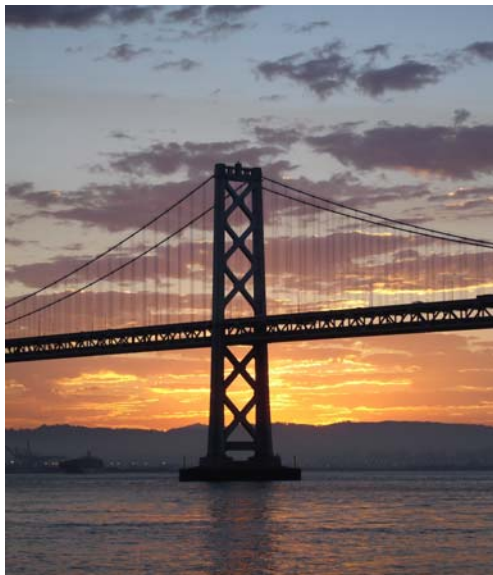


FINAL Evaluation Findings

San Francisco Bay National Estuarine Research Reserve

August 2003 through August 2007

JUNE 2008



Office of Ocean and Coastal Resource Management
National Ocean Service
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TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY	1
II.	PROGRAM REVIEW PROCEDURES	2
	A. Overview	2
	B. Document Review and Issues Development	2
	C. Site Visit to San Francisco Bay National Estuarine Research Reserve	3
III.	RESERVE PROGRAM DESCRIPTION	4
IV.	REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS	6
	A. Operations and Management	6
	1. Administration and Staffing	6
	2. Grants Management	8
	3. Management Plan	8
	4. Facilities and Infrastructure	8
	5. Coordination and Partnerships	10
	6. Strategic Planning	14
	7. Management Advisory Board	15
	B. Research and Monitoring	15
	1. Research Activities	15
	2. Monitoring	17
	3. Site Profile	18
	C. Education and Outreach	18
	1. Education and Outreach Programs	18
	2. Coastal Training Program	20
	D. Stewardship and Resource Management	20
V.	CONCLUSION	22
VI.	APPENDICES	23
	APPENDIX A. Summary of Accomplishments and Recommendations	23
	APPENDIX B. Response to Previous Evaluation Findings	26
	APPENDIX C. Persons and Institutions Contacted	27
	APPENDIX D. Persons Attending the Public Meeting	28
	APPENDIX E. NOAA's Response to Written Comments	29

I. EXECUTIVE SUMMARY

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS). Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of all federally approved National Estuarine Research Reserves (NERRs). The review described in this document examined the operation and management of the San Francisco Bay National Estuarine Research Reserve (the NERR or the Reserve) during the period from the Reserve's designation in August 2003 through August 2007. The Reserve is administered by San Francisco State University.

This document describes the evaluation findings of the Director of NOAA's Office of Ocean and Coastal Resource Management (OCRM) with respect to the San Francisco Bay NERR during the review period. These evaluations include discussions of major accomplishments as well as recommendations for program improvement. The fundamental conclusion of the findings is that the State of California is successfully implementing its federally approved NERR.

The evaluation team documented a number of San Francisco Bay Reserve accomplishments during this review period. The Reserve has made significant progress in establishing its physical and organizational presence in the Bay area. It has a full complement of knowledgeable and dedicated staff members and is located in newly renovated space at the Romberg Tiburon Center. The Reserve also helped finance construction of the Nature Center at Rush Ranch and is working on interpretative and identifying signage at Rush Ranch, China Camp, and the Aquarium of the Bay to further establish its own unique identity. In addition to its partners at Rush Ranch and China Camp, San Francisco Bay Reserve is strengthening its professional relationships with other partners, specifically the Richardson Bay Audubon Center and Sanctuary.

The Reserve has established its research lab, Graduate Research Fellowship program, and a research permit system. The meteorological station is up and running, as are the Reserve's education programs and Coastal Training Program. The Reserve has hired a site profile coordinator and has begun work on developing and producing the Reserve's site profile.

The evaluation team also identified areas where the Reserve and its programming could be strengthened. The Reserve should establish timelines for completion of its site profile and management plan update. NOAA strongly encourages SFSU and the Reserve to fund the education and research coordinator positions with state dollars, to formalize a mechanism or process for providing non-federal match for the Reserve's cooperative agreement awards, and to clarify and correct if possible some issues of space for the Reserve at the Romberg Tiburon Center (RTC). Communication and planning among the Reserve, RTC, China Camp State Park personnel and Rush Ranch/Solano Land Trust staff should be increased, and as a larger aspect of this need, the Reserve is urged to work with all its partners to strategically plan ways to improve communications, establish operational procedures, identify appropriate roles and responsibilities, and coordinate master plans and management plan development and implementation.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

The National Oceanic and Atmospheric Administration (NOAA) began its review of the San Francisco Bay Reserve in May 2007. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to California, including interviews and public meetings;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of recommendations specified in the draft document.

The recommendations made by this evaluation appear in boxes and bold type and follow the findings section where facts relevant to the recommendation are discussed. The recommendations may be of two types:

Necessary Actions address programmatic requirements of the CZMA's implementing regulations and of the San Francisco Bay Reserve approved by NOAA. These must be carried out by the date(s) specified;

Program Suggestions denote actions that NOAA's Office of Ocean and Coastal Resource Management (OCRM) believes would improve the program, but which are not mandatory at this time. If no dates are indicated, the state is expected to have considered these Program Suggestions by the time of the next CZMA §312 evaluations.

A complete summary of accomplishments and recommendations is outlined in Appendix A.

Failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). Program Suggestions that are reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. The findings in this evaluation document will be considered by NOAA in making future financial award decisions relative to the San Francisco Bay Reserve.

B. DOCUMENT REVIEW AND ISSUES DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) federally approved Environmental Impact Statement and program documents; (2) financial assistance awards and work products; (3) semi-annual performance reports; (4) official correspondence; and (5) relevant publications on natural resource management issues in California.

Based on this review and on discussions with OCRM, the evaluation team identified the following priority issues:

- major accomplishments during the review period;
- status of Reserve staffing and needs;
- facilities development and/or land acquisition efforts;
- status of general administration of the Reserve and management plan revisions;
- status of implementation of the Reserve’s research, monitoring, and education programs; and
- the manner in which the Reserve coordinates with other governmental and non-governmental organizations and programs in the state and region.

C. SITE VISIT TO SAN FRANCISCO BAY NATIONAL ESTUARINE RESEARCH RESERVE

Notification of the scheduled evaluation was sent to San Francisco State University (SFSU), members of California’s congressional delegation in the San Francisco Bay area, and regional newspapers. In addition, a notice of NOAA’s “Intent to Evaluate” was published in the Federal Register on May 31, 2007.

The site visit to the San Francisco Bay Reserve was conducted from August 27 - 31, 2007. The evaluation team consisted of Ms. Chris McCay, Evaluation Team Leader, National Policy and Evaluation Division, OCRM; Ms. Kate Barba, Program Manager, Estuarine Reserves Division, OCRM; Ms. Alison Krepp, Program Specialist, Estuarine Reserves Division, OCRM; and Ms. Betsy Blair, Manager, Hudson River (New York) National Estuarine Research Reserve.

During the site visit, the evaluation team met with San Francisco Bay Reserve staff, administrators and staff from SFSU and the SFSU Romberg Tiburon Center, Bay Conservation and Development Commission, state agency staff, coastal researchers, educators, and non-profit organizations. Appendix C lists people and institutions contacted during this review.

