

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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Agenda Item #9

January 24, 1997

TO: Commissioners and Alternates

FROM: Will Travis, Executive Director

SUBJECT: **Staff Report and Recommendation on the Proposed Assessment of the Commission's Coastal Management Program and Program Enhancement Strategy**
(For Commission consideration and vote on February 6, 1997)

Staff Recommendation

The staff recommends that the Commission: (1) hold a public hearing to allow members of the public to comment on the updated assessment of the Commission's coastal management program and enhancement strategy to improve the Commission's program; and (2) at the close of the hearing, after making any necessary changes, vote to approve the assessment and strategy, and direct the staff to submit the assessment and strategy to the National Oceanic and Atmospheric Administration so that BCDC remains eligible for funding assistance under Section 309 of the federal Coastal Zone Management Act. The proposed program enhancement strategy contains projects and activities that would enable the Commission to achieve some of the objectives of the Commission's strategic plan, which is also scheduled to be approved at the February 6, 1997 meeting. Therefore, if the Commission revises the proposed enhancement strategy, the staff recommends that the Commission authorize the staff to revise the Commission's adopted strategic plan as necessary to resolve any inconsistencies between the enhancement strategy and the strategic plan.

Background

Since 1977, the Commission has received financial assistance from the National Oceanic and Atmospheric Administration (NOAA) under the provisions of the federal Coastal Zone Management Act (CZMA) to implement BCDC's coastal management program for San Francisco Bay. When Congress reauthorized the Coastal Zone Management Act in 1990, it added a new voluntary coastal zone enhancement grant program under Section 309 of the CZMA. This program encourages states to develop innovative approaches for addressing the following nine coastal issues that Congress found to be of national significance: (1) public access, (2) coastal hazards, (3) ocean resources management, (4) wetlands protection and restoration, (5) cumulative and secondary impacts of development, (6) marine debris, (7) special area management planning, (8) energy and government facility siting, and (9) aquaculture.

To be eligible for Section 309 enhancement grant funding, coastal agencies are required to conduct an assessment of their programs, determine areas where the program could be improved, and prepare a strategy of priority program enhancements corresponding to one or more of the nine coastal issues. The assessment and strategy are submitted to NOAA for review and ranking for funding eligibility.

In 1993, the Commission prepared and submitted to NOAA its initial assessment and strategy. The Commission subsequently received Section 309 grants to help fund the North Bay Wetlands Protection Program.

To continue to qualify for supplemental funding under Section 309, the Commission must (1) update its initial coastal management program assessment, (2) determine where opportunities exist for making improvements in the nine coastal issue areas, and (3) develop a program en-

hancement strategy for making the improvements. In this task, the Commission is only required to assess the changes that have taken place in its program since the initial assessment, define the opportunities for program enhancement that are now present, and develop an updated program enhancement strategy.

A draft updated assessment of BCDC's coastal management program was mailed to the Commission and the public on December 27, 1996. The draft assessment was provided as background information to the Commission for use in the development of its strategic plan at its January 9, 1997 workshop.

This staff report provides a summary of the proposed updated assessment, the recommended strategy for enhancing the Commission's coastal management program (page 4), and the program assessment (page 8). Once adopted by the Commission, elements of the program enhancement strategy will be incorporated into the Commission's work program, and staff will apply for federal funds to implement the program changes. The Commission will be eligible to receive federal Section 309 funding during the state's 1997-98, 1998-99, and 1999-2000 fiscal years.

Assessment Summary

The proposed assessment (page 8) provides: (1) a brief background on each of the assessment subject areas, (2) a description of the element of the Commission's management program that addresses a particular subject area, (3) the conclusions of the Commission in its previous (1993) assessment of its management program, and (4) the changes to the Commission's program that have occurred over the last three years. Because of the length of the proposed assessment, a summary of the federal program objectives and assessment conclusions follows. The priority rankings applied to the federal program enhancement areas are based on the proposed assessment and were incorporated into the strategic plan, which the Commission developed at its workshop on January 9, 1997.

High Priority Enhancement Areas

Public Access. Federal enhancement objectives for state coastal management programs address the need to increase opportunities for public access to coastal areas, and include providing access while protecting wildlife, particularly endangered species. BCDC's program continues to increase opportunities for public access to the Bay and shoreline and remains a model for other public access efforts.

- The Commission should continue to be involved in joint planning efforts to increase access to the Bay and shoreline.
- To assist BCDC in its mission to balance access to the Bay with natural resource protection, the Commission should participate in a study of the impacts of public access on wildlife.

Wetlands Protection and Restoration. Program objectives address the need to protect, restore and enhance existing coastal wetlands or to create new wetlands. Commission efforts to control Bay filling have nearly halted further conversion of tidal lands; however, development continues to threaten remaining Bay diked wetlands. Declining habitat values are most apparent in tidal salt and brackish marshlands.

- The Commission should continue its collaborative effort in the North Bay to develop tools to assist local governments in improving and refining wetland habitat protection plans and enforceable regulations.
- The Commission should determine areas no longer included in its Bay jurisdiction as a result of the Littoral decision, and begin to assess potential additional impacts to wetland areas throughout the Bay.
- To further wetland protection efforts, the Commission should improve its coastal management program by updating the Bay Plan policies dealing with marshes and mudflats, fish and wildlife, and salt ponds, and the Commission's mitigation policies.

- To offset the impacts of development on the Bay's natural resources, the Commission should participate in establishing a regional wetland mitigation banking system.

Cumulative and Secondary Impacts of Development. Program objectives address the need to develop and adopt procedures to assess, consider and control cumulative and secondary impacts of coastal growth and development, including the collective effect of various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. BCDC was formed to address the cumulative impacts of Bay filling that was being undertaken to accommodate unrestricted growth. Inland development activities continue to generate pressure to place Bay fill and increase demands for public access to the Bay.

- To better address impacts of growth and development, the Commission should continue to pursue partnerships with other interested parties and agencies to further programs designed to reduce threats to Bay water quality and natural resources.
- To relieve the pressure for in-Bay disposal of dredged material, and to foster beneficial uses of these sediments, the Commission should continue its work with other interested agencies in the dredging Long Term Management Strategy (LTMS) to better manage dredging and dredged material disposal activity in the Bay.
- The Commission should facilitate dredging and disposal activities by working with other relevant agencies to coordinate permitting of these activities.
- The Commission should join with other efforts to coordinate habitat restoration planning and implementation thereby contributing to the enhancement of natural resources lost as a result of growth and development in the Bay-Delta Area.

Special Area Management Planning. Program objectives address the need to prepare and implement special area management plans for important coastal areas. Special area planning is an effective way to eliminate inconsistencies between the plans and policies of different agencies having regulatory jurisdiction over the same areas or issues, to provide greater regulatory certainty and predictability, and to deal with emerging issues such as nonpoint pollution control, military base closures, wetland management and cumulative impacts of development. BCDC has been a pioneer in developing special area plans with local governments and other agencies.

- BCDC should continue its efforts to coordinate the goals of local waterfront planning efforts with those of the McAteer-Petris Act and Bay Plan.
- The Commission should also continue to pursue regionwide planning as a tool to accommodate development and protect Bay resources.

Medium Priority Enhancement Areas

Coastal Hazards. Program objectives address the need to prevent or significantly reduce threats to life and destruction of property by controlling development and redevelopment in high hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise. BCDC has been recognized as a national leader in addressing coastal hazards.

- The Commission should improve its coastal management program by working cooperatively with local governments to ensure development in shoreline areas incorporates current safety standards.
- The Commission should secure the passage of legislation that would provide the Commission with the authority to address seismic and flooding issues in all areas under its permit jurisdiction, not just in the Bay.
- These improvements to the Commission's program should be accomplished through reestablishing a staff engineering position.

- Additional benefits to local planning agencies, and to resource protection agencies, could be realized through expanding the Commission's geographic information system (GIS) activities to identify those areas most in jeopardy of the effects of sea level rise and subsidence.

Energy and Government Facility Siting. Program objectives address the need for adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and energy-related activities and government activities that may be of greater than local significance. Through the priority use designations in the Bay Plan, the Commission has ensured that shoreline areas needed for ports, airports, and water-related industries such as oil refineries, have not been preempted by other land uses that can be accommodated elsewhere.

- The Commission could play a valuable role in addressing some of the critical problems resulting from the closure of military bases in the Bay Area by expanding its partnerships with local governments and other affected agencies to facilitate strategies for the reuse of the closed bases.
- The Commission should join with other agencies to accelerate deepening of navigation channels to support maritime operations.
- The Commission should further its mandate to protect the Bay and its resources by developing appropriate Bay Plan policies to address oil spill prevention and navigation safety.

Low Priority Enhancement Areas

Ocean Resources, Marine Debris and Aquaculture. These areas were found to be of low priority for the purposes of this assessment: the primary authority to address ocean resources or to avert impacts from marine debris rests with agencies other than BCDC. Further, the Bay does not afford a marine environment that is conducive to aquaculture activities.

Program Enhancement Strategy

The Commission, at its strategic planning workshop held January 9, 1997, tentatively concluded that as part of its strategy for enhancing its coastal management program, it should (1) complete its existing priority projects already included in its work program and underway, and (2) initiate select new activities to enhance its program for coastal resource protection consistent with its strategic plan objectives (shown below in italics). The workshop participants concluded that the following priority programs and activities should constitute the Commission's program enhancement strategy.

Complete Existing Priority Programs

Public Access

- **Oakland Waterfront Planning.** *By June 30, 1997, the staff, in conjunction with the Port of Oakland, will secure funding and substantially complete the Oakland Waterfront Public Access Plan.*

Commission staff have been working with the City and the Port of Oakland and Oakland citizens organizations to develop a plan to lay out in a comprehensive manner the kinds of public access and amenities that should be required of development projects along the Oakland waterfront, particularly those at the Port. An objective of the plan will be to enable the Port to construct, in advance of a proposed project such as the Joint Intermodal Terminal, public access facilities at another location on the Oakland waterfront more suitable for public use. The Port would receive credit for the public access improvements that it could apply to future projects.

The public access plan will focus primarily on the location and characteristics of public access along the entire waterfront, in part to further the goals of the San Francisco Bay Trail program. The plan will identify specific areas where public access is lacking, prioritize public access connections, and facilitate public access improvements. Implementation of the public access credit mechanism would rest primarily with the Port and BCDC, with input from the City. A public access credit strategy will facilitate public access connections prior to or in the absence of future adjacent land development.

The Commission has been able to participate in this important planning partnership because of funding assistance from the Port of Oakland. While funding from the Port will allow Commission staff to participate in this planning effort in FY 1996-97, additional staff resources will be needed in FY 1997-98 to complete the plan and possibly amend the Bay Plan.

Wetlands Protection and Restoration

- **North Bay Wetlands Protection Program.** *By June 30, 1997, the staff will support the North Bay Steering Committee's substantial completion of the North Bay wetlands protection program.*

The North Bay Steering Committee and Commission staff have made much progress in the background work needed to develop tools to assist the eight participating local governments in the North Bay with improving and refining wetland habitat protection plans and enforceable regulations. Background reports have been prepared and the nine-member Steering Committee has held hearings on land use and ownership and on wetland values, functions and locations in the North Bay planning area. Work on this program is a high priority for the Commission and should continue and be completed in 1997.

Cumulative and Secondary Impacts of Development

- **LTMS.** *By June 30, 1997, the staff will prepare a work program and identify a funding source to complete BCDC's portion of the Long Term Management Strategy.*

The Commission will work closely with its LTMS partners to prepare the final EIS/EIR for the program. However, the Commission should focus the bulk of its efforts on preparing a comprehensive Management Plan for implementation of the program. The Management Plan will include proposed amendments to both the Commission's Bay Plan dredging policies and the San Francisco Bay Regional Water Quality Control Board's Basin Plan. These two documents will provide the primary policy basis at the state level for implementation of the LTMS. After adoption of the Management Plan, staff resources will be required for implementation efforts, such as work to establish reuse of dredged material as an ongoing program rather than on a case by case basis. Successful implementation of the program will require significant staff involvement in the early stages, both to work with dredgers and project sponsors, as well as to coordinate with the LTMS agencies.

Special Area Management Planning

- **San Francisco Waterfront Planning.** *By June 30, 1997, the staff, in conjunction with the Port of San Francisco, will substantially complete the San Francisco Waterfront Plan and recommend changes to the Bay Plan to the Commission.*

An important element of the Port of San Francisco's *San Francisco Waterfront Plan* is the urban design and public access plan and guidelines. Considerable work has been accomplished in the past year through the collaborative planning of the Port and Commission staffs. However, a number of issues remain to be resolved before changes can be proposed to the *San Francisco Bay Plan*, *San Francisco Waterfront Special Area Plan* and *San Francisco Waterfront Total Design Plan*, and before the Port can adopt the urban design and public access plan. Consequently, the Commission should continue and conclude the planning effort it has begun with the Port and community groups to define these important characteristics that will apply to future development along San Francisco's waterfront.

Staff has been working with the Port of San Francisco staff to bring the Port's Waterfront Plan and the Commission's Bay Plan, Special Area Plan and Total Design Plan policies and implementing mechanisms into consistency, with the goal to provide greater predictability for project proponents along the San Francisco Waterfront. The staffs, with Save San Francisco Bay Association, have developed a framework for integration of the two agencies' plans and are now refining the details for presentation to BCDC and the Port Commission. Agreement by the Commissions should result in proposed amendments to the agencies' plans.

Initiate New Priority Programs

Public Access

- **Wildlife and Public Access Study.** *By June 30, 1997, the staff will develop a work program and seek funding to undertake with the Association of Bay Area Governments (ABAG) a study to assess the compatibility of public access and wildlife, the results of which may lead to a Bay Plan amendment.*

Central to planning for public access to the Bay must be an understanding of the potential impacts to wildlife and their habitat that can be created by human and domestic pet intrusion. With the creation of new pathways to areas previously not accessible, nesting, breeding and feeding areas can be disturbed and resident species displaced. To evaluate the effect of trail users on the behavior of birds and their abundance and diversity, the Bay Trail Project has designed a Wildlife and Public Access Study to research the short- and long-term effects of trail use on San Francisco Bay Area wildlife, and has asked the Commission to join as a partner in the study.

Participation in such a study would do much to refine the Commission's public access program. Bay Plan policies require that public access in natural areas where wildlife may be sensitive to human intrusion be evaluated to determine the appropriate type and location of the access. As use of the Bay's shoreline increases in non-urban areas, it is important to minimize impacts to wildlife through appropriate access siting and design. Results of the study would assist the Commission in its mission of balancing access to the Bay with natural resource protection.

When completed, the Commission could assess the results of the study to further refine its public access program for the Bay. By incorporating the findings and recommendations of the wildlife study into the findings and policies of the public access element of the Bay Plan, BCDC could ensure that public access is provided in locations suitable for such use, and away from sensitive wildlife areas, or in a manner that is compatible with wildlife values.

