

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Brian Wines)
MEETING DATE: July 11, 2018

ITEM: 5

SUBJECT: **East Bay Regional Park District, Regional Maintenance Activities, Alameda and Contra Costa Counties** – Reissuance of Waste Discharge Requirements and Water Quality Certification

CHRONOLOGY: July 2004 – Waste Discharge Requirements and Water Quality Certification (WDRs) issued for Regional Maintenance Activities
July 2011 – WDRs reissued for Regional Maintenance Activities

DISCUSSION: The Revised Tentative Order (Appendix A) would reissue WDRs to the East Bay Regional Park District to implement routine maintenance activities. The District conducts routine maintenance activities on land it owns and/or manages in Alameda and Contra Costa counties. Land owned and/or managed by the District currently includes 66 regional parks covering a total area of more than 122,890 acres (about 192 square miles). Routine maintenance activities may occur in several watersheds within Alameda and Contra Costa counties that drain to San Francisco Bay, San Pablo Bay, and Suisun Bay. The Revised Tentative Order would apply to the portions of these watersheds that are located within the jurisdiction of this Regional Water Board.

The District conducts routine maintenance activities in streams, creeks, channels, catchment basins, seeps, springs, ponds, lakes, and beaches. Maintenance activities that would be covered under the Revised Tentative Order would include culvert replacement, maintenance of existing structures, maintenance of existing road or trail crossings of creeks, bank stabilization, maintenance dredging, and beach replenishment. The purpose of the maintenance activities is to protect water quality and quantity, to reduce erosion, to maintain and enhance natural resources, and to provide safe access for the public and emergency vehicles. The Revised Tentative Order would authorize routine maintenance activities through the summer of 2023, and would allow the Executive Officer to extend the authorization, at the District's request, for up to an additional two years, through 2025.

No comments were received on the tentative order circulated for public comment on June 21, 2018. In addition to making minor editorial and formatting changes, Board staff revised the tentative order to allow the Executive Officer to extend the authorization for up to two years. This revision would ensure a smooth transition for future orders, including allowing time for the District to obtain related renewed approvals, such as

from other State and federal agencies. This extension language is consistent with the approach the Board took in its recent issuance of an order authorizing stream maintenance activities in Marin County.

CIWQS Place

Number: 833812

**RECOMMEN-
DATION:**

Adoption of the Revised Tentative Order

APPENDIX A:

Revised Tentative Order

Appendix A
Revised Tentative Order

**East Bay Regional Park District, Regional Maintenance Activities,
Alameda and Contra Costa Counties**

Reissuance of Waste Discharge Requirements and Water Quality Certification

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

REVISED TENTATIVE ORDER No. R2-2018-00XX

**WASTE DISCHARGE REQUIREMENTS and WATER QUALITY CERTIFICATION for:
EAST BAY REGIONAL PARK DISTRICT
REGIONAL MAINTENANCE ACTIVITIES
ALAMEDA AND CONTRA COSTA COUNTIES**

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter the Regional Water Board, finds that:

1. The East Bay Regional Park District (hereinafter Discharger) proposes to conduct routine maintenance activities on land owned and/or managed by the Discharger within Alameda and Contra Costa counties. Land owned and/or managed by the Discharger currently is located on 66 regional parks, covering a total area of more than 122,890 acres. The Discharger conducts routine maintenance activities in streams, creeks, channels, catchment basins, seeps, springs, ponds, lakes, and beaches. Maintenance activities may involve culvert replacement, maintenance of existing structures, maintenance of existing road or trail crossings of creeks, bank stabilization, maintenance dredging, and beach replenishment. The purpose of the maintenance activities is to protect water quality and quantity, to reduce erosion, to maintain and enhance natural resources, and to provide safe access for the public and emergency vehicles. Obtaining timely regulatory agency approval for identified maintenance needs is critical, especially in heavy rainfall years.
2. Routine maintenance activities may occur in several watersheds within Alameda and Contra Costa counties including the Alameda, Alhambra, Claremont, Garrity, Rheem, Kirker, Mount Diablo, Pinole, San Pablo, San Leandro, San Lorenzo, Walnut, and Wildcat creek watersheds that drain to San Francisco Bay, San Pablo Bay, and Suisun Bay. Maps of the 102 creeks, lakes, reservoirs, and major ponds where routine maintenance activities could occur are contained in Appendix C of Attachment A. This Order applies to the portions of these watersheds that are located within the jurisdiction of the Regional Water Board.
3. The Discharger developed the document referred to as *The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California in the San Francisco Bay Region* (Attachment A). This document describes maintenance activities, impact avoidance measures, Best Management Practices (BMPs), and habitat restoration measures.
4. The need for specific maintenance activities covered by this Order is normally the result of stormwater-related erosion, channel down-cutting, and sedimentation problems resulting from high stream flow events. Generally, between 30 and 60 maintenance projects covered by this Order are anticipated to be completed annually. Routine maintenance activities are summarized in Attachment A and consist of the following main categories:
 - Vegetation management for stream flow measuring stations, for water control facilities, and for public health, safety, and benefit.
 - Planting of riparian vegetation.

- Sediment and debris removal from siltation basins, managed ponds, and marinas.
 - Management of large woody debris, herbaceous vegetation, fallen trees, rubbish, garbage, and debris, as needed to maintain bank stability and minimize flood threats, while maintaining habitat for fish, amphibians, and other species that rely on aquatic habitat.
 - Restoration activities, including removal of non-native, invasive vegetation, and restoration of marsh, lentic, and lotic water bodies.
 - Repair or replacement of small areas of damaged or failed rock riprap, gabions¹, geocells, sacked concrete, concrete walls, or cribwall bank revetments in order to maintain bank stability.
 - Bank stabilization using biotechnical bank stabilization techniques on creek banks that were not previously armored.
 - Routine maintenance or replacement of culverts in stream channels associated with park trails and access roads, including limited culvert replacement with in-kind structures, along with the installation of energy dissipaters, headwalls, and tailwalls on existing or replacement culverts.²
 - Maintenance of swim beaches using sand recapture or replenishment.
 - Maintenance of existing bridges and installation of clear span bridges.
 - Maintenance and repair of existing piers and docks.
 - Maintenance of existing stream fords and installation of articulated concrete blocks for small stream crossings.
5. The issuance of Waste Discharge Requirements (WDRs) and Water Quality Certification (WQC) serves to govern the Discharger's various maintenance activities for the purpose of alleviating local flood damage problems, protecting fish and wildlife, and addressing public safety concerns in an environmentally responsible manner. In 2004, the Regional Water Board issued WDRs and WQC (Order No. R2-2004-0057) to the Discharger for regional maintenance activities. In 2011, the Regional Water Board updated the 2004 WDRs and WQC in Order No. R2-2011-0050. This Order updates the 2011 WDRs and WQC for consistency with the current Water Quality Control Plan for the San Francisco Bay Basin, consistency with current Regional Water Board reporting requirements, and consistency with other WDRs and WQC that have been issued by the Regional Water Board for multi-year maintenance programs.
6. The majority of the Discharger's routine maintenance activities consist of improving existing conditions and enhancing habitat for aquatic species with such activities as cattail removal from choked out water bodies, removing and replacing dysfunctional culverts, and removing stream obstructions and barriers. Overall, the majority of the maintenance activities authorized under this Order will improve existing conditions or result in a net environmental benefit. However, some maintenance activities will have temporary and/or permanent impacts on waters of the State. To provide mitigation for these impacts, the list of proposed maintenance projects that the Discharger prepares in advance (see provisions E.15 and E.31) for each year of covered activities shall be accompanied by proposed mitigation projects that are sufficient to provide compensation for the predicted temporary and permanent impacts associated with covered maintenance projects (see the discussion of Proposed Restoration Activities in *The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies*

¹ Gabions may not be replaced in kind but are to be replaced with biotechnical bank stabilization methods.