As required by the CZMA, NOAA held an advertised public meeting on Tuesday, August 28, 2007, at 7:00 p.m. at the Farallon Room, Aquarium of the Bay, Pier 39, The Embarcadero at Beach Street, San Francisco, California. The public meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of the San Francisco Bay Reserve. Appendix D lists individuals who registered at the meeting. NOAA’s responses to written comments submitted during this evaluation are summarized in Appendix E.

The San Francisco Bay Reserve staff members were crucial in setting up meetings and arranging logistics for the evaluation site visit. Their support is most gratefully acknowledged.

III. RESERVE PROGRAM DESCRIPTION

NOAA's Office of Ocean and Coastal Resource Management designated the San Francisco Bay National Estuarine Research Reserve (NERR or the Reserve) in 2003. The lead agency is San Francisco State University (SFSU). The Reserve is administratively located within the SFSU College of Science and Engineering and is physically housed at the SFSU Romberg Tiburon Center for Environmental Studies, an off-campus research and teaching marine and estuarine laboratory, on the Tiburon Peninsula.

The drainage basin of San Francisco Bay's freshwater sources (the Sacramento and San Joaquin rivers) encompasses approximately 1,600 square miles. The rivers drain more than 40 percent of the state and provide drinking water to about two-thirds of the state's population. In the early 1800s the Bay covered almost 700 square miles, and the delta was a network of 80 atoll-like islands and hundreds of miles of complex channels and vast expanses of marsh. San Francisco Bay once supported 190,000 acres of highly productive tidal marsh, but today over 90 percent of the historic tidal wetlands have been destroyed or altered because of development pressures within and around the Bay. Tidal wetlands are critical for flood prevention; sediment management; and habitat for small mammals, migratory birds, and fish species, many of which are threatened and endangered. In the past these wetlands provided essential habitat for commercially important fish and crabs, filtered mud from the Bay's murky waters, and protected the shoreline from flooding. Two of the most pristine wetlands left in the estuary are protected as part of the Reserve. They represent a portion of the salinity gradient within the estuary: Rush Ranch is predominantly brackish marsh; China Camp is primarily brackish-seawater marsh.

The Rush Ranch component of the Reserve is located on the northern margin of Suisun Marsh; the Suisun estuary is the largest contiguous brackish water marsh remaining on the west coastal of North America. Rush Ranch encompasses approximately 2,070 acres, of which 1,050 acres are brackish tidal wetlands, 940 acres are grassland, seasonal systems, springs and ponds, and 80 acres comprise a managed wetland. Rush Ranch is owned and managed by the Solano Land Trust. The site has never been plowed and represents the full spectrum of brackish tidal marsh plant communities in a largely undisturbed setting. Numerous threatened, endangered, or rare plants and animals are found at Rush Ranch.

The China Camp component is a fairly rare undeveloped parcel of property along San Francisco Bay's urbanized shoreline on the southwest shore of San Pablo Bay in Marin County. It is part of the California State Park system and is managed as China Camp State Park by the California Department of Parks and Recreation. A Chinese shrimp-fishing village thrived on the site in the 1880s. Its 1,640 acres include wetlands and surrounding uplands. The park represents an area of transition in the salinity gradient within San Francisco Bay. The marsh exhibits a pattern of vertical zonation from tidally-influenced low marsh to older high-elevation marsh grading into freshwater marshes. Surrounding the marsh are several habitats that together constitute a relatively intact ecological watershed. Uplands to the west of the marsh contain native grassland, mixed evergreen forest, oak woodland and chaparral.



SAN FRANCISCO BAY NATIONAL ESTUARINE RESEARCH RESERVE

IV. REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Administration and Staffing

The Reserve has made significant progress in operation and management since its designation in August 2003. Much of that progress is, by necessity, related to establishing and securing the Reserve's administrative framework, hiring staff members, and building partnerships – all the steps necessary to build the Reserve's "infrastructure" and move beyond the initial designation and organizational phases to implement the goals and objectives that the Reserve has set forth.

The Reserve is administratively housed in the San Francisco State University (SFSU) College of Science and Engineering (COSE), and the staff is physically located at the Romberg Tiburon Center (RTC). SFSU has approximately 30,000 students and offers bachelor and master level degrees. RTC is the only marine research center on San Francisco Bay whose research focus is the Bay. It affords the Reserve an opportunity to partner with local researchers and address local research needs. At the time of site designation, the Reserve manager reported to the director of RTC, who in turn reported to the Dean of the COSE. The relationship between manager and director was not optimal or positive, particularly as it related to renovations and assignment of space in the RTC buildings, so in 2005 the Dean of COSE changed the organizational structure so that the Reserve became an individual unit in COSE like RTC; he became the Reserve manager's direct supervisor. Since that time, a new director of RTC has been hired, and the Reserve/RTC relationship is more positive. The Reserve manager still reports directly to the Dean, who is supportive of the Reserve.

The Reserve has a full complement of dedicated and knowledgeable staff: a research coordinator, education coordinator, coastal training program coordinator, site profile coordinator, research and monitoring technicians, and an administrative coordinator. A post-doctoral fellow and a NERR Graduate Research Fellow round out the staff. All of the people with whom the evaluation team met complimented the staff members as highly accomplished, knowledgeable, energized, and passionate about their work and the Reserve.

Several of the staff members have assumed leadership roles at local, regional, and national levels. At the time of the site visit, the Reserve Manager was serving as the vice-president of the National Estuarine Research Reserve Association. [Since then she has become president and serves a term of two years.] The Research Coordinator serves on the Heinz Foundation Coastal Indicators Panel, is an advisor to the California State Lands Commission Community Regulations Board for ballast water and fouling, served on the 2007 State of the San Francisco Estuary conference planning committee, and has been awarded a \$650,000 CALFED grant to study the linkages between terrestrial and aquatic systems in San Francisco Bay. (The CALFED Bay-Delta Program is a unique collaboration among 25 state and federal agencies that came

together to improve California's water supply and the ecological health of the San Francisco Bay/Sacramento-San Joaquin River Delta.) The Education Coordinator serves as the chair of the NERRS Estuaries 101 Curriculum Development Workgroup, and the Coastal Training Program Coordinator serves on three NERRS CTP workgroups. All of the staff members have given poster or oral presentations at regional, state, national, and international conferences.

ACCOMPLISHMENT: The Reserve has a full complement of staff, all of whom are knowledgeable, dedicated, and well respected by their peers and partners, and who have assumed leadership roles at local, regional, and national levels within the NERR system as well as the greater field of coastal management and estuarine science.

Each fiscal year the Reserve manager proposes a budget to the COSE dean, which may be negotiated and revised. The dean then submits the budget to the University provost, who is the official with approval authority. San Francisco State University's overhead/indirect charge for grant and cooperative agreement awards administered by SFSU is 53 percent. This amount is claimed from the Reserve's operations and management awards. Most of this amount generally is returned to serve as non-federal match dollars for the Reserve's operations and management awards. This process is not formalized in any way and does not provide any certainty for the Reserve manager in constructing a yearly budget. OCRM encourages SFSU to formalize a mechanism or process for providing state match in terms of what the Reserve can expect and plan for annually, in keeping with expectations for state match that were discussed with SFSU at the time the Reserve was designated.

