



Special Profiles

Giacomini Wetland Restoration

The Giacomini Wetland Restoration Project is designed to restore 563 acres (project area) of a historic salt marsh that was diked in the 1940s to allow for a dairy ranch. The ranch includes 550 acres of “lowlands” and 13 acres of “uplands” on the mesa above the former wetlands. The project focuses on enhancing the quality and functionality of wetlands within the Waldo Giacomini Ranch and Olema Marsh by restoring natural hydrologic and ecological processes. This hydrologic reconnection is expected to decrease flooding within the local community and improve water quality within the project area and Tomales Bay.

Point Reyes National Seashore partnered with nonprofits Point Reyes National Seashore Association and the National Park Foundation to raise funds for the project through a combination of mitigation settlement funds, federal and state funds, and large grants from a small number of foundation sources.

The largest loss of hydrologically connected wetlands occurred with diking of the Waldo Giacomini Ranch and pastures in 1946. The levees constructed at the southern end of Tomales Bay for roads and dairy farms have served to hydrologically disconnect Lagunitas Creek and its tributaries from their floodplains. Two-thirds of the freshwater inflow—and potentially the principal sediment, nutrient, and pathogen sources—to Tomales Bay flows through the project area. By restoring natural hydrologic processes through removal of levees, tidegates, and culverts, floodwaters of Lagunitas Creek carrying sediment, nutrients, and other pollutants will be able to flood onto its historic floodplains to be filtered and transformed by the restored wetlands, thereby improving downstream water quality. These restored wetlands would not only benefit water quality and increase habitat and food resources for wildlife within the watershed, but would provide opportunities for public enjoyment and education through inclusion of public access trails, viewing overlooks and platforms, and interpretive exhibits.

Tomales Bay is ranked as one of the top six most biologically diverse areas in the United States and one of the top 100 shore-bird-watching areas in the world. It also supports the southern-



most stable coho salmon population. Once restored, the Giacomini Ranch will constitute the largest tidal wetland complex in the Tomales Bay Estuary and will increase the amount of hydrologically connected coastal wetlands by as much as 12 percent along the central California coast.

The total project cost, including land acquisition, project planning and design, construction, construction contingencies

and project supervision, is estimated to be \$10.5 million, which has been secured from private, state, and federal sources. The initial funding component for the project was \$1.55 million in congressional appropriations through the Land and Water Conservation Fund and more than \$4.2 million from the California Department of Transportation to mitigate for impacts to natural aquatic habitat resources associated with repair of Highway 1 in the vicinity of Lone Tree Creek after landslide damage in early 1990. The majority of those funds were used to acquire the Waldo Giacomini Ranch property for \$4.5 million in 2000. Other monies funded planning, feasibility analysis, and preparation of construction specifications for the restoration project. Point Reyes National Seashore Association has now raised \$5.2 million for this project. Funding sources include the Gordon and Betty Moore Foundation, North American Wetlands Conservation Act, Watershed Council of the State of California Water Control Board (Proposition 50), and the National Fish and Wildlife Foundation-Northern California Restoration Grant.

Following construction, most of the long-term park operations costs will be associated with the public access facilities, as the restoration component of the proposed project has been designed specifically to not require future maintenance actions. Lifecycle costs to maintain the public access facilities are not anticipated to exceed \$50,000.

The seashore has identified partnership with PRNSA on future projects as a strategy to pursue over the next three to five years. The Giacomini Wetland Restoration Project is one of many projects identified by Point Reyes National Seashore in efforts to protect and preserve resources. Additional projects promoting resource stewardship and education are included as part of the park’s National Park Centennial Initiative proposed project list.

Above, right: An NPS hydrologist indicates the wetlands restoration project boundary while NPS staff monitor transects that will allow researchers to perform vegetation analysis on the restoration project’s impact. PHOTO BY KRISTIN GILLISS

Left: Giacomini Wetland Restoration Area PHOTO ©ROBERT CAMPBELL



Drakes Estero and wild irises
PHOTO ©SUSAN VAN DER WAL

National Park Service Centennial Initiative

In preparation for the one hundredth anniversary of the National Park Service in 2016, the NPS has launched the National Park Centennial Initiative. The National Park Centennial Initiative advances the National Park Service's role as the world leader in natural and cultural resource stewardship. It provides opportunities for people to enjoy the resources entrusted to the National Park Service's care and challenges America's leaders to achieve even greater conservation and education success in the future. The National Park Service will engage community partners to reach young people and new audiences as part of the Centennial Challenge with hopes of enriching people's lives and protecting America's treasures for future generations.

In response to the Centennial, Point Reyes National Seashore has planned a series of projects to deepen what is already an immense commitment to natural and cultural resource stewardship and public education.

Restore Stream and Coastal Marsh at Drakes Beach Complex to Demonstrate Ecological Sustainability

Partners and the seashore will restore a coastal stream and marsh near Drakes Beach Visitor Center. The area receives 300,000 visitors annually.