² The replacement of other forms of stream crossings with culverts or the installation of new culverts is not authorized by this Order.

in Alameda and Contra Costa Counties, California in the San Francisco Bay Region in Attachment A). Land owned or managed by the Discharger includes tidal wetlands, lentic water bodies, and stream habitat. Many of these waterbodies are within the current distributional range of the California red-legged frog, California tiger salamander, California Ridgway's rail, salt marsh harvest mouse, and/or Western pond turtle and can be enhanced to provide additional permanent habitat for these special status species, as well as a variety of other aquatic species. Each year's proposed list of maintenance activities shall be accompanied by proposals to restore and/or create sufficient aquatic habitat to compensate for the small-scale temporary and/or permanent, cumulative impacts associated with the various routine maintenance projects. Impacts and mitigation projects associated with individual projects shall be tracked in units of acreage and/or linear feet, as appropriate for the impacted waterbody and proposed mitigation project(s), as well as the type of water of the State to be impacted. Mitigation projects shall be implemented on property owned or managed by the Discharger. Attachment D presents typical mitigation ratios for common projects to be implemented under this Order.

7. If excess mitigation credits are accrued, the Discharger, subject to the Regional Water Board's Executive Officer's approval, may make credits available to itself and other public entities to be used as compensatory mitigation for loss of functions and values of waters of the State associated with other projects located within watersheds in Alameda or Contra Costa counties and within the jurisdictional boundary of the Regional Water Board. Subject to the Executive Officer's approval, the Discharger may accept payment of an in-lieu fee or may allow public entities to use excess mitigation credits documented from previous years as compensatory mitigation.
8. On September 23, 2016, the Discharger received a Final Lake and Streambed Alteration Agreement (Notification No 1600-2016-0269-R3) from the California Department of Fish and Wildlife (CDFW) for routine maintenance activities subject to State Fish and Game Code section 1601.
9. Between September 1 and 15, 2010, the U.S. Army Corps of Engineers (Corps) provided public notice of its intent to issue a Regional General Permit (File No. 28902S) to the Discharger authorizing various routine maintenance activities.
10. The Corps (File No. 28902S) has determined that the proposed activities associated with the Discharger's routine maintenance activities appear to be covered under the *U.S. Army Corps of Engineers Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California* (NLAA) consultation with the National Marine Fisheries Service (NMFS) (dated July 17, 2013). Federally-listed species that occur on land managed by the Discharger are listed in Attachment E to this Order. Any proposed projects that do not fit the NLAA will require a separate NMFS authorization before work may be performed on those sites.
11. The Corps (File No. 28902S) has determined that the proposed activities associated with the Discharger's routine maintenance activities will not adversely impact any Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act. Any proposed projects that may adversely impact EFH will require a separate section 7 authorization in consultation with NMFS before work may be performed on those sites.

12. The Corps (File No. 28902S) has determined that proposed activities associated with the Discharger's routine maintenance activities may affect federally-listed species and their designated critical habitat. Therefore, on June 28, 2017, the Corps initiated formal section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to the federal Endangered Species Act. On February 22, 2018, USFWS issued the *Formal Consultation on the East Bay Regional Park District's Routine Maintenance Activities, Contra Costa and Alameda Counties (Corps File Number 2005-28902SS)* (Biological Opinion) (Reference No. 08ESMF00-2013-F-0416). With the successful implementation of the Conservation Measures, the Reasonable and Prudent Measures, the Terms and Conditions, and the Conservation Recommendations in the Biological Opinion, USFWS concluded that the proposed activities will not jeopardize the continued existence of species listed under the Endangered Species Act.
13. On January 31, 2018, and with subsequent submittals through April 2018, the Discharger applied to the Regional Water Board for WQC under Clean Water Act (CWA) section 401.
14. Issuance of a multi-year permit to the Discharger allows for streamlining regulatory approvals, implementing watershed-scale mitigation to address cumulative impacts, and increasing the efficient use of staff resources for the Regional Water Board and the Discharger while allowing for review of all planned maintenance projects. In addition, a multi-year permit allows the Discharger to plan and budget for routine maintenance on a fixed annual cycle.

Impacts and Mitigation Measures

15. Routine maintenance activities covered under this Order are small in scale. The footprint of individual projects shall not exceed 2000 square feet (0.05 acres) or 150 linear feet for any one project, except: 1) clearing of inboard ditches when necessary to prevent or reduce road and trail erosion; 2) planting riparian vegetation to reduce erosion; 3) fencing to keep people and livestock away from stream channels; 4) localized sediment removal in limited areas that does not exceed 500 linear feet; 5) repair and stabilization of existing armored shoreline banks and levees that does not exceed 500 linear feet total per year at each District shoreline unit; 6) repair and stabilization of existing unarmored shoreline banks and levees that does not exceed 160 linear feet total per year at each District shoreline unit; 7) dredging of existing silt basins, ponds, lakes, and other waterbodies that does not exceed 700 CY; and 8) dredging projects that do not exceed 500 linear feet or 4,000 sq. ft. (0.1 acres) and 9) projects meeting the requirements of a Small Habitat Restoration including project size that does not exceed five acres or a cumulative total of 500 linear feet and whose primary purpose is habitat restoration. Except for the project types listed in the preceding sentence, projects over 150 feet in length or with footprints greater than 0.05 acres, or adjacent projects implemented within three calendar years totaling over 150 feet in length or 0.05 acres, shall require separate permit application to the Regional Water Board.
16. Routine maintenance activities covered under this Order will not be performed in perennial, intermittent, and ephemeral streams that are known to contain anadromous fish. Routine maintenance activities in streams that are either tributary to existing anadromous fish habitat or that provide potential habitat for anadromous fish shall be performed in conformance with provisions E.6, E.7, and E.8 of this Order.
17. For most bank stabilization and sediment removal projects, excavators shall be used from the top-of-bank. For projects where the use of excavators from the top-of-bank is not possible, or

would cause major vegetation impacts, equipment may be used within the channel when it is dry naturally or flows are bypassed. With the exception of material used to construct cofferdams for temporary channel dewatering, no temporary fills may be placed in natural stream channels.

18. If repair activities affect the active channel, the work area shall be isolated from flowing stream segments using cofferdams and restored to pre-project conditions after maintenance is complete. Cofferdams shall be constructed of materials that will not introduce sediment to the stream channel and can be completely removed following completion of the maintenance activity (see the discussion of *Project Specific Best Management Practices (BMPs) and Thresholds in The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California in the San Francisco Bay Region* in Attachment A to this Order).
19. Vegetation management techniques include removal using small hand tools and hand-held equipment, mechanical removal using heavy equipment like a flail mower attached to an excavator, and spot chemical control on tree stumps and along access roads.
20. Where possible, staging will occur on adjacent access roads or previously disturbed areas. Soil and rip-rap will be staged in areas that have been previously disturbed (i.e., service road, turn-outs).
21. *The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties in the San Francisco Bay Region* (Attachment A) includes planning guidelines or principles to determine how, where, and when routine maintenance activities should occur. These principles should be used in the development of each year's maintenance work plan, prior to any work. These principles consider the natural function of the system, provide an understanding of local physical constraints, identify sensitive habitats, consider watershed processes, determine when action is needed, identify maintenance activities needed, and strive to recognize and implement solutions to minimize the on-going need for maintenance activities.
22. Most routine maintenance activities under this Order will be conducted in a manner that results in no net loss of waters of the State, including streams and wetlands. However, some waters of the State, including wetlands, creeks, tidal marshes, basins, lakes, and stock ponds, will be temporarily and/or permanently impacted, and will require appropriate mitigation, consistent with the State's "no net loss" policy. All mitigation activities shall occur within the Discharger's jurisdiction, as described in Finding 2. Impacts and mitigations associated with individual projects shall be accounted for by acreage, linear feet, and type of water of the State impacted and shall be reported annually to the Regional Water Board.

California Wetlands Portal

23. It has been determined through regional, State, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the State's "no net loss" wetland policy, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, this Order requires that the Discharger use the California Wetlands Form to provide project information related to impacts and mitigation/restoration measures (see provisions E.31 and E.32 of this Order). An electronic

copy of the form and instructions can be downloaded at:
<http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml> Project information concerning impacts and mitigation/restoration will be made available at the web link:
www.ecoatlas.org/regions/ecoregion/bay-delta/projects.