As part of the Reserve designation process, NOAA and SFSU entered into a Memorandum of Understanding (MOU) to establish a framework for coordination, cooperation, and communication. It details the state and federal roles in Reserve operation and management. One of SFSU's responsibilities for management plan implementation is to "provide a full-time, state-funded Reserve Manager, and endeavor to secure state-funding for Research and Education Coordinator positions to coordinate research, monitoring, education and translation of research results..." At this time, the education coordinator and research coordinator positions are still funded with federal dollars. One of the limitations of this arrangement is that both the research and education coordinators are not able to use any portion of their salaries as match for other potential federal funding sources. Another limitation is that support for both positions is reliant on federal grant funds, rather than being fully integrated and supported in the state/university's budget system. It also leaves fewer federal resources available for research, education, and other project support. In line with the expectations of the MOU, OCRM strongly encourages the Reserve and SFSU to develop a strategy to move the two remaining core positions (education and research coordinators) from federal funding to state funding.

PROGRAM SUGGESTION: NOAA strongly encourages state funding support for the San Francisco Bay NERR's education coordinator and research coordinator positions. NOAA also encourages SFSU to formalize a mechanism or process for providing non-federal match in terms of what the Reserve can expect and plan for annually.

2. Grants Management

The Reserve has a half-time administrative coordinator who has strong budgeting and accounting skills. The cooperative agreement applications and performance and financial reports are generally well prepared and submitted in a timely manner. Some of the concerns the Reserve staff members expressed to the evaluation team relate to the uncertainty of the non-federal match, which was discussed in the section above. The administrative coordinator indicated that she plans to work more closely with the Reserve manager and program/sector coordinators so they will know how much funding has been allotted for operation and administration to those programs each year. This may help prevent some of the last minute spending that can occur at the end of a fiscal year. The evaluation team concurs with that effort.

The SFSU Office of Research and Sponsored Programs handles much of the Reserve's performance reporting, accounting and budgeting. Based on questions the Office has directed to the OCRM Estuarine Reserves Division, the Office staff members are not familiar enough with federal/NOAA grants management procedures. It would be very helpful if some of the SFSU staff were able to attend one of the grants management workshops sponsored by NOAA Grants Management Division staff throughout the year.

PROGRAM SUGGESTION: One or more of the SFSU staff responsible for some management of the Reserve's cooperative agreement awards and financial reporting should become more familiar with the NOAA Grants Management Division (GMD) guidelines and procedures for award and report processing. One way to accomplish this is by participating in a training workshop held by GMD staff during the year.

3. Management Plan

The Reserve's first current management plan was adopted and became effective at the time of the Reserve's designation in 2003. All Reserves are required by federal regulation at 15 CFR §921.33 to update their management plans every five years. San Francisco Bay Reserve will be finalizing a revised management plan prior to the next Section 312 evaluation. As noted elsewhere in these findings, the Reserve's efforts at completing its site profile and conducting some strategic planning may fold into the management plan revision process.

PROGRAM SUGGESTION: The Reserve should initiate its management plan update and work with OCRM to devise a timeline for completion.

4. Facilities and Infrastructure

A letter of commitment in 2004 from the Dean of the SFSU College of Science and Engineering identifies that the Reserve is allocated dedicated space in Romberg Tiburon Center Building 36 for Reserve manager and research coordinator offices (with windows), NERR laboratory, and the south wing of the second floor to contain seven other offices, a large room to house students, visitors, and NERR servers, a shared seminar room, and other shared spaces. The letter of

commitment further identifies that RTC Building 39 includes dedicated space on the second floor for NERR and RTC education and outreach functions, offices for the Reserve education coordinator, CTP coordinator, and office space for RTC education specialists. There is a shared IT classroom on the second floor, shared lecture classroom on the first floor, and other shared spaces.

During the evaluation site visit, SFSU, RTC, and the Reserve celebrated the grand opening of the newly renovated Building 36. NOAA provided approximately \$2.5 million through NERRS construction awards to help fund the renovations. Building 36 is an older industrial building, which presented challenges to renovation. At the time of the site visit and dedication, there were serious deficiencies in the quality of Reserve square footage that affects the health and productivity of Reserve staff. The Reserve space has no air conditioning, heat, or air circulation. In addition to seriously affecting the staff, the Reserve's computers generally overheat by early to mid-afternoon and crash during the summer months. The south wing offices have no windows and cannot be retrofitted with light tubes or any other way to bring in natural light. Several staff referred to the office space as "like a cave." The building also has no shower facilities for lab activities. The evaluation team was told that contracts will be let to add air conditioning. [In early June 2008, SFSU informed OCRM that a contract had been signed for the installation of appropriate ventilation equipment, including air conditioning, and that installation work would begin within several weeks.]

Until the move into Building 36, staff members were all housed in Building 39, which is an older building primarily used by RTC for educational purposes. Not all of Building 39 can be easily retrofitted to be ADA compliant, making it potentially difficult to use the second floor for educational meetings. Because of some deficiencies in newly renovated Building 36, however, the education coordinator and CTP coordinator have moved back to Building 39. It is the Reserve's and NOAA's understanding that this building will remain in use for educational purposes, but the evaluation team learned that some space has already been leased (and more may be leased) to research-oriented private companies or public-private partnerships whose main efforts are not education-oriented.

OCRM believes that the letter of commitment regarding space for the Reserve at RTC should be revisited and discussed. It is unclear whether the intent of the letter is being met in all circumstances. Issues that affect the health of Reserve staff in Building 36 should be addressed, and the issue of leasing space to groups in Building 39 whose function or purpose is not education-related should be clarified.

PROGRAM SUGGESTION: The SFSU letter of commitment regarding space for the Reserve at the Romberg Tiburon Center should be revisited and discussed among SFSU, RTC, the Reserve, and OCRM, because it is unclear whether the intent of the letter is being met in all circumstances. Facility issues that affect the health of Reserve staff in Building 36 should be addressed. The issue of leasing space to groups in Building 39 whose function or purpose is not education-related should also be reviewed in light of the Reserve's and NOAA's understanding that this building would remain in use for educational purposes.

The Rush Ranch component of the Reserve is owned by the Solano Land Trust. The Reserve manager and the research coordinator serve on the Rush Ranch management team. The Solano Land Trust (SLT) works closely with the Rush Ranch Education Council, which is an all-volunteer nonprofit organization that promotes education and public outreach programs for the Ranch. The Reserve's education coordinator is a member of the Rush Ranch Education Council.

With financial support from NOAA and the California State Coastal Conservancy, the SLT just completed a new Nature Center complex at Rush Ranch. It includes educational space, an on-site field steward's home, and guest quarters. The distance from the Romberg Tiburon Center to Rush Ranch is an issue that may never be overcome (over 60 miles and approximately 1.5 hours driving time), but the Nature Center does provide an opportunity for the Reserve to offer some educational programs there. Reserve staff members are working with the SLT in the design of NOAA-funded interpretive exhibits at the Nature Center, highlighting not only the history and ecology of the area, but including information about the San Francisco Bay Reserve and the national estuarine research reserve system. At the time of the site visit, the SLT was developing an access/operations plan for the Nature Center and hiring an on-site field steward. [Since the site visit, a field steward has begun work, and operating rules for space use have been adopted by the Solano Land Trust.]