Wetlands Protection and Restoration

- **San Francisco Bay Trust.** *By April 1, 1997, the Commission will consider endorsing the recommendations of the Bay Trust Task Force.*

The Bay Trust Task Force was formed by the Commission to implement a goal of the Commission's strategic plan—to evaluate the feasibility of establishing a new "Bay Trust" and identify means of making better use of existing programs to acquire, manage, and enhance Bay natural resources. The Task Force determined that establishing a San Francisco Bay Trust would further the protection of Bay resources by helping the Commission to coordinate the acquisition and management of Bay open space, natural resources and wetlands. A Bay Trust would augment efforts in behalf of Bay resources by attracting additional funding to implement acquisition and restoration projects, and could further enhance the responsible use of Bay resources by advancing mitigation and public access banking.

As envisioned, a partnership between BCDC and the Coastal Conservancy, with the Bay Trust established within the Conservancy, would best achieve the goals of the Trust. The Conservancy Board would delegate responsibility to a Bay Trust steering committee repre-

sentative of state, regional and local interests for projects funded exclusively through the efforts of the Trust. In other circumstances, the Conservancy Board would make its own decisions on projects, based on the recommendations of the Trust steering committee. Clear criteria would need to be established to identify the process by which specific projects are approved, depending on the funding source and goals.

- **Wetland Mitigation Banking System.** *By June 30, 1997, the Commission will secure funding for the Wetlands Mitigation Banking System in preparation for its implementation by January 1, 1998.*

The purpose of a wetland mitigation bank is to restore in one large, ecologically viable area, wetland values lost from authorized fill in wetlands. Under a mitigation bank program, a land developer is able to purchase wetlands "credits" from another entity that has created wetlands. The developer can purchase mitigation credits from the created wetland "bank" for the purpose of mitigating the effects of the fill created by the development. This type of program can be more successful in creating the type and amount of wetlands desired, and at less cost, than a number of small, unrelated mitigation programs.

Studies by BCDC and others have found that to a great degree, wetlands loss occurs as a result of the cumulative impact of small projects. Regulatory agencies, however, typically forego requiring mitigation for small projects, due to the disproportionate cost of mitigation as compared to the scale and cost of a small development project. Creation of a banking system would provide regulatory agencies with an important tool to address the cumulative impact of small projects that displace wetlands. BCDC staff prepared a report for the State Secretary for Resources outlining the manner in which a wetland mitigation banking system could be established and operate in San Francisco Bay. One aspect of the proposed system would encourage private entrepreneurs to enter into the business of creating mitigation banks to provide a broader market for mitigation credit purchasers.

Cumulative and Secondary Impacts of Development

- **CALFED.** *By March 1, 1997, the staff will develop a strategy to participate in the CALFED Bay-Delta Program.*

The Commission has normally followed the actions of the State Water Resources Control Board, the State Legislature, and a number of other federal, state and regional governmental agencies in issues that affect fresh water allocation and diversion—such as the formulation of the Water Quality Control Plan for Salinity in the San Francisco Bay-Delta Estuary, and proposed water transfer facilities—such as the Peripheral Canal and agricultural drainage facilities from the Central Valley.

The CALFED program, a federal-state partnership, will concentrate on restoration of habitats for endangered aquatic species in the Bay-Delta system. It is currently contemplated that the program will propose considerable restoration in the San Pablo Bay area. In addition to the Commission's role in federal consistency determinations and permits required for CALFED projects, the Commission should be involved in the CALFED habitat restoration process for the Bay.

- **DMMO.** *By June 30, 1997, the Commission will determine whether the Dredged Materials Management Office (DMMO) should be modified, made permanent, or whether another pilot period is necessary and what resources are required.*

The DMMO pilot project will consist of two six-month trial periods. During the first phase, which began in July 1996, maintenance dredging and disposal permit applications will be processed in order to gauge the effectiveness of the DMMO and determine the need for modifications to the program. The Commission will continue its participation in the second six months of the pilot DMMO, after modifications are made based on review of the results of the first six months. DMMO projects will likely be expanded to include applications for Corps maintenance dredging activities and other activities agreed to by the member

agencies. After completion of the pilot program, the agencies will determine (1) whether and how the program should be modified, and (2) whether the program should become permanent or if another pilot period is needed.

- **Public Information.** *By June 30, 1997, the Commission and the staff will seek federal and state funding to develop a BCDC Home Page on the World Wide Web.*

Using a four-phase program, BCDC staff plans to create a Home Page on the World Wide Web to: (1) serve as a library of information about San Francisco Bay; (2) provide links to the many agencies and interest groups associated with Bay issues; (3) provide information about the Commission and its programs; and (4) offer on-line inquiry service, electronic applications, and application filing. Through regular update of the Home Page, the Commission will post such materials as BCDC meeting notices, staff reports, and changes to BCDC programs. In addition to informing the public about the role of the Commission, the web site will also provide links to related programs, such as the State Resources Agency, the Regional Water Quality Control Board, NOAA, the Army Corps of Engineers, and the San Francisco Estuary Institute.

Special Area Management Planning

- **Shoreline Transportation Plan.** *By June 30, 1997, the Commission will convince Caltrans and MTC to work with BCDC to develop a shoreline transportation plan.*

Because BCDC's review of Caltrans' major permit applications occurs too late in Caltrans' planning process for BCDC to have any useful input on the selection of alternative routing, design, or transit mode, the Commission included in its strategic plan the objective of forming a partnership with the Metropolitan Transportation Commission (MTC) and Caltrans to adopt a joint San Francisco Bay shoreline transportation plan. The *San Francisco Bay Area Seaport Plan* would be used as a model for a regional plan for transportation corridors that could affect the Bay. BCDC has developed the Seaport Plan in partnership with MTC, and it is highly effective in establishing regional policies on developing facilities for waterborne cargo transportation and access to those facilities. The policies are implemented by MTC through its *Regional Transportation Plan*, and by BCDC through its regulation of shoreline development. The proposed shoreline transportation plan could be implemented under BCDC's existing authority to develop and adopt Special Area Plans. Adopting such a plan would provide BCDC an opportunity to make a binding decision on routes, design concepts, and transit modes early in Caltrans planning process. It would also allow BCDC to use its permit review to focus on the specific details of individual project designs in its jurisdiction.

Program Assessment

Introduction

The 1990 reauthorization of the federal Coastal Zone Management Act called for states to strengthen coastal management in the United States and its territories. One of the efforts to achieve this objective is the coastal zone enhancement grant program, established under Section 309 of the CZMA. The program encourages states to develop new and innovative approaches to address coastal issues of national significance and provides additional financial assistance for states to develop and implement changes to improve their coastal management programs in nine priority areas, as defined by the CZMA.

The following nine program areas are identified as candidates for enhancement under the section 309 program:

- (1) Protecting, enhancing, or creating wetlands.

- (2) Preventing or significantly reducing threats to life and property by controlling coastal development and redevelopment in hazardous areas, and anticipating and managing the effect of sea level rise.
- (3) Attaining increased opportunities for public access.
- (4) Reducing marine debris by managing uses and activities that contribute to marine debris.
- (5) Developing and adopting procedures to address the cumulative and secondary impacts of growth and development.
- (6) Preparing and implementing special area management plans.
- (7) Planning for the use of ocean resources.
- (8) Adopting procedures and policies to facilitate the siting of energy and government facilities and activities which may be of greater than local significance.
- (9) Improving procedures and policies for considering siting of marine aquaculture facilities while maintaining current levels of coastal resource protection.

The purpose of the enhancement grant program is to foster improvements in state coastal management programs in these specific areas, with a goal of improved protection for coastal resources. The CZMA is administered at the federal level by the Office of Ocean and Coastal Resource Management (OCRM) within the National Oceanic and Atmospheric Administration (NOAA). The federally approved management program for the San Francisco Bay segment of the California coastal management program is administered by the San Francisco Bay Conservation and Development Commission. The California Coastal Commission administers the coastal management program for the Pacific Ocean coastline segment of the California coastal zone.

The enhancement program encourages states to achieve the nine objectives by strengthening their coastal management programs with new laws, regulations or other enforceable mechanisms to provide greater protection for coastal resources. Program improvements are defined as changes to a state's federally approved coastal zone management program as opposed to changes in the manner in which the program is implemented. The types of changes that would qualify as program improvements include the following actions if they would improve a state's ability to achieve one or more of the coastal zone enhancement objectives:

- (1) Changes to coastal zone boundaries.
- (2) New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders and memoranda of agreement.
- (3) New or revised local coastal zone programs.
- (4) New or revised coastal land acquisition, management and restoration programs that attain one or more of the coastal zone enhancement objectives.
- (5) New or revised special area management plans or plans for areas of particular concern.
- (6) New or revised guidelines, procedures and policy documents.

Public Access

Program objectives address the need to increase opportunities for public access to coastal areas, taking into account current and future public access needs. Objectives include providing access while protecting wildlife, particularly endangered species.

Background. Creation of public access is a founding tenet of BCDC's coastal management program. Waterfront parks and beaches are delineated as priority use areas in the Bay Plan. In addition to public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access consistent with a proposed project to and along the waterfront must be provided as part of every Bay and shoreline project approved by the Commission. Public

access is recognized as a source of substantial public benefit, one of the few uses for which some Bay fill is allowed. Since 1970, over 720 acres of new public access along more than 60 miles of Bay shoreline have been created by BCDC through its approval of major permits. Although shoreline access is increasing around the Bay as a result of the Commission's permit requirements and park development provided by other agencies, concern has been raised by wildlife resource management agencies over the conflict of public access with and adverse impact on wildlife, particularly endangered species.

BCDC's Public Access Program. The authority for BCDC's public access program is specifically granted by Section 66602 of the McAteer-Petris Act, which states, in part, "that existing public access to the shoreline and waters of the San Francisco Bay is inadequate and that maximum feasible public access...should be provided." The foundation for the Commission's public access program lies in the findings and policies of the *San Francisco Bay Plan* (Bay Plan), which establish that shoreline areas not needed for designated priority uses are to be developed in ways that do not preclude public access to the Bay.

The primary Bay Plan public access policies are contained in the sections concerning recreation, public access, and appearance, design and scenic views. Public access should be provided wherever feasible in and through any shoreline development, and is intended to result in considerably more access to the Bay than can be provided by public parks alone. Because of the need to increase the availability of recreational opportunities, small amounts of Bay fill may be allowed for shoreline parks and recreational areas that cannot otherwise be developed, provided the fill is the minimum necessary to develop the project in accordance with Commission access requirements.

BCDC's public access program consists primarily of attaching conditions to permits for Bay fill and development within the 100-foot shoreline band that require that access be provided on a permanent basis. The McAteer-Petris Act (Section 66632.4) grants BCDC the authority to deny permit applications for projects that fail to provide maximum feasible public access, consistent with the proposed project, to the Bay and its shoreline. The phrase, "consistent with the proposed project," has required that the Commission establish a nexus between the public access burden created by an individual project and the public access exaction required by the Commission.

The Design Review Board (DRB), comprised of landscape architects, architects, planners, and engineers, serves as a voluntary advisory board assisting BCDC in evaluating the design aspects of specific projects for which a permit or consistency determination is needed. A permanent staff member serves as secretary to the Board. The DRB provides recommendations in three areas including: evaluating whether or not specific projects provide maximum feasible public access; suggesting changes to improve public access; and evaluating appropriateness of fill for proposed public access or for improving the appearance of the shoreline.

In evaluating a project for maximum feasible public access, the Board refers to Bay Plan policies on public access, and appearance, design and views; the Commission's Public Access Design Guidelines; and the Commission's regulations on fill for public access and shoreline appearance.

Conclusions of previous assessment. By focusing protection efforts on the Bay, BCDC has played a major role in guaranteeing that the Bay and its shoreline are recognized as a national recreational treasure. The Golden Gate National Recreation Area and many local, regional and state parks and recreation areas have been established around the Bay since the Commission was founded. Communities throughout the Bay Area continue to examine their waterfronts and to propose new points of Bay access. Diminishing funding for all public activities, however, increasingly inhibits the creation of further shoreline access. Increased coordination and communication between agencies at all levels is necessary for the achievement of maximum feasible access to the Bay.

Changes in BCDC's Public Access Program since previous assessment

- **Local Government Planning Partnerships.** In keeping with the objectives of the McAteer-Petris Act that encourage BCDC to coordinate its planning with planning by local agencies, the Commission has worked closely with Bay Area local agencies to further BCDC's goals

to prevent unnecessary Bay fill, maximize public access where compatible with resource protection, and to encourage and support appropriate shoreline development. Recent efforts to enhance the Commission's public access program have focused on joining with local governments and other agencies to work together to plan for increased public access to the Bay shoreline, thereby coordinating the Commission's goals for public access with those of local agencies for development.

The City of Oakland, Port of Oakland, and Oakland citizens organizations recently completed an update of the Oakland General Plan. As an outgrowth of this process, the Port and the City requested the Commission join them in developing a public access plan for the Oakland shoreline. The Port is assisting the Commission by funding BCDC staff participation in the planning effort during FY 1996-97. This joint planning effort offers a unique opportunity to develop policies and access guidelines for an urban industrial waterfront in accordance with BCDC policies.

- **Coordinated Design Review.** To further the Commission's strategic plan goal to establish a more efficient, collaborative regulatory program for the Bay, the Commission's Design Review Board Task Force was directed to investigate the feasibility of the DRB reviewing projects that fall within BCDC's jurisdiction simultaneously with local design review boards. By coordinating the various levels of project review in this way, project applicants are better served by avoiding prolonged and potentially duplicative procedures. Pilot projects have been initiated with the Ports of Oakland and San Francisco to test the feasibility of joint design review. This process should facilitate efforts to increase public access along the two waterfronts.
- **San Francisco Bay Trail.** The California legislature charged the Association of Bay Area Governments (ABAG) with creating a plan for the Bay Trail, a public access biking and hiking trail that will completely encircle San Francisco and San Pablo Bays. The Bay Trail Plan calls for a continuous corridor to link all nine Bay Area counties, connecting existing paths with newly created trails, that will allow access to points of natural, historic and cultural interest along the Bay shoreline.
- When completed, the Bay Trail will connect more than 90 parks and open space areas. Policies guiding the Bay Trail's development were designed specifically to protect wetlands and other sensitive shoreline resources, and require that trail construction and use are appropriate to the immediate environment. The Commission has been working closely to assist local agencies to implement the Bay Trail Plan through its permitting process, and by so doing, further BCDC's mandate to increase public access to the Bay and its shoreline.

Tentative priority objectives to improve BCDC's Public Access Program. The Commission, at its strategic planning workshop, tentatively concluded that the following objectives and activities are priorities for the Commission to improve its public access program.

- **Continued Oakland Waterfront Planning.** By June 30, 1997, staff, in conjunction with the Port of Oakland, will secure funding and substantially complete the Oakland Waterfront Public Access Plan.

Commission staff have been working with the City and the Port of Oakland and Oakland citizens organizations to develop a plan to lay out in a comprehensive manner the kinds of public access and amenities that should be required of development projects along the Oakland waterfront, particularly those at the Port. An objective of the plan will be to enable the Port to construct, in advance of a proposed project such as the Joint Intermodal Terminal, public access facilities at another location on the Oakland waterfront more suitable for public use. The Port would receive credit for the public access improvements that it could apply to future projects.