Regulatory Framework

24. The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation plans to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and U.S. EPA, where required.
25. The Basin Plan lists the following existing and potential beneficial uses for surface waters in Alameda and Contra Costa counties within the jurisdiction of the Regional Water Board. The Discharger conducts maintenance activities on an estimated 102 creeks, lakes, reservoirs, and major ponds, including the Alameda, Alhambra, Claremont, Garrity, Rheem, Kirker, Mount Diablo, Pinole, San Pablo, San Leandro, San Lorenzo, Walnut, and Wildcat creek watersheds that drain to San Francisco Bay, San Pablo Bay, and Suisun Bay (see Attachment D to this Order), with the following designated beneficial uses:
- a. Agricultural Supply (AGR)
 - b. Cold Freshwater Habitat (COLD)
 - c. Freshwater Replenishment (FRSH)
 - d. Groundwater Recharge (GWR)
 - e. Fish Migration (MIGR)
 - f. Municipal and Domestic Supply (MUN)
 - g. Navigation (NAV)
 - h. Preservation of Rare and Endangered Species (RARE)
 - i. Water Contact Recreation (REC-1)
 - j. Non-contact Water Recreation (REC-2)
 - k. Fish Spawning (SPWN)
 - l. Warm Freshwater Habitat (WARM)
 - m. Wildlife Habitat (WILD)

Sediment management, vegetation management, culvert repair or replacement, and bank stabilization activities could temporarily impact beneficial uses of waters of the State for:

- a. Warm Freshwater Habitat (WARM)
 - b. Cold Freshwater Habitat (COLD)
 - c. Wildlife Habitat (WILD)
 - d. Preservation of Rare and Endangered Species (RARE)
 - e. Fish Migration (MIGR)
 - f. Fish Spawning (SPWN)
26. The Basin Plan lists the following existing and potential beneficial uses for portions of the shoreline of San Francisco Bay in Alameda and Contra Costa counties within the jurisdiction of the Regional Water Board. The Discharger may conduct maintenance activities at the following shoreline parks, Bay Point Wetlands, Brooks Island, Carquinez Strait Shoreline, Coyote Hills, Crown Beach, Eastshore State Park, Hayward Shoreline, Lone Tree Point, Martin Luther King

Jr. Shoreline, Martinez Shoreline, Miller/Knox, Oyster Bay, Point Isabel, Point Pinole, and, San Pablo Bay Shoreline, with the following designated beneficial uses:

- a. Commercial and Sport Fishing (COMM)
- b. Estuarine habitat (EST)
- c. Marine habitat (MAR)
- d. Industrial Service Supply (IND)
- e. Fish Migration (MIGR)
- f. Navigation (NAV)
- g. Preservation of Rare and Endangered Species (RARE)
- h. Water Contact Recreation (REC-1)
- i. Non-contact Water Recreation (REC-2)
- j. Fish Spawning (SPWN)
- k. Shellfish harvesting (SHELL)³
- l. Wildlife Habitat (WILD)

Sediment management, vegetation management, and bank stabilization activities could temporarily impact beneficial uses of waters of the State for:

- a. Commercial and Sport Fishing (COMM)
- b. Estuarine habitat (EST)
- c. Marine habitat. (MAR)
- d. Fish Migration (MIGR)
- e. Navigation (NAV)
- f. Rare, Threatened, or Endangered Species (RARE)
- g. Water Contact Recreation (REC-1)
- h. Non-contact Water Recreation (REC-2)
- i. Fish Spawning (SPWN)
- j. Wildlife Habitat (WILD)
- k. Shellfish harvesting (SHELL)

27. The following groundwater basins, which underlie, at least in part, land under the control of the Discharger, support the existing and potential beneficial uses listed below: Castro Valley Groundwater Basin, Niles Cone Sub-Basin, Santa Clara Valley Groundwater Basin, East Bay Plain Sub-Basin, Livermore Valley Groundwater Basin, Sunol Valley Groundwater Basin, Pittsburg Plain Groundwater Basin, Clayton Valley Groundwater Basin, Ygnacio Valley Groundwater Basin, San Ramon Valley Groundwater Basin, and Arroyo del Hambre Valley Groundwater Basin.

- a. Agricultural Supply (AGR)
- b. Industrial Service Supply (IND)
- c. Industrial Process Supply (PROC)
- d. Municipal and Domestic Supply (MUN)

28. The following water bodies that could be affected by routine maintenance activities covered by this Order are identified as impaired on the federal CWA section 303(d) list for the pollutants listed:

³ Shellfish collection observations have occurred and could potentially occur on a limited basis at all San Francisco Bay shoreline parks (Hayward Shoreline, Oyster Bay, Martin Luther King Jr. Shoreline, Crown Beach, Eastshore State Park, Pt. Isabel, Miller/Knox, Point Pinole, Carquinez Strait Shoreline, Brooks Island, and Martinez Shoreline).

Impaired Water Body	Pollutant
<i>Creeks</i>	
Alameda Creek	Diazinon
Arroyo De La Laguna	Diazinon
Arroyo Del Valle	Diazinon
Arroyo Las Positas	Diazinon and Nutrient/Eutrophication
Arroyo Mocho	Diazinon and Temperature (water)
Baxter Creek	Trash
Cerrito Creek	Trash
Codornices Creek	Temperature (water) and Trash
Damon Slough	Trash
Grayson Creek	Trash
Kirker Creek	Pyrethroids, Toxicity, and Trash
Mount Diablo Creek	Diazinon and Toxicity
Pine Creek	Diazinon
Pinole Creek	Diazinon
Rodeo Creek	Diazinon
San Leandro Creek (Lower)	Diazinon and Trash
San Lorenzo Creek	Diazinon
San Pablo Creek	Diazinon and Trash
Sausal Creek	Trash
Strawberry Creek	Trash
Walnut Creek	Diazinon
Wildcat Creek	Diazinon
<i>Beaches</i>	
Crown Beach	Indicator Bacteria
Keller Beach	Indicator Bacteria
<i>Lakes and Reservoirs</i>	
Del Valle Reservoir	Mercury and PCBs
Lafayette Reservoir	Mercury and PCBs
Lake Chabot	Chlordane, DDT, Dieldrin, Mercury, PCBs
San Pablo Reservoir	Chlordane, Dieldrin, Heptachlor Epoxide, Mercury, PCBs, and Toxaphene

29. Central San Francisco Bay, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA Section 303(d) list and is listed as impaired for

Chlordane, DDT, Dieldrin, Dioxin Compounds, Furan Compounds, Invasive Species, Mercury, PCBs, Selenium, and Trash.

30. Lower San Francisco Bay, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA section 303(d) list and is listed as impaired for Chlordane, DDT, Diazinon, Dieldrin, Dioxin Compounds, Invasive Species, Furan Compounds, Mercury, and PCBs.
31. San Leandro Bay, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA section 303(d) list and is listed as impaired for Chlordane, DDT, Dieldrin, Dioxin Compounds, Furan Compounds, Invasive Species, Lead (sediment), Mercury, PAHs, Pesticides, and Zinc.
32. San Pablo Bay, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA section 303(d) list and is listed as impaired for Chlordane, DDT, Dieldrin, Dioxin Compounds, Furan Compounds, Invasive Species, Mercury, PCBs, and Selenium.
33. Carquinez Strait, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA section 303(d) list and is listed as impaired for Chlordane, DDT, Dieldrin, Dioxin Compounds, Furan Compounds, Invasive Species, Mercury, PCBs, and Selenium.
34. Suisun Bay, which is a receiving water body for some of the creeks listed above, is identified as impaired on the CWA section 303(d) list and is listed as impaired for Chlordane, DDT, Dieldrin, Dioxin Compounds, Furan Compounds, Invasive Species, Mercury, PCBs, and Selenium.
35. The Discharger has certified in filings with the Alameda County Clerk on March 4, 2011, and the Contra Costa County Clerk on March 8, 2011, that the proposed maintenance activities are categorically exempt from the California Environmental Quality Act (CEQA) Guidelines.