The China Camp component is a state park managed by the California Department of Parks and Recreation. China Camp State Park exists at an urban interface, which presents issues for management of the park related to, for example, pets, fire prevention and clearing, and wildlife. It is an attractive and popular place for a number of user populations – families, night fishers, athletes, and equestrians – and is heavily used. Park staff members place a high priority on the development of interpretive displays and signs because the number of park interpretive rangers is limited. The park has received state funding to upgrade the visitor center and is working with the Reserve on seven interpretive signs. These interpretive signs represent the Reserve's primary opportunity to inform visitors to the park about the NERR. The park also is one of two state pilot projects for development of an ADA compliant nature trail. The existing Turtleback Trail is being retrofitted for the pilot project, and the Reserve is working with the Park to develop five interpretive signs.

[Since the site visit, a contractor has been selected to design and construct exhibits at Rush Ranch, China Camp, and the Aquarium of the Bay.]

ACCOMPLISHMENT: The San Francisco Bay Reserve has initiated a good institutional presence at the facilities and infrastructure of Rush Ranch and China Camp as well as positive programmatic relationships with their respective interpretive and resource management staffs.

5. Coordination and Partnerships

The NERR staff members have recognized from the beginning that coordination with partners, both formal and informal, is key to the Reserve's success in meeting its goals and objectives. There are numerous opportunities to partner on research, education, outreach, and stewardship

initiatives. The staff has begun to develop the formal partnerships first with the Romberg Tiburon Center, the Solano Land Trust, China Camp State Park, and the Bay Conservation and Development Commission. The evaluation team heard from all partners and Reserve staff that this coordination is necessary, desirable, and has room for even greater success.

Romberg Tiburon Center: At the Romberg Tiburon Center, Reserve staff and SFSU faculty and researchers are equal partners, both responsible to the SFSU Dean of the College of Science and Engineering. Both Reserve and SFSU staff acknowledged the benefits of their relationship and that each has something to offer to the other. For example, the Reserve's Education Coordinator has worked with the RTC Outreach Coordinator to provide joint professional development workshops for educators, and one of the RTC research scientists has used water quality data from the SWMP in her research project.

However, both parties have spent considerable time dealing with ongoing construction distractions and issues arising from that, as well as their own teaching, research, and education activities. Both RTC and the Reserve indicated a need to better understand each other's core functions and to increase communication. Suggestions from RTC and NERR staff ranged from informal brownbag lunch seminars on various topics, linking to each other's websites, periodic joint staff meetings to share information about ongoing work activities, and inclusion on committees or workgroups, where appropriate. For example, the Reserve manager or a staff member should be included on the RTC space committee. [Since the site visit, the Reserve manager has been appointed to the space committee.] Several SFSU and RTC administrators and researchers expressed personal and professional priorities and interests in communicating applied sciences to informal audiences and said the Reserve would be an extremely effective partner in that knowledge transfer.

Solano Land Trust/Rush Ranch: The Solano Land Trust staff manages Rush Ranch as well as the other SLT holdings in Solano County, which by their admission, strains the capacity of that staff. The completion of the Nature Center at Rush Ranch has intensified the need for an on-site field steward, whose hiring as an SLT employee was in process at the time of the site visit. [Since the site visit a field steward has been hired, which should somewhat alleviate this situation and allow for attention to routine maintenance and operations support for the Nature Center.] For the Reserve, Rush Ranch is more distant from RTC than China Camp and so will always be a great logistical challenge for research, monitoring, and educational programs. Given the distance and logistical challenges of Reserve headquarters support for Rush Ranch operations, it is critical to establish clear expectations for onsite support and program planning and coordination.

To address this challenge, there are ongoing coordination efforts. The SLT Land Steward serves as the Reserve's Stewardship Coordinator and has attended NERR Stewardship sector meetings. The Reserve's Education Coordinator serves on the Rush Ranch Education Council, and the Reserve Manager and Research Coordinator serve on the Rush Ranch management team. Two of the SWMP dataloggers will be located at Rush Ranch.

However, it is unclear to both the SLT and Reserve staffs what role each will play at Rush Ranch, how researchers and research activities will be coordinated, visitor impacts managed, and

restoration/stewardship projects planned and managed. The SLT is beginning to develop a master plan for Rush Ranch, and it was clear to the evaluation team that this is an appropriate time for the Reserve and SLT to address both operational and strategic planning needs: to devise an operational protocol for Rush Ranch, identify research priorities and needs, and identify specific roles and responsibilities related to resource management at the site. For example, the NERR system has considerable experience in planning and assessment for management of visitor impacts. The Reserve is encouraged to tie this effort to the Reserve's management plan revisions.

California Parks/China Camp: At China Camp, the California Department of Parks and Recreation staff place priority emphasis on interpretive education. The site is heavily used by the nearby urban populace, and it is not possible to have interpretive or enforcement rangers present at all times. Management issues arise because of the increased and differing ethnicities of park visitors, with different traditional cultural practices. For example, night fishing is a popular activity, but there are issues about the types of fish that can be taken, trash that is left, etc. Current state policy only allows signage in English. (From the evaluation team's perspective, there could be an opportunity here for a sociological/anthropological Graduate Research Fellow study to conduct research or a possible pilot project employing communication strategies to affect conservation behavior, for example.) The need for better communication between researchers and Park staff was discussed, particularly the need to identify researchers. Reserve staff suggested that researchers or NERR staff in the Park wear highly visible colored vests. This could help with daily communication and clarify who should be involved in certain activities. This might also identify researchers to park visitors and highlight their presence and purpose in highly sensitive park habitats, particularly if park visitors approached identified researchers for discussion or to ask questions.

The Park staff has focused on upland habitats, but with the research resources of the Reserve, they hope to get help with the management of marsh/wetland habitats. One particular area of concern involves old eroding "fire roads." Runoff is assumed to be affecting wetlands, but local fire officials want the roads maintained for fire safety/access. [Since the site visit, one fire road has been removed along the ridge top.] Park professionals believe they need better information to make management decisions and hope the Reserve's research can provide that.

Both parties expressed an interest in better general communication, including meetings to introduce themselves, their work, and the challenges they face. There was discussion about scheduling periodic meetings to compare operational or management plans. Both China Camp and Rush Ranch staffs indicated an interest in meeting each other as well, and the idea of rotating group meetings at RTC, Rush Ranch, and China Camp was discussed. The section following this section that addresses "Strategic Planning" for the Reserve also has a significant bearing on the opportunities and challenges facing the coordination among partners.

The San Francisco Bay Conservation and Development Commission (BCDC), one of California's three approved state coastal management programs, is also a strong partner for the Reserve and is a signatory to the original Memorandum of Understanding concerning the cooperative management of the Reserve (along with the SFSU, RTC, California Department of Parks and Recreation, and the Solano Land Trust). The BCDC is a member of the Reserve's

Management Advisory Board. BCDC was created in 1965 as a temporary state agency and was charged with preparing a plan for the long-term use of the Bay and regulating development in and around the Bay while the plan was being prepared. In 1969, state law was amended to make BCDC a permanent agency and to incorporate the policies of the completed Bay Plan into state law. Because of its long history in Bay management and the depth of expertise of its staff, BCDC can provide support and information to the Reserve. It has, for example, recently completed a sea level rise mapping project for the Bay, whose maps and data may prove informative to some research projects conducted by the Reserve or for outreach or Coastal Training Program workshops addressing land use and growth and sea level rise.

