

Attachment 9 – Program Preferences

Attachment 9 describes how the Chabot Dam Seismic Upgrade Project would assist in meeting the Program Preferences described in Section II.F of the Integrated Regional Water Management Guidelines (November 2012). The following table summarizes the Program Preferences that the Chabot Dam Seismic Upgrade Project would meet, the certainty they would be met, and the breadth and magnitude to which they would be met. The sections following the table summarize the Program Preferences the Project would meet in more detail.

Program Preference	Chabot Dam Seismic Upgrade
Include Regional Projects or Programs	✓
Effectively integrate water management programs within a hydrologic region	✓
Effectively resolve significant water-related conflicts within or between regions	✓
Contribute to attainment of CALFED Bay-Delta Program objectives	✓
Address critical water supply/quality needs of DACs	✓
Integrate water management with land use planning	✓
SWFM projects that provide multiple benefits and are not receiving funding	✓
Address Statewide Priorities	
<i>Drought Preparedness</i>	✓
<i>Use and Reuse Water More Efficiently</i>	✓
<i>Climate Change Response Actions</i>	✓
<i>Expand Environmental Stewardship</i>	✓
<i>Practice Integrated Flood Management</i>	✓
<i>Protect Surface Water and Groundwater Quality</i>	✓
<i>Improve Tribal Water and Natural Resources</i>	
<i>Ensure Equitable Distribution of Benefits</i>	

Include Regional Projects or Programs

EBMUD is a regional water supplier serving 1.3 million people and businesses in Alameda and Contra Costa counties, including 20 cities and towns. EBMUD relies on the storage of local reservoirs and reservoirs in the foothills of the Sierra Nevada Mountains to help provide this supply. Chabot Reservoir, which is impounded by Chabot Dam, is one of five storage reservoirs in the East Bay (see Figure 9.1). Water levels in the combined storage system of EBMUD, including Chabot Reservoir, are an important factor when deciding whether to implement drought management programs and rationing for the region during extended dry periods. By improving Chabot Dam, this Project helps assure that up to 10,000

acre-feet (AF) of water in Chabot Reservoir remains a vital asset to serve the water needs of the East Bay region by improving flood management and water supply reliability for beneficial uses.¹

Additionally, Chabot Reservoir is a recreation facility that provides water-based recreation to the region, including fishing and boating, and hiking trails and picnicking. There are few reservoirs of its size in the Bay Area that provide opportunities for water-based recreation. Approximately 250,000 visitors per year use the park, which is run by the East Bay Regional Parks District (EBRPD). Improvement of Chabot Dam would enable continued long-term use of this regional recreational facility.

Certainty and Magnitude. The Project is highly certain to serve regional needs. The reservoir is one of five local surface water supply reservoirs for the EBMUD system, plus the reservoir serves water based recreation needs, which are somewhat limited in the region. The magnitude of benefit for water supply is moderate as this is the smallest of the five local EBMUD reservoirs, however the magnitude of regional recreation benefit is high as there are few reservoirs of this size open to water based recreation in the Bay Area. Only two of the other four EBMUD reservoirs allow fishing and boating.

Effectively Integrate Water Management Programs Within a Hydrologic Region

The Project would assure that Chabot Reservoir remains an important component of EBMUD's regional water storage and supply system, including emergency supply. The EBMUD system has an emergency interconnection with the San Francisco Public Utilities Commission (SFPUC) in Hayward (30 million gallons per day [mgd] capacity), approximately 5 miles south of the Project site. The SFPUC system serves over 2.6 million people through retail service in San Francisco, and wholesale service to 28 other agencies in San Mateo, Alameda, and Santa Clara counties. The SFPUC system, in turn, has an interconnection to the Santa Clara Valley Water District (SCVWD) that provides water to much of Santa Clara County and Silicon Valley. The EBMUD system is also interconnected (up to 100 mgd) to the supply system of the Contra Costa Water District (CCWD), which serves approximately 500,000 customers in Contra Costa County.

Collectively, well over half of the population in the hydrologic region (approximately 6.5 million people) can be reached by water supply systems that have emergency interconnections. Should there be an emergency event affecting one system, the other interconnected systems may have capacity to serve emergency needs, including firefighting and emergency water supply. The ability of Chabot Reservoir to serve emergency needs in the immediate vicinity of the Project site means that water would not be needed from elsewhere and the transmission capacity in the EBMUD system could be available to help with other emergency needs.