The action to adopt WDRs and WQC for the regional maintenance activities is exempt from the provisions of CEQA, in accordance with the following:

- Section 15301 for the operation, repair maintenance, or minor alteration of existing structures, facilities, mechanical equipment, or topographical features involving negligible or no expansion of use;
- Section 15302 for the replacement or reconstruction of existing structures and facilities on the same site having substantially the same purpose and capacity;
- Section 15303 for new construction of limited to small new facilities including installation of small, new equipment and facilities in small structures and conversion of the use of small existing structures;
- Section 15304 for minor alterations in the condition of the land, water, and/or vegetation, which do not involve removal of healthy, mature, scenic trees, except for forestry or agricultural purposes. This includes grading on land with a slope of less 10 percent, except in a waterway, wetland, officially-designated scenic area, or officially-mapped areas of severe geological hazard. This also includes new gardening, landscaping, minor trenching and filling, maintenance dredging and filling of earth into previously excavated land with compatible material;

- Section 15311 for the construction or placement of minor structures accessory to existing facilities; and
 - Section 15333 for small habitat restoration projects of less than 5 acres.
36. The goals of the California Wetlands Conservation Policy (Governor’s Executive Order W-59-93, signed August 23, 1993) include ensuring no “overall loss”, and achieving a “long-term net gain in the quantity, quality, and permanence of wetlands acreage and values...”.
 37. Senate Concurrent Resolution No. 28 states that, “It is the intent of the legislature to preserve, protect, restore, and enhance California’s wetlands and multiple resources which depend on them for the benefit of the people of the State.”
 38. Section 13142.5 of the California Water Code (CWC) requires that “Highest priority shall be given to improving or eliminating discharges that adversely affect ... Wetlands, estuaries, and other biologically sensitive areas.”
 39. Pursuant to CWC section 13260, the Discharger shall timely pay all fees associated with this Order. The fee amount for this Order shall be in accordance with the current fee schedule, per California Code of Regulations (CCR), Division 3, Chapter 9, Article 1, section 2200(a)(3). The fee payment shall indicate the Order number, the CIWQS Place ID No. 833812, the Regulatory Measure ID no. 412258, and the applicable year.
 40. The Regional Water Board has notified the Discharger and interested parties of its intent to issue WDRs and WQC for the District’s routine maintenance activities.
 41. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED that the East Bay Regional Park District (Discharger), in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The direct or indirect discharge of wastes, as defined in CWC section 13050(d), within or outside of the active project site, to surface waters or surface water drainage courses is prohibited, except as authorized in this Order.
2. The discharge shall not cause degradation of water quality and beneficial uses.
3. Excavated sediment shall remain within designated disposal areas at all times. The designated disposal areas are: (a) any offsite, authorized temporary or permanent location maintained in compliance with federal and State regulations, (b) any onsite, authorized temporary or permanent location, provided material will be isolated and contained to prevent impacts to waters of the State and their beneficial uses, or (c) a permitted landfill. Sediment may be re-used by the Discharger or offered to other parties for re-use if such re-use is consistent with the screening levels contained in the Regional Water Board’s May 2000 staff report, *Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*.

4. The discharge of sediment and runoff/decant water that exceeds effluent limits, from excavated materials disposed of at any temporary or permanent disposal site, to waters of the State is prohibited.
5. Any maintenance or dredge and disposal activity subject to these requirements shall not cause a condition of pollution or nuisance as defined in CWC section 13050 (l) and (m).
6. Groundwater beneficial uses shall not be degraded as a result of routine maintenance activities.
7. No debris, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into waters of the State.
8. Project-related discharges shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Board as required by the CWA and regulations adopted thereunder. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards. Pond dewatering discharges, accumulated groundwater or stormwater removed during dewatering of excavations, and diverted pond and stormwater flows shall not be discharged to waters of the U.S. without meeting the receiving water objectives in the Basin Plan.

B. Discharge Specifications

1. Appropriate soil erosion control measures shall be undertaken and maintained to prevent discharge of sediment to surface waters or surface water drainage courses.
2. In accordance with CWC section 13260, the Discharger shall file with the Regional Water Board a report of any material change in the character, location, or quantity of this waste discharge. Any proposed material change in the discharge requires approval by the Regional Water Board after a hearing under CWC section 13263.
3. A responsible representative of the Discharger shall immediately, and in no case no more than 24 hours, notify Regional Water Board staff by telephone whenever an adverse condition occurs as a result of this discharge. An adverse condition includes, but is not limited to, a violation or threatened violation of the requirements of this Order, significant spill of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance. Pursuant to CWC section 13267(b), a written notification of the adverse condition shall be submitted to the Regional Water Board within five days of occurrence. The written notification shall identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to the modifications of the Regional Water Board, for the remedial actions.

C. Effluent Limitations

Excavated material effluent (decant water) discharged from any permanent or temporary disposal site located on the project site or off the site shall not exceed the following numeric and narrative limits at any time:

1. Numeric Limits:
 - a. pH: 6.5 – 8.5
 - b. Settleable Matter: < 1.0 ml/1-hour
2. Narrative Limits:
 - a. Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses; and,
 - b. All water shall be free from dissolved sulfide concentrations above natural background levels.

D. Receiving Water Limitations

1. Work in and around the stream channel or Bay shoreline shall not cause the following conditions to exist in waters of the State at any place:
 - a. Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 - b. Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses;
 - c. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth cause nuisance or adversely affect beneficial uses;
 - d. Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life;
 - e. There shall be no alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - f. Dissolved oxygen, with the beneficial use designations listed in D.1.g.a. below, shall not be reduced below the listed minimums in the receiving water from the point of discharge;
 - g. Routine maintenance activities shall not cause the following limits to be exceeded in waters of the State at any point:
 - a. Dissolved Oxygen: 5.0 (WARM) or 7.0 (COLD) mg/l minimum.
When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.

- b. Dissolved Sulfide: All water shall be free from dissolved sulfide concentrations above natural background levels. Concentrations of only a few hundredths of a milligram per liter can cause a noticeable odor or be toxic to aquatic life. Violation of the sulfide objective will reflect violation of dissolved oxygen objectives as sulfides cannot exist to a significant degree in an oxygenated environment.
- c. pH: A variation of natural ambient pH by more than 0.5 pH units.
- d. Toxicity: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
- e. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and 0.16 mg/L as N, maximum.
- f. Salinity: The project shall not increase total dissolved solids or salinity to adversely affect beneficial uses.
- g. Turbidity: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU, or greater than 5 NTU where natural turbidity is less than 50 NTU.

- 2. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- 3. Groundwater shall not be degraded as a result of maintenance activities or sediment disposal.

E. Provisions

General Water Quality

- 1. The Discharger shall comply with all the Prohibitions, Receiving Water Limitations, and Provisions of this Order immediately upon adoption of this Order or as provided below. Requirements prescribed by this Order supersede the requirements prescribed by Order No. R2-2011-0050.
- 2. The Discharger shall be restricted to maintenance activities summarized in Attachment A that would be eligible for coverage under the following Corps Nationwide Permits (NWP) for the purpose of this Order:

- NWP 3, Maintenance
 - NWP 13, Bank Stabilization
 - NWP 14, Linear Transportation Projects
 - NWP 18, Minor Discharges
 - NWP 19, Minor Dredging
 - NWP 27, Aquatic Habitat Restoration, Establishment, and Enhancement Activities
 - NWP 28, Modification of Existing Marinas
 - NWP 31, Maintenance of Existing Flood Control Facilities
 - NWP 37, Emergency Watershed Protection and Rehabilitation
 - NWP 40, Agricultural Activities
 - NWP 42, Recreational
 - NWP 45, Repair of Upland Damaged by Discrete Events
3. The Discharger shall submit separate WQC applications for projects that do not meet the criteria for the routine maintenance activities summarized in Attachment A or would not qualify for the Corps NWPs listed in Provision E.2. At a minimum, the Discharger shall submit separate WQC applications for any single project with fill impacts to a water body or wetland of greater than 2000 square feet (0.05 acre). The Discharger shall also submit separate WQC applications for any single channel project that would impact more than 150 linear feet for any one project, with the following exceptions: 1) clearing of inboard ditches when necessary to prevent or reduce diversion potential to road and trail systems; 2) planting riparian vegetation to reduce erosion; 3) fencing to keep people and livestock away from stream channels; 4) localized sediment removal in limited areas that does not exceed 500 linear feet; 5) repair and stabilization of existing armored shoreline banks and levees that does not exceed 500 linear feet total or 12,500 sq. ft. (0.287 acres) per year at each District shoreline unit; 6) repair and stabilization of existing unarmored shoreline banks and levees that does not exceed 160 linear feet total or 4,000 sq. ft. (0.092 acres) per year at each District shoreline unit; 7) dredging of existing silt basins, ponds, lakes, and other waterbodies that does not exceed 700 CY; and 8) dredging projects that do not exceed 500 linear feet or 4,000 sq. ft. (0.1 acres). Except for the project types listed in the preceding sentence, projects over 150 feet in length or with footprints greater than 0.05 acres, or adjacent projects implemented within three calendar years totaling over 150 feet in length or 0.05 acres, shall require separate WQC applications to the Regional Water Board.
4. The Discharger shall submit by June 1st of each year an Annual Notification of Proposed Projects, specifying planned routine maintenance activities that will occur in the following year. The Annual Notification of Proposed Projects shall indicate project location, scope, purpose and need; the amount of fill of waters of the State, including wetlands; and any associated mitigation.
5. For compensatory mitigation for Project impacts to waters of the State, including onsite restoration and offsite mitigation, the Annual Notification of Proposed Projects shall include a description of all proposed mitigation projects, along with the rationale for the proposed amount of acres and/or linear feet of mitigation to compensate for the predicted temporary and permanent impacts resulting from the proposed maintenance projects. The description of proposed mitigation projects shall include mitigation project designs, monitoring and maintenance protocols, and interim and final performance criteria for assessing the successful implementation of mitigation projects. Monitoring and maintenance protocols shall be