ACCOMPLISHMENT: The Reserve has built professional relationships with its major partners and has initiated collaborative projects and significant capital improvements.

PROGRAM SUGGESTION: With firm professional relationships established, it is critical to establish joint program planning processes, increased communication, and operational agreements among the Reserve, Romberg Tiburon Center, China Camp State Park, and Rush Ranch/Solano Land Trust staffs. The Reserve should explore options for doing so, with possibilities including, but not limited to, regular partners staff meetings, formalized operational protocols, and strategies to agree upon research and education priorities.

Another of the Reserve's strong partners is the Richardson Bay Audubon Center and Sanctuary. The Sanctuary is located on Richardson Bay, which is on the southern side of the Tiburon Peninsula (the RTC is on the northern side of the Tiburon Peninsula). Within San Francisco Bay, Richardson Bay stands out as a particularly unique location for eelgrass. It harbors the second largest extant and deepest eelgrass bed in the estuary. A model of environmental conditions in the estuary identified Richardson Bay as having the greatest area suitable for eelgrass restoration. It is critically important for thousands of birds who rely on the bay for roosting and feeding each winter. It also has a substantial intertidal native oyster population and annual herring runs that are an important local fishery and provide food for wintering birds.

Richardson Bay Sanctuary includes 11 Audubon-owned upland acres and 900 acres of subtidal lands under a 50-year lease from the communities of Belvedere and Tiburon and Marin County. In partnership with the Reserve, NOAA, SFSU, and others, Audubon recently created a long-term Conservation plan. Priorities for Richardson Bay include long-term water quality monitoring, increasing substrate available for oyster settlement and eelgrass transplantation.

At the time of the evaluation site visit, the Richardson Bay Audubon Center and Sanctuary and the Reserve were working to develop a more formal cooperative partnership through the execution of a Memorandum of Understanding. Both parties are collaborating on some education and stewardship projects, but a formal partnership would provide the Sanctuary with Reserve staff support and expertise in estuarine science and science education; the Reserve would gain access to field sites and education facilities. Both would help to provide greater visibility for the other. [Since the site visit, this Memorandum of Understanding has been signed.]

ACCOMPLISHMENT: The Reserve and Richardson Bay Audubon Center and Sanctuary are working to strengthen and formalize their partnership and coordinate activities related to their shared missions of science, education, and stewardship.

6. Strategic Planning

Throughout the evaluation team's discussion with the Reserve staff members as well as with many of the NERR's partners, the desire to push forward, take on additional responsibilities, achieve more, and aim higher was very obvious. Reserve staff members are "over-achievers" in the best sense. During discussions and additional reflection, they were also able to pinpoint some impediments to those actions, operational stumbling blocks that need to be addressed, and areas of communication that need to be improved. Reserve staff have been heavily involved in establishing and 'growing' the Reserve, dealing with major facility issues, annual budgeting issues, and taking on projects in research and education that they truly love. For this the evaluation team and OCRM applaud them. However, as is noted in some sections of these findings, there are areas where some planning and communication needs to take place before moving on. The Reserve needs to address development of the site profile and revisions to its management plan over the next several years and should use these opportunities to engage in strategic planning.

In an effort to integrate the separate efforts of the staff and make sure each is aware of what the other is doing, the Reserve should consider how it communicates internally. Then, as multi-component reserves discover, it is important that component site staff also become involved in the communication circle. Both Rush Ranch and China Camp personnel expressed interest in each other's site and activities. The Reserve should take the lead in establishing and maintaining this communication. It also appears important to develop a formal operational protocol of some sort with the Solano Land Trust to address issues noted in the previous discussion.

As is discussed earlier, the RTC and the Reserve want to strengthen their partnership and see opportunities to do so. They should look for ways to improve communication, share their work efforts, and identify projects or areas where one could benefit from the other.

The RTC, the Reserve, China Camp State Park, and the Solano Land Trust all have various mechanisms for planning and operating. All have pledged, formally or informally, to coordinate and work toward similar goals and objectives. Perhaps it would be appropriate for them to do some strategic thinking about precisely how they do that – the details of roles and responsibilities for each party, operational or facility guidelines, whether and how to reconcile differing management plans or master plans. The Reserve's master plan revisions should consider the management or master plans created by the California Department of Parks and Recreation and the Solano Land Trust. Discussions about future research needs, priorities, and opportunities should involve site component staff.

PROGRAM SUGGESTION: The Reserve staff should work together to strategically plan ways to improve their internal communications, establish operational procedures, identify appropriate roles and responsibilities as necessary, and coordinate site profile and management plan development and implementation. These actions should be done as part of the recommendation for operational and strategic planning processes with the Reserve's partners.

7. Management Advisory Board

The Reserve has a Management Advisory Board. It consists of representatives from the five signatory partners to the Memorandum of Understanding regarding the Reserve's cooperative management (NOAA, Solano Land Trust, California State Parks, Bay Conservation and Development Commission, and SFSU); representatives from science, community, education, stewardship, and industry interests; California's coastal zone management agencies; and Reserve collaborators (The Bay Institute and East Bay Regional Parks District).

The board meets annually. The Reserve also contacts some of the Board members on an informal basis as a specific need arises. At the annual meetings, Reserve staff generally presents a "state of the Reserve" status report and introduction, followed by a work session on a specific topic. At its most recent meeting, the Reserve staff and the board discussed the exhibit about the NERR and the Bay to be located at the Aquarium of the Bay in downtown San Francisco on the waterfront. Since the Reserve does not have a visitor center, this is a great opportunity to reach the general public in large numbers. The Reserve has partnered with the Aquarium to place a large exhibit in a high traffic area at the Aquarium, adjacent to the "touch tanks." The Reserve is planning an exhibit with a high level of interaction for adults, teens, and teachers who are lingering while children are involved at the Aquarium's touch tanks. According to the Reserve staff, the board provided excellent feedback and suggestions about the exhibit.

B. RESEARCH AND MONITORING

1. Research Activities

The research program at the Reserve has become well-established since site designation. The entirety of San Francisco Bay is a platform for much past and ongoing research. The Reserve's co-location with the Romberg Tiburon Center provides an opportunity for a great deal of synergy and collaboration with SFSU scientists and researchers. The Reserve's two component sites are situated at opposite ends of the salinity gradient of the Bay, offering a great range of opportunity for research questions. During much of this evaluation period, the Reserve's research lab was under construction (figuratively and literally), the system-wide monitoring program was being developed, and groundwork for researching and preparing the site profile was initiated. These were major undertakings.

Because so much research is being done by so many people throughout the Bay, the Reserve and the managers at the component sites felt it was important to know who was conducting specific

research within those components. During the period covered by this evaluation, a research permit system has been put in place at China Camp State Park, administered by the Reserve. With the completion of the Nature Center at Rush Ranch that provides quarters for visiting researchers, and employment of a conservation project manager by the Solano Land Trust, the Reserve intends to revisit and discuss the research permit system at Rush Ranch as part of a larger coordination effort.