The flood protection aspect of the Project also integrates well with other flood control facilities, including Upper San Leandro Reservoir, which is upstream on the same creek, and flood control and stormwater facilities owned and operated by the Alameda County Flood Control and Water Conservation District downstream on the same creek.

¹ The California Water Code (section 10537) defines a "Regional" project as any project in an IRMWVP that accomplishes any of the following : (a) reduced water demand; (b) increased water supplies for beneficial use; (c) Improve operational efficiency/reliability; (d) Improve water quality; (e) Improve resource stewardship; and (f) Improve flood management.

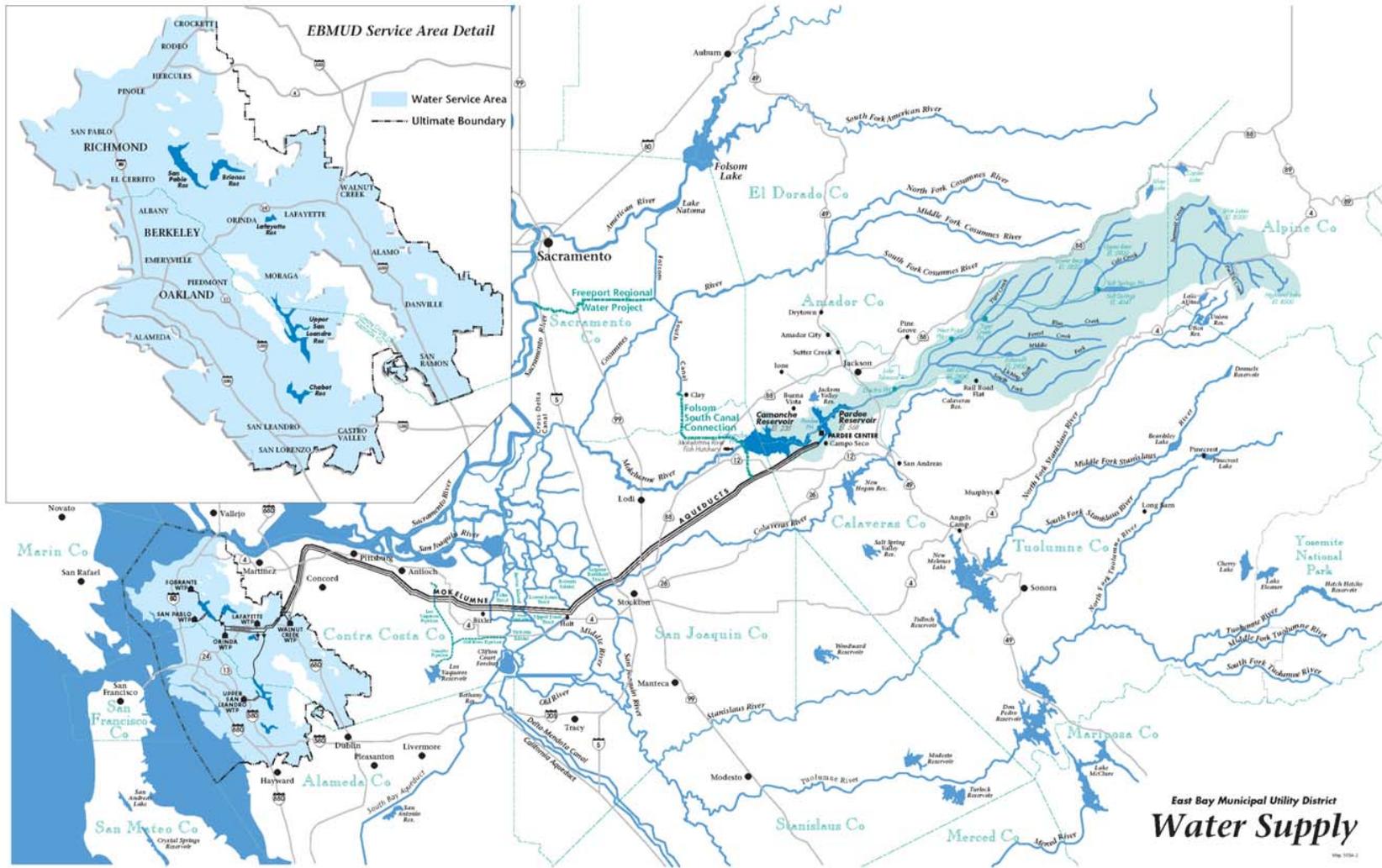


Figure 9.1. East Bay Municipal Utility District System Map

The Project also allows for fishing and boating on Chabot Reservoir which integrates well with other recreation opportunities both adjacent to the Reservoir (Chabot Regional Park), downstream (City of San Leandro Chabot Park) and in adjacent watershed lands (Anthony Chabot Regional Park).