implemented for a minimum of five years for wetland, tidal, and open water mitigation projects and a minimum of 10 years for riparian mitigation projects. Onsite performance criteria will be used to establish that habitats at impacted sites have recovered to near pre-impact levels (e.g., percent cover of disturbed surfaces with vegetation, percent survival of replanted riparian vegetation). Offsite performance criteria shall be used to establish that the mitigation projects successfully created or enhanced habitat (e.g., geomorphic stability of channels and/or berms, percent survival of planted riparian vegetation, percent cover of planted vegetation, sufficient ponding to support breeding of listed amphibians).

6. For routine maintenance activities impacting watercourses that are known to support or have the potential to support threatened and/or endangered species, a qualified biologist shall conduct a pre-construction survey. If any threatened and/or endangered species are located during the pre-construction survey at the project site, the Discharger shall conduct the maintenance project in a manner that is consistent with the requirements of the *U.S. Army Corps of Engineers Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California* (NLAA) consultation with NMFS (dated July 17, 2013).
7. Under this Order, routine maintenance activities conducted in perennial or intermittent streams known to contain anadromous fish need to comply with the NLAA. Federally-listed species that occur on land managed by the Discharger are listed in Attachment E to this Order. Any proposed projects that do not fit the NLAA will require a separate NMFS authorization before work may be performed on those sites.
8. The Corps (File No. 28902S) has determined the proposed activities associated with the Discharger's routine maintenance activities may affect federally-listed species and their designated critical habitat. Therefore, on June 28, 2017, the Corps initiated formal section 7 consultation with USFWS pursuant to the federal Endangered Species Act. On February 22, 2018, USFWS issued the *Formal Consultation on the East Bay Regional Park District's Routine Maintenance Activities, Contra Costa and Alameda Counties (Corps File Number 2005-28902SS)* (Biological Opinion) (Reference No. 08ESMF00-2013-F-0416). The Discharger shall fully implement the Conservation Measures, the Reasonable and Prudent Measures, the Terms and Conditions, and the Conservation Recommendations in the Biological Opinion to ensure that the proposed activities do not jeopardize the continued existence of species listed under the Endangered Species Act.
9. The Discharger shall follow the procedures and protocols in the Fishnet 4C Manual⁴ when removing large woody debris from stream channels for maintenance purposes. Large woody debris shall not be removed or be managed in a channel if it potentially functions as habitat for salmonids or other threatened and endangered species. If the large woody debris poses a credible risk of blocking a culvert, bridge, or otherwise obstructing flow or causing structural damage, it may be relocated, repositioned, and or cabled to a stream bank in a manner to protect existing habitat. For channels that do not provide potential salmonid, or threatened and endangered species habitat that relies on large woody debris, large woody debris can be

⁴ Fishnet 4C, MFG, Inc., Prunuske Chatham, Inc., Pacific Watershed Associates (2004) *Guidelines For Protecting Aquatic Habitat and Salmon Fisheries for County Road Maintenance*, prepared for Fishnet 4C Counties, California Department of Fish and Wildlife, National Marine Fisheries Service, and the California Resources Agency

immediately removed or relocated to a more suitable location if the large woody debris is posing a significant and imminent threat of structural damage.

10. The Discharger shall immediately report all dead or stressed fish or amphibians that are found within 1,000 feet of work activity or discharge authorized by this Order. The Discharger shall immediately assign a qualified biologist to investigate the cause of the problem, to define an acceptable corrective action plan, and to determine if the cause is related to maintenance activities. Work shall be halted if the investigation determines that the problem was caused by work activity or discharge authorized by this Order. A copy of the qualified biologist's investigation report shall be submitted to the Regional Water Board within 30 days of the discovery of dead or stressed fish or amphibians within 1,000 feet of work activity or discharge authorized by this Order.
11. The Discharger shall implement bioengineering methods as the preferred methodology for bank stabilization projects. Repairs that require alternative structural reinforcement, such as placement of rock rip-rap, shall be filled with native soil and local plant materials and mulch, unless these materials would contribute to further erosion and sedimentation. A rationale for each instance of using an alternate, more hardened bank stabilization method must be stated and discussed in the Annual Notification of Proposed Projects (see Provision E.33), and more hardened bank stabilization methods shall not be implemented without the approval of the Executive Officer.
12. Routine maintenance activities shall not result in direct or cumulative significant impacts to water quality or beneficial uses of waters of the State.
13. The Discharger shall implement all applicable BMPs described in Attachment A. Changes to bank repair methods shall be proposed in the Annual Notification of Proposed Projects package, or equivalent document, and approved in writing by the Executive Officer before implementation.
14. The Discharger shall comply with all applicable items of the Self-Monitoring Program (SMP) (Attachment B).

Wetland/Waters of the State Mitigation

15. Most routine maintenance activities under this Order will be conducted in a manner that results in no net loss of wetlands/waters of the State, but some maintenance activities may have impacts that require mitigation consistent with the State's "no net loss" policy. The Discharger shall maintain records of all wetland/waters of the State losses and gains associated with each individual routine maintenance activity project. The total acreage, linear feet, and type of wetland/waters of the State impacted and the total acres, linear feet, and type of wetland/water of the State created, and total credits available from prior years and the current year shall be reported in the Annual Post-Maintenance Reports (see Provision E.34). In addition, the number, location, and nature of restoration sites, including pre-construction and post-construction photographs of restored sites, shall be submitted as part of the Annual Post-Maintenance Reports.
16. Land owned or managed by the Discharger includes tidal wetlands, lentic water bodies, and stream habitat. Many of these waterbodies are within the current distributional range of the

California red-legged frog, California tiger salamander, foothill yellow-legged frog, California Ridgway's rail, salt marsh harvest mouse, and/or Western pond turtle and can be enhanced to provide additional permanent habitat for these special status species, as well as a variety of other aquatic species. Restoring and/or creating permanent aquatic habitat will be implemented by the Discharger to provide compensatory mitigation for the temporary and permanent cumulative impacts associated with the various routine maintenance projects (see the discussion of Proposed Restoration Activities in *The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California in the San Francisco Bay Region* in Attachment A). At a minimum, the Discharger shall implement sufficient compensatory mitigation in each year to compensate for the temporary and permanent impacts associated with each year's proposed maintenance projects.

