

INTRODUCTION TO THE ADAPTING TO RISING TIDES EXISTING CONDITIONS AND STRESSORS REPORT

The Adapting to Rising Tides (ART) project evaluated the current condition of shoreline and community assets, and the stressors affecting them, because understanding existing conditions and stressors can inform an understanding of individual asset resilience (or lack thereof) to projected climate impacts, including sea level rise and storm events. Stressors can also provide information on current and future trends and how those trends may affect resilience. The existing conditions and stressors were analyzed and summarized for each asset category included in the ART project assessment. This analysis served as a foundation for the ART vulnerability and risk assessment, which examined asset exposure to five potential climate impacts, sensitivity of assets to these impacts, and the ability of assets to accommodate or adjust to these impacts with little financial or structural intervention.

The following Existing Conditions and Stressors report chapter includes:

- a definition of the asset category;
- a synthesis of information about current conditions and stressors; and
- discussion of these conditions through the lenses of sustainability organized by society and equity, environment, economy and governance.

The complete ART Existing Conditions and Stressors Report is available at the ART Portfolio website.

PARKS AND RECREATION

I. Definition

Parks and recreation areas are publicly owned lands in the ART project area that are open to the public for recreation activities. Resources and activities at parks and recreational areas include scenic views; walking, running, and biking on paths and trails; nature viewing; interpretive displays; educational facilities and activities; swimming; paddleboating; sailboarding; motorboating; picnicking; playgrounds; family / group event areas and facilities; dog recreation; historic or cultural activities; team sports; and golf. These parks and recreational areas serve users at three scales.

- Regional shoreline areas that attract visitors from throughout the Bay Area (and beyond).
- Parks or community centers that provide sports facilities used primarily by Alameda County residents.
- Small shoreline parks that serve a surrounding community or neighborhood.

This section focuses on 22 parks and recreation areas (see Figure 1 and Table 1 at the end of this chapter) that are located immediately on the shoreline and /or provide significant *regional* recreation resources. For the most part, parks smaller than 5 acres are not included.

Neighborhood, or “pocket” parks that are not on the shoreline are also not addressed here.

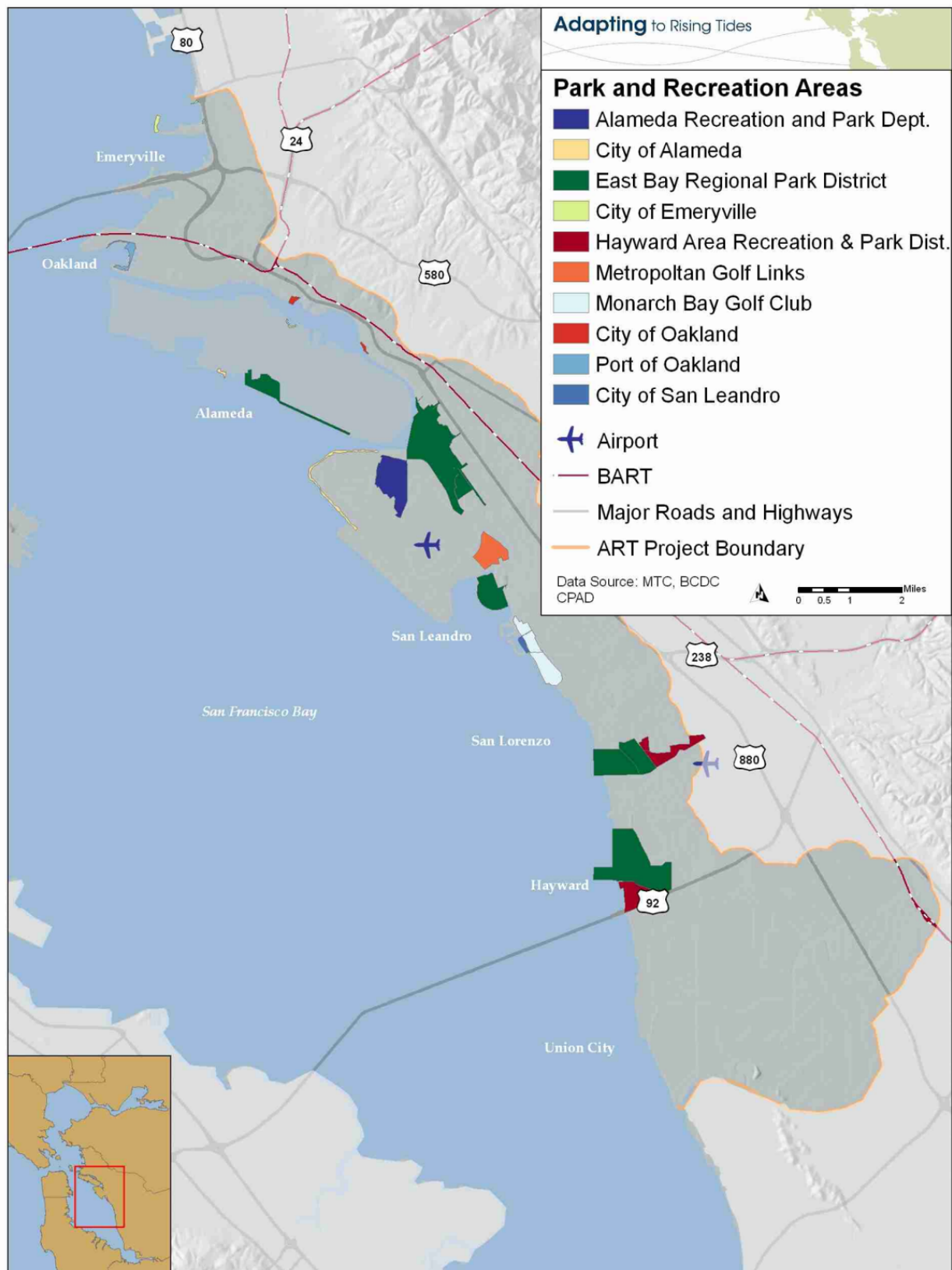
Although they are important recreation resources for the surrounding communities, individual pocket parks are generally not considered significant resources for the ART project area.

