On September 15, 2004, the Conservancy authorized the preparation of the Santa Clara River Parkway Restoration Feasibility Study. The Feasibility Study will augment existing studies by providing a comprehensive understanding of both physical and biological processes (including human induced change) within the Parkway. The project will also develop a desired future condition concept for the Parkway, provide a set of general and site specific restoration strategies, and an assessment of restoration feasibility given existing constraints and implementation and management costs. Various levee and berm removal and habitat restoration options will be examined to identify the biological and flood reduction benefits that could result from reconnecting the river to the floodplain.

Ormond Beach Wetlands: The Ormond Beach wetlands have been drained, filled, and degraded over the past century to accommodate agriculture and industrial uses. For the last three decades, there have been numerous proposals for marinas, resorts, and residences in and adjoining the remnant wetlands. During the 1990s, the Conservancy worked with the City, the community, and the landowners of Ormond Beach to extinguish lots on the beach, prepare a plan for restoration of the remnant wetlands on the Edison property, and develop a consensus plan for development and wetland restoration on the private lands there. Each of the development proposals for Ormond Beach failed.

In October 1999, the Conservancy proposed to Southern California Edison that it acquire their surplus lands remaining after sale of their Ormond Beach generating plant to Reliant Energy. Edison entered into and terminated negotiations with the Conservancy twice during this period. The Conservancy finally acquired the 265-acre property in June of 2002.

In February 2000 when the Conservancy initially approved the acquisition of Edison properties, it also approved the Wetland Resources Enhancement Plan for Southern California Edison Coastal Properties, including Ormond Beach, which identifies the opportunities for preservation and restoration of these coastal resources. At its August 2003 meeting, the Conservancy approved funding for a wetland restoration study that would show how the greater Ormond Beach wetlands area could be restored and linked hydrologically and as an ecosystem. Given the complexities of wetland restoration planning for this and adjoining sites, the Conservancy will require some time to complete all of the planning, environmental analysis, and other requirements that are needed to construct the wetlands.

On October 23, 2003, the Conservancy authorized reservation of \$23,000,000 of Conservancy funds for the acquisition of up to 500 acres at Ormond Beach, including the City of Oxnard/Metropolitan Water District (MWD) property and the Southland Sod property, up to 340

HISTORICAL ECOLOGY STUDY: VENTURA AND SOUTH COAST WETLANDS

---

acres of former wetlands that are currently owned and farmed by Southland Sod Company. One option at this time is to acquire 220 acres and an agricultural conservation easement over the balance of the sod farm.

On January 27, 2005, the Conservancy authorized a grant of \$12,972,000 to the Nature Conservancy for the acquisition of approximately 276 acre property from the City of Oxnard and the Metropolitan Water District. The acquisition was completed in May, 2005.

Calleguas Creek Watershed: The Conservancy has been engaged in several studies, plans and implementation projects in the Calleguas Creek watershed. The first was a study entitled “Mugu Lagoon Watershed Erosion and Sedimentation Study”. The project was funded by the Conservancy in a grant to the Natural Resources Conservation Service. The Conservancy provided a grant to the Calleguas Municipal Water District to assist its partners in the preparation of the Calleguas Creek Watershed Management Plan. The Conservancy then prepared a Wetland Restoration Plan for the watershed which selected and designed in concept ten priority floodplain restoration projects. Three streambank stabilization projects have been funded by the Conservancy in grants to the Ventura RCD. The Conservancy also established a Calleguas Creek Watershed In-Lieu Fee Mitigation Program to fund its riparian restoration projects in the watershed. The Conservancy is currently working with Ventura County and California State University Channel Islands on the habitat planning and restoration of the 250 acre Camarillo Regional Park along Calleguas Creek.

**PROJECT FINANCING:**

Coastal Conservancy	\$525,000
State Water Resources Control Board	\$125,000
USGS	\$25,000
NOAA	\$14,000
Rivers and Mountains Conservancy	\$50,000
Cal State Northridge	\$35,000

The anticipated source of Conservancy funds is Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. These funds are available to provide coastal watershed protection consistent with the Conservancy’s enabling legislation, specifically Chapter 6 of Division 21 of the Public Resources Code, including associated planning.

The historical ecology study has been designed to take advantage of a number of related, separately funded efforts which represent matching and leveraged funds or cost savings to the study. Funding from NOAA to the University of Southern California and the Southern California Coastal Water Research Project (SCCWRP) through California Sea Grant will contribute to the historical coastal wetlands mapping component (\$14,000). The Conservancy and SFEI have negotiated with the USGS National Shoreline Change Mapping Program to receive a recently completed digital dataset and technical assistance that will significantly reduce mapping costs (\$25,000). The State Wetland and Riparian Inventory, carried out by SCCWRP, California State University Northridge, and SFEI with funding from The State Water Resources Control Board, will provide approximately \$125,000 of matching funds for concurrent mapping of present-day

wetlands in the study area for the analysis of historical changes in wetland distribution and abundance. The study also makes use of the recently completed Historical Ecology Study for the San Gabriel River, which was the first watershed-based historical ecology effort for Southern California. This effort, funded by the Rivers and Mountains Conservancy, developed methods, research approaches, archival sources, and trained students which will be directly used in this study (cost savings of ~\$50,000). Additional matching funds will be provided by Cal State University Northridge in the form of reduced indirect cost (~\$20,000) and faculty release time (estimated \$15,000) for collaborating professor, Dr. Shawna Dark.

**CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed authorization will help to accomplish the purposes and objectives set forth under Sections 31251-31270 of the Public Resources Code by facilitating the identification, prioritization, planning and implementation of wetland restoration and enhancement opportunities in southern California's coastal zone and specifically for the Santa Clara River Parkway, the Ventura River Parkway, Ormond Beach/Mugu Wetlands, and Lower Calleguas Creek Floodplain Restoration projects. All of these projects lie within areas the Conservancy has determined to be appropriate for resource enhancement pursuant to the requirements of Sections 31251-31270 of the Public Resources Code.

Pursuant to section 31251, the Conservancy may award grants to nonprofit organizations for the enhancement of coastal resources through corrective measures that will enhance the natural and scenic character of identified coastal resource enhancement areas. Pursuant to section 31111, the Conservancy may award grants to nonprofit organizations for planning and feasibility studies that will implement provisions of Division 21. The proposed grant to SFEI is consistent with these authorities because it will aid in the restoration of specific coastal resource enhancement areas as well as providing critical historical information on Southern California watersheds and wetlands.

**CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

The proposed authorization will partially implement several of the Coastal Conservancy's Strategic Plan goals, including: Goal 1, Objective E - acquire and improve regional trails and river parkways along rivers and creeks connecting inland populations to the coast; Goal 4, Objective - plan for conservation of natural communities and scenic and recreational resources in order to acquire significant coastal resource properties; Goal 5, Objective A - plan for the preservation and restoration of coastal wetlands and dunes; Goal 5, Objective B - preserve and restore habitat corridors between core habitat areas from coastal habitats to inland areas; Goal 5, Objective C - implement projects to eradicate non-native invasive species; Goal 6, Objective A - develop plans and projects that preserve and restore coastal watersheds and create river parkways; and Goal 6, Objective B - complete plans or projects to improve water quality.

**CONSISTENCY WITH CONSERVANCY'S  
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

**Required Criteria**

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** The historic ecology study will support design and implementation of all of the Conservancy's major habitat restoration projects in Ventura County including the Santa Clara and Ventura River Parkways, the Ormond Beach Wetland Restoration, and Calleguas Creek Floodplain Restoration projects. All of these projects have been supported by consistent public involvement and the endorsement of local and state elected officials. The Wetlands Recovery Project is a partnership of 17 state and federal agencies working in concert with local governments, business leaders, and environmental organizations. Its efforts to develop and implement a regional strategy for wetlands recovery in Southern California enjoy broad support from both the public and private sector. Supervisors from each of the five coastal counties participate on the WRP Public Advisory Committee. In addition, over one hundred agencies and organizations participate on the county task forces.
4. **Location:** The project is located in the coastal zone from Point Conception to the Tijuana Estuary at the Mexican border.
5. **Need:** The San Francisco Estuary Institute does not have the financial resources to implement this project without Coastal Conservancy funding.
6. **Greater-than-local interest:** The Ventura Historical Ecology Study is regional in nature spanning all of the major coastal rivers and wetlands of Ventura County. The Southern California Coastal Wetland study will benefit several major Conservancy projects already underway within the study area. These projects are of statewide and national interest in their innovative approach to protect and restore threatened resources. The proposed authorization will further the Wetland Recovery Project's efforts to develop and implement a regional wetland strategy.

**Additional Criteria**

7. **Resolution of more than one issue:** The historical ecology study and historic mapping will assist with regional wetland planning as well as provide useful information for site specific restoration designs
8. **Innovation:** The Historical Ecology Program of the San Francisco Estuary Institute working with geomorphologists and historical researchers is transforming the science of wetland

restoration using new historical research, analysis and mapping techniques to reveal the ecology and morphology of rivers and wetlands before they were changed from anthropogenic forces. The historic coastal maps will enable planners and scientists for the first time to set habitat goals based on the historic mix of coastal wetland types indigenous to southern California.

9. **Readiness:** SFEI is ready to begin the study immediately and will be preparing historic maps for certain reaches of the coast first in time for restoration plans that are currently underway.
10. **Realization of prior Conservancy goals:** See “Project History” above. The Conservancy has already committed substantial resources to the preliminary planning and phased implementation of the Santa Clara River Parkway, the Ventura River Parkway, the Ormond Beach Wetland Restoration and the Calleguas Creek Wetland Restoration projects as well as the Southern California Wetlands Recovery Project.
11. **Cooperation:** The project involves the close cooperation of the Conservancy with SFEI, the Southern California Coastal Water Research Project, and the WRP Science Advisory Panel.

#### **COMPLIANCE WITH CEQA:**

The disbursement of funds for planning, feasibility studies, and property studies are statutorily exempt from the requirements of the California Environmental Quality Act (CEQA) (14 Cal. Code of Regulations Section 15262). Wetland restoration plans and studies will consider environmental factors and will be subject to CEQA review and analysis prior to implementation. Staff will file a Notice of Exemption with regard to the restoration feasibility plan following Conservancy authorization.