The public access plan will focus primarily on the location and characteristics of public access along the entire waterfront, in part to further the goals of the San Francisco Bay Trail. The plan will identify specific areas where public access is lacking, prioritize public access

connections, and facilitate public access improvements. Implementation of the public access credit mechanism would rest primarily with the Port and BCDC, with input from the City. A public access credit strategy will facilitate public access connections prior to or in the absence of future adjacent land development.

The Commission has been able to participate in this important planning partnership because of funding assistance from the Port. While funding from the Port of Oakland will allow Commission staff to participate in this planning effort in FY 1996-97, additional staff resources will be needed in FY 1997-98 to complete the plan and possibly amend the Bay Plan.

- **Wildlife and Public Access Study.** By June 30, 1997, the staff will develop a work program and seek funding to undertake with ABAG a study to assess the compatibility of public access and wildlife, the results of which may lead to a Bay Plan amendment.

Central to planning for public access to the Bay must be an understanding of the potential impacts to wildlife and their habitat that can be created by human and domestic pet intrusion. With the creation of new pathways to areas previously not accessible, nesting, breeding and feeding areas can be disturbed and resident species displaced. To evaluate the effect of trail users on the behavior of birds and their abundance and diversity, the Bay Trail Project has designed a Wildlife and Public Access Study to research the short- and long-term effects of trail use on San Francisco Bay Area wildlife, and has asked the Commission to join as a partner in the study.

Participation in such a study would do much to refine the Commission's public access program. Bay Plan policies require that public access in natural areas where wildlife may be sensitive to human intrusion be evaluated to determine the appropriate type and location of the access. As use of the Bay's shoreline increases in non-urban areas, it is important to minimize impacts to wildlife through appropriate access siting and design. Results of the study would assist the Commission in its mission of balancing access to the Bay with natural resource protection.

When completed, the Commission could assess the results of the study to further define its public access program for the Bay. By incorporating the findings and recommendations of the wildlife study into the public access element of the Bay Plan, BCDC could ensure that public access is provided in locations suitable for such use, and away from sensitive wildlife areas, or in a manner that is compatible with wildlife values.

Additional opportunities for improvement

- **Disabled Access Planning.** The Commission should ensure that the public access components of major projects that come before the Commission provide maximum feasible access for all potential users of the access. The Commission's Design Review Board could hold briefings with representatives of the disabled community and the Office of the State Architect to receive information that would assist the DRB in considering more fully the adequacy of public access components during its project review. By understanding how public access around the Bay can be improved to enhance the outdoor experience of persons with disabilities, the DRB could develop guidelines that would apply state access design requirements more specifically to accommodate the needs of the disabled community for access to the Bay and shoreline areas.

Coastal Hazards

Program objectives address the need to prevent or significantly reduce threats to life and destruction of property by controlling development and redevelopment in high hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise.

Background. San Francisco Bay is in an active and dangerous seismic zone. Earthquakes can destroy structures and breach levees that protect low-lying areas adjacent to the Bay. Improper

placement of fill can magnify ground shaking and the destructive force of earthquakes and contribute to ground failure and collapse of structures. Substandard engineering of old fill encircling much of the Bay heightens risks to persons and property in the shoreline area. Chronic hazards, including sea level rise and shoreline erosion, are potentially equally damaging to the Bay Area. Secondary effects may include damage to storm drainage and sewer systems and salt water intrusion into surface and below-ground fresh water aquifers.

BCDC's Coastal Hazards Program. Section 66605(e) of the McAteer-Petris Act requires the Commission to ensure that any fill project it approves in the Bay is "constructed with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters." Further, the Bay Plan offers specific policies on safety of fills and sea level rise to reduce the risk of life and damage of property.

By undertaking studies and developing and implementing policies through permit review and through intergovernmental coordination, the Commission has actively responded to the potential danger created by natural hazards. The Commission primarily uses the permit review process and its advisory Engineering Criteria Review Board to minimize hazardous effects in new Bay fill areas. Pursuant to the McAteer-Petris Act, BCDC exercises safety authority in its Bay jurisdiction; however, in its shoreline band jurisdiction, the Commission's authority is generally limited to assuring that proposed projects provide maximum feasible public access to the Bay or that priority use areas are reserved for their designated uses (Section 66632.4). The Commission does not have safety authority on the shoreline under the McAteer-Petris Act.

Seismic Hazards. The Safety of Fills section of the Bay Plan recognizes the risks to life and damage to property related to construction on filled lands. A number of measures are intended to minimize these risks, including extensive project review and permit conditions specifying methods of construction and fill placement. Because so much of the land within the Commission's shoreline band jurisdiction is old, non-engineered fill, structures are as susceptible to earthquake damage in these areas as on new Bay fill.

Fundamental to BCDC's program in addressing coastal hazards is the Engineering Criteria Review Board (ECRB), established to consider seismic safety conditions. The ECRB reviews permit applications for major Bay fill projects to ensure that appropriate safety criteria are used in their design and construction. The Board has been highly successful in establishing and revising safety criteria for fills and structures; reviewing projects for safety provisions and providing recommendations for improvements; developing an inspection system; and gathering performance data on specific projects. These activities are intended to complement the functions of local building and planning departments. Over the past two decades, ECRB review has resulted in significant improvements in the seismic engineering of fills and structures placed on them.

Sea Level Rise. The Bay Plan's Safety of Fills findings and policies were amended in 1989 to acknowledge the impact of accelerated relative sea level rise and to incorporate tidal flood protection engineering design review procedures and criteria into the Commission's permit review process. (Relative sea level rise refers to the sum of (1) a rise in global sea level and (2) elevation change (lifting or subsidence).) Rising relative sea level may contribute to overtopping of levees that protect urban development, agricultural lands, managed wetlands, and salt evaporation ponds. The rise in water level would be particularly damaging during storm surges and extreme high tides. A rapidly rising Bay could inundate unprotected low-lying areas, increase periodic flooding of previously protected low-lying areas, disrupt storm drainage systems, erode shoreline and beach areas, and lead to salt water intrusion into estuaries, fresh water tributaries and groundwater. The Commission held a workshop in the late 1980s for local governments and interested parties to explain relative sea level rise and steps local agencies can take to address its impacts. However, since the elimination of the staff engineer position, the Commission's outreach program to local government on sea level rise has been significantly curtailed.

Shoreline Erosion. Shoreline erosion threatens structures, roads, recreation facilities, and farmlands. Most of the Bay's shoreline is retreating inland as storms, rain, waves, water runoff, vertical and horizontal land movement, and changes in water level (relative sea level rise) erode the shoreline. The Protection of the Shoreline section of the Bay Plan incorporates findings and policies to guide BCDC's permit actions concerning shoreline erosion protection projects. New erosion control projects or reconstruction and maintenance efforts are authorized if found to be necessary, appropriate to the site, and properly engineered and constructed. However, although the Commission has adopted these policies, little work has been done with shoreline protection project applicants and their engineers since the elimination of the staff engineer position.

Subsidence. Land subsidence can result from natural events such as earthquakes, but also can be hastened to a great degree by human activities. Common reasons for subsidence in the Bay Area are the placement of heavy fill on Bay mud and extensive pumping of groundwater, which in turn can cause flooding, erosion and groundwater contamination. Without levees or other protective measures, flooding would be of particular concern to areas of the South Bay that have experienced extensive subsidence.

BCDC is limited to recommendations and conditions to minimize the threat of subsidence created by activities outside its jurisdiction, such as groundwater pumping. These conditions, such as diking and leveeing affected areas, can only respond to the undesirable effects of the activities, rather than prevent land from subsiding. Compounding the problem is the limited knowledge regarding the precise locations of groundwater reservoirs. As part of BCDC's dredging program and in addition to other research developed through the Long Term Management Strategy (LTMS) for dredged materials disposal in the region, Commission staff is working closely with the Department of Water Resources and the U.S. Army Corps of Engineers to conduct pilot projects to test the suitability of dredged material for stabilizing levees in the Sacramento-San Joaquin Delta. In developing an avenue for the safe disposal of dredged spoils, the proposed program to protect hundreds of miles of Delta levees could prove to be of equal benefit to San Francisco Bay.

Conclusions of previous assessment. The Commission is prevented from considering potential seismic impacts in review of proposed development in the shoreline band, much of which is constructed on old fill placed prior to modern safety practices. An attempt by the Commission to extend new fill standards to projects built on land along the Bay shoreline, which would authorize BCDC to require reasonable seismic safety measures in its shoreline band jurisdiction, fell short in the state legislature in 1990. The Commission's seismic safety and sea level rise outreach effort was further curtailed when the staff engineer position was eliminated in 1991.

BCDC is therefore charged with protecting the public health, safety and welfare without the technical expertise provided by a staff engineer to assure safe fill and structural design. By restoring engineering support services to the Commission, the following actions would enhance the coastal management program for San Francisco Bay in addressing impacts of coastal hazards: (1) the Commission could seek to work cooperatively with local governments to assure development in shoreline areas incorporates current safety standards; (2) legislation could be introduced that would grant the Commission the authority to address seismic and flooding issues in all areas under its permit jurisdiction; and (3) areas at particular risk of inundation due to sea level rise could be identified and monitored.

Changes in BCDC's Coastal Hazards Program since previous assessment

- **ECRB Task Force.** To establish a more efficient, collaborative regulatory program for the Bay, the Commission created the ECRB Task Force. The role of the task force is to develop and evaluate alternatives to the current role of the ECRB in reviewing projects brought to BCDC by Caltrans. The alternatives include maintaining the existing role of the ECRB, eliminating the ECRB, and delegating the ECRB's responsibility to a similar peer

review panel established to provide this service to Caltrans on a statewide basis. The Task Force met and is awaiting information requested from Caltrans about its peer review process to begin its consideration of the alternatives.

Opportunities to improve BCDC's Coastal Hazards Program

- **Engineering Support.** Restoring the staff engineer position would expedite the processing of permits involving shoreline protection, grading, flood control, and, in particular, seismic safety. Continuing this position on BCDC's staff would be particularly beneficial to Caltrans, which must secure BCDC permits for a number of bridge and highway improvement projects over the next several years. These projects involve structural design and safety issues that would be addressed more effectively by a staff engineer with support from the ECRB.

Through an interagency agreement with the California Department of Transportation (Caltrans), funding will be provided to the Commission for one full-time engineer who will devote a major portion of his or her time to coordinating with Caltrans on its proposed projects and to engineering issues in other proposed permits and planning projects. The agreement with Caltrans is a one-year pilot program that will expire at the end of FY 96-97. Because of the uncertainty of the continuation of the reimbursement agreement, the Commission submitted a request for a General Fund augmentation for FY 97-98. This allocation was not approved; however, the need for engineering support continues.

- **Shoreline Safety Jurisdiction.** To ensure that sound safety standards are incorporated into new fill projects, Section 66632(f) of the McAteer-Petris Act authorizes the Commission to impose reasonable conditions when BCDC issues a permit, including specifying construction methods and methods for placing fill. However, Section 66632.4 of the Act limits BCDC's authority on applications for proposed projects within the shoreline band to ensuring that they provide maximum feasible public access. The Commission is unable to apply its coastal hazards policies and incorporate ECRB review to permit applications for structures within BCDC's shoreline band jurisdiction.

The Commission should take full advantage of the strength of its coastal hazards program by again attempting to secure passage of legislation that will provide the Commission with the authority to address seismic and flooding issues in all areas under its permit jurisdiction. The standards BCDC would apply are already in place, and BCDC's jurisdiction would not be expanded by this change to its authority. The legislation would not delay project approval, nor is it likely that any additional permits would be denied.

- **Planning for Sea Level Rise.** Using global positioning station (GPS) and geographic information system (GIS) technology, the information developed for the Commission on the effects of sea level rise could be further analyzed and applied in greater detail throughout the Bay Area. Working in partnership with local planning agencies to share data critical to planning for safe shoreline development, a foundation for local planning and zoning efforts to include sea level rise controls could be established. The information developed from this analysis also could be provided to resource agencies to further protection efforts in behalf of marsh areas around the Bay, which are at risk from increased erosion and inundation caused by rising relative sea level.

Ocean Resources

Program objectives address the need for planning for the use of ocean resources.

The jurisdiction established by the McAteer-Petris Act for the San Francisco Bay Conservation and Development Commission delimits its westernmost boundary as the line from Point Bonita in Marin County to Point Lobos in San Francisco. This is a shared boundary with the California Coastal Commission, the state agency charged with administering the coastal management program

for the Pacific Ocean segment of the coastal zone. Thus, as BCDC's management program operates under the Act, ocean waters do not fall within the Commission's authority, but under that exercised by the Coastal Commission.

Wetlands Protection and Restoration

Program objectives address the need to protect, restore or enhance existing coastal wetlands or to create new coastal wetlands.

Background. Since 1850, more than 80 percent of the Bay's tidal wetlands have been filled or diked. Farming, salt production and urbanization have led to wetland conversion and filling of the Bay. Intensive urbanization following WW II resulted in large scale filling of the majority of the Bay's remaining tidal wetlands. By the 1960s, 280 of the Bay's 680 square miles of surface area had been diked off from tidal action. Since the 1950s, however, the rate of wetland conversion has slowed considerably, due in large part to the creation of BCDC. BCDC efforts have resulted in an increase of the Bay of 1,360 acres.

In addition to providing habitat for fish and wildlife, wetlands also contribute to flood control and shoreline stabilization, water quality maintenance and groundwater recharge, and open space and recreation opportunities. BCDC is mandated to eliminate unnecessary filling of Bay tidal and managed wetlands and the subsequent loss of this valuable natural resource.

BCDC's Wetlands Program. Reduced loss and conversion of Bay wetlands is a primary concern of BCDC. The Bay Plan recognizes the Bay as a complex biological system of open water, mudflats and marshlands, and the potential for even minor filling to degrade fish and wildlife habitat is addressed. Policies designed to support the vital role of wetlands in preserving the ecological vitality of the Bay are featured throughout the Bay Plan: sections on Marshes and Mudflats, Salt Ponds and Other Managed Wetlands, and Fish and Wildlife address most directly the issue of wetland loss and conversion. Moreover, the Commission's mitigation policy provides for the increase in the size of the Bay to offset impacts of permissible fill.

Stringent permit review for placement of fill and dredging in areas that lie within the Commission's Bay jurisdiction is the most effective method available to the Commission to prevent the loss of wetlands. In addition to open water, tidal marshland and mudflats areas diked from the Bay and managed for salt production or as duck hunting preserves or game refuges, fall under the Commission's jurisdiction. Project mitigation requirements, which are specified in permit conditions, generally require that mitigation be provided concurrently with those segments of the project creating adverse impacts. Mitigation usually takes the form of restoring to the Bay equal or greater habitat values and typically consists of creating new tidal marsh in areas that have formerly been diked from the Bay.

Many tidal wetlands around the Bay that were diked and used for agricultural purposes following the Gold Rush remain in agricultural use. The 80 square miles of diked historic baylands are found mainly in the Suisun and San Pablo Bay areas. Although BCDC's jurisdiction does not extend to the nearly 52,000 acres of privately-owned diked historic baylands, the Commission monitors activities in the historic baylands because of the important ecological interrelationship between these areas and the Bay, and comments on projects proposed in these areas to the local governments and U.S. Army Corps of Engineers (Corps).