Furthermore, due to their location within neighborhoods, assessing climate change impacts to pocket parks can easily be folded into future, community-based adaptation planning efforts—the scale at which these parks are most relevant. This section does not describe privately owned recreational facilities (e.g., private golf courses, amusement parks).

II. Locations and Physical Features

All of the parks addressed here are located in low-lying areas on or near the shoreline (see map). Parks such as Middle Harbor Shoreline Park, Crown Memorial State Beach, Martin Luther King Jr. Regional Shoreline, Hayward Regional Shoreline, and Hayward Interpretive Center are largely low-lying beach or wetlands. The shoreline is hardened with riprap and other hardscape features (e.g., boat ramps and stairs) along many of the smaller, more urban parks in the study area. In the southern portion of the ART project area, levees protect and form the shoreline border to parks. A few of the parks and recreation areas that are constructed over former landfills and contaminated sites have areas of slightly higher topography (e.g., two of the golf courses and Oyster Bay Regional Shoreline).

Figure 1. Map of Parks and Recreation in the ART Project Area



Natural, created, and restored habitat features of the park assets include eelgrass, beaches, mudflats, tidal marshes and flats, fresh water marshes, salt ponds, transitional uplands, high marsh, and upland grasses.

Improvements found in almost all of the parks are paths and trails (both paved and unpaved), bathrooms, benches and picnic tables, landscaped areas, and parking lots. Playgrounds, barbequing grills, and interpretive signage are also common features. Larger capital improvements include visitor centers (interpretive, community, and educational), boardwalks and piers, boat launch ramps and/or floats, boathouses, a bath house, and sports fields and courts.

The Bay Trail is aligned through most of the parks in the ART project area and connects many of these recreation assets. Depending on the location of its segments, the Bay Trail consists of paved multi-use paths, dirt trails, gravel-topped levees, bike lanes, or sidewalks on city streets.

III. Ownership and Management

The East Bay Regional Park District and the Hayward Area Recreation and Park District own and/or manage almost half of the park and recreation assets in the study area. Cities in the ART project area and the Port of Oakland own and manage the remaining assets, except the three municipally owned and privately managed golf courses, and Crown Memorial State Beach owned by the State of California. ABAG administers the Bay Trail Project, which plans and provides program-level management for the trail. Individual site owners manage and maintain designated Bay Trail segments on their properties.