Certainty and Magnitude. The Project is highly certain to help multiple regional water management program within the region. Reservoirs in the region are very important as well over of the water supply in the Bay Area is imported. The magnitude of the benefit is moderate as Chabot Reservoir is the smallest of the five local EBMUD reservoirs.

Effectively Resolve Significant Water-Related Conflicts Within or Between Regions

The improvements to Chabot Dam resulting from this Project would allow Chabot Reservoir to store up to 10,000 AF of water. This local storage helps reduce the need to import water from other areas, such as EBMUD's Sierra Nevada reservoirs or from the Freeport Regional Water Facility in Sacramento. Water not diverted in those areas would be available for use by others or to increase Delta outflow. Water management and flows in the Delta have been controversial for decades. Decreasing reliance on imported water and enhancing local supplies and storage are encouraged by State policy and in the Delta Plan (final draft completed November 2012 by the Delta Stewardship Council).²

Certainty and Magnitude. The Project is moderately certain to help resolve water related conflicts between regions. Delta water management is contentious and even if this Project helps lessen the need for water imported from the Delta watershed there is no guarantee as to what end it would be used. The magnitude of the benefit is small in the context of Delta related conflicts. Withdrawals from the Delta are measured in millions of acre feet and reservoir capacity of this Project is 10,000 acre feet.

Contribute to Attainment of CALFED Bay-Delta Program Objectives

This Project would contribute to water supply reliability, which is one of the objectives of the CALFED Bay-Delta Program. The Project allows continued use of Chabot Reservoir to provide approximately 210 acre feet per year to irrigation customers and provides up to 10,000 AF as an emergency supply source for EBMUD customers. If Chabot Reservoir was not in place to serve these needs, EBMUD would have to use other sources of supply. EBMUD's primary source of water, the Mokelumne River, is in the watershed of the Delta, so water not used by EBMUD would be available for other uses, including needs in the Delta.

Certainty and Magnitude. The Project is highly certain to contribute to increased local water supply reliability. The magnitude of the benefit is small in the context of Delta related conflicts. Withdrawals from the Delta are measured in millions of acre feet of water.

Address Critical Water Supply/Quality Needs of DACs

At the census tract or block level, there are several areas downstream of Chabot Dam with median household incomes below 80% of the statewide median of \$48,706 (2010). Please see Figure 9.2, which was produced using DWR's on-line mapping tool for Disadvantaged Communities (DACs),³ for a map

² Delta Stewardship Council's Delta Plan, November 2012, <http://deltacouncil.ca.gov/delta-plan/current-draft-of-delta-plan>.

³ Mapping tool accessed at <http://www.water.ca.gov/irwm/grants/resourceslinks.cfm>, January 18, 2013.

displaying DACs downstream of Chabot Dam. One of the critical water supply needs of these DAC areas is water supply following a major emergency, including but not limited to an earthquake that limits EBMUD's ability to deliver water across the Delta originating in the Sierra. Emergency storage in Chabot Reservoir could be utilized to meet these needs by provisionally connecting water facilities at Chabot Reservoir to the treatment and supply system at Upper San Leandro Reservoir, which currently serves the DAC areas shown in Figure 9.2, or through other provisional options including temporary truck-mounted treatment at Chabot or trucking raw water for non-potable uses.

Some of the DAC communities shown in Figure 9.2, particularly those adjacent to the drainage course downstream of Chabot Reservoir, also appear on the inundation maps presented in Attachment 3 of the proposal that detailed the flood damage reduction benefits of the Project (Cross reference figure in other attachment). These areas would receive flood damage reduction benefits as a result of the Project.

Certainty and Magnitude. The Project is highly certain to enhance flood protection for downstream disadvantaged communities as compared to the Without Project scenario (no dam). The magnitude of the flood damage reduction benefit is moderate, the inundation is smaller with the Project. The Project is moderately certain to help meet emergency water supply needs in disadvantaged communities which are in close proximity to the Project. This magnitude of this benefit is moderate to low. There are few instances of long lived water supply emergencies although the frequency could increase in the future.