The Suisun Marsh is protected through shared authority with the area local governments. The local governments have primary responsibility for carrying out the Commission's *Suisun Marsh Protection Plan* in the upland area through local protection plans, while the Commission is primarily responsible for the wetlands, assuring that existing uses (duck clubs and extensive agriculture) continue, and that further development in the Marsh watershed does not adversely affect water quality.

Conclusions of previous assessment

BCDC's Wetlands Policies. The Bay plan wetland policies should be updated to reflect the additional research concerning the role, extent, and value of the Bay's wetlands and aquatic life and wildlife. This effort should also take advantage of information developed in the many mitigation projects establishing and restoring Bay tidal marsh, and which addresses the increased concern among biologists that non-native marsh species are being introduced to the Bay in restoration projects that threaten the existence of native species. Further, the importance of submerged aquatic vegetation, particularly eelgrass—an ecologically important subtidal estuarine seagrass which has been mapped and studied in the Bay in recent years—should be evaluated. In addition, the tolerance of wildlife to human intrusion should be evaluated to provide a basis for the Commission determining the amount and kind of public access that is reasonable for projects located in areas with wildlife use (see discussion of this conclusion in the Public Access Section).

As part of this effort, the Commission should evaluate the need and feasibility of establishing mitigation banks in San Francisco Bay and promote their establishment and use if they are judged to be desirable. Mitigation banks would be one element considered in a regional strategy for enhancing Bay natural resources. The study would need to be coordinated with land purchasing agencies, such as the California Coastal Conservancy and land trusts around the Bay, and with the various regulatory and wildlife agencies and the interested public to assure the establishment of a program that meets the concerns of all parties. The study should also evaluate how to structure viable mitigation banks that fully recover mitigation costs. The study would address such issues as the relative value of project specific, on-site mitigation versus off-site mitigation banks, appropriate credit ratios to compensate for wetland impacts, in-kind versus out of kind mitigation, appropriate areas that could host selected mitigation banks, monitoring programs and long-term funding requirements, and contingency plans for mitigation bank failures.

Salt Ponds. The importance of salt ponds to San Francisco Bay wildlife is underscored by the U.S. Fish and Wildlife Service purchase and management of over 12,000 acres of ponds as the San Francisco Bay National Wildlife Refuge. An additional 8,000 acres of ponds in the north Bay have been acquired by the California Department of Fish and Game for management as a wildlife refuge. Although many salt ponds are or are likely to be in public ownership and managed for wildlife use, many of the ponds will remain in private ownership. The Bay Plan salt pond policies would allow some development of these private ponds once no longer economically viable for salt production. It is likely that with the publicly-owned ponds being managed for wildlife use, the salt production company will find it increasingly difficult to produce salt in its remaining ponds. Therefore, the Commission will need additional policies if the wildlife use of the ponds is to be preserved. Further, the Commission will need a policy basis for permitting use of the ponds solely for wildlife habitat to the exclusion of salt production and, if some of the ponds are to be used for marsh restoration or as a dredged spoils rehandling facility, the Commission must have in place policies that will allow it to approve such uses.

Diked Baylands. The McAteer-Petris Act did not address the importance to the Bay estuarine system of the diked historic baylands and riparian areas adjacent to the Bay. These areas support a broad range of often competing uses, including wildlife habitat and open space, agriculture, flood control, recreation, and residential and commercial uses. The diked historic baylands, in particular, face development pressures that could seriously compromise their values and functions for wildlife habitat, flood protection, recreation, and agricultural use. However, there is presently no state or regional plan to balance the competing demands between development and resource protection in these areas and which considers them in a regional perspective.

Most of the Bay's remaining diked historic wetlands are located in the North Bay. A plan for their protection should integrate habitat-based wetlands and natural resource planning

with land use planning. The goal should be to assure the protection and enhancement of North Bay resource values while permitting appropriate development to occur on a more predictable and expeditious basis in the study area.

Changes in BCDC's Wetlands Program since previous assessment

- **BCDC Jurisdiction.** In 1994, the Court of Appeals held in Littoral Development Company v. San Francisco Bay Conservation and Development Commission that the upper limit of the Commission's "Bay" jurisdiction extends only up to the mean high water mark (mean high tide line) and up to five feet above mean sea level in areas of tidal marsh. The Court overruled the Commission's regulation that interpreted the Commission's "Bay" and "certain waterways" jurisdiction as extending to any area touched at any time by tidal waters since the Commission was established. This decision significantly alters the extent of the Commission's jurisdiction under the McAtter-Petris Act. Although the daily high tide inundates a large area above the mean high tide level in certain areas around the Bay, the area is now excluded from the legal definition of "Bay" in non-tidal marsh and is treated as dry land under the McAtter-Petris Act. The Commission amended its regulations in 1995 to implement the Court of Appeals decision.
- **Wetlands Protection.** Since mid-1995, the Commission has participated in the Bay Area Habitat Goals Project sponsored by the U. S. EPA, U. S. Fish and Wildlife Service, Department of Fish and Game, Regional Water Quality Control Board, California EPA, Resources Agency, and BCDC. The Goals Project grew from discussions during the early 1990s among members of the San Francisco Estuary Project, a cooperative public-private partnership sponsored by U.S. EPA and the State of California. The project has attracted broad interest and extensive participation by a number of resource management agencies, academic institutions and scientific organizations. BCDC staff is directly involved in overseeing the project through its membership on the Resource Managers Group, which is comprised of agency ecologists and biologists, as well as with identifying habitats throughout the Bay needed to support threatened and endangered species.

The Goals Project is a scientific process that will consider the historical and current distribution of baylands, including mudflats, seasonal and perennial freshwater wetlands, existing and diked historical tidal marshlands and other wetland types, within the region. The project will produce wetlands ecosystem goals for the Bay, along with recommendations for planning and designing wetlands restoration projects. Alternative regional wetland "mosaics" will be presented in a geographic information system (GIS) format that will be available to agency decision-makers and to the public. The mosaics will be based on the most current biological information and reflect the best professional judgment and scientific consensus of the project participants, and will be available to local planning departments to better protect wetlands through zoning; public agencies to coordinate acquisition efforts; private landowners to improve wetlands on their properties; and to state and federal agencies charged with wetland protection or endangered species recovery. BCDC has been an active participant in the Goals Project.

- **Wetlands Restoration.** In October 1996, as part of the Sonoma Baylands project, levees were breached and tidal action reintroduced to a 322-acre hayfield at the mouth of the Petaluma River at San Pablo Bay. Clean material dredged from the Port of Oakland shipping channel was deposited in the subsided area to provide elevations suitable for rapid colonization by wetland plants and animals. The restoration will create habitat for endangered species such as the salt marsh harvest mouse, California clapper rail and San Pablo song sparrow, and expanded feeding and resting areas for waterfowl along the Pacific Flyway. A cooperative effort between BCDC, the nonprofit Sonoma Land Trust, and the California Coastal Conservancy focused on obtaining federal authorization and funding for

project construction. BCDC staff also worked to expedite the regulatory process, foster public awareness, and prepare a monitoring plan for this dredge disposal demonstration project for the Long Term Management Strategy.¹

- **North Bay Wetlands Protection Program.** A partnership between the Commission and four cities and four counties in the North Bay to develop a wetlands protection program for the historical tidelands of the North Bay was initiated by the Commission in 1995. The project area encompasses the largest tract of undeveloped baylands, diked wetlands and surrounding rural uplands in the Bay region. The mission of the program is to provide local governments with the tools and information to ensure the protection, enhancement and restoration of North Bay wetlands, allowing compatible uses consistent with wetland values and functions, and guiding incompatible uses to other, appropriate locations.

Elected representatives from each of the eight local governments and the Commission comprise the North Bay Steering Committee. The Committee has held a number of public hearings, where it has considered staff background reports on existing land use and local general plan designations and the status of wetlands in the North Bay. Further analyses related to tributary riparian systems and polluted runoff controls and public access and recreation are under way. The Commission staff is working closely with the planning staffs of the local governments to develop implementation mechanism options for local application.

- **North Bay Wetlands Database and GIS.** In developing the data and mapping information for the North Bay Wetlands Protection Program, BCDC staff undertook its first use of a computer geographic information system (GIS). Staff used the University of California, Berkeley's Research Program in Environmental Planning and Geographic Information Systems (REGIS), GIS housed at the University's Center for Environmental Design and Research, and furnished REGIS with land use data developed by the staff as well as with wetlands data from the preliminary San Francisco Bay Area EcoAtlas compiled by the San Francisco Estuary Institute (SFEI).

The SFEI EcoAtlas maps the distribution and abundance of mudflats, tidal marshlands, diked baylands, and adjoining riparian tree stands, and creates a base map upon which other data about the baylands will be compiled. Based largely on U.S. Fish and Wildlife National Wetlands Inventory maps, the EcoAtlas depicts the distribution and abundance of twelve types of wetland habitats, and represents the most current and complete inventory of wetland habitats in the North Bay for planning purposes.

Use of GIS has propelled BCDC to begin its own small-scale GIS system, which should have benefits for future Commission studies and permit and enforcement tracking.

- **San Francisco Bay Project.** The National Oceanic and Atmospheric Administration (NOAA) chose San Francisco Bay as one of two regions in the country to develop a program to demonstrate how the technology and data developed by NOAA's National Ocean Service (NOS) can provide agencies, such as the Commission, with new and better tools to manage coastal maritime shipping and natural resources. The Commission is assisting NOAA in developing the program, which includes improved maritime navigation, computerized shoreline maps and greatly improved "real time" information about tides and currents. In partnership with the Commission, NOS will develop digitized maps of the Bay shoreline at the mean high water line, which will be available on CD ROM disk from the Commission.

¹ The LTMS is a coordinated state/federal approach to formulate a Long Term Management Strategy (LTMS) for dredging and dredged material disposal for San Francisco Bay. BCDC is responsible for the uplands element of the LTMS, and is concentrating on developing the use of dredged material as a resource, in conformance with Bay Plan policies. The Sonoma Baylands project will demonstrate the effectiveness of utilizing dredged material to restore a former tidal wetland area. See the section on Cumulative and Secondary Impacts for further discussion of the LTMS program.

Tentative priority objectives to improve BCDC's Wetlands Program. The Commission, at its strategic planning workshop, tentatively concluded that the following objectives and activities are priorities to improve its wetlands program.

- **San Francisco Bay Trust.** By April 1, 1997, the Commission will consider endorsing the recommendations of the Bay Trust Task Force.

The Bay Trust Task Force was formed by the Commission to implement a goal of the Commission's strategic plan—to evaluate the feasibility of establishing a new "Bay Trust" and identify means of making better use of existing programs to acquire, manage, and enhance Bay natural resources. The Task Force determined that establishing a San Francisco Bay Trust would further the protection of Bay resources by helping the Commission to coordinate the acquisition and management of Bay open space, natural resources and wetlands. A Bay Trust would augment efforts in behalf of Bay resources by attracting additional funding to implement acquisition and restoration projects, and could further enhance the responsible use of Bay resources by advancing mitigation and public access banking.

As envisioned, a partnership between BCDC and the Coastal Conservancy, with the Bay Trust established within the Conservancy, would best achieve the goals of the Trust. The Conservancy Board would delegate responsibility to a Bay Trust steering committee representative of state, regional and local interests for projects funded exclusively through the efforts of the Trust. In other circumstances, the Conservancy Board would make its own decisions on projects, based on the recommendations of the Trust steering committee. Clear criteria would need to be established to identify the process by which specific projects are approved, depending on the funding source and goals.

- **North Bay Wetlands Protection Program.** By June 30, 1997, the staff will support the North Bay Steering Committee's substantial completion of the North Bay wetlands protection program.

The North Bay Steering Committee and Commission staff have made much progress in the background work needed to develop tools to assist the eight participating local governments in the North Bay with improving and refining wetland habitat protection plans and enforceable regulations. Background reports have been prepared and the nine-member Steering Committee has held hearings on land use and ownership and on wetland values, functions and locations in the North Bay planning area. Work on this program is a high priority for the Commission and should continue and be completed in 1997.

- **Wetland Mitigation Banking System.** By June 30, 1997, the Commission will secure funding for the Wetlands Mitigation Banking System in preparation for its implementation by January 1, 1998.

The purpose of a wetland mitigation bank is to restore in one large, ecologically viable area, wetland values lost from authorized fill in wetlands. Under a mitigation bank program, a land developer is able to purchase wetlands "credits" from another entity that has created wetlands. The developer can purchase mitigation credits from the created wetland "bank" for the purpose of mitigating the effects of the fill created by the development. This type of program can be more successful in creating the type and amount of wetlands desired, and at less cost, than a number of small, unrelated mitigation programs.

Studies by BCDC and others have found that to a great degree, wetlands loss occurs as a result of the cumulative impact of small projects. Regulatory agencies, however, typically forego requiring mitigation for small projects, due to the disproportionate cost of mitigation as compared to the scale and cost of a small development project. Creation of a banking system would provide regulatory agencies with an important tool to address the cumulative impact of small projects that displace wetlands. BCDC staff prepared a report for the State Secretary for Resources outlining the manner in which a wetland mitigation banking system

could be established and operate in San Francisco Bay. One aspect of the proposed system would encourage private entrepreneurs to enter into the business of creating mitigation banks to provide a broader market for mitigation credit purchasers.

Additional opportunities for improvement

- **Impacts to Wetlands Created by Change in BCDC's Bay Jurisdiction.** The Littoral decision established the Commission's Bay jurisdiction at the mean high water line. Formerly, the Commission exerted Bay jurisdiction to the point of highest tidal action, often considerably landward of the mean high water line. Consequently, the court decision has resulted in the exclusion of considerable Bay natural resources, including tidal marshes and mudflats, from the Commission's authority. However, the difference in the amount and type of resource area between where the Commission formerly exerted jurisdiction, the line of highest tidal action, and the mean high water line, are unknown. To better understand the area of Bay resources impacted by the Littoral decision, accurate measurements of the mean high water line at specific demonstration sites around the Bay could be made by using global positioning system (GPS) technology.

Such data could inform the Commission as to the increased potential for impacts to Bay resources created by the Littoral decision, as well as assist in making jurisdictional determinations. Additionally, project applicants would benefit from the Commission's ability to determine the elevation of a particular location. As part of its shoreline mapping responsibilities, NOS will delineate an accurate mean high water line and also will instruct BCDC, the regulated community, and local surveyors on how to locate the mean high water line by using GPS.

NOS has used its T-Sheet (shoreline map) data to develop an information base that can be used to analyze and model changes in the ecology of the Bay. Data collected by NOS can be used in GIS to recreate the historical location of the Bay's shoreline, land use, and threats to resources. By accessing the information available through NOS, the Commission can incorporate into its system historical and contemporary data on the Bay and its resources, and thereby track the effects of development on Bay wetlands. The NOS information can aid BCDC in identifying wetlands, local sources of pollution, and provide other data critical for resource protection. Additionally, NOS hydrographic, current, and water-level information can assist in planning sustainable dredging operations. Information derived from NOS photogrammetry and accurate positioning technology can help the Commission to identify vulnerable coastal resources as well as potential dredge disposal and reuse sites.