Middle Harbor Shoreline Park. Source: Sara Polgar, BCDC.



East Bay Regional Park District (EBRPD)

EBRPD is a special district that provides regional park and recreation services and operates golf courses in properties located throughout Alameda and Contra Costa Counties. Within the ART project area, EBRPD owns and/or manages about 2,800 acres in five different parks. In 2010, the district's total budget was \$197.1 million and it employed 622 permanent personnel and 85 seasonal/ temporary personnel. EBRPD provides police and fire services on its parklands and assists local agencies with mutual aid (EBRPD, 2011).

EBRPD relies primarily on property tax revenues, and secondarily on special assessments and service charges. Service charges include parking fees, shuttle fees, facility rental fees, concession leases, and public safety charges, among others. Additionally, the district levies parcel taxes for public safety and park maintenance services. These taxes sunset in 2014 and 2020 and must be reaffirmed by a two-thirds vote. EBRPD reserves contingency funds in its budget for economic uncertainty and disasters as well as reserves for cash flow purposes (Alameda LAFCO, 2006).

A master plan for the district (with a 20-year planning horizon) was prepared in 1997. In 2010, the district prepared an annex to ABAG's regional Local Hazard Mitigation Plan, which enables the EBRPD to be eligible for FEMA mitigation funding (EBRPD, 2011).

Hayward Area Recreation and Park District (HARD)

HARD is an independent special district formed to provide park and recreation services to Hayward, San Lorenzo, and surrounding areas. The district's key infrastructure in the ART project area consists of approximately 100 acres of park space, a golf course, a sports park, an interpretive center, and rental facilities. HARD provides maintenance of park areas, trees, landscaping, buildings, and other structures at the district's park sites and facilities.

The district's primary revenue sources are property taxes, recreation fees (e.g., rents, concessions), a special per-household tax levied by HARD that was approved by voters in 1997, and grants for capital improvements. The district's past practice has been to maintain a reserve of 5% to 10% of the annual budget (Alameda LAFCO, 2006). A master plan for HARD (with a 15-year planning horizon) was prepared in 2006.



Point Emery Shorebird Park. Source: www.walking-the-bay.com/2011_04_01_archive.html.

Local Agencies

Parks and recreation departments within the Cities of Emeryville, Oakland, Alameda, and San Leandro are responsible for managing nine of the sites in the ART project area.

Point Emery, Shorebird Park, and Marina Park are owned and managed by the City of Emeryville. The city's parks budget revenues are from the general fund and (to a small extent) park fees and revenues (from recreation services, facility rentals, and concessions) (Alameda LAFCO, 2006). The city adopted a Parks and Recreation Strategic Plan in January 2011 that provides an overview of activities at the city's parks, and lays out decision-making criteria to help the city move toward achieving the community's vision for recreation. The plan also summarizes approximate costs for capital improvements and ongoing maintenance in city parks (City of Emeryville, 2011).

The City of Oakland's Office of Parks and Recreation manages Estuary Park and Union Point Park in the ART project area. The parks and recreation budget revenue sources are primarily the general fund, park fees and revenues, and special taxes (Alameda LAFCO, 2006). The city's General Plan includes an Open Space, Conservation, and Recreation Element (last updated in



Monarch Bay golf course along the shoreline of San Leandro. Source: Derrick Coetzee, Wikimedia Commons

1996) that addresses park land use, operations, and funding; it also includes a human resources section with policies that emphasize providing equitable and diverse recreation opportunities and engaging underserved communities (City of Oakland, 1996). More recently the city has prepared master plans for some parks and recreation areas; however, the parks within the ART project area were not part of these planning efforts.

The City of Alameda owns and manages Shoreline Park (Estuary), Encinal Boat Ramp Park, and Shoreline Park (Bay Farm Island).

The city's parks and recreation budget comes primarily from enterprise funds (from golf service fees at the city-owned and privately managed golf course) and the general fund, with a small contribution from parks fees and revenues (Alameda LAFCO, 2006). The City of Alameda's 1991 General Plan includes a Parks and Recreation, Shoreline Access, Schools, and Cultural Facilities Element that primarily outlines priorities for development of new recreation facilities (City of Alameda, 1991).

The Cities of Oakland, Alameda, and San Leandro contract with private management firms for the management of their municipally owned golf courses.