17. The Discharger shall evaluate the anticipated impacts for which mitigation is required at each of the proposed project sites that are included in the Annual Notification of Proposed Projects (see Provision E.33). For each project included in the Annual Notification of Proposed Projects, the Discharger shall describe onsite mitigation (e.g., stabilization of disturbed surfaces, re-vegetation of disturbed surfaces, planting of riparian vegetation) and the amount of any offsite mitigation that is proposed for the individual project (since many mitigation sites will be consolidated mitigation sites compensating for the impacts of multiple small projects, the appropriateness of each year's proposed mitigation shall be evaluated with respect to net impacts and net mitigation). The amount of proposed mitigation for each project type shall be based on the mitigation ratios in Attachment D. Where ranges of mitigation ratios are presented in Attachment D, the factors that may be used in selecting project appropriate mitigation ratios from that range include the following: anticipated temporal loss of habitat associated with the interval between impacts at the project site and functioning of restored habitat at the mitigation site (longer recovery times, such as tree re-growth versus grass re-growth, require more mitigation); the distance between the impact site and the mitigation site (greater distances require more mitigation); differences in habitat type between the impacted site and mitigation site (greater differences require more mitigation); any uncertainties associated with the mitigation site (greater uncertainty requires more mitigation); and the permanence of the impact (permanent impacts require more mitigation than temporary impacts). Although most of the projects authorized by this Order are anticipated to have only temporary impacts, some projects may also have small areas of permanent impacts. The proposed mitigation in the Annual Notification of Proposed Projects is subject to review and approval by the Executive Officer.
18. Regional Water Board staff shall review the Annual Notification of Proposed Projects and Annual Post-Maintenance Reports to assess the adequacy of the mitigation provided in each year for the impacts that occurred in that year. If staff determines that the Discharger has not completed sufficient mitigation, the Discharger shall be informed of the deficit and shall address it in the following year's Annual Notification of Proposed Projects. If the Executive Officer determines that the Discharger has provided excess mitigation, the Discharger will be allowed to accrue excess mitigation credit for use as described in the following provision.
19. If excess mitigation credits are accrued, the Discharger, subject to Executive Officer approval, may make credits available to itself and other public entities to be used as compensatory mitigation for loss of functions and values of waters of the State associated with other projects located within watersheds in Alameda or Contra Costa counties and within the jurisdictional boundary of the Regional Water Board. Subject to the Executive Officer's approval, the

Discharger may accept payment of an in-lieu fee or may allow public entities to use excess mitigation credits documented from previous years as compensatory mitigation.

Sediment Management

20. The Discharger may temporarily stockpile excavated sediment prior to disposal or reuse, provided that appropriate State and federal regulations are met and BMPs are implemented to protect water quality and beneficial uses. The excavated sediment may be stockpiled onsite so that it can be loaded into trucks for offsite disposal within three working days. The excavated sediment may also be temporarily stockpiled at an offsite location so that runoff, sediment, or decant water from the excavated materials will not contact waters of the State.
21. The Discharger shall ultimately dispose of dewatered material at an appropriate upland sediment disposal site or at an approved reuse site in accordance with applicable State and federal regulations, including applicable provisions of this Order.
22. Sediment may be re-used by the Discharger or offered to other parties for re-use, if such re-use is consistent with the screening levels contained in the Regional Water Board's May 2000 staff report, *Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*, including proper characterization of chemical constituents in the sediment through laboratory analytical testing.
23. Where possible, staging shall occur on adjacent access roads or previously disturbed areas. Soil and rip-rap shall be staged in areas that have been previously disturbed (i.e., service road, turn-outs).
24. If repair activities affect the active channel, the work area shall be isolated from flowing stream segments using cofferdams and restored to pre-project conditions as soon as maintenance is complete. Instream diversion techniques and instream isolation techniques are specified in Attachment A. All stream diversions shall be carefully maintained and monitored. Upon completion of work in diverted channels, the stream diversion shall be removed and flow shall be returned to the original stream channel or through any replacement culvert installed as part of the maintenance project.
25. The Discharger shall divert any flow around the active maintenance site in a non-erosive manner, in accordance with *Project Specific Best Management Practices (BMPs) and Thresholds in The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California in the San Francisco Bay Region* (Attachment A).
26. Only dewatering equipment shall operate in standing or flowing water. Work may be performed in the stream channel if no water is flowing or if flow has been diverted in accordance with provisions E.24 and E.25 above.
27. Non ground-disturbing work may be conducted in the channel zone, but outside the low-flow channel, at any time. This includes pruning and removing select non-native invasive plant species, maintaining channel access roads for drainage and accessibility, conducting minor repairs of culverts, and repairing fences (along either side of access roads, including the upper portion of streambanks where access is from the service road). These maintenance activities

may be conducted at any time, provided there is no discharge of waste that may cause an adverse impact to water quality or beneficial uses. Planting of riparian vegetation may be done at any time provided there is no erosion and sedimentation that may cause an adverse impact to water quality or beneficial uses.

28. Temporary road crossings that are primarily for emergency use, such as for the passage of heavy equipment for fire suppression, shall be graded carefully to preclude the discharge of sediment, soil, or rock into flowing or standing water. Any rock and gravel being graded shall not be removed from the streambed.

Waste Management

29. The Discharge of any hazardous, designated or non-hazardous waste as defined in 27 CCR, Division 2, Subdivision 1, Chapter 2 shall be conducted in accordance with applicable State and federal regulations.
30. The Discharger shall remove and relocate any wastes that are discharged in violation of this Order. Waste shall be disposed of at a location in compliance with federal and State regulations and in such a way as to prevent impacts to waters of the State and their beneficial uses.

Monitoring and Reporting

31. To support annual program implementation, the Discharger will submit the following documents and reports annually to the Regional Water Board:
 - a) Annual Notification of Proposed Projects,
 - b) Annual Post-Maintenance Reports, and
 - c) Any other self-monitoring reports required or deemed necessary by the Executive Officer.

The Discharger is required to submit the above reports by uploading them to the California Wetlands Portal website at <http://www.californiawetlands.net/tracker/ba/list> or via email. To upload the reports, go to the above link, click on your project, click on Files & Links, and follow the steps. When any report is uploaded to the California Wetlands Portal, the Discharger shall notify the Regional Water Board staff case manager that the report has been uploaded

32. The Discharger is required to use the California Wetlands form to report net habitat losses and net gains as part of the Annual Post-Maintenance Report, as specified in Provision E.34. Habitat losses and gains shall be reported for each completed individual maintenance project, and the location of each project shall be reported in the Annual Post-Maintenance Report. Tracking of individual maintenance projects will be used to identify areas of ongoing instability. The completed California Wetlands form shall be submitted electronically to habitatdata@waterboards.ca.gov and in hard copy to both: 1) the Regional Water Board (see the address on the letterhead), attention California Wetlands Portal; and 2) to the San Francisco Estuary Institute, 4911 Central Avenue, Richmond, CA 94804, to the attention of California Wetlands Portal.
33. The Annual Notification of Proposed Projects, prepared in conformance with the SMP in Attachment B to this Order, for the following year's proposed projects shall be submitted by June 1 of each year.
34. The Discharger shall file Annual Post-Maintenance Reports, prepared in conformance with the SMP in Attachment B to this Order, with the Regional Water Board by February 15 of each

year. The Annual Post-Maintenance Reports shall include descriptions of work performed, any unanticipated field conditions, and changes to planned projects or performance of mitigation measures, as well as before and after photographs of each project site. Compensatory mitigation (restoration) activities shall be reported in the Annual Post-Maintenance Reports, which shall include the number, location, and nature of mitigation sites, as well as pre-construction and post-construction photographs of mitigation sites. The Discharger shall maintain records of all wetland/waters of the State losses and gains associated with each individual routine maintenance activity project. The total acreage, linear feet, and type of wetland/waters of the State impacted and the total acres, linear feet, and type of wetland/water of the State enhanced and created, and total credits available from prior years and the current year shall be reported in the Annual Post-Maintenance Reports. In addition, photographs of mitigation sites that have not yet attained their performance criteria must be submitted as part of the Annual Post-Maintenance Reports. Each restoration site shall be monitored in subsequent annual reports until the restoration site meets its performance criteria (see Attachment A).

35. The following activities are exempt from annual notification requirements and may occur any time at the discretion of the Discharger: maintenance of existing access roads located along the top-of-bank where there will be no impact on waters of the State; maintenance of cross-slope drains across roads, on inboard ditches that run parallel to roads where all work is above the level of top-of-bank of the adjacent stream, and there is no impact to waters of the State; and removal of debris (trash, shopping carts, etc.) accumulations using hand labor and not involving the removal of vegetation or large woody debris.
36. After five years of routine maintenance activities, the Discharger and Regional Water Board will conduct a review in 2023 and consider reissuing WDRs and WQC for an additional five years. The review will include an assessment of routine maintenance activities conducted to date, BMPs, and overall program coordination and communication between the Discharger and regulatory agencies.

Records Provisions

37. The Discharger shall maintain records of all routine maintenance activities, natural resources in the program area, permitting requirements, and mitigation efforts.
38. The Executive Officer may request that data be provided to the Regional Water Board at times outside of the reporting requirements specified in this Order.
39. The Discharger shall retain records of all reports required by this Order, and records of all information used to complete the application for this Order, for a period of at least ten years. This period may be extended by request of the Executive Officer at any time.