Using information developed by the Regional Habitat Goals Project, and incorporating data from the NOS project, the Commission could expand on the methodology created for the North Bay Wetlands Protection Program to assess the potential impacts to wetlands throughout the Bay from the Court's redefining the Commission's Bay jurisdiction. The North Bay program applies an innovative on-line geographic information system as a planning tool for mapping and analyzing the regional distribution of land use and wetlands data. This GIS program, available to anyone with internet access, uses a custom-designed software program, GRASSLinks, which provides a versatile regional planning tool.²

- **Wetlands and Mitigation Policies.** Among the many high-priority planning projects that have been deferred by the Commission due to budget constraints and staffing, is an update of the Bay Plan wetlands findings and policies and the Commission's mitigation policies. In its strategic plan, the Commission set a three-year goal "to develop and implement a comprehensive program for [the] use and restoration of Bay resources." To meet this goal, the Commission directed staff to evaluate whether the Commission's mitigation policies should be revised to implement the goals being established through the Habitat Goals

² GRASSLinks was developed at the Center for Environmental Design and Research at the University of California, Berkeley, and is operated by the Center's Regional Geographic Information System (REGIS).

Project sponsored by U.S. EPA, U.S. Fish and Wildlife Service, California Department of Fish and Game, the Regional Water Quality Control Board, California EPA, the State Resources Agency, and the Commission.

The Goals Project will provide significant new information for the Commission's review of its wetlands (salt pond and marshes and mudflats) policies and its advisory diked baylands findings and policies. The Goals Project is expected to be completed in late 1997, at which time BCDC staff could undertake its evaluation of the Bay Plan wetlands and mitigation policies and diked baylands findings and policies. The Commission could then revise these policies, incorporating the conclusions and recommendations of the Goals Project.

- **General Wetlands Permit Authority.** To expedite government decision-making and avoid inconsistent decisions on wetland permit applications, California has sought delegation of federal permitting authority under Section 404 of the federal Clean Water Act from the Army Corps of Engineers for wetlands that lie within the respective jurisdictions of the Regional Water Quality Control Board and the Commission. Although BCDC's permit review process has significantly reduced the continued loss of Bay wetlands (tidal marshes and mudflats) and managed wetlands and salt ponds, the Commission's present McAteer-Petris Act authority does not encompass the diked baylands, which are integral to a comprehensive Bay wetlands management program. The Army Corps of Engineers has agreed to evaluate delegation of federal permit authority under Section 404 to the Regional Board over wetlands that lie inland from the Bay and to consider the same authority for the Commission for in-Bay projects. The Corps is still analyzing the delegation issue and the possible new institutional arrangements. The Commission should continue to work with the Corps, the Resources Agency and the Regional Board on this potential program.
- **Wetlands Restoration.** Another wetlands restoration project that will be facilitated through the LTMS has been proposed at the Hamilton Army Airfield in Marin County. In late 1995, the Commission amended the Bay Plan, deleting the airport priority use designation at the former airfield and adding a wildlife priority use designation and policy stating that a comprehensive wetlands restoration and management plan should be developed for the site that should include the use of dredged materials if feasible and environmentally acceptable.

The closed military base presents a unique opportunity to demonstrate the beneficial reuse of up to seven million cubic yards of dredged material to restore nearly 700 acres to a diverse mix of tidal and seasonal wetlands. The restored wetlands will provide habitat for endangered and special status species, waterfowl using the Pacific flyway, provide a nursery for anadromous and resident fish species, and contribute to restoring and ensuring the health of San Francisco Bay. The Hamilton Restoration Group consists of federal, state and local government representatives, nonprofit organizations and interested citizens. The work plan for the project calls for analysis of project alternatives, a restoration plan and environmental documentation prior to project implementation. The Commission is part of the Hamilton Restoration Group.

The Commission staff is working closely with the Coastal Conservancy to prepare and manage technical planning studies and participate in outreach efforts needed to implement the proposed restoration of the airfield. The Commission is providing its expertise in dredging and dredged material reuse, particularly as it relates to the use of dredged material as part of wetland restoration projects. The Commission also will coordinate these efforts with the LTMS program, which will assist the Conservancy in project management of contractors and coordination with the other involved agencies and interested parties.

- **Coordinated Wetlands Regulation.** The Commission established the Wetlands Task Force to develop a work program and strategy for integrating BCDC's regulation of wetlands with wetland programs of other relevant agencies. In addition to a number of BCDC Commissioners and staff, representatives from several agencies involved in wetland

regulation have attended one or more of the Task Force meetings. These agencies include the Regional Water Quality Control Board, the Army Corps of Engineers, U.S. EPA, the California Department of Fish and Game, and U.S. Fish and Wildlife Service.

The Task Force has discussed several topics including overlapping jurisdictions, coordination among Bay regulatory agencies, the multiplicity of application forms used by those agencies to authorize any one project, and opportunities for improved coordination among the Bay regulatory agencies. After an examination of Bay projects that required approval from BCDC, the Corps, and the Regional Board, the Task Force concluded that the agencies have established effective mechanisms for coordination, including formal pre-application meetings held by the Corps, informal meetings as needed among agency staff and with the applicants, staff review and comment on the lead agency's draft environmental document, and use of the Governor's Office of Permit Assistance.

As a result of its conclusions the Task Force recommended that the Commission coordinate its wetland permit process with other Bay regulatory agencies by: (1) placing priority on having BCDC staff attend Corps and other interagency pre-application meetings; (2) developing a common application form cover sheet for use by all Bay Area wetland regulatory agencies; (3) having the agencies agree on a standard mitigation plan format; (4) better educating the public about existing interagency coordination mechanisms; and (5) ensuring that local governments and developers are aware that BCDC permits are required for Bay fill projects.

- **North Bay Corridor Study.** California Highway 37 is the principal east-west transportation corridor along the northern shoreline of San Pablo Bay. A barrier has been constructed by Caltrans to prevent head-on collisions that narrows the three-lane highway to two lanes, and which may increase the pressure to expand Highway 37 to a multi-lane freeway. A large section of the roadway is built on a levee that separates tidal marshes and mudflats south of the highway from former baylands to the north that have been converted to salt ponds, agricultural lands, and other uses. A traditional roadway widening project to accommodate a divided highway would significantly damage these resources, and would make more difficult future restoration of the former baylands north of the highway. However, replacing this section of Highway 37 with a highway built either partially on a causeway or with adequate culverts under the roadway, could improve transportation capacity, facilitate the restoration of tidal marshes in large areas of the historic baylands north of Highway 37, and provide an opportunity to incorporate the San Francisco Bay Trail into the highway project.

In August 1994, BCDC staff convened a meeting of representatives from the Metropolitan Transportation Commission (MTC), Caltrans, affected local governments, and interested elected officials to consider establishing a partnership to plan, design, and construct what the staff called the "Green Highway Project." In May 1995, the California Senate Transportation Committee expressed interest in the proposal. Shortly thereafter, MTC staff convened a series of meetings at which staff from BCDC, MTC, Caltrans, EPA, local governments, congestion management agencies, elected officials, and members of the public developed a *Statement of Principles for the North Bay Corridor Study* and a *Scope of Work for the North Bay Corridor Study*. Because there is currently no funding available to construct the Green Highway Project, the North Bay Corridor Study is analyzing the need for traffic improvements in the transportation corridor and recommending improvement projects that will: (1) improve transportation operations and capacity; (2) significantly increase the amount and quality of fish and wildlife habitats; and (3) establish a recreation trail system in the corridor. MTC has allocated \$100,000 to conduct the study described in the Scope of Work. Other participating agencies are expected to identify and secure alternative funding that can be used to advance the objectives of the Corridor Study.

Cumulative and Secondary Impacts

Program objectives address the need for development and adoption of procedures to assess, consider and control cumulative and secondary impacts of coastal growth and development, including the collective effect of various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources.

Background. Comprised of twenty-eight receiving watersheds, the San Francisco estuary includes the lands and waters within the boundaries of the immediate San Francisco Bay watershed, Suisun Marsh and the Sacramento-San Joaquin Delta. The estuary drains 60,000 square miles, or more than 40 percent of the state. Inland activities play an important role in maintaining the Bay's resources and will increase in significance with population growth and urban development. The many beneficial uses of San Francisco Bay depend on the quality of its waters, and impacts within each segment of the region can affect the health of the estuary in its entirety. Programs that address land use issues throughout the region are necessary if the Bay's beneficial uses are to continue and flourish.

BCDC's Cumulative and Secondary Impacts Program

Growth and Development. State population growth, coupled with development of lands within the Bay-Delta region and beyond, create a variety of adverse impacts on the estuary's environment. Loss of wetlands and other habitats, pressures to fill the Bay, daily inputs of pollutants, and increased diversion of fresh water flow and altered flow regimes, result from activities related to population growth. Impacts to wetlands and program efforts to address them are discussed in the Wetlands section of this assessment.

By reserving areas for uses that have a demonstrated need to be sited along the Bay and not releasing the entire shoreline for unrestricted development, the Commission averts pressures to fill the Bay for water-oriented uses once shoreline sites have been depleted. Permits for development proposed within these priority use boundary areas are granted or denied based on the appropriate Bay Plan policies that pertain to ports, water-related industry, water-oriented recreation, airports and wildlife areas.

With increased population comes heightened demand for development along the Bay as well as for greater access to the Bay and its shoreline. The important role of the Commission in maintaining the scenic and recreational qualities of the Bay and shoreline is reflected in its authority over the 100-foot shoreline band in assuring the public access to the Bay wherever feasible—thus the requirement of new development in and along the Bay to provide the maximum amount of public access that is compatible with a proposed project. The policy works to supplement access provided by parks, fishing piers and marinas in order to open as much of the Bay and shoreline as possible to the public.

The title to the tide lands, submerged lands and tidewaters of San Francisco Bay and its tributaries, and living resources inhabiting these waters, is held by the State in trust for the benefit of the public. This property right establishes the right of the public to use and enjoy these trust waters, lands and resources for a wide variety of recognized public uses including navigation, commerce, natural resources and recreation. The State Lands Commission is the California agency with direct responsibility for exercising the public trust. BCDC, in its planning and regulatory functions, also exercises the public trust within the Commission's jurisdiction.

Water Quality. Water quality programs initiated in the 1960s and 1970s reduced sewage treatment and industrial discharges into San Francisco Bay, so that today the major source of pollution in San Francisco Bay is urban and non-urban runoff or polluted runoff. While there is growing concern about polluted runoff in the estuary, there is little information about local pollutant loading from urban runoff. With increases in population, additional impervious urban land surfaces will be developed, accelerating the runoff of elevated levels of pollutants.

The Bay Plan recognizes the importance of maintaining water quality in San Francisco Bay at levels sufficient to protect the beneficial uses of the Bay and its resources. A number of policies are applicable to this end, particularly those addressed in the Water Quality, Fresh Water Inflow and Dredging sections of the Bay Plan. The policies, decisions, and authority of the State Water Resources Control Board and the Regional Water Quality Control Board provide the basis for the water quality responsibilities of the Commission. The Commission works closely with the Regional Board in its permitting process to further Bay water quality efforts.

Fresh Water Diversion. Over the past forty-five years, the operation of large agricultural and urban water projects such as the federal Central Valley and the State Water Projects has drastically altered the natural drainage pattern of the Central Valley. In addition to increasing pollutant loading to the estuary from agricultural runoff, the annual diversion of the fresh water supply from the Bay and Delta affects water circulation and habitat conditions in the estuary. Salinity levels, critical to the composition and abundance of Bay organisms, are controlled by fresh water inflow.

Bay Plan policies support adequate fresh water inflow by including the following provisions: (1) diversions of fresh water should not reduce the inflow into the Bay to the point of damaging the oxygen content of the Bay, the flushing of the Bay, or the ability of the Bay to support existing wildlife; (2) high priority should be given to the preservation of Suisun Marsh through adequate protective measures including maintenance of fresh water inflows; and (3) the impact of diversions of fresh water inflow into the Bay should be monitored by the State Water Resources Control Board, which should set standards to restore historical levels of fish and wildlife resources. The Commission should cooperate with the State Board and others to maintain adequate fresh water inflows to protect the Bay.

Sedimentation and Dredging. Each spring, the tributaries of the San Francisco Bay deposit fresh water laden with silt, sand, and clay sediment into the shallow Bay. Six to eight million cubic yards of material must be dredged from the Bay each year for the safe maintenance of harbors and navigation and flood control channels that contribute to more than \$5.4 billion of economic activity annually.

BCDC regulates dredging and disposal of dredged material in the Bay, and has the dual mission of protecting the Bay's natural resources while fostering appropriate use of the Bay for maritime commerce and recreational boating. In reviewing permits for dredging and disposal of dredged materials, BCDC requires that a need for the activity to serve a water-oriented use or other important public purpose be demonstrated; that materials meet water quality requirements of the Regional Water Board; and that important fisheries and natural resources be protected. Whenever possible, disposal must take place in non-tidal areas where beneficial uses of the dredged materials can be realized, or in designated ocean sites. Disposal of dredged materials in the Bay is allowed at sites designated by the Commission and the U.S. Army Corps of Engineers only when non-tidal and ocean disposal have proven infeasible.

BCDC has joined with other agencies in a cooperative arrangement to formulate a Long Term Management Strategy for dredging and dredged material disposal (LTMS). The LTMS will serve as a comprehensive dredging and disposal management plan and implementation program. BCDC is responsible for the study of upland disposal of dredged material, with emphasis on the use of dredged material as a resource. The Corps of Engineers is responsible for overall management of the LTMS. When completed, the LTMS is expected to provide uniform federal and state dredged material disposal policies and regulations, and will serve as the basis for possible amendments to Bay Plan dredging policies.

Conclusions of previous assessment. With urban land use in the Bay-Delta region expected to grow 25 percent by 2005, pollutant levels from all sources can be expected to rise. Decreased fresh water flows into the Delta will further concentrate pollutants throughout the system. Although the Commission has jurisdiction over the Bay's open waters, tidal marshes, managed wetlands, salt ponds and 100-foot wide shoreline band around the Bay, there is no comprehensive land use planning and regulatory authority established for the region. The authority to regulate land use rests primarily with local government, which therefore has the potential to minimize impacts associated with land use change. There is no requirement, however, that ensures that Bay and Delta waters, wetlands and other habitats and resources are allotted any specific protection. Watershed management plans and actions to reduce pollutants in runoff should be components of local land use planning processes.

To encourage local governments to work with interested agencies at all levels to direct growth away from sensitive habitats such as wetlands, the Commission could join with local governments, the Regional Water Board, and other agencies to work cooperatively to develop planning approaches to prevent the degradation of Bay waters and habitats on a watershed basis. This effort should be undertaken in conformance with the requirements of Section 6217 of the federal CZMA, which calls for state water quality and coastal management agencies to develop coastal polluted runoff control programs.