Integrate Water Management with Land Use Planning

No land use changes are contemplated by the Project. The Project area would continue to serve as an interface between watershed lands and highly urbanized lands to the west. The current integration with land use planning would continue. The certainty of continuing current land use practices is high.

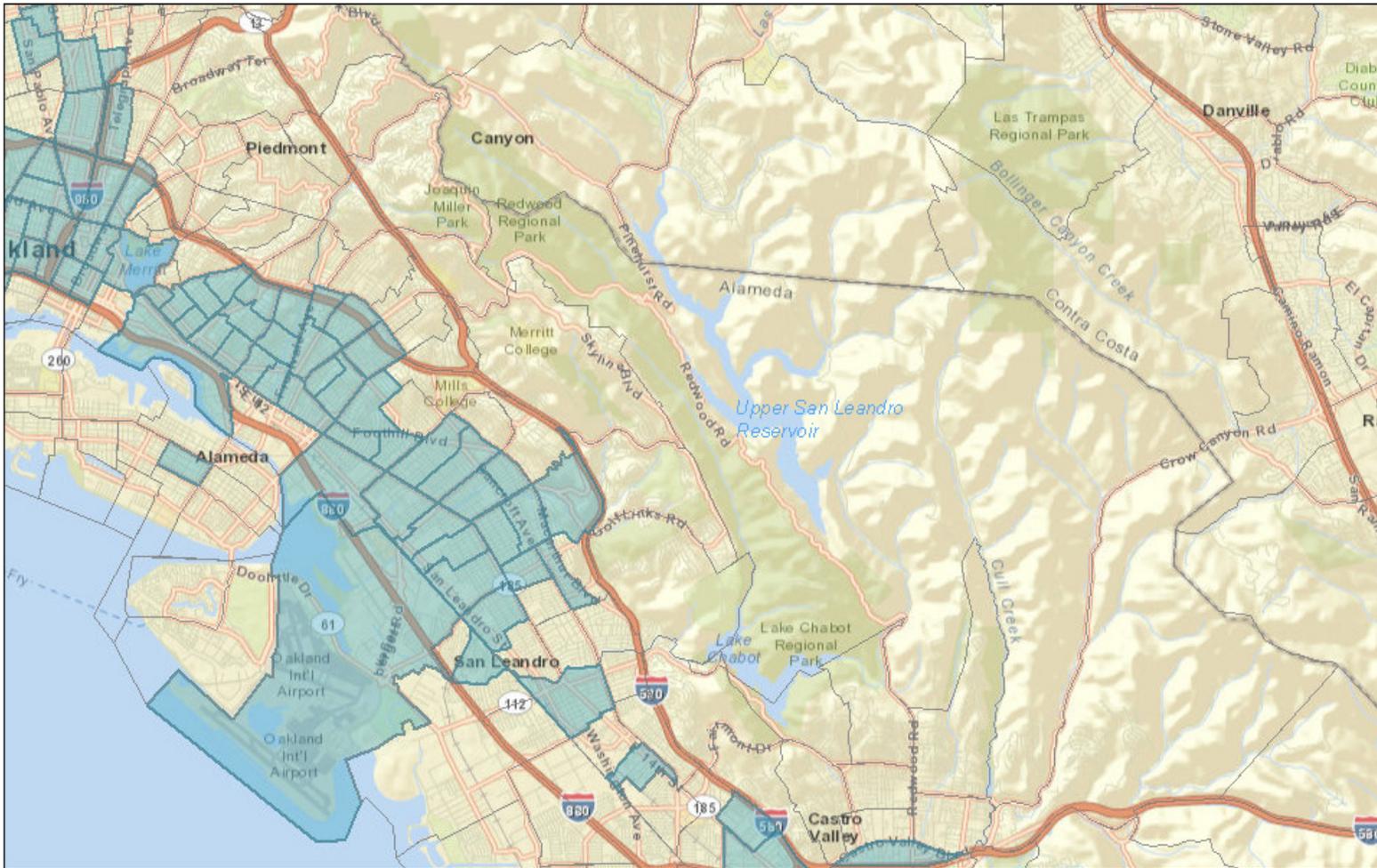
SWFM Projects That Provide Multiple Benefits and Are Not Receiving Funding

This Project is not receiving funding for flood control pursuant to Public Resources Code Section 5096.824 or Section 75034. This Project is located near San Leandro, California and is not part of the State Plan of Flood Control. This Project provides multiple benefits, including water supply benefits, ecosystem benefits, and recreation and public access benefits.