Enhance an Ocean Stewardship Research and Education Center on Tomales Bay

Point Reyes National Seashore would like to create workspace for researchers and to enhance marine education, and augment public access and safety. The research station will help meet the mission of the NPS Ocean Stewardship Strategy, providing a place where a seamless network of agencies can study, monitor, and manage marine ecosystems. The site will be used by the National Marine Sanctuaries Program, California State Parks, universities, and the National Park Service.

Restore Tomales Bay Water Quality and Preserve Critical Salmonid Habitat

Point Reyes National Seashore would like to enhance protection of aquatic habitat to support coho salmon and steelhead trout. This project would include redevelopment of seashore road crossings and infrastructure to minimize impacts on sensitive riparian habitat and floodplains vital to maintaining natural stream processes.

Develop Research Learning Center Academy

This proposal seeks to build capacity across several research learning centers and inventory and monitoring networks. High school and college students will enroll competitively in a four-year Research Learning Center Academy (RLCA) to gain real world experience in preservation of NPS resources through science and science education careers. Ideally students will serve their last two years of high school and college.

Rehabilitate Camping Area for Sustainable Campground Experience

Developing a showcase of ecologically responsible frontcountry camping would allow visitors to experience Point Reyes National Seashore while minimizing their carbon footprint. This campground would provide the same level of experience as the ecotourism destinations found worldwide. Responsible ecotourism includes programs and infrastructure that minimize the adverse effects of traditional tourism on the natural environment.

Restore the Historic Point Reyes Lighthouse, a Signature Feature at Point Reyes National Seashore

This project would repair damaged structural elements and correct life safety and structural deficiencies threatening the historic Point Reyes Lighthouse, related historic structures, and landscape features. The historic Point Reyes Lighthouse is one of the finest examples of iron plate lighthouses in the country. The lighthouse has a 16-sided pyramidal tower and a large, original first order Fresnel lens powered by a brass clockwork mechanism. The property is listed on the National Register of Historic Places and is located in one of the foggiest, windiest places in the continental United States.

Research the Health of the Pacific Ocean as a Result of Climate Change

Researchers will gather baseline data from 2009 to 2011, modeled after data gathered by the Channel Islands Marine Protected Area (MPA) Network evaluation program, using the same collaborators and benefiting from the lessons learned on the Channel Islands project. Data gleaned from the Channel Islands fish survey project has proven critical to managing and sustaining Channel Islands Marine Protected Areas. Similar data will be essential to managing MPAs successfully at Point Reyes National Seashore and Golden Gate National Recreation Area. A subcomponent of the baseline



Centennial Initiative funding would help researchers gather baseline data on the health of marine environments as a result of climate change.

PHOTO BY KATE PETERLEIN

surveys will be to assess the presence of invasive nonnative aquatic species and habitats at risk.

Restore Limantour Beach Native Dune and Estuarine System for Endangered Species

This Centennial project will restore 300 acres of coastal dune habitat for federally endangered bird and plant species. Upon completion, the seashore will celebrate this restoration with a rededication of the national seashore. Point Reyes National Seashore ranked sixth in Fiscal Year 2006 for the highest number of federally listed species in the country.

Establish Landscape Restoration Field Station at Historic Wilkins Ranch

This project would establish an integrated cultural and natural landscape restoration field station at the historic Wilkins Ranch in Point Reyes National Seashore. Interdisciplinary research would focus on critical issues related to western landscape preservation, where cultural and natural resources are intertwined and cannot be managed separately. Visitors will be able to use a new trail that would extend the heavily used Olema Valley Trail south to the Seashore's boundary.

Economic Impacts of Point Reyes National Seashore

In December of 2006, Bay Area Economics, an independent company focused on sustainable communities, completed an economic impact study for Point Reyes National Seashore. The purpose of this study was "to identify and quantify impacts of Point Reyes National Seashore on the local economy (defined as Marin and Sonoma Counties) as well as the overall California economy." Following are some highlights from their economic study:

- In 2005 Point Reyes National Seashore generated a total of \$71.8 million in direct, indirect, and induced revenues in Marin and Sonoma Counties and accounted for approximately 850 jobs.
- Viewed as part of the broader Marin and Sonoma economy, the [seashore] accounts for approximately 0.163 percent of total economic activity in 2005.
- The [seashore's] impact on the California economy totaled \$45.2 million in total economic impacts and 432 jobs.

- Economic activity by the [seashore] generates approximately \$5.3 million in annual taxes for Marin and Sonoma Counties and \$2.9 million for California.

All national parks are sources of economic activity. From lodging to postcard sales, all national parks contribute to the local economy by providing jobs and promoting tourism. Point Reyes National Seashore further advances the economy of Marin and Sonoma Counties by allowing agricultural activity to be conducted on park lands and by allowing independent businesses such as kayak touring companies to operate within seashore boarders.

The seashore currently has 2,562 beef production animal units and 3,451 dairy animal units (AU). A non-organic beef cow translates to \$393 per AU, and an organic beef cow equals \$3,019 per AU. A non-organic dairy cow is worth \$1,450, and an organic dairy cow is worth \$3,356 per AU. According to Bay Area Economics, the park generates \$6.3 million in agricultural value.