The City of San Leandro Recreation Division is responsible for the operation of the Marina Park. The city's general plan includes an Open Space Parks and Conservation element (adopted in 2002) with policies for existing parks that emphasize maintenance and rehabilitation (City of San Leandro, 2002). General funds, park fees and revenues, and enterprise funds (generated from golf service fees and the city's marina) provide the city's parks revenues (Alameda LAFCO, 2006).

The Bay Trail

Administered by ABAG, the San Francisco Bay Trail Project plans, promotes, and advocates for implementation of the Bay Trail by distributing grant funds for trail planning and construction, providing technical assistance to local governments, encouraging consistency with the adopted Bay Trail Plan, and educating the public about the benefits of the trail. Trail segments are built, owned, managed, and maintained by cities, counties, park districts, and other agencies with land-management responsibilities, often in partnership with local nonprofit organizations, citizens' groups, or businesses.

San Francisco Bay Trail along the Hayward Regional Shoreline. Source: San Francisco Bay Trail. Source: baytrail.abag.ca.gov.



Three full-time employees staff the Bay Trail Project. It is governed by a 36-member volunteer board of directors representing a broad range of interests that meets twice a year, and by a smaller steering committee that meets every other month to discuss program and planning issues (Bay Trail Project).

Funds for the Bay Trail Project staff and grants for planning and construction of trail segments come from Proposition 84 park bond funds and regional bridge toll funds. Since 2008, the project has allocated over \$4 million for 35 grants. The Bay Trail is part of the Regional Bicycle Network, identified in the Metropolitan Transportation Commission's Regional Bicycle Plan and ABAG's Bay Trail Plan, and is supported in the general plans of all local jurisdictions and special districts along the shoreline (Pers. comm. Laura Thompson, Bay Trail Project, October 19, 2011).

Other Relevant Agencies, Policies, and Plans

To make improvements to shoreline parks in the ART project area, park managers need to coordinate with various other agencies with land and resource-management responsibilities, such as local agencies and utility and flood protection districts, as well as communities that use and care about the park or recreation area. Additionally, permits and approvals may be required from local city councils, BCDC, the Regional Water Quality Control Board, the U.S. Army Corps of Engineers, and the California Department of Fish and Game.

IV. Asset Characteristics

To provide an overview of the diverse recreation opportunities in the ART project area, this section summarizes the different types of recreation services provided, and notes where these opportunities or features are uniquely available at a (subset of) park(s).

Walking, Running, Hiking, and Biking Trails

Designated portions of the Bay Trail along the shoreline provide most of the walking, running, hiking, and biking trails in the study area. The Bay Trail is a recreational corridor that, when completed, will encircle San Francisco and San Pablo Bays with a continuous 500-mile network of bicycling and hiking trails. Depending on the location of its segments, the Bay Trail consists of paved multi-use paths, dirt trails, gravel-topped levees, bike lanes, or sidewalks on city streets. The Bay Trail serves as an important commute corridor for bicyclists traveling between home, work, and school. The trail links residential areas, transit stations, employment centers, and regional destinations providing a transportation alternative to the automobile.

With only a few exceptions, the parks and recreation areas in the ART project area include a segment of the Bay Trail. Long stretches of the trail (i.e., more than a mile) are located in Middle Harbor Shoreline Park, Crown Memorial State Beach, Shoreline Park (Bay Farm Island), Martin Luther King Jr. Regional Shoreline, Oyster Bay Regional Shoreline, and Hayward Regional Shoreline.

The study area also includes extensive segments of Bay Trail that are not within parks and recreation areas. For example, along levees the Bay Trail connects Marina Park and Tony Lema Golf Course (San Leandro) with Hayward Regional Shoreline and extends south of Highway 92 into Eden Landing Ecological Preserve (owned and managed by the California Department of Fish and Game). Some parks, such as Shorebird Park and Hayward Interpretive Center, are popular stopping points or destinations along these longer stretches of the Bay Trail for views and/or interpretive and educational activities. Additionally some of the smaller parks in the ART project area connect segments of the Bay Trail and offer parking for access to the trail (e.g., Encinal Boat Ramp Park).

Larger parks such as Hayward Regional Shoreline and Oyster Bay Shoreline Park have some additional (non-Bay Trail) paths.