- *Water supply benefits.* The Project **would** allow Chabot Reservoir to continue to provide raw water to customers and serve as an emergency water supply.
- *Ecosystem benefits.* The Project **would** allow numerous aquatic species and waterfowl, including migratory birds, to continue to use the reservoir and adjacent lands.
- *Recreation and public access benefits.* The Project **would** allow Chabot Reservoir to continue to provide access to water based recreation as shown on the map for Chabot Park provided in Figure 9.3.⁴

Certainty and Magnitude. These benefits are highly certain to occur as described in more detail in Attachment 7, *Technical Justification of Project Physical Benefits*, and Attachment 8, *Benefits and Cost Analysis*.

⁴ East Bay Regional Parks District map: http://www.ebparks.org/parks/lake_chabot#access_info



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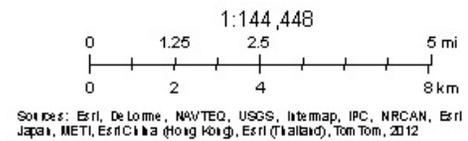


Figure 9.2. DACs Downstream of Chabot Dam and Served by Upper San Leandro Reservoir

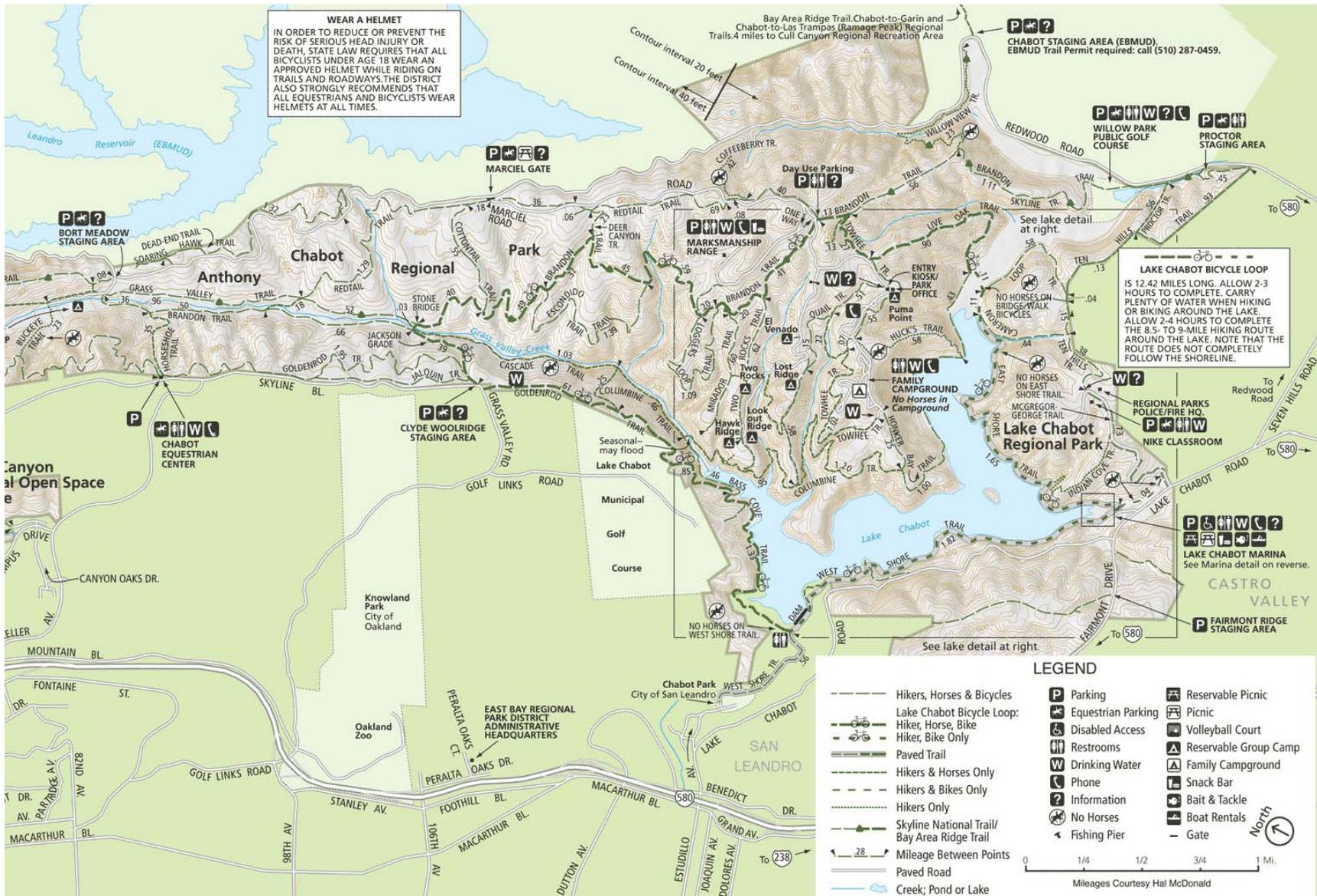


Figure 9.3. EBRPD Chabot Reservoir Recreation

Address Statewide Priorities

The Chabot Dam Seismic Upgrade would address the following Statewide Priorities:

- Drought Preparedness
- Use and Reuse Water More Efficiently
- Climate Change Response Actions
- Expand Environmental Stewardship
- Practice Integrated Flood Management
- Protect Surface Water and Groundwater Quality

Drought Preparedness

The Project would allow continued use of raw water from Chabot Reservoir to meet water supply needs, including drought needs. On average, the Reservoir current serves approximately 210 acre-feet per year of raw water to irrigation customers. Serving raw water from a source in the East Bay hills alleviates the need to provide treated water from imported sources and preserves those treated water supplies for potable water customers. The Project is highly certain to contribute to drought preparedness. The magnitude of benefit is small in context of total EBMUD customer demand.

Use and Reuse Water More Efficiently

The Project allows for continued operation of Chabot Reservoir to serve raw water to irrigation customers instead of treated water. EBMUD is looking to expand the use of water from Chabot Reservoir to additional irrigation customers that are currently served by the treated water system. See description at: <http://bairwmp.org/projects/lake-chabot-raw-water-expansion-project>. Without the Project, the dam would be removed and no water would be stored at the reservoir site, thereby requiring existing irrigation customers to utilize treated water for irrigation in place of the raw water that they are currently supplied from Chabot Reservoir. The Project is highly certain to contribute to drought preparedness. The magnitude of benefit is small in the context of total EBMUD water supply.