During the period covered by this evaluation, the NERRS Graduate Research Fellow (GRF) program has been established at the Reserve, and a GRF has been conducting a project to investigate the effects of nutrients on invasive species success. Reserve researchers are examining the effects of perennial pepperweed, an aggressive, non-native weed that has invaded wetland and riparian areas of San Francisco Bay, on the native marsh ecosystem at Rush Ranch. The project investigators hope to identify functional differences among invaded and natural areas within the marsh; determine if these differences are pervasive across different factors; and develop the best methods of eradication in a setting where there are constraints (e.g., permits, access, presence of rare and endangered species). And as noted earlier, the Research Coordinator recently has been awarded a \$650,000 CALFED grant to study the linkages between terrestrial and aquatic systems in San Francisco Bay and how they might change with climate change.

The Reserve also supports other researchers, several of whom are funded through the NOAA/University of New Hampshire Cooperative Institute for Coastal and Estuarine Environmental Technology:

- One Romberg Tiburon Center (RTC) researcher is experimentally evaluating restoration techniques for eelgrass at China Camp and several other sites in the San Francisco Bay.
- Another RTC researcher is evaluating genetic diversity of existing and restored eelgrass beds.
- Research is also being conducted to assist managers to obtain local sources of eelgrass for restoration by adapting tissue culture techniques to eelgrass.
- San Francisco Bay is the site of field testing of a sediment profile imaging and micro-sampling system to collect sediment profiles in situ. If successful, the project will allow simultaneous study of benthic ecology, ecotoxicology, and sediment geochemistry.
- Research in San Pablo Bay (the China Camp component) is being conducted to develop a method to identify the source of fecal matter using a bacterium that differs according to host. The project will also model movement of the bacterium based on land use, boundary conditions, weather, and other parameters. If successful, the project will provide a tool to track the presence and sources of pollution, identify areas prone to contamination, and develop strategies that specifically address the problems—whether managers should close public beaches or shellfish beds, for example.

ACCOMPLISHMENT: The Reserve has established its research lab, a GRF program, and initiated a research permit system at China Camp. Reserve researchers are conducting several ongoing projects and support numerous other researchers in projects that may be applicable to other reserves and estuarine systems as well as to San Francisco Bay.

2. Monitoring

The NERRS systemwide monitoring program (SWMP) was established to identify and track short-term variability and long-term changes in representative estuarine ecosystems and coastal watersheds. The SWMP is a phased monitoring program that focuses on three different ecosystem characteristics. Phase 1 monitors abiotic parameters, including atmospheric conditions and water quality (nutrients, salinity, contaminants, etc.). Phase 2 addresses biological monitoring, including biodiversity, habitat, and population characteristics. Phase 3 monitors watershed and land use classifications, including changes in human uses and land cover types. As part of the SWMP phase 1, each reserve installs a minimum of four continuously monitoring water quality dataloggers, which monitor a set of abiotic parameters, and a meteorological station, which also continuously monitors certain parameters.

During much of the time period covered by this evaluation, there was one half-time technician available to administer the SWMP. By the time of the site visit, one full-time and one half-time monitoring technician were on the Reserve staff. The monitoring staff members have received motorboat certification, do not do monitoring alone, and feel comfortable with SFSU safety plan protocols. The evaluation team met with the RTC researcher who performs the Reserve's nutrient analyses under contract. A new technique for the analyses is being used, and the RTC hopes this technique will expand to the other reserves. He believes the San Francisco Bay Reserve is setting a new, higher standard in nutrient analyses. The Reserve's meteorological station has also been established, is operational, and telemetry has been installed.

Some vegetative mapping and biomonitoring has already been initiated at San Francisco Bay NERR. The Reserve is working with a wetland vegetation expert and a GIS specialist to create detailed maps of the vegetation communities within the wetlands at both China Camp and Rush Ranch. The maps, which are being produced through analysis of aerial photos and field survey methods, will serve as a baseline data layer from which the Reserve can quantitatively document future changes in vegetation communities and help inform management decisions at both components. San Francisco Bay Reserve is one of eight reserves piloting a long-term biomonitoring project to assess estuarine crab communities. Such monitoring of various crab parameters, coupled with NERR water quality monitoring data, can provide an indicator of new invasions and allow testing hypotheses about invasive species and their relationships to environmental and biotic parameters.

ACCOMPLISHMENT: San Francisco Bay Reserve has established its meteorological station, dedicated additional staff to the SWMP, and has initiated vegetative mapping and biomonitoring.

The Reserve's SWMP is able to take advantage of the salinity gradient represented at the Reserve – two dataloggers are at China Camp and two will be at Rush Ranch. The first data logger was set up in March 2005 at China Camp; the second was installed at China Camp at Gallinas Creek in October 2005. Unfortunately, the piling on which it was mounted was destroyed by a boat accident in December 2006. Fortunately, an alert neighbor saw what happened, and the data logger was recovered. At the time of the site visit, the Reserve had all

permits necessary to set in place the two Rush Ranch pilings and the replacement piling at China Camp but had not done so. This needs to be done so the dataloggers can be deployed and the Reserve's SWMP phase 1 will be fully operational. [Since the site visit, the replacement piling at China Camp and two pilings at Rush Ranch have been set in place and all three dataloggers have been deployed.]

3. Site Profile

The purpose of a NERR site profile is to review the existing state of knowledge for a specific Reserve's research and monitoring activities and to identify research needs that should be addressed in the future. The development of a site profile is implemented by each Reserve as phase 2 of a three-phase monitoring program required by the NERRS regulations at 15 CFR §921.60. The site profile is a synthesis of information gathered during the first (environmental characterization) phase and provides an overall picture of the Reserve in terms of resources, issues, management constraints, and research needs. It helps Reserve management to identify information gaps in the resources and the aspects of monitoring to be initiated during phase 3. Generally a site should work to complete its site profile within approximately three years of designation.

The San Francisco Bay Reserve has hired a site profile coordinator dedicated to this task only. The coordinator was hired approximately two months before the site visit for a one-year project to synthesize the available data, scientific knowledge, and local knowledge about ecological, social, and cultural aspects of the Reserve. He will collaborate with all staff as well as other scientists to synthesize data sources, identify what chapters will be written by which staff or other scientists, and compile all chapters. The site profile will be subject to peer review.

ACCOMPLISHMENT: The Reserve has hired a site profile coordinator and has begun work on developing and producing the San Francisco Bay Reserve site profile.

PROGRAM SUGGESTION: In coordination with OCRM, the Reserve should establish a timeline for completion of the site profile.

C. EDUCATION AND OUTREACH

1. Education and Outreach Programs

The goals of the education and outreach programs at San Francisco Bay Reserve are to share the results of research with non-academic scientists, to promote an understanding and stewardship of the estuary, and to work collaboratively, not competitively, with a myriad of environmental education programs in the Bay area. This is an exceptionally important challenge for the Reserve, because it needs to create and define its own environmental education niche with limited staff and financial resources, and yet not duplicate offerings by other programs. The

audiences the Reserve wants to reach with its educational programs include K-12 school children, the public, and coastal decision makers. With the inception and development of the Coastal Training Program and the hiring of a CTP coordinator (discussed below), the education coordinator is now able to focus on K-12 and general public education and outreach.

Reserve staff have done a good job of collaboration during the first years of the Reserve's existence. The Reserve has not established its own newsletter, so the education coordinator contributes to partner newsletters, such as those of the Solano Land Trust and the Romberg Tiburon Center. The Reserve has developed a web site and a general informational brochure about the NERR. Staff from the Reserve developed a portable display and host information tables and exhibits about the NERR and the Bay at various public events, meetings, and conferences throughout the year.