Changes in BCDC's Cumulative Impacts Program since previous assessment

Dredging. BCDC has committed substantial resources to explore ways to accommodate dredging activity needed to maintain the Bay Area's maritime economy in a manner that will protect the Bay's environmental resources. Efforts have focused on continued involvement in the LTMS dredging program and on working with dredgers, legislators, and environmentalists to foster the use of dredged materials as a resource. The dredging program continues to be one of the Commission's highest priorities.

- **Dredging Management.** BCDC has continued to work with the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, the State Water Resources Control Board, and San Francisco Bay Regional Water Quality Control Board, to complete the LTMS and prepare a Comprehensive Management Plan for its implementation. The plan will manage dredging and disposal activities in the San Francisco Bay region in a manner that will accommodate needed dredging projects, protect the Bay's natural resources, and encourage the reuse of dredged material.

Commission staff has completed a number of analyses and related tasks to further the work of the LTMS. In 1996, BCDC and its LTMS partners held a public hearing on the draft policy EIS and programmatic EIR on the LTMS. BCDC staff participated directly in the preparation of this document, and is working to complete the final EIS/EIR in 1997 and the LTMS Management Plan in 1998.

- **Project Review.** Permits are needed from a number of state agencies and the U.S. Army Corps of Engineers to dredge and/or dispose of material in San Francisco Bay. Additionally, the U.S. EPA has oversight for disposal in the Bay and permitting authority for disposal in the ocean. Applicants must now fill out separate permit applications that are processed sequentially by the various agencies. Because applicants believe that this approach is unnecessarily complicated and redundant, the Commission is working with the other agencies that regulate dredging to create a single application form and a joint agency permitting office to coordinate permit processing.

In 1996, the Commission, with the Regional Water Quality Control Board, the State Lands Commission, the Corps of Engineers, and the EPA, initiated a one year pilot project to process cooperatively applications for permits to dredge or dispose of dredged material in San Francisco Bay. The Dredged Material Management Office (DMMO) applicants are now able to complete one application form for use by all the Bay regulatory agencies and have it processed jointly by the agencies. Other agencies with expertise regarding Bay resources, including the National Marine Fisheries

Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game, will be invited to attend permit reviews and provide their advice to the DMMO member agencies. Based on the effectiveness of the project, the DMMO may be expanded to encompass federal dredging projects conducted by the Corps of Engineers.

Water Quality

- **Section 6217 Polluted Runoff Study.** Because of lack of funding, the Commission was unable to participate in the federal Section 6217 polluted water runoff study of the Bay, and the study was not conducted.
- **CALFED.** The CALFED Bay-Delta Program is a federal-state partnership to develop an integrated system to better manage the natural and economic resources of San Francisco Bay and the Sacramento-San Joaquin River Delta. This cooperative effort was established in June 1994 and pledges the state Department of Fish and Game, Department of Water Resources, and the State Water Resources Control Board, with the U.S. EPA, Fish and Wildlife Service, Bureau of Reclamation, and the National Marine Fisheries Service, to work together in three areas of Bay-Delta management: (1) water quality standards development; (2) State Water Project and federal Central Valley Project operations coordination; and (3) development of long-term solutions to Bay-Delta estuary resource problems.

The Bay-Delta Advisory Council—comprised of 30 citizens appointed to represent California's agricultural, environmental, urban, business, and fishing interests—advises CALFED on its mission, the issues it should address, and its objectives. CALFED has established a three step process for carrying out its mandate: (1) problem definition and a range of alternative solutions; (2) state and federal environmental documents to identify the impacts of each alternative solution; and (3) final environmental documentation of the impacts of the selected alternative. Urban and agricultural water users, sport and commercial fishing interests, environmental and business organizations, other interested organizations, and the general public are actively involved in the CALFED program.

The Commission is mandated to participate in the CALFED Bay-Delta program by processing permit applications and making federal consistency determinations for any projects needed to implement the CALFED program within the Commission's jurisdiction.

Enforcement. The Commission has had insufficient funds and staff to investigate all work performed in its jurisdiction, or to assure compliance with all permit requirements. Enforcement activity has therefore focused on unauthorized fill projects. Despite limited resources, the Commission has undertaken a number of initiatives to continue its enforcement program.

- **Joint Enforcement Actions.** BCDC staff have successfully coordinated their efforts with members of other state and local agencies to resolve difficult enforcement cases. "Operation Aqua Terra" was initiated to address the rapidly growing number of abandoned and sunken vessels at the mouth of Redwood Creek in San Mateo County. Because a variety of local, state and federal laws were being violated, BCDC staff coordinated its enforcement efforts with those of the County Sheriff's Office to conduct a joint cleanup campaign involving several public agencies. Most of the abandoned and sunken debris have been removed, and a local ordinance has been enacted to prevent the conditions from recurring. Following the success of this joint enforcement effort, representatives from federal, state and local agencies and elected officials have come together to address a similar situation at Alviso Slough in the South Bay.
- **Commission Task Forces.** To further the Commission's goal to re-establish an effective enforcement program, in 1996 BCDC staff joined with other Bay regulatory agencies, including the Regional Water Board, Department of Fish and Game, U.S. Army Corps, the Coast Guard, EPA, and the U.S. and California Departments of Justice, to

establish a Bay Area Environmental Law Enforcement Task Force. The Task Force meets regularly to discuss new and pending enforcement cases to coordinate enforcement efforts of the member agencies. The Task Force serves as a forum to share information, discuss strategy, make policy decisions about approaches to resolve enforcement problems, and better coordinate enforcement work carried out by the participating agencies. The Task Force has coordinated efforts to address alleged violations at San Francisco International Airport and at a number of other sites around the Bay, and has responded to an oil spill at the Port of Richmond. The Task Force also contributed to the formation of a similar organization designed to address environmental issues in the Delta area.

BCDC's Compliance Assistance Task Force, with the Commission's Enforcement Committee, is charged with contacting local governments, the regulated community, and the general public to provide compliance assistance and information about BCDC's regulatory process and enforcement authority. Distribution of a brochure to alert permit applicants at the local level of the need for a BCDC permit began in November 1996. The Committee and Task Force have requested from local governments suggestions on improving coordination of local and BCDC regulatory efforts, including joint design review meetings where appropriate, and have made themselves available to provide training about BCDC's regulatory program to local government staff.

- **Enforcement Staff.** The Bay Fill Clean Up and Abatement Fund was established for the distribution of civil penalties imposed for violation of law or a Commission permit. Funds are intended for fill removal, resource enhancement, remedial clean up or abatement actions within the Commission's jurisdiction. In 1996, the Legislature approved the first disbursement from the Fund to restore BCDC's enforcement efforts with the addition of two staff positions. The Commission plans to expand its enforcement activities to again perform comprehensive permit monitoring and increase the number of violations investigated.

Regulatory Reform and Permit Streamlining. In 1994, the Governor's Regulatory Review Working Group directed each state agency to review its regulations that affect businesses, organizations, or individuals outside of state government to ensure that the regulations are clear and do not unduly burden the regulated public. Each agency was to commence any rule making activity needed to implement the results of the review process in early 1996.

In formulating a regulatory reform plan to streamline its procedures and to effectively serve its mandate for the conservation and development of San Francisco Bay, the Commission relied heavily on recommendations from Save San Francisco Bay Association, a nonprofit environmental group, and the Bay Planning Coalition, representing business and development interests, who worked together to develop proposals for improving Bay management programs. In April 1996, the Commission voted to change a number of its regulations, which included establishing a new abbreviated regionwide permit and increasing the types of activities that would qualify for authorization through a regionwide permit, and allowing a vote on a matter at the same meeting as the Commission closes the public hearing, unless a significant issue arises that requires additional staff analysis. In addition to completing an initial review of all of its regulations and determining to make further changes, the Commission held a number of workshops during the year to consider additional regulatory changes proposed by the public.

Tentative priority objectives to improve BCDC's Cumulative Impacts Program. The Commission, at its strategic planning workshop, tentatively concluded that the following objectives and activities are priorities to improve its cumulative and secondary impacts program.

- **CALFED.** By March 1, 1997, the staff will develop a strategy to participate in the CALFED Bay-Delta Program.

The Commission has normally followed the actions of the State Water Resources Control Board, the State Legislature, and a number of other federal, state and regional governmen-

tal agencies in issues that affect fresh water allocation and diversion—such as the formulation of the Water Quality Control Plan for Salinity in the San Francisco Bay/Delta Estuary, and proposed water transfer facilities—such as the Peripheral Canal and agricultural drainage facilities from the Central Valley.

The Commission could develop partnerships at various levels to better coordinate protection of the Bay's water resources. The CALFED program will concentrate on restoration of habitats for endangered aquatic species in the Bay-Delta system. It is currently contemplated that the program will propose considerable restoration in the San Pablo Bay area. In addition to the Commission's role in federal consistency determinations and permits required for CALFED projects, the Commission should be involved in the CALFED restoration project process for the Bay.

- **LTMS.** By June 30, 1997, the staff will prepare a work program and identify a funding source to complete BCDC's portion of the Long Term Management Strategy.

The Commission will work closely with its LTMS partners to prepare the final EIS/EIR for the program. However, the Commission should focus the bulk of its efforts on preparing the comprehensive Management Plan for implementation of the program. The Management Plan will include proposed amendments to both the Commission's Bay Plan policies on dredging and the San Francisco Bay Regional Water Quality Control Board's Basin Plan. These two documents will provide the primary policy basis at the state level for implementation of the LTMS. After adoption of the Management Plan, staff resources will be required for implementation efforts, such as work to establish reuse of dredged material as an ongoing program rather than on a case by case basis. Successful implementation of the program will require significant staff involvement in the early stages, both to work with dredgers and project sponsors, as well as to coordinate with the LTMS agencies.

- **DMMO.** By June 30, 1997, the Commission will determine whether the Dredged Materials Management Office (DMMO) should be modified, made permanent, or whether another pilot period is necessary and what resources are required.

The DMMO pilot project will consist of two six-month trial periods. During the first phase, which began in July 1996, maintenance dredging and disposal permit applications will be processed in order to gauge the effectiveness of the DMMO and determine the need for modifications to the program. The Commission will continue its participation in the second six months of the pilot DMMO, after modifications are made based on review of the results of the first six months. DMMO projects will likely be expanded to include applications for Corps maintenance dredging activities and other activities agreed to by the member agencies. After completion of the pilot program, the agencies will determine whether and how the program should be modified and whether the program should become permanent or if another pilot period is needed.

- **Public Information.** By June 30, 1997, the Commission and the staff will seek federal and state funding to develop a BCDC Home Page on the World Wide Web.

Using a four-phase program, BCDC staff plans to create a Home Page on the World Wide Web to: (1) serve as a library of information about San Francisco Bay; (2) provide links to the many agencies and interest groups associated with Bay issues; (3) provide information about the Commission and its programs; and (4) offer on-line inquiry service, electronic applications, and application filing. Through regular update of the Home Page, the Commission will post such materials as BCDC meeting notices, staff reports, and changes to BCDC programs. In addition to informing the public about the role of the Commission, the web site will also provide links to related programs, such as the State Resources Agency, the Regional Water Quality Control Board, NOAA, the Army Corps of Engineers, and the San Francisco Estuary Institute.

Additional Opportunities for Improvement

- **GIS Resource and Permit Monitoring System and Evaluation.** As part of its stated goal to develop a comprehensive program for the use and restoration of Bay resources, the Commission included in its strategic plan the development of an information base to enable the Commission to map areas that are high priority for development, based on the policies of relevant federal, state and local agencies. The Commission has requested funding in the past two fiscal years for a data systems analyst to enable it to undertake this work, as well as other GIS work in partnership with local agencies and other organizations, such as the Regional Water Quality Control Board and the San Francisco Estuary Institute.
- **Planning Partnerships.** To develop a nonpoint pollution control program, the Commission could work cooperatively with the Regional Water Quality Control Board, San Francisco Estuary Institute (SFEI), and local governments to curb impacts of development outside of the Commission's jurisdiction through watershed planning. The parties could initiate this process with a pilot project, potentially located in the North Bay to tie into the Commission's North Bay Wetlands Protection Program and the pilot projects the Regional Board is developing in the North Bay. A data sharing system using GIS could be developed by the Commission, Regional Board, and SFEI.
- **Public Trust Collaboration with State Lands Commission.** Projects that take place on trust properties within the Commission's jurisdiction must first be approved by the State Lands Commission, which typically issues a lease. State Lands will not issue a lease unless the project is consistent with the public trust, and often the lease is conditioned to ensure that consistency. Staff resources at State Lands have recently declined, limiting the agency's ability to monitor and enforce lease conditions.

To ensure these efforts continue in the Bay Area, BCDC and the State Lands Commission could discuss an arrangement whereby: 1) State Lands Commission lease requirements can be incorporated into BCDC permits; 2) projects could be simultaneously reviewed for compliance with the requirements of both the State Lands lease and the BCDC permit; and 3) public trust requirements for Bay projects could be enforced together with other BCDC requirements. This approach appears to be more efficient because one agency, BCDC, would be responsible for review and enforcement of all public trust requirements in the Bay. Further, this approach would be advantageous to permittees, especially of large projects, because all of the state land use requirements would be assessed at one time. The effort could be accomplished through a memorandum of understanding between the agencies, some training of BCDC staff, and a closer coordination of monitoring and enforcement actions.

Marine Debris

Program objectives address the need for reducing marine debris entering the nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris.

Background. Debris in the Bay can threaten environmental resources, endanger marine life, and pose risks to public health and safety. Bay debris originates from a variety of sources including recreational users of the Bay and shoreline, urban storm drains, and municipal waste water treatment plants. Water quality varies significantly within the Bay due to the pattern of waste discharges and the varying capability of the Bay to disperse and flush these discharges.

Plastics are considered to be the most harmful debris to the marine environment and to marine life and are the most common type of debris found in the Bay. The light weight of plastic items threaten marine mammals and birds with entanglement or ingestion. Even when plastic debris break into smaller pieces in the water, particles remain a danger to the marine environment for decades.

Hazards to navigation are presented by logs, pilings and other forms of large debris floating in the Bay. Deteriorating pile-supported structures are found along some areas of the shoreline. San Francisco's waterfront, in particular, features a number of deteriorating piers, elements of which can break free to create hazards to large and small vessels.

Storm water runoff is directed into the Bay through a network of open channels, drain pipes and street gutters. Catch basins are designed to limit the amount of debris entering the storm drains; however, many are not designed to stop smaller solid waste products.

BCDC's Marine Debris Program. Because of the regulatory authority of the State and Regional Water Boards, the EPA, and the Army Corps of Engineers, the Bay Plan does not deal extensively with the problems and means of waste control. However, the entire Bay Plan is founded on the belief that water quality in the Bay should be maintained at levels sufficiently high to protect the beneficial uses of the Bay. The McAteer-Petris Act (Section 66646.1) states that the policies, decisions, advice and authority of the State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board should form the basis for the Commission in carrying out its water quality responsibilities for San Francisco Bay. Section 66632(e) of the Act further requires that copies of project applications filed with BCDC be submitted to the Regional Water Board, which in turn files a report on the project's potential adverse effects to Bay water quality. By including in permits that it issues specific water quality conditions that help to implement the standards of the Regional Board, the Commission can work with the Board to protect the public and the beneficial uses of the Bay.