Climate Change Response Actions

Storing water in Chabot Reservoir to serve irrigation customers reduces greenhouse gas emissions, as pumping is often required throughout the EBMUD system during the irrigation season. During low demand months in the winter, EBMUD's Mokelumne Aqueducts typically run by gravity. However, during high demand months when irrigation needs peak, pumping is required at EBMUD pumping plants to deliver water from the Aqueducts to the East Bay and local pumping within the distribution system is also necessary.

Without the Project, pumping of treated water would be needed to serve the irrigation needs that are currently served from Chabot Reservoir. The majority of electricity generated by the local electric utility provider (Pacific Gas & Electric) is derived from fossil fuel sources during the summer. The Project is highly certain to contribute to drought preparedness. The magnitude of benefit is small in context of total EBMUD customer demand.

Expand Environmental Stewardship

The Project allows Chabot Reservoir to continue to serve as an important park facility in the East Bay Region that allows water based recreation and provides ecosystem habitat for fish and wildlife residing in or near the lake. The Project is highly certain to contribute to this statewide priority. The magnitude of benefit is moderate. The loss of Chabot Reservoir would eliminate an important local resource.

Practice Integrated Flood Management

The Project promotes and practices integrated flood management to provide multiple benefits in the areas of:

- Sustainable flood management by providing a long term solution for the current inadequacies of the existing dam;
- Emergency preparedness by allowing for continued reliance on Chabot Reservoir for emergency supply;
- Recreation by allowing continued water-based recreational activities on Chabot Reservoir, including fishing and boating; and
- Water supply by allowing continued use of Chabot Reservoir to serve raw water irrigation customers near the Project site.

The Project is highly certain to contribute to this statewide priority. The magnitude of benefit is moderate for these four areas collectively. The loss of Chabot Reservoir would eliminate an important local resource for recreation and require acquisition of additional (incremental) imported supplies.

Protect Surface Water and Groundwater Quality

Chabot Reservoir helps regulate stormwater runoff and reduces downstream turbidity. Without the reservoir, stormwater runoff, both quantity and quality, would be a more prevalent issue downstream.

The project is highly certain to contribute to this statewide priority by controlling downstream silt loading. The magnitude of benefit is moderate. The amount of silt retention is not regularly measured.

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