Because the Reserve does not have a unique visitor center and houses staff at the Romberg Tiburon Center, distant from both site components, it has wisely chosen to promote education at both China Camp and Rush Ranch. As noted in the "Facilities and Infrastructure" section, the Reserve is working with China Camp State Park on several sets of interpretive signs. These interpretive signs represent the Reserve's primary opportunity to inform visitors to the park about the NERR. At Rush Ranch, Reserve staff members are working with the Solano Land Trust in the design of NOAA-funded interpretive exhibits at the newly constructed Nature Center, highlighting not only the history and ecology of the area, but including information about the San Francisco Bay Reserve and the national estuarine research reserve system. Perhaps the greatest opportunity to reach the general public in large numbers is at the Aquarium of the Bay in downtown San Francisco on the waterfront. The Reserve has partnered with the Aquarium to place a large exhibit about the NERR, the Bay, and its environment in a high traffic area, adjacent to the "touch tanks." The Reserve is planning an exhibit with a high level of interaction for adults, teens, and teachers who are lingering while children are involved at the touch tanks. [As noted earlier in this document, since the site visit, a contractor has been selected to design and build these exhibits at the Aquarium of the Bay as well as at Rush Ranch and China Camp.]

Once in the fall and again in the spring, the Reserve partners with the RTC to offer one-day professional development workshops for educators. A typical agenda includes four 30-minute lectures by SFSU scientists about their research, several presentations of hands-on activities related to the research that can be used in the teaching classroom, and a field experience onboard a research vessel. Reserve staff members are also developing a curriculum, called Data in the Classroom, which uses scientific data collected within San Francisco Bay, as well as other estuaries throughout the U.S., to teach science in middle and high school classes. These lessons will be closely tied to state and national education standards and will promote inquiry-based learning.

NOAA's National Estuarine Research Reserve System (NERRS) and EPA's National Estuary Project jointly sponsor virtual field trips to estuaries around the country as part of National Estuaries Day. EstuaryLive broadcasts are free live Internet field trips in estuaries around the country. Designed as interactive for classrooms, this program can be viewed by anyone. A one-hour segment of the EstuaryLive program was hosted by the San Francisco Bay NERR on September 22, 2005. The NERRS is also currently developing new curriculum for K-12 students

and teachers as part of its K-12 Estuarine Education Program (KEEP). This curriculum, called Estuaries 101, will teach key principles and concepts of estuarine ecology and illustrate how estuaries relate to other human and ecological systems, all while teaching to science standards. The San Francisco Bay Reserve will be piloting certain high school modules for Estuaries 101 in the 2007-08 winter months. The Reserve's education coordinator serves as the chair of the NERRS Estuaries 101 Curriculum Development Workgroup.

ACCOMPLISHMENT: The Reserve's education and outreach program has begun to develop strong partnerships with many of the numerous educational program providers in the Bay area so as to work collaboratively and not competitively. Because it has no unique Reserve visitor center, the Reserve has also begun to establish outreach and educational programs as well as its distinct identity at Rush Ranch, China Camp, and the Aquarium of the Bay, which provides an opportunity to reach the general public in large numbers.

2. Coastal Training Program (CTP)

In cooperation with the Elkhorn Slough NERR's Coastal Training Program, the San Francisco Bay Reserve offered a series of free workshops and field trips about tidal wetlands ecology and restoration during 2005-2006. These workshops demonstrated the need for such a Coastal Training Program in the region and the ability of the Reserve to deliver the program. In January 2007 the Reserve initiated Coastal Training Program development by hiring a CTP coordinator and establishing a CTP Advisory Group. Between January and the site visit, the Reserve developed and submitted to OCRM a market analysis of the training provider market, a current audience needs assessment, a program strategy document, and a marketing plan, all of which must be approved before the CTP can be fully approved. [Since the site visit, the Reserve's CTP has received full approval and held its first official CTP workshop in January.]

The CTP will initially focus on two priority issues: habitat alteration (particularly wetlands science and restoration) and land use and growth. It will target two primary decision-maker audience categories over the next three years: the wetlands restoration community, and local government staff and elected or appointed officials. The CTP market analysis identified numerous groups that provide educational/training opportunities similar to those to be offered by the Reserve's coastal training program. This presents both an opportunity and a challenge to the Reserve – numerous partnership opportunities exist, but it will require planning to avoid duplication of effort and resources.

ACCOMPLISHMENT: The San Francisco Bay Reserve developed its Coastal Training Program and, shortly after the evaluation site visit, received full approval for it.

D. STEWARDSHIP AND RESOURCE MANAGEMENT

Within the NERR system, many reserves conduct or accomplish programs or activities related to land acquisition, enforcement, restoration, restoration science, technical advice and support, and

community education under the general rubric of stewardship and resource management. Because the Reserve is integrating its research, education, and stewardship components, elements of stewardship and resource management are identifiable in almost all of its activities and programs, as can be seen in many of the discussions in other sections of this document.

The Solano Land Trust Land Steward has served as the Reserve's Stewardship Coordinator for the Rush Ranch site. Rush Ranch provides opportunities for resource management, two of which could involve managing visitor impacts and the return of the managed marsh area to tidal marsh. [Since the site visit, the Solano Land Trust Board of Directors voted to restore the managed marsh area to tidal marsh.]

Land acquisition was also discussed with several groups during the site visit. The Richardson Bay Audubon Center and Sanctuary is being discussed as a possible site component addition at some point in the future. Brown's Island, which was initially proposed as a component of the NERR but was subsequently dropped because of opposition to its inclusion, was also discussed by some persons during the site visit. Changes to the political climate in California and other changes to the original opposition now make the consideration of Brown's Island more acceptable.

V. CONCLUSION

For the reasons stated herein, I find that the State of California is adhering to the programmatic requirements of the Coastal Zone Management Act and the regulations of the National Estuarine Research Reserve System in the operation of its approved San Francisco Bay National Estuarine Research Reserve.

The San Francisco Bay Reserve has made notable progress in: Administration and Staffing; Facilities and Infrastructure; Coordination and Partnerships; Research Activities; Monitoring; Site Profile; Education and Outreach; and Coastal Training Program.

These evaluation findings also contain seven (7) recommendations. All of the recommendations are in the form of Program Suggestions. There are no Necessary Actions. The Program Suggestions should be addressed before the next regularly-scheduled program evaluation, but they are not mandatory at this time. Program Suggestions that must be repeated in subsequent evaluations may be elevated to Necessary Actions. Summary tables of program accomplishments and recommendations are provided in Section VI.