Views

Almost all of the shoreline parks in the ART project area have scenic views of the Bay or Oakland Estuary. Parks in Emeryville, the Port of Oakland, and the west sides of Alameda and Bay Farm Islands specifically attract visitors due to their iconic views of San Francisco and the Bay Bridge.

Nature and Wildlife Viewing

Shallow waters, tidal marsh, mudflats, salt ponds, and upland habitats adjacent to and within the ART project area's parks are important habitat for shorebirds (e.g., the endangered California clapper rail) and waterfowl. As such, many of the parks and recreation areas offer excellent opportunities for nature and wildlife viewing. The most notable parks for these activities are Crab Cove and Elsie Roemer Bird Sanctuary (at Crown Memorial State Beach), Arrowhead Marsh (at Martin Luther King Jr. Regional Shoreline), and the Hayward Regional Shoreline.

Interpretive and Education Resources

Parks in the ART project area showcase the natural, historic, and cultural resources of the East Bay shoreline. For example, the Hayward Shoreline Interpretive Center introduces visitors to the ecology of the San Francisco Bay Estuary through featured exhibits and activities, and naturalist-led interpretive programs (HARD, Hayward Shoreline Interpretive Center). The Crab Cove Visitor Center at Crown Memorial State Beach in Alameda features an aquarium exhibit of bay creatures and interactive interpretive displays, and EBRPD offers a field trip program for school and other groups at this site (EBRPD, Crab Cove). Interpretive signage and historic features (e.g., bollards once used for tying up ships and a viewing tower) at Middle Harbor Park teach visitors about the maritime history of the area (Port of Oakland). Many of the other parks in the ART project area also feature interpretive signage (along paths and at viewpoints) about the natural, historical, and cultural features of San Francisco Bay.

Family/Group Settings and Facilities

Family and group activities and facilities include picnicking, barbequing, playgrounds, grass or turf areas, and event space or facilities for rent. Benches and picnic tables are available at most of the parks in the ART project area and are heavily used on weekends.

Space and facilities (that can be reserved or rented) for gatherings are in high demand at Bay Area parks. San Lorenzo Park is a popular community park that has both a recreation center and group picnic facilities available for rent. The Hayward Shoreline Interpretive Center offers meeting spaces and accommodates birthday parties (HARD, Facilities for Rent). The only other event space in the ART project area is the Shoreline Center at the Martin Luther King Jr. Regional Shoreline. EBRPD offers reservations for group picnic sites at Crown Memorial State Beach and Martin Luther King Jr. Regional Shoreline (EBRPD, Activities). Group picnic facilities are also available for reservation at Marina Park in San Leandro.

Sports Facilities

Team or field sports facilities include turf or grass playing fields for soccer and baseball, basketball and tennis courts, and golf courses. Although most of the parks in the study area have some grassy or turf area that could be used for a sport activity, only three offer dedicated sports fields and courts. These are located in Hayward (Alden E. Oliver Sports Park and Gordon E. Oliver Eden Shores Park) and San Lorenzo Park. Four golf courses are in the study area: Chuck Corica Golf Complex (Bay Farm Island, Alameda), Metropolitan Golf Links (Oakland), Tony Lema Golf Course (San Leandro), and Skywest Golf Course (Hayward).

Water Sports Access and Facilities

Public access onto the water for paddleboating (e.g., kayaking, paddleboarding) is available at numerous parks from Emeryville to San Leandro. South of this area, the Alameda County shoreline is primarily salt ponds, tidal marsh, and mudflats, offering few of these types of access opportunities. Three public ramps for launching motorboats are available at Marina Park in Emeryville, Encinal Boat Ramp Park on Alameda Island, and Martin Luther King Jr. Regional Shoreline.

Point Emery, Marina Park in Emeryville, and Crown Memorial Beach are popular sites for sailboarding (kitesurfing and windsurfing) due to their uniquely favorable wind conditions and access onto the Bay.

Two locations within the Oakland Estuary and San Leandro Bay, which have calmer waters than the Bay, offer unique opportunities for team rowing (i.e., sculling): the Aquatic Center at Estuary Park in Oakland and the Tidewater Boathouse in the Martin Luther King Jr. Regional Shoreline. Both of these facilities are relatively new.