Conclusions of previous assessment. Successful recycling programs enacted in localities throughout the Bay Area have helped to reduce the levels of solid waste that can enter the Bay. As the Bay Area's population continues to grow, these efforts as well as those of relevant regulatory agencies will become increasingly critical to reducing marine debris. Due to ongoing budget and staff constraints, BCDC is unable to assign resources to the debris issue. However, the Commission could contribute support to a multi-agency public education campaign similar to the Adopt-a-Beach program sponsored by the Coastal Commission, such as an "Adopt-an-Access" program that would involve Bay shoreline communities and nonprofit organizations concerned with the quality of the Bay's natural resources. BCDC approval for marina development could require that recycling programs be made available for marina users. The Commission should continue to strive to maintain the quality of the Bay's waters through its functions under its Memorandum of Agreement with the Regional Water Board, and continue to support and cooperate with other agencies charged with regulating water quality and addressing debris issues.

Changes in BCDC's Marine Debris Program since previous assessment. Water quality and wildlife habitat values of the various sloughs and creeks within the Redwood Creek area in Redwood City, San Mateo County have deteriorated due to rapidly increasing numbers of abandoned and sunken boats, debris, and anchor-outs dumping raw sewage directly into the waterways. In 1995, BCDC staff initiated a coordinated effort among the many regulatory and enforcement agencies involved with clean up of the area, including the San Mateo County Sheriff's Office, District Attorney's Office and Department of Health Services, the Redwood City Fire Marshal, and the Regional Water Quality Control Board.

Through an informal collaboration known as the "Operation Aqua Terra Task Force," the agencies undertook a series of actions to rid this area of the Bay of abandoned vessels and other debris. Approximately 25 abandoned vessels were removed and charges filed against the most egregious live-aboard residents. Further, a local ordinance was enacted to prevent such conditions from recurring. As a result of this coordinated effort, nearly a quarter of a million dollars in public funds were saved while remedying a significant water quality and environmental problem, and forestalling a time-consuming enforcement action. Following the success of this joint effort, representatives from federal, state, and local agencies and elected officials have come together to address a similar situation at Alviso Slough in San Jose. Clean up of the Slough is anticipated in 1997.

Opportunities for Improvement. BCDC has demonstrated that it has an important role in addressing issues related to marine debris, particularly that in the form of Bay fill. Through partner-

ships with other interested agencies, the Commission can assist local governments address major clean-up and removal efforts. As discussed in the Cumulative Impacts section, participation in the Bay Area Environmental Law Enforcement Task Force allows the Commission to meet regularly with other state and federal regulatory agencies to coordinate enforcement cases related to violations throughout the Bay. Through its Enforcement Committee and Compliance Assistance Task Force, BCDC has begun to contact local governments and the public to more directly inform them of BCDC's authority, and thereby advance efforts to reduce the amount of debris entering the Bay.

Special Area Management Planning

Program objectives address the need to prepare and implement special area management plans for important coastal areas.

Background. Special area management planning involves the preparation and implementation of management plans focusing on important coastal areas. These areas may require protection of significant natural resources, coastal-dependent economic growth or improved protection of life and property in hazardous areas. Since its creation, BCDC has utilized special area planning to address a variety of issues and areas meriting special concern. Under BCDC regulations, a special area plan (SAP) applies any or all of the policies in the Bay Plan in greater detail to a specific geographic area lying either wholly or partially within BCDC jurisdiction. The purpose of a SAP is to more precisely guide public agencies and private parties as to what fill, dredging or change of use in a shoreline area would be consistent with the McAteer-Petris Act and Bay Plan policies. Interagency cooperation is a key feature of SAPs, which are adopted by the Commission as amendments to the Bay Plan and by local governments as part of their general plans and zoning ordinances. A number of special area plans have been produced by the Commission to offer management strategies specific to selected areas. This comprehensive approach is an integral part of Commission planning activities and has been successfully incorporated into its coastal management program for San Francisco Bay.

BCDC's Special Area Plans. The commission has developed a number of plans for specific areas around the Bay. The *Suisun Marsh Protection Plan* represents an early special resource management plan adopted by the Commission, and includes unique implementation measures involving intergovernmental coordination to protect the 89,000 acres of tidal marsh, wetlands, adjacent grasslands and waterways of the Suisun Marsh and 22,500 acres of surrounding upland agricultural land.

To aid in planning for future uses on San Francisco's northern waterfront, in 1975 a committee representative of many interests developed the *San Francisco Waterfront Special Area Plan*. Like other SAPs developed by BCDC, the Plan is intended to serve as a guide as to what fill, dredging or changes in use are consistent with the McAteer-Petris Act and policies of the Bay Plan. The San Francisco Waterfront SAP called for the preparation of more specific policies for the segment of the waterfront between piers 9-24. The *San Francisco Waterfront Total Design Plan*, adopted in 1980, discusses more precisely potential replacement fill and appropriate uses on the designated piers.

To address increased demand for recreational uses and problems associated with poorly controlled houseboat uses in an area of the Bay located in southern Marin County, an agreement was reached among the various agencies involved to jointly prepare a special area plan for Richardson Bay. The *Richardson Bay Special Area Plan* created a unified set of policies and regulatory controls that establishes a shared jurisdiction between the Commission and five local governments over this important recreational water body.

The City of Benicia proposed a revised use plan for its port area, from proposed port and industrial use to recreational, water-oriented commercial development and marina, that was inconsistent with a Bay Plan port priority use designation. The city requested that the Commission assist in a special area planning process to analyze possible uses of the shoreline in this area. The *Benicia Special Area Plan* was adopted by the city as part of its comprehensive plan and as an amendment to the Bay Plan in 1977, and thus guides BCDC and Benicia in planning and permitting in this

area. Adopted the same year as the Benicia SAP, the Richmond *South Richmond Shoreline Special Area Plan* applies to a particular segment of the City of Richmond's shoreline, and helps guide new shoreline development and Bay protection in this area.

In 1996, the Commission approved the *White Slough Specific Area Plan* prepared and adopted by the City of Vallejo and Solano County. Although not a special area plan under the Commission's rules, the White Slough Plan was prepared pursuant to the White Slough Protection and Development Act. Under the Act, after approval of the plan by the Commission, Vallejo and the County must amend their general plans and zoning ordinances to bring them into conformance with the *White Slough Specific Area Plan*. Thereafter, BCDC will issue or deny permits for the placing of fill, extraction of materials, or the substantial change in use of any area within White Slough based on the project's consistency with the White Slough Plan.

BCDC's Regional Plans. In addition to the *San Francisco Bay Plan*, the Commission participates in regionwide planning efforts for the Bay Area. The *San Francisco Bay Area Seaport Plan*, a result of a cooperative effort between the Metropolitan Transportation Commission (MTC) and BCDC, guides both agencies in their decision making regarding seaport development and related proposals for transportation and land use development. The Seaport Plan is a component of the Bay Plan, where it is the basis for the Commission's policies for port development. *The Regional Airport System Plan (RASP)*, recently updated by MTC and the Association of Bay Area Governments, serves a similar function for the Bay Area's system of airports and aviation-related facilities as the Seaport Plan does for port facilities. BCDC serves in an advisory role in the development of the RASP. As airport expansion plans involve Bay fill or change in use in these priority use areas, the Commission will be involved in project review and permitting.

Conclusions of previous assessment. While the San Francisco estuary in its entirety is a unique natural resource, it hosts many diverse habitats and uses. BCDC has long recognized the need for a distinct, collaborative planning approach to protect and manage the Bay's varied resources and has endeavored to identify those areas that would benefit from programs designed to address issues impacting the individual areas. Special area planning has proven to be an effective method of balancing development pressures with protection of the Bay. Site-specific issues that may arise with future base closures and conversions may require special management plans depending on the nature of development proposals.

Changes to BCDC's Special Area Planning Program since previous assessment

- **Seaport Plan Update.** In July 1993, Commission staff began the update of the *San Francisco Bay Area Seaport Plan* to, in large part, reassess the region's need for closing military bases to serve as civilian seaports. The Seaport Planning Advisory Committee oversaw the development of the original Seaport Plan in 1982 and its subsequent updates adopted by the Commission in 1989 and 1996. In developing the land use designations and policies contained in the plan, the committee reviewed a series of reports developed by BCDC staff and consultants to MTC that considered changes in the maritime industry and military base closures around the Bay.

By incorporating improvements in cargo handling and other changes in the maritime industry, the updated plan will accommodate the expected growth in maritime cargo to 2020 with less acreage reserved, and less Bay fill, as the previous plan. Further, a number of shoreline sites not needed for port use in the future were deleted as port priority use areas in the Bay Plan, including closed military bases, thereby freeing the sites for other uses.

- **White Slough.** As discussed previously, Solano County and the City of Vallejo completed a *White Slough Specific Area Plan* in 1995 pursuant to the White Slough Development Act and submitted it to the Commission in February 1996. The Commission conditionally approved the plan on March 7, 1996. The City of Vallejo is scheduled to amend its general plan to make it consistent with the White Slough Plan in early 1997. Once this occurs, the White Slough Plan will be fully approved.

- **San Francisco Waterfront Planning.** In 1995, the Port of San Francisco completed its *San Francisco Waterfront Plan* to guide long-term use and development of property under the Port's jurisdiction. The Port subsequently requested that the Commission work with its staff to bring the Waterfront Plan and the Commission's *San Francisco Bay Plan*, *San Francisco Waterfront Special Area Plan* and *San Francisco Waterfront Total Design Plan* policies and implementing mechanisms into consistency, and to provide greater predictability for project proponents along the San Francisco Waterfront. The Port has funded a consultant who works with the Commission's staff and the Port's staff to develop proposed modifications to the Commission's plans consistent with the McAteer-Petris Act and, where necessary, the Port's Waterfront Plan, to achieve the desired consistency of the policy documents.

Staff has been meeting regularly with Port staff to refine public access concepts and designate specific areas along the San Francisco waterfront for public access. In addition, BCDC staff has held regular meetings with San Francisco community groups interested in the future development of the waterfront, to incorporate their concerns and recommendations in the planning process. This coordinated planning is intended to develop a public access and urban design plan for the San Francisco waterfront that will be incorporated into the Port's Waterfront Plan and modify the Special Area and Total Design Plans.

Tentative priority objectives to improve BCDC's Special Area Planning Program The Commission, at its strategic planning workshop, tentatively concluded that the following objectives and activities are priorities to improve its special area planning program.

- **Continued San Francisco Waterfront Planning.** By June 30, 1997, the staff, in conjunction with the Port of San Francisco, will substantially complete the San Francisco Waterfront Plan and recommend changes to the Bay Plan to the Commission.

An important element of the *San Francisco Waterfront Plan* is the urban design and public access plan and guidelines. Considerable work has been accomplished in the past year through the collaborative planning of the Port and Commission staffs. However, a number of issues remain to be resolved before changes can be proposed to the San Francisco Special Area and Total Design Plans and before the Port can adopt the urban design and public access element. Consequently, the Commission should continue and conclude the planning effort it has begun with the Port and community groups to define these important characteristics that will apply to future development along San Francisco's waterfront.

Staff has been working with the Port of San Francisco staff to bring the Port's Waterfront Plan and the Commission's *San Francisco Bay Plan*, *San Francisco Waterfront Special Area Plan* and *San Francisco Waterfront Total Design Plan* policies and implementing mechanisms into consistency, with the goal to provide greater predictability for project proponents along the San Francisco Waterfront. The staffs, with Save San Francisco Bay Association, have developed a framework for integration of the two agencies' plans and are now working out the details for presentation to BCDC and the Port Commission. Agreement by the Commissions should result in amendments to the San Francisco SAP and Total Design Plan.

- **Shoreline Transportation Plan.** By June 30, 1997, the Commission will convince Caltrans and MTC to work with BCDC to develop a shoreline transportation plan.

Because BCDC's review of Caltrans' major permit applications occurs too late in Caltrans' planning process for BCDC to have any useful input on the selection of alternative routing, design, or transit mode, the Commission included in its strategic plan the objective of forming a partnership with MTC and Caltrans to adopt a joint San Francisco Bay shoreline transportation plan. The *San Francisco Bay Area Seaport Plan* would be used as a model for a regional plan for transportation corridors that would affect the Bay. BCDC has developed the Seaport Plan in partnership with MTC, and it is highly effective in establishing regional policies on developing facilities for waterborne cargo transportation and landside access to those facilities. The policies are implemented by MTC through its *Regional*

Transportation Plan, and by BCDC through its regulation of shoreline development. The proposed shoreline transportation plan could be implemented under BCDC's existing authority to develop and adopt Special Area Plans. Adopting such a plan would provide BCDC an opportunity to make a binding decision on routes, design concepts, and transit modes early in Caltrans planning process. It would also allow BCDC to use its permit review to focus on the specific details of individual project designs in its jurisdiction.

This reform was proposed to the Department of Transportation, which is still considering whether to participate in developing a shoreline transportation plan. If it decides to support the proposal, Caltrans and BCDC would jointly approach MTC to seek its participation and funding support.

Additional opportunities for improvement

- **Bay Area Mooring Plan.** To better serve the recreational boating community, the Commission could join in a partnership with appropriate organizations, such as the Pacific Inter-Club Yacht Association, State Lands Commission, and local governments to develop a Bay Area Mooring Plan. The Commission developed such a plan for Richardson Bay in the *Richardson Bay Special Area Plan*.

Energy and Government Facility Siting

Program objectives address the need for adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and energy-related activities and government activities which may be of greater than local significance.

Background. The San Francisco Bay and shoreline feature a number of uses related to energy and government facilities. Located primarily on the northeastern shoreline, energy-related uses include oil and natural gas processing facilities, refineries, marine terminals for storing and transporting oil and gas, natural gas extraction and storage facilities, and other ancillary uses. Public facilities such as airports, ports, and military bases encircle the Bay. BCDC is mandated by the McAteer-Petris Act (Section 66602.1) to "make provision for adequate and suitable locations" for water-oriented land uses as specified in the Act. Water-related industry, ports, and airports are among those uses designated in the Bay Plan as high priority uses of San Francisco Bay and its shoreline. Suitable shoreline areas for these activities are limited and should be reserved for priority purposes. A regional issue that has recently emerged is the closing of military bases and military facilities around the Bay.

BCDC has initiated working relationships with a number of agencies controlling shoreline holdings to coordinate planning, protection, and management efforts, and has produced studies on the facilitation of siting of energy and government facilities. These undertakings have led to amendments to the Bay Plan and specific plans intended to accurately reflect the findings and policies of the studies. *The Thermal Power Plant Non-Siting Study* and *San Francisco Bay Area Seaport Plan* are representative of BCDC's efforts to work cooperatively with state and regional agencies, municipalities, and facilities operators to meet long-range planning needs.