As mentioned in the Management and Administration section of this business plan, the seashore issued 165 nonranch special use permits in Fiscal Year 2006. As part of these permits, the seashore issued 27 incidental business permits (IBP). Such business permits allow businesses and other organizations to use the seashore for private enterprise. The special park uses coordinator evaluates these permits for their relation to the mission of the seashore and their impact to Point Reyes National Seashore resources.

An example of an IBP is the seashore's kayak operators. In 2005 kayak operators generated \$230,768 of revenue according to the Bay Area economics report. These kayak operators benefit the seashore through their education about water safety and by allowing visitors to experience the seashore from the water, which is a significantly different experience than viewing the seashore from land. The seashore allows sea kayakers to camp along the Tomales Bay beach, which is a unique experience.

Other IBPs include bus tour groups, hiking treks, environmental education excursions, photography outings, American Indian interpretation, and other organizations that allow visitors to experience the seashore in different ways. While some of these IBPs are for profitable business and others are not-for-profit groups, both provide educational and inspirational experiences that promote the responsible use of the seashore.

**Point Reyes National Seashore:
A Showcase of Sustainable Practices**

Sustainability has been an integral part of America's national parks since the National Park Service was established in 1916. Point Reyes National Seashore was one of only 20 national park units selected to be a Center for Environmental Innovation in 2002 to showcase sustainable technologies in the National Park Service. This designation reinforced the seashore's commitment to be a place where research, development, visitor education, and appreciation of sustainable practices occur. Point Reyes National Seashore strives to lead sustainable practices by procuring green products, purchasing post consumer recycled products, and providing environmental education to visitors and park partners.

The national seashore's commitment to sustainable practices can be found across divisions. The Interpretation Division produces all printed materials on recycled paper using soy-based ink; the Trails Branch uses biodegradable bar oil and two-cycle fuel in all chainsaws; and the sign shop uses recycled aluminum from previous signs for 30 percent of new signs. The seashore also uses green custodial products, recycled plastic lumber for deck treads and picnic tables, and recycled paper on a regular basis. Beyond using environmentally preferable materials, the Facilities Management Division ensures that sustainable design is incorporated into all projects. For example, unpaved roads areas are designed for proper drainage and erosion control using either crowned, in-sloped, or out-sloped construction, depending on the terrain. All design and engineering functions related to park planning are focused on energy and water conservation.

Point Reyes National Seashore has also embraced solar technology. In Fiscal Year 2006, the seashore's photovoltaic systems produced 24,295.9 total kilowatt hours. Eight compact solar generating power systems have been installed at high energy-use areas in the park. At four of these sites, the seashore has installed electric vehicle charging stations for visitor and staff use. These new systems generate energy, which reduces the seashore's outside energy needs, reduces air pollution, and contributes to mitigating future energy shortages.

In Fiscal Year 2005 the seashore secured a long-term loan of five Toyota RAV4-EV electric vehicles through partnerships with Toyota Motor Sales U.S.A., Inc., and the Department of Energy Clean Cities Program. In addition to the RAV4-EVs, the seashore

recently increased its fleet of alternate fuel vehicles by adding three hybrid gas-electric vehicles. Excluding six electric utility carts used to travel short distances, 11 percent of the seashore's fleet is comprised of alternative fuel vehicles.

Other sustainable facilities include a wash station where water is recycled through a three-phase filter system, recycling centers at campgrounds, parking lots, and offices with 90,000 pounds of recyclable material collected annually, and a reclaimed soil mycoremediation project for the bioremediation of hydrocarbons. The technique uses *mycelium*, the vegetative part of a fungus, to break down contaminants.

The seashore's commitment to sustainable practices includes the formation of a global climate change workgroup and an environmental management team. Members are committed to the goal of reducing the carbon footprint of Point Reyes National Seashore through conservation, innovation, partnership, and leading by example. Future projects, such as the development of a frontcountry campground focused on responsible ecotourism, will continue to employ sustainable design practices.



Point Reyes National Seashore plans to seek additional alternative fuel vehicles to improve energy efficiency. PHOTO BY DAVID MIYAKO

**BEAR VALLEY RESTROOM:
A GREEN DEMONSTRATION PROJECT**

The Facilities Management staff rehabilitated the Point Reyes Bear Valley restroom with green materials and practices at the forefront of design and construction. The national seashore identified four environmental goals for the project: energy efficiency, life cycle costs, environmental and air quality, and low operating and maintenance costs.

Durable materials are imperative in the seashore's corrosive marine environment. Some of the sustainable building practices and materials that were utilized include Forest Stewardship Council®-certified sustainable lumber, metal roofing, skylights, low water consumption urinals and toilets, Greenspec®-approved hand dryers, energy efficient and motion detected lighting, tile and countertops made of over 55 percent recycled materials, a roof-mounted 1-kilowatt photovoltaic system, and one solar hot water heating panel.



The Bear Valley restroom features two skylights to maximize use of ambient light and minimize artificial lighting. PHOTO BY DAVID MIYAKO

Tomales Point, PHOTO BY KRISTIN GILLISS