Two locations in the study area provide easy access and are popular for swimming: Point Emery and Crown Memorial State Beach.

Fishing

Recreational fishing is allowed in the Bay with a fishing license from the California Department of Fish and Game. Popular fishing spots at seven fishing piers are found between Emeryville and San Leandro (though not all of these are located within parks). Most parks specifically allow fishing from the shoreline (with a license), though fishing is prohibited in portions of some parks to protect wildlife.



Encinal Boat Ramp Park. Source: Sara Polgar, BCDC.

Dog Recreation

Parks that allow dog recreation are in high demand, though none of the parks addressed in this section include a dog park. Surveys of use of Emeryville's parks demonstrate that visitors bring dogs to parks regardless of rules against them, and in Marina Park (dogs allowed on leash) and Point Emery (no dogs allowed), dogs are often off leash.

Accessible Recreation

Recreation features and support facilities in the ART project area that are accessible to persons with mobility disabilities include paths and trails through diverse shoreline areas, opportunities for views and wildlife observation, picnicking and family/group events, interpretive and educational signage and visitor centers, parking, and restrooms. Levels of accessibility (e.g., usable for persons in motorized wheelchairs but not manual wheelchairs) varies depending on characteristics of the site, types of accessibility improvements that have been made, and current conditions of accessible features. (See discussion under "Existing Stressors.") A few sites have unique accessible features: the public boat launch and dock at the Aquatic Center at Estuary Park in Oakland, a special ramp that allows wheelchair users to explore tidepools at low tide at Crab Cove (at Crown Memorial State Beach), the playground at Union Point Park in Oakland, and the par course at Marina Park in San Leandro (Lewkowicz, 2006).

Resources for Non-English-Speakers

Parks and recreation areas in the ART project area provide few resources for non-English-speakers. There have been state-funded school programs and weekend interpretive programs at

the Hayward Shoreline Interpretive Center for Spanish-speaking participants. Additionally, a Spanish-speaking naturalist at the Hayward Shoreline Interpretive Center provides translation services and occasional interpretive programs in Spanish.

Business Resources

Concessions at some of the parks provide business revenue sources. These concessions include the contracts for management of the three municipally owned golf courses and the sailboard rental/school concession at Crown Memorial State Beach (City of San Francisco, 2007). Additionally, visitors to the parks and recreation areas can support revenue opportunities outside these recreation assets (e.g., adjacent restaurants and shopping).

Hayward Shoreline Interpretive Center. Source: www.haywardrec.org/hayshore.html.



Existing Conditions and Stressors Report – Parks and Recreation

Table 1. Park Recreation Services in the ART Project Area
(NA = not available; BT = Bay Trail)

Park	Manager, Owner	Acres	Miles of Trail, Bay Tr. Present	Views	Nature Wildlife Viewing	Education Interpretive Features	Water Sports (access)	Fishing	Family Group Facilities	Team/ Sport Facilities
Point Emery	City of Emeryville	1.4	0.15, BT	Scenic Iconic			Sailboards, paddleboats, swimming (beach)	Yes	Picnic	
Shorebird Park	City of Emeryville	2	0, BT	Scenic Iconic			Sailboards, paddleboats, swimming (beach)	Yes		
Marina Park (E)	City of Emeryville	7.5	1, BT	Scenic Iconic			Sailboards (stairs), motorboats (ramp)	Yes	Picnic, BBQ	
Middle Harbor Shoreline Park (Port View Park)	Port of Oakland	38	2, BT	Scenic Iconic	Yes, habitat restoration	Signage, historic lookout / tower	Paddleboats (beach)	Yes	Picnic, BBQ	
Estuary Park (Aquatic Center)	City of Oakland	12	0.25, BT				Paddleboats (ramp, boathouse)	Yes		Grass field, boat house
Shoreline Park, Estuary	City of Alameda	5	0.7, BT						Lawn areas	
Union Point Park	City of Oakland	7	0.4, BT	Scenic					Picnic, BBQ, lawn area, playground	
Encinal Boat Ramp Park	City of Alameda	<5	NA, BT	Scenic Iconic			Motorboats, paddleboats (ramp)		Picnic	
Crown Memorial State Beach (Crab Cove Visitor Center; Elsie Roemer Bird Sanctuary)	EBRPD, State of CA & City of Alameda	181	2, BT	Scenic Iconic	Yes, bird sanctuary	Signage, visitor center, educational displays	Sailboards, paddleboats, swimming (beach)	Yes	Picnic, BBQ, lawn area	Bath house
Chuck Corica Municipal Golf Course	Private, City of Alameda	350								Golf course
Shoreline Park, Bay-Farm Island	City of Alameda	32	2.5, BT	Scenic iconic					Lawn areas	