This is a programmatic evaluation of the San Francisco Bay National Estuarine Research Reserve that may have implications regarding the state's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

/signed/ David M. Kennedy
David M. Kennedy
Director, Office of Ocean and Coastal
Resource Management

7/23/08
Date

VI. APPENDICES

Appendix A. Summary of Accomplishments and Recommendations

The evaluation team documented a number of the San Francisco State University's and the Reserve's accomplishments during the review period. These include:

Issue Area	Accomplishment
Administration and Staffing	The Reserve has a full complement of staff, all of whom are knowledgeable, dedicated, well respected by their peers and partners, and who have assumed leadership roles at local, regional, and national levels within the NERR system as well as the greater field of coastal management and estuarine science.
Facilities and Infrastructure	The San Francisco Bay Reserve has initiated a good institutional presence at the facilities and infrastructure of Rush Ranch and China Camp as well as positive programmatic relationships with their respective interpretive and resource management staffs.
Coordination and Partnerships	The Reserve has built professional relationships with its major partners, and has initiated collaborative projects and significant capital improvements.
Coordination and Partnerships	The Reserve and Richardson Bay Audubon Center and Sanctuary are working to strengthen and formalize their partnership and coordinate activities related to their shared missions of science, education, and stewardship.
Research Activities	The Reserve has established its research lab, a GRF program, and initiated a research permit system at China Camp. Reserve researchers are conducting several ongoing projects and support numerous other researchers in projects that may be applicable to other reserves and estuarine systems as well as to San Francisco Bay.
Monitoring	San Francisco Bay Reserve has established its meteorological station, dedicated additional staff to the SWMP, and has initiated vegetative mapping and biomonitoring.
Site Profile	The Reserve has hired a site profile coordinator and has begun work on developing and producing the San Francisco Bay Reserve site profile.

Education and Outreach	The Reserve’s education and outreach program has begun to develop strong partnerships with many of the numerous educational program providers in the Bay area so as to work collaboratively and not competitively. Because it has no unique Reserve visitor center, the Reserve has also begun to establish outreach and educational programs as well as its distinct identity at Rush Ranch, China Camp, and the Aquarium of the Bay, which provides an opportunity to reach the general public in large numbers.
Coastal Training Program (CTP)	The San Francisco Bay Reserve developed its Coastal Training Program and, shortly after the evaluation site visit, received full approval for it.

In addition to the accomplishments listed above, the evaluation team identified several areas where the program could be strengthened. Recommendations are in the forms of Program Suggestions and Necessary Actions, although there are no Necessary Actions from this evaluation. Areas for improvement include:

Issue Area	Recommendation
Administration and Staffing	PROGRAM SUGGESTION: NOAA strongly encourages state funding support for the San Francisco Bay NERR’s education coordinator and research coordinator positions. NOAA also encourages SFSU to formalize a mechanism or process for providing non-federal match in terms of what the Reserve can expect and plan for annually.
Grants Management	PROGRAM SUGGESTION: One or more of the SFSU staff responsible for some management of the Reserve’s cooperative agreement awards and financial reporting should become more familiar with the NOAA Grants Management Division (GMD) guidelines and procedures for award and report processing. One way to accomplish this is by participating in a training workshop held by GMD staff during the year.
Management Plan	PROGRAM SUGGESTION: The Reserve should initiate its management plan update and work with OCRM to devise a timeline for completion.
Facilities and Infrastructure	PROGRAM SUGGESTION: The letter of commitment regarding space for the Reserve at the Romberg Tiburon Center should be revisited and discussed among SFSU, RTC, the Reserve, and OCRM, because it is unclear whether the intent of the letter is being met in all circumstances. Facility issues that affect the health of Reserve staff in Building 36 should be addressed. The issue of leasing space to groups in Building 39 whose function or purpose is not education-related should also be clarified.

<p>Coordination and Partnerships</p>	<p>PROGRAM SUGGESTION: With firm professional relationships established, it is critical to establish joint program planning processes, increased communication, and operational agreements among the Reserve, Romberg Tiburon Center, China Camp State Park, and Rush Ranch/Solano Land Trust staffs. The Reserve should explore options for doing so, with possibilities including, but not limited to, regular partners staff meetings, formalized operational protocols, and strategies to agree upon research and education priorities.</p>
<p>Strategic Planning</p>	<p>PROGRAM SUGGESTION: The Reserve staff should work together to strategically plan ways to improve internal communications, establish operational procedures, identify appropriate roles and responsibilities as necessary, and coordinate site profile and management plan development and implementation. These actions should be done as part of the recommendation for operational and strategic planning processes with the Reserve’s partners.</p>
<p>Site Profile</p>	<p>PROGRAM SUGGESTION: In coordination with OCRM, the Reserve should establish a timeline for completion of the site profile.</p>

Appendix B. Response to Previous Evaluation Findings

This is the first evaluation of the San Francisco Bay National Estuarine Research Reserve since its designation in 2003. There are no previous evaluation findings.

Appendix C. Persons and Institutions Contacted

San Francisco State University

Dr. Sheldon Axler, Dean, College of Science and Engineering
Dr. Toby Garfield, Director, Romberg Tiburon Center for Environmental Studies
Dr. Katharyn Boyer, Romberg Tiburon Center and Department of Biology
Dr. William Cochlan, Romberg Tiburon Center and Department of Biology
John Kern, Board of Directors, Romberg Tiburon Center for Environmental Studies

San Francisco Bay National Estuarine Research Reserve

Jaime Kooser, Manager
Drew Talley, Research Coordinator
Sarah Davies, Education Coordinator
Marina Psaros, Coastal Training Program Coordinator
Lara Martin, Monitoring Technician
Nicole Christiansen, Research Technician
Arnas Palaima, Site Profile Coordinator
Laurie Kara, Administrative Coordinator
Christine Whitcraft, Post-doctoral Fellow
Heidi Weiskel, NERR Graduate Research Fellow

State Agency Representatives

Dave Gould, California Department of Parks and Recreation
Tina Williams, California Department of Parks and Recreation
Mike Lair, California Department of Parks and Recreation
Sam Toffoli, California Department of Parks and Recreation
Dave Boyd, California Department of Parks and Recreation
Roy McNamee, California Department of Parks and Recreation

Other Organizations and Representatives

Ben Wallace, Conservation Project Manager, Solano Land Trust
Ken Poerner, Land Steward, Solano Land Trust
Sue Wickham, Project Coordinator, Solano Land Trust
Joel Mooney, Rush Ranch Education Council
Will Travis, Executive Director, San Francisco Bay Conservation and Development Commission
Caitlin Sweeney, San Francisco Bay Conservation and Development Commission
Jessica Schneider, former Research Technician, San Francisco Bay NERR
Brooke Langston, Director, Richardson Bay Audubon Center and Sanctuary
Frank Quan, former resident and business owner at China Camp

Appendix D. Persons Attending the Public Meeting

The public meeting was held on Tuesday, August 28, 2007, at 7:00 p.m. at the Farallon Room, Aquarium of the Bay, Pier 39, The Embarcadero at Beach Street, San Francisco, California. No members of the public attended the meeting.

Appendix E. NOAA's Response to Written Comments

NOAA received one written comment regarding the San Francisco Bay National Estuarine Research Reserve. The letter is part of the official record of the evaluation and is briefly summarized below, followed by NOAA's response.

Dr. Michael Vasey

Department of Biology, San Francisco State University

Comment: Dr. Vasey is a former acting manager of the Reserve. He noted that the Reserve has made some important accomplishments since its designation: the hiring of talented and dedicated staff, a productive working relationship with the Solano Land Trust, major improvements taking place at Rush Ranch, completion of the RTC Building 36 construction, deployment of the SWMP, and several outreach projects. He would like to see a stronger partnership forged with the China Camp State Park and greater integration of the Reserve into the Bay and delta scientific community, noting that the CALFED grant recently awarded to the Research Coordinator will certainly help. In summary, he believes the infrastructure of the NERR has been built in only four years and has confidence that it will continue to improve and become one of the Reserve system's jewels.

NOAA's Response: The evaluation team thanks Dr. Vasey for his comments. OCRM concurs with his comments, as can be seen in the enumerated accomplishments as well as discussions involving China Camp.