General Provisions

40. This Order does not authorize commission of any act causing injury to the property of another or of the public; does not convey any property rights; does not remove liability under federal, State or local laws, regulations or rules of other programs and agencies nor does this Order authorize the discharge of waste without appropriate permits from other agencies or organizations

41. Capital improvement projects and emergency maintenance activities and procedures are not covered in this Order.
42. The Discharger shall comply with all necessary approvals and/or permits for routine maintenance activities from applicable government agencies, including, but not limited to: CDFW, Corps, USFWS, NMFS, and local agencies. The Discharger shall submit copies of such approvals and/or permits to the Executive Officer prior to routine maintenance implementation.
43. The Discharger shall implement the routine maintenance activities in accordance with BMPs described in Attachment A and the findings herein and shall comply with all applicable water quality standards.
44. Any change to routine maintenance activities that would have a significant or material effect on the findings, conclusions, or conditions of this Order shall be submitted to the Executive Officer for review and written approval.
45. Routine maintenance activities shall occur only when there is no surface flow or the channel has been dewatered during the construction period of April 15 to October 31 of any year. Routine maintenance activities shall occur beginning June 15 for streams that are tributary to streams that support anadromy. However, routine maintenance activities conducted in tidal emergent wetlands shall be performed between September 1 and January 31 to avoid potential impacts to nesting California Ridgway's rails. Routine maintenance activities along creeks or in seasonal wetlands planned to start after October 15 shall only be started if no rain is forecast with greater than 20 percent chance of precipitation and the project can be completed before the next forecast rain event.
46. These WDRs and WQC are subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330 and 23 CCR section 3867.
47. This WQC is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR section 3855, Subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
48. The Regional Water Board may add to or modify the conditions of this Order, as appropriate, to implement any new or revised water quality standard and implementation plans adopted or approved pursuant to the CWC or CWA section 303 and/or any new or revised TMDL requirements.
49. The Discharger shall maintain a copy of this Order and all relevant plans and BMPs at routine maintenance work sites so as to be available at all times to site operating personnel.
50. The Discharger shall correct any and all problems that arise from routine maintenance activities, including a failure to meet the conditions of this Order that results in an unauthorized release of pollutants, including sediment.

51. The Discharger shall permit the Regional Water Board staff or its authorized representative, upon presentation of credentials:
 - a. Entry on to the premises on which maintenance activities are planned or underway, wastes are located, or in which records are kept;
 - b. Access to copy any records required to be kept under the terms and conditions of this Order;
 - c. Access to inspect any treatment equipment, monitoring equipment or monitoring method required by this Order; and
 - d. Access to sample any discharge or surface water covered by this Order.
52. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable State or federal law. For the purposes of CWA section 401(d), the applicability of any State law authorizing remedies, penalties, process or sanctions constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order. In response to a suspected violation of any condition of this Order, the Regional Water Board may require the Discharger to furnish, under penalty of perjury, any technical or monitoring reports the Regional Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this Order, the Regional Water Board may add to or modify the conditions of this Order as appropriate to ensure compliance.
53. **Rescission of Previous Order.** The WDRs prescribed by this Order supersede those prescribed by Order No. R2-2011-0050 for the Discharger. Order No. R2-2011-0050 is hereby rescinded, except for purposes of enforcement.
54. This Order is not transferable.
55. The authorization for activities covered by this Order expires in the summer of 2023 when the CWA section 404 authorization from the Corps expires. The authorization may be extended by the Executive Officer for up to two years beyond this date upon the Discharger's request and the Executive Officer's finding that the Discharger is in compliance with the Order. The Discharger must file a Report of Waste Discharge, in accordance with CWC section 13260 et seq., not later than 180 days in advance of such date as application for reissuance of WDRs. Mitigation reporting, accounting, and post-maintenance report requirements that extend beyond the term of this Order are not subject to the expiration date outlined above and remain in full effect and are enforceable.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 11, 2018.

Bruce H. Wolfe
Executive Officer

Attachments:

- A: *The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California in the San Francisco Bay Region*
- B: Self-Monitoring Program
- C: Federally-Listed Species that Occur Within East Bay Regional Park District Property
- D: Mitigation Ratios

East Bay Regional Park District

**Regional Maintenance Activities
Alameda and Contra Costa Counties**

ATTACHMENT A

**The East Bay Regional Park District Routine
Maintenance and Restoration Activities in Various
Waterbodies in Alameda and Contra Costa Counties,
California, in the San Francisco Bay Region**

**The East Bay Regional Park District Routine Maintenance
and Restoration Activities in Various Waterbodies in
Alameda and Contra Costa Counties, California
in the San Francisco Bay Region**



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The East Bay Regional Park District Routine Maintenance and Restoration Activities in Various Waterbodies in Alameda and Contra Costa Counties, California

Project Description and Affected Waterbodies:

The East Bay Regional Park District (“District”) currently manages 66¹ regional parks, recreation areas, wilderness lands, shorelines, preserves, and land bank areas, as well as 43 distinct trail segments, which encompass approximately 122,890 acres in Alameda and Contra Costa Counties, California (see Appendix map). The District’s mission is to acquire, preserve, protect, and operate regional parklands in perpetuity for public use, while conserving these lands for natural resources. Over 90 percent of District lands are protected and operated as natural parklands. This includes parklands along the shorelines of San Francisco, San Pablo, Suisun Bays and the Delta Region, and inland areas of the coastal and transverse ranges of the East Bay. Within various waterbodies and adjacent upland habitats, the District performs routine maintenance activities designed to maintain existing facilities and structures, improve watersheds and coastal shoreline conditions.

District parklands encompass the shorelines of San Francisco Bay, San Pablo Bay, Suisun Bay, the Delta Region, and inland areas of the coastal and transverse ranges of the East Bay. Throughout the District habitats are often delineated by elevation change (ranging from sea level to 3817 feet) and influenced by the coast and transverse ranges, creating mesic cismontane conditions in the west and xeric transmontane rain shadow effect in portions of eastern Alameda and Contra Costa Counties. A Mediterranean climate consisting of winter rain and summer dry periods influences the mosaic of vegetation types and ecotonal communities within the District. The District’s natural parklands are characterized by a diversity of ecotones consisting of estuarine, saline-brackish-fresh water emergent wetlands, diked bay lands, willow woodlands, redwood forest, montane hardwood-conifer forest, mixed evergreen forest, eucalyptus forest, coastal oak woodland, valley oak woodland, blue oak woodland, blue oak-gray pine woodland, valley foothill riparian woodland, California sycamore-cottonwood riparian woodland, mixed chaparral, California sagebrush scrub, annual grassland, perennial grassland, lentic and lotic habitats.

¹ Including one potential Regional Park pending land transfer

Within the District, 56 parkland units are located within San Francisco Regional Water Quality Control Board Region 2. Approximately 97,290 acres or 80 percent of the District's acreage is in Region 2. Currently, the District contains 398 fresh water ponds, six fresh water lakes, 102 streams (i.e. ephemeral, intermittent, and perennial) with hundreds of tributaries and interconnected drainages, and approximately 49 miles of bay-delta tidal shoreline (See Appendix Waterbody Atlas). Within the District, 78 percent of ponds are located in Region 2. The lentic waterbodies vary in size and depth, from small rock depressions or ponds less than one square meter and few centimeters deep, to larger waterbodies covering several square kilometers with depths greater than ten meters. Most lentic waterbodies are man-made ponds consisting of constructed earthen dams within stream channels or graded inland depressions creating upland waterbodies. Approximately 88 percent of the major streams within various District parklands are located in Region 2. Lotic habitat consists of very small ephemeral and seasonal drainages to intermittent and larger volume perennial streams. In addition, approximately 82 percent of bay-delta tidal shoreline in the District is located in Region 2. The bay delta shoreline areas are a complex of tidal and diked, muted tidal wetlands with varied transitional upland ecotones.