Table 8. (continued) Park and Recreation Services in the ART Project Area
(NA = not available; BT = Bay Trail)

Park	Manager, Owner	Acres	Miles of Trail, Bay Tr. Present	Views	Nature Wildlife Viewing	Education Interpretive Features	Water Sports (access)	Fishing	Family Group Facilities	Team/ Sport Facilities
Martin Luther King, Jr. Shoreline (Tidewater Boathouse)	EBRPD, <i>Port of Oakland</i>	741	3.7, BT	Scenic	Yes, marsh restoration	Signage, wetlands boardwalk	Motorboats (ramp), paddleboats (ramps, floats)	Yes	Event space, picnic	Turf field, boathouse
Metropolitan Golf Links	Private, <i>City of Oakland</i>	?	0.91, BT		Yes, bird watching					Golf course
Oyster Bay Regional Shoreline	EBRPD	157	2.1, BT	Scenic	Yes, bird watching	Signage, sculpture			Picnic	
Marina Park (SLe)	City of San Leandro	30	1, BT						Picnic, BBQ, lawn area, playground	Sand volleyball court
Tony Lema Golf Course	Private, <i>City of San Leandro</i>	178	1, BT	Scenic						Golf course
Hayward Regional Shoreline	EBRPD	1,713	5, BT	Scenic	Yes, marsh restoration	Signage		Yes		
Hayward Shoreline Interpretive Center	HARD	28	NA, BT	Scenic	Yes, marsh, birds	Signage, interpretive center			Picnic, meeting center	
Alden E. Oliver Sports Park of Hayward	HARD	25							Picnic, BBQ, lawn area, playground	Baseball, soccer fields, basketball
Skywest Golf Course	HARD	117	NA						Picnic, BBQ	Golf course
Gordon E. Oliver Eden Shores Park of Hayward	HARD	6	3.3, BT						Picnic, BBQ, lawn area, playground	Tennis courts, soccer field, half-court basketball
San Lorenzo Park	HARD	24	1.7, BT						Event space, picnic, BBQ, lawn area, playground	Baseball, soccer field, basketball

Sources: City of Emeryville, City Parks, ; EBRPD, Parks, ; HARD, 2008; City of San Leandro, City Parks; Port of Oakland, ; Waterfront Action, ; and CPAD, .

V. Existing Stressors

Overall Management and Enforcement Issues

Demand for park services—particularly on weekends—can exceed park capacity (e.g., for parking and picnic availability). Popular parks and recreation areas, such as Crown Memorial State Beach and San Leandro Marina Park, are heavily used and sometimes overused; this can lead to traffic congestion (as visitors park on neighboring streets), damage to facilities, and user conflicts. These situations can overwhelm managers' capacity for immediate enforcement and emergency response, as well as overall maintenance and repair.

Financial Constraints

Due to budget shortfalls, cities have had to lay off parks department employees, defer preventative maintenance, reduce budgets for maintenance and repairs, and limit operating hours. At the same time, the downturn in the economy has hurt nonprofit organizations that help provide recreational services in the ART project area. Reduced funding can result in deferred maintenance, longer timeframes for planning and opening up new park spaces, enforcement challenges, and fewer programs and services available at the parks.

Accessibility

Site characteristics can affect the ability to make paths and trail accessible to all persons with mobility issues. For example, the stretch of Bay Trail from the Hayward Interpretive Center to the next access point at Winton Avenue is hard-packed dirt and some gravel atop a levee—a trail surface that may be impassable for persons in manual wheelchairs. Older accessibility improvements at some parks are not suitable for all persons with mobility disabilities (e.g., the undersized accessible bathroom at the Crab Cove Visitor Center at Crown Memorial State Beach). Some facilities are almost completely accessible (by design or chance) but lack a specific feature to fully achieve accessibility (e.g., the accessible restroom at Estuary Park in Oakland has a steep curb cut onto the sidewalk in front of it making it inaccessible to wheelchair users). Accessibility of sites is especially vulnerable to maintenance issues. For example, erosion on the trails at Middle Harbor Park makes travel in a wheelchair challenging (Lewkowicz, 2006).