BCDC's Energy and Government Facility Program

Energy Facilities. To ensure that the Commission does not restrict the development of needed power plants, BCDC works cooperatively with the State Energy Resources Conservation and Development Commission (Energy Commission) to consider suitable sites for proposed energy facilities. Although no permit is needed from BCDC because the Energy Commission has exclusive jurisdiction over power plants, the commission is required to include specific provisions that satisfy BCDC's laws and policies in its project approval process.

The respective roles of BCDC and the Energy Commission in the regulation of power plant siting are defined in the McAteer-Petris Act (Sections 66645 and 66646). BCDC is required to designate those areas within its jurisdiction that are not suitable for power plants. To ensure that BCDC does not restrict the development of needed power plants in the Bay Area,

BCDC is required to consider the most recent comprehensive Biennial Report of the Energy Commission. The Energy Commission is prohibited from placing any power plant within BCDC's jurisdiction at a location not identified as appropriate for such use by BCDC. The *Thermal Power Plant Non-Siting Study*, last updated by BCDC in 1990, identified those areas of the Bay, its salt ponds and managed wetlands, and 100-foot shoreline band around the Bay not suitable for power plant siting due to inconsistencies with the Bay Plan or the *Suisun Marsh Protection Plan*.

Airports. There are three major commercial airports in Oakland, San Francisco, and San Jose sited along or near the Bay. The shoreline locations are favored because the Bay provides open space for takeoffs and landings directed away from populated areas, and results in less noise carried to those areas. The Bay shore locations also provide ready access to densely populated urban centers. Although there are small reliever airports in the Bay Area, the overwhelming majority of passenger and cargo air traffic is handled at the three major facilities. Air traffic is expected to increase significantly in the Bay Area, with passenger and cargo levels doubling between 1990 and 2010. Capacity expansion has been proposed at the three major airports that may involve filling of the Bay, requiring BCDC involvement in these planning efforts.

The Bay Plan designates airport priority use areas along the Bay shoreline. However, filling of the Bay for expansion or construction of airport facilities is permitted only if it is found that there is no remaining capacity at any Bay Area airport and that there is no upland location for a new airport. If fill for airport facilities is permitted, adverse impacts must be fully mitigated and public access to the Bay must be provided to the extent consistent with the project.

The *Regional Airport System Plan (RASP)*, first prepared in 1982 and most recently updated in 1994 by the Association of Bay Area Governments and the Metropolitan Transportation Commission, outlines the long-term development requirements of all airports in the region. Airport projects that expand terminal and runway capacity and improve ground access must be consistent with the RASP. The plan serves as the air transportation element of MTC's Regional Transportation Plan, the comprehensive program MTC is responsible for developing to meet Bay Area transportation needs. The Commission has generally looked to the RASP to guide airport growth and development, and encourages airports in the region to coordinate their facility planning with the Regional Airport Planning Committee. Through a regional planning approach, congestion at airports can be relieved by diverting passengers, cargo, and general aviation to airfields able to accommodate additional traffic.

In addition to San Francisco and Oakland International Airports, the Bay Plan designated the airfield and runway area at Hamilton Army Air Field in the North Bay and the Naval Air Station at Moffett Field in the South Bay as airport priority use areas, to be used for general aviation or studied for airport use once no longer needed by the military. These and other facilities have the potential to relieve congestion at the commercial airports, alleviating pressure to expand those facilities. However, in its review of Hamilton Air Field in 1995, the Commission, referring to the updated RASP, determined that the link is no longer there and deleted the Bay Plan airport designation at Hamilton.

Seaports. San Francisco Bay is one of the world's great natural harbors and the area's ports are major contributors to the economic vitality of the region. Six public use ports serve the Bay: five publicly-owned port terminals in Oakland, San Francisco, Redwood City, Richmond and Benicia, and one privately operated terminal in the City of Alameda. In addition, a number of port facilities are owned and operated by petroleum-related industries.

The Commission recognizes the substantial public benefits of developing an adequate regional system of port facilities capable of keeping San Francisco Bay in the forefront of the world's great harbors, particularly during a period of rapid change in the shipping industry.

The Bay Area expects the volume of container cargo to nearly triple by 2020, requiring large, specially designed terminals and supporting transportation facilities. BCDC, in cooperation with the Metropolitan Transportation Commission, developed the *San Francisco Bay Area Seaport Plan* to ensure the continued vitality of the region's port system.

The Seaport Plan is a component of the Bay Plan and the maritime element of the Regional Transportation Plan. First developed in 1982 and updated in 1988, the Seaport Plan was again revised in 1996. The plan was produced by the Seaport Planning Advisory Committee, consisting of representatives of local, state and federal agencies, the ports, and environmental and development interest groups. The Seaport Plan provides BCDC with policies for reviewing permit applications, environmental assessments, and federal consistency requirements, and MTC with policies for reviewing environmental assessments and funding applications. The plan also calls for local governments to institute land use protections for the designated port areas.

In the course of the recent Seaport Plan update, designations of port priority use areas and marine terminals were reviewed to ensure the location and acreage set aside for these purposes were still optimal, given changing economics in the shipping industry and the opportunities presented by closing military bases. In contrast to previous efforts that emphasized terminal and port expansion, the recent update focused on increasing efficiency at existing facilities and improved rail transfer to handle increases in cargo volumes.

An additional important BCDC effort concerned with improving port facilities focuses on dredging activities. The inter-agency Long Term Management Strategy (see section on "Cumulative Impacts") is preparing a regional management and implementation plan for Bay dredging and dredged materials disposal. In a cooperative effort to develop a comprehensive program designed to assist in port development and address related environmental impacts, Commission staff is studying the feasibility of reuse and upland disposal of dredged spoils, while the Regional Water Board is studying in-Bay disposal impacts and the U.S. EPA has identified a deep ocean disposal site. The plan, when completed, will form the basis for BCDC's possible amendment of the Bay Plan findings and policies on dredging.

Military Bases. The coastal zone for San Francisco Bay is defined as all the area within BCDC's permit jurisdiction. Federal approval of the Commission's coastal management program for the Bay requires federal agencies to comply with state program policies. Federal projects or activities that affect the coastal zone are thus subject to review for consistency with policies of the McAtteer-Petris Act, the Bay Plan, the Suisun Marsh Preservation Act and Local Protection Programs, even if the activities occur inland from the coastal zone. BCDC's federal authority therefore can extend beyond the 100-foot shoreline band, particularly to encompass priority use areas designated in the Bay Plan. State policy directs that a change in use of federal property cannot take place if it would result in a use that is inconsistent with the Bay Plan's designated priority use areas.

The closure of a number of military bases sited along the Bay requires consistency review by the Commission as new uses are proposed for the facilities. Those military facilities that are subject to Bay Plan priority use designations are restricted as to the types of projects or activities that can occur at the sites once they are decommissioned. BCDC has worked closely with local agencies planning for base reuse to ensure that proposed future uses are consistent with the Commission's applicable plans and policies to the fullest extent possible. A primary focus of the recent Seaport Plan update was to consider the need for maintaining port designations on closing naval bases. The Commission worked with local base reuse authorities to reserve only those portions of the bases found suitable for future port facilities, releasing the vast majority of military land from their Bay Plan designations.

Conclusions of previous assessment. Adoption of new special area plans and amendments to existing plans, as well as preparation of staff analyses and reports, demonstrate the Commission's commitment to a broad-based program that involves intergovernmental cooperation in evaluating

the adequacy of existing state and local planning processes; examining the roles played by interested and affected public and private parties; evaluating enforceable policies, authorities, and techniques to manage facilities siting; and evaluating current project review and permitting procedures. BCDC anticipates that it will continue its active involvement in planning for siting of energy, airport, and port activities around the Bay.

BCDC's airport policies have not been updated since the early 1980s. It is time to review them and determine whether there continues to be a need for general aviation reliever facilities in the Bay Area. If there is no longer a connection between general aviation reliever airports and filling the Bay for runways at commercial airports, there is no need to reserve areas for general aviation in the Bay Plan. It is also important to consider the Bay Plan policies on aviation to determine whether new issues and pressures on the Bay have developed since the policies were written.

Using the information developed through the updating of the airport and seaport plans, BCDC could play an important role in dealing with the emerging issue of military base closures in the Bay Area. Most of the bases slated for closure are along the shoreline of the Bay and several of the bases are currently designated as priority use areas in the Bay Plan. The airport and seaport planning will help the Commission determine whether these designations are still appropriate. In addition, the Commission could form alliances with local governments and other agencies to develop strategies for reuse of the bases. Changes in use and the impacts of toxic wastes disposal and clean up at military sites surrounding the Bay are of vital concern to the Commission in its ongoing protection efforts in behalf of Bay waters and wildlife habitats. Given the Commission's experience in working cooperatively with local governments in developing special area plans, and the Commission's authority over base reuse under the consistency procedures of the CZMA, the Commission is in a unique position to develop effective partnerships with the many agencies and community groups concerned with conversion issues and to develop plans for the future development of the military installation sites.

Changes in BCDC's Energy and Government Facility Program since previous assessment

- **Military Base Closure.** Through the review and revision in 1996 of the *San Francisco Bay Area Seaport Plan*, the Commission worked closely with the reuse authorities in Alameda, San Francisco, and Vallejo in the analysis of continued port priority use designation for Naval Air Station Alameda, Hunters Point Naval Shipyard, and Mare Island Naval Shipyard. Based on this work, the Commission and San Francisco agreed that all but 55 acres of the Hunters Point Naval Shipyard should be removed from port priority use, and the City designated the 55 acres as port priority use in its redevelopment plan. Correspondingly, the city of Vallejo agreed that all but the dredged material ponds used for dredged materials from ship channels should be deleted from port priority use. However, Alameda did not agree with the Commission that all but 220 acres of the approximately 1,500-acre Naval Air Station should remain in port priority use. Alameda requested that all the former military base be removed from priority use designation. In responding to Alameda's concerns, the Commission has entered into a joint study with the Alameda Reuse and Redevelopment Authority, the East Bay Conversion and Reinvestment Commission, and the Metropolitan Transportation Commission to conduct a feasibility study of development of a container cargo marine terminal on the 220-acre Alameda site. This study is to be completed in the Spring of 1997.
- **Oil Spill Contingency Planning.** Through the Joint California Coastal Commission/BCDC Oil Spill Prevention and Response Planning Program, BCDC implements the provisions of the 1990 California Oil Spill Prevention and Response Act that require BCDC to participate in programs for the prevention of petroleum product releases from vessel and marine facilities in San Francisco, San Pablo and Suisun Bays. BCDC also participates with federal, state and local agencies and industry in the development of comprehensive oil spill response plans for this geographic region.

The principal focus for the BCDC oil spill program since 1991 has been oil spill prevention. A BCDC staff member is vice-chair of the San Francisco Bay Harbor Safety Committee, and BCDC is a member of the Area Contingency Planning Committee. BCDC has earned a leadership position within these committees, assisting federal, state and local agencies, marine facilities, vessel and tow companies, and harbor pilots to develop and implement strong regulations and procedures for vessel and facility safety, public health, and environmental protection. In addition, by law, BCDC reviews biennial oil spill contingency response plans for the more than 40 marine facilities around the Bay. BCDC oil spill staff actively participate in oil spill drills and training exercises around the Bay. Oil spill staff also assist with the BCDC enforcement and permitting processes that may arise from an oil spill.

BCDC also has a role in oil spill response. During the recent 8,400-gallon Cape Mohican spill in San Francisco Bay, BCDC assisted the U.S. Coast Guard and the State Office of Oil Spill Prevention and Response with local contacts, local information, and press relations. BCDC was commended by local, state and federal officials for its role during the spill response.

Opportunities for Improvement

- **Expanded Oil Spill Contingency Planning and Navigation Safety.** Oil Spill Program initiatives could include a local community preparedness, volunteer, and public outreach initiative. BCDC oil spill staff would work during the course of three years with local government agencies, environmental, and other citizen groups, to identify the issues arising from the Cape Mohican spill that were particular to the Bay Area, and to help prepare local governments and citizens to address those issues in future spills or other emergencies. BCDC also could explore the expanded application of GIS and the NOS Physical Oceanographic Real-Time System (PORTS), which would provide actual current and water level information during a spill, and the incorporation of local knowledge from harbor pilots, commercial fishing interests, and environmental organizations, which could increase the accuracy of the projections and contribute to faster, more efficient response.

The Bay Plan does not contain policies on navigation safety. Much information about Bay navigation and safety hazards is being developed through the San Francisco Bay Harbor Safety Committee as part of its involvement in the oil spill contingency planning. Moreover, additional information on navigation obstacles is being learned from detailed bathymetric information being developed by the National Ocean Service, USGS, and the Corps of Engineers. The knowledge gained from this information could be used as a basis for a navigation element of the Bay Plan that would contain specific policies on oil spill prevention and response.

- **Seaports.** To remain competitive with other west coast container ports, the Port of Oakland has announced plans to deepen the Oakland Harbor to -50 feet MLLW and construct a joint intermodal rail terminal. The Commission staff will work to accelerate the project through partnerships with the Port of Oakland, the LTMS agencies, the California Coastal Conservancy and other interested parties. In particular, the Commission will work with the Conservancy as part of the Dredged Material Reuse Program to implement upland disposal sites for dredged material, and with the U.S. EPA as part of its XL program to consolidate federal environmental protection requirements for specific projects. One of the key goals of these efforts will be to find beneficial uses for the material dredged as part of the project, consistent with the Commission's Bay Plan policies on dredging and the LTMS.
- **Assist local governments in military base reuse planning.** To assist in developing opportunities created by the closing of military bases within the region, in 1994 the Commission initiated the San Francisco Bay Area Military Base Reuse Forum in cooperation with Bay Area business organizations, nonprofit environmental groups, and the State Coastal Conservancy and State Lands Commission. The primary goal of the Forum has been to find ways to expedite the reuse of the closed bases. To further its goals, the Forum joined

with the Bay Area Defense Action Conversion Team (BADCAT), created at the request of the local base reuse planners, to develop specific concepts that can be applied by other communities and states as they develop base reuse plans. Some of this information will be general and applicable to any base; however, because nearly all of the bases being closed in the Bay Area are located along the shoreline, and because the Forum has focused on coastal issues—including the public trust, ports, water-related industry, shoreline public access, and coastal water quality—much of the information will be directly relevant to other coastal managers.

To share the information they have developed and encourage further discussion, the Forum and BADCAT plan to hold a major conference to bring together those individuals who have developed the greatest expertise in advancing the expedited reuse of closed military bases with representatives of communities who are just beginning the reuse planning process. The Commission should continue its work with the Forum to benefit coastal communities in the Bay Area as well as around the country who are dealing with the closure of military bases.

Aquaculture

Program objectives address the need for considering siting of marine aquaculture facilities while maintaining current levels of coastal resource protection.

Primarily as a result of lingering water quality issues, an aquaculture program for San Francisco Bay is not anticipated to be developed in the near future. Past experience with oyster farming in the Bay proved to be not cost-effective, when oysters had to be relocated out of San Francisco Bay to Tomales Bay to flush toxins deposited in the oysters before being marketed. Studies continue to show high levels of toxins in the Bay, and warnings have been issued by the Regional Water Board and local departments of public health as to potential adverse effects caused by eating fish caught in the Bay.