Regulatory and Permitting Issues

Improvements in ART project area's parks often require multiple permits/approvals from agencies such as BCDC and the Regional Water Quality Control Board, and usually require an Environmental Impact Report that describes impacts and mitigations to comply with the California Environmental Quality Act. These regulatory requirements can add significantly to managers' planning costs and timelines.

Habitat and Wildlife Impacts

Negative impacts to habitat and wildlife occur in and around parks and the Bay Trail due to allowed or planned-for recreational activities (e.g., boating and use of trails adjacent to habitats)

and prohibited, unplanned, or unmanaged activities such as off-trail usage, intrusion into habitat areas, the presence of non-native species, and littering. These impacts can reduce habitat usage by wildlife and cause direct harm (e.g., stress) to species.

Golf Courses

Golf facilities are intended to generate funds to help cover operating costs for other parks and recreation areas within a park district or city. However, declining usage has reduced revenues at the same time as maintenance and improvement costs have increased due to aging infrastructure and worsening drainage and salinity problems. Within the past five years, the Chuck Corica Golf Complex and the Skywest Golf Course have operated at a loss and required general fund money to continue operations (City of San Francisco, 2007).

Hazards

In the Bay Area's Local Hazard Mitigation Plan annex, EBRPD reported on its exposures, costs, and responses to natural and human-induced disasters over the last 50 years (EBRPD, 2011). The district has been affected by damage from severe storms and weather over the past 20 years. As examples, the '05-'06 winter storms caused over \$6 million in damages to 52 sites, and the February 1998 El Niño storms caused nearly \$1.2 million in damages to 34 sites. The damages were due to flooding, landslides, debris flows, and erosion.

Two oil spills in the Bay have had direct impacts on parks in the ART project area.

- The *COSCO Busan* oil spill (November 7, 2007) released 53,500 gallons of heavy fuel oil, sometimes referred to as bunker fuel, into San Francisco Bay. The East Bay's shoreline and wildlife were seriously affected by the spill. Beaches and shorelines were closed, though they later reopened. EBRPD devoted much effort to the disaster since the East Bay was the area most affected. The East Bay segments were the last ones to be signed off as cleaned because of the additional maintenance and monitoring that were required.
- The *Dubai Star* oil spill (October 30, 2009) released 422 gallons of bunker fuel into the Bay. Crown Memorial State Beach and other EBRPD shorelines including Middle Harbor and Martin Luther King Jr. Shoreline were immediately closed following the spill. On October 31, 2009, one day after the oil spill, tarballs and oil sheen appeared on the southern portion of Crown Beach. Cleanup crews responded and removed tarballs that continue to wash onto shore.

VI. Economy/Equity/Governance/Environment

Parks and recreation areas provide the ART project area with significant economic, societal, and environmental benefits. In 2000, EBRPD published an economic analysis of the district's park resources that clearly demonstrated some of the economic benefits provided. For example, contributions to quality of life helped drive local and regional economic growth by attracting business and generating jobs and income for residents. In some cases, parks and recreation assets enhance property values of homes adjacent to parks and trails due to views and the

access provided. Societal benefits include direct health and education benefits; services to underserved communities (e.g., persons with disabilities); public safety services from police, fire and wildland management provided by park managers; and transit resources from trails that connect parks, homes, employment centers, and shops. In addition to providing habitat for plants and animals, preservation of these parks and recreation areas provides ecosystem services such as erosion control, waste treatment, and nutrient recycling.

Stressors on parks and recreation assets diminish these economic, societal, and environmental benefits. For example, the management, enforcement, and financial stressors that lead to reduced services and access at parks and recreation areas especially affect underserved communities that are unable to afford or access alternative resources that provide similar benefits. Furthermore, to continue to provide these benefits, park districts and departments must balance the challenge of an increased demand for more park space and resources to serve a growing and more diverse population, with the need to maintain existing facilities.

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