Proposed Activities:

The District conducts routine maintenance activities in streams, catch basins, seeps, springs, ponds, lakes, beaches, tidal marshes, and shoreline levees. The purpose of these activities is to maintain existing facilities, protect water quality, to reduce erosion, provide public and emergency access, and maintain natural resources that support a variety of listed, special status, and other native species. A variety of routine maintenance activities will occur in several watersheds, including: Alameda, Alhambra, Claremont, Garrity, Rheem, Kirker, Marsh, Mount Diablo, Pinole, San Pablo, San Leandro, San Lorenzo, Walnut and Wildcat Creeks, San Francisco Bay, San Pablo Bay, and Suisun Bay. Covered routine maintenance activities include replacement of culverts, replacement and upgrade of culverts with new head and tail walls, installation of new culverts with new head/tail walls, installation of culvert energy dissipaters, installation of articulated armored stream ford crossings, maintenance of existing articulated fords, installation of natural rock fords, vegetation and debris removal from streams and drainages, bank stabilization, removal of sediment- debris from existing culverts, maintenance of clear span bridges, installation of clear-span bridges, repair and maintenance of existing spring

boxes, routine dredging of silt basins, ponds and lakes; maintenance of existing shoreline facilities, docks, fishing piers, boat launches, marsh board walks and overlooks; removal of hazardous man-made structures and vessels from various waterbodies; re-construction of earthen pond dams and spillways; stream, pond, and tidal wetland restoration.

Thirteen years of data on the effects of these routine maintenance projects were collected and used to determine the minimum and maximum range of impact to land cover for each activity type. The overall area (acres) of disturbance or impact to aquatic and adjacent terrestrial habitat for each activity type in the San Francisco Bay Region 2 is included in the Appendix Table 1 and in the following project descriptions.

Culvert Repair, Replacement and Maintenance:

Existing degraded culverts will be replaced with same-size culverts, or if existing culverts are inadequate to convey peak flows, culverts of a larger size (diameter). Culverts will be installed to match the natural channel grade.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors, will access the project sites and operate mostly on existing roads, trails, or levees and avoid wetted channels or other waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.0001 acres to 0.018 acres (mean per culvert = 0.007 acres) with no permanent effects being anticipated. Removal of riparian and upland vegetation will be minimized; the work typically only requires the removal of lateral limbs to provide access. Project duration ranges from one to seven days. Within Region 2, the expected frequency of this activity type is approximately four to five culverts per year. The total anticipated effect for five years ranges from 0.0018 – 0.40 acres of temporary impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.0035 – 0.80 acres of temporary impact to aquatic and terrestrial habitats.

Replacement Upgrade of Existing Culverts:

Existing degraded culverts will be replaced with same-size culverts, or if existing culverts are inadequate to convey peak flows, culverts of a larger size (diameter and/or length). This work includes the installation of new rock head and/or tail walls to stabilize the streambank and prevent head cutting and/or down cutting of stream channels. Culverts will be installed at existing channel grade.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation will have temporary disturbance impacts ranging from 0.0001 acres to 0.018 acres (mean per culvert = 0.007 acres). Permanent effects to waterbodies and adjacent uplands are minimal and range from 0.0001 acres to 0.018 acres (mean per culvert = 0.007 acres). Removal of riparian and upland vegetation will be minimized; the work typically only requires the removal of lateral limbs to provide access. Project duration ranges from one to seven days. Within Region 2, the expected frequency of this activity type is approximately seven to nine culverts per year. The total anticipated effect for five years ranges from 0.0035 – 0.79 acres of temporary impact and 0.0035 – 0.79 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.007 – 1.58 acres of temporary impact and 0.007 – 1.58 acres of permanent impact to aquatic and terrestrial habitats.

Maintenance of Sediment-Debris from Culverts:

During and/or prior to high winter flows, accumulated sediment and debris will be removed from culverts using equipment operated from the top of banks and levees, or by hand crews to maintain flow and prevent flooding. Some mechanized equipment may be required, and could include backhoe, ten-wheel dump truck, or four wheel drive truck. This equipment will access the project sites and operate mostly on existing roads, trails, or levees and completely avoid wetted channels or other waterbodies. Woody debris that does not block flow will be left in place to provide habitat for fish and wildlife. These activities will have minimal temporary effect to drainages and adjacent uplands ranging from 0.0001 acres to 0.043 acres (mean per

culvert clearing = 0.007 acres) with no permanent effects being anticipated. Project duration ranges from one half day to one day. Within Region 2, the expected frequency of this activity type is approximately four to five culverts per year. The total anticipated effect for five years ranges from 0.0018 – 0.95 acres of temporary impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.0035 – 1.9 acres of temporary impact to aquatic and terrestrial habitats.

Installation of New Culvert Head and Tailwalls:

At locations with existing culverts the installation of new rock head and/or tail walls will be used to stabilize the streambank and prevent head and/or down cutting. These rock structures will be installed in the channel bed and bank.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.002 acres to 0.005 acres (mean per culvert = 0.0038 acres). Permanent effects to waterbodies and adjacent uplands are minimal and range from 0.002 acres to 0.005 acres (mean per culvert = 0.0038 acres). Removal of riparian and upland vegetation will be minimized; the work typically only requires the removal of lateral limbs to provide access. Project duration ranges from one to four days. Within Region 2, the expected frequency of this activity type is approximately two to three head and/or tailwalls per year. The total anticipated effect for five years ranges from 0.018 – 0.066 acres of temporary impact and 0.018 – 0.066 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.035 – 0.13 acres of temporary impact and 0.035 – 0.13 acres of permanent impact to aquatic and terrestrial habitats.

Installation of Energy Dissipaters:

Energy dissipaters will be installed to prevent erosion associated with flow discharge from existing culverts. These structures consist of drain to rip-rap size rock and are similar to or an extension of a culvert tail-wall structure. Energy dissipaters are very effective in reducing channel erosion and down cutting.

Mechanized equipment, including excavator, backhoe and ten-wheel dump truck, will access the project sites and operate mostly on existing roads and levees, avoiding wetted channels or waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.001 acres to 0.01 acres (mean per culvert = 0.0046 acres). Permanent effects to waterbodies and adjacent uplands are minimal and range from 0.001 acres to 0.01 acres (mean per culvert = 0.0046 acres). Removal of riparian and upland vegetation will be minimized; the work typically includes the loss of bank or shoreline vegetation. Project duration ranges from one to three days. Within Region 2, the expected frequency of this activity type is approximately one to two energy dissipaters per year. The total anticipated effect for five years ranges from 0.0044 – 0.088 acres of temporary impact and 0.0044 – 0.088 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.0088 – 0.18 acres of temporary impact and 0.0088 – 0.18 acres of permanent impact to aquatic and terrestrial habitats.

Installation of Armored or Natural Rock Ford-Stream Crossings:

Armored concrete pre-cast, open-cell, interlocking blocks will be laid within road crossings and/or trails and on top of the streambed and drainages. These fords will be installed in select locations to replace existing culverts and at natural drainage crossings to provide stability and minimize channel bed erosion. Ford crossings will be installed at the ground surface of the channel banks and bed. The armored crossings are designed and installed to maintain or improve flow and reduce erosion.

Hand tools are used for most of these construction activities. Some mechanized equipment may be required and could include the use of an excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors. This equipment will access the project sites and operate mostly on existing roads, trails, or levees and completely avoid wetted channels or other waterbodies. Ford crossings are approximately 10 to 12 feet wide and equivalent to the width of the corresponding road or trail crossing. The length of the crossing from bank to bank and the total area of the crossing vary based on the width of the channel. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have a temporary disturbance ranging from 0.004 acres to 0.009 acres per project (mean per ford crossing = 0.0058 acres). Permanent effects to waterbodies and adjacent uplands range from 0.004 acres to 0.009 acres per project (mean per

ford crossing = 0.0058 acres). Project duration ranges from two to five days. Within Region 2, the expected frequency of this activity type is approximately two to three crossings per year. The total anticipated effect for five years ranges from 0.035 – 0.12 acres of temporary impact and 0.035 – 0.12 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.070 – 0.24 acres of temporary impact and 0.070 – 0.24 acres of permanent impact to aquatic and terrestrial habitats.

Maintenance of Existing Ford Crossings:

The repairs made to existing armored or natural rock fords will help maintain road and/or trail crossings within streambed and drainages. These fords have been installed in select locations to replace existing culverts and at drainage crossings to provide stability and minimize channel bed erosion. Armored and rock ford crossings are installed at surface level and are designed to maintain flow in the channel bed and reduce erosion.

Hand tools are used for most of the construction activities. Some mechanized equipment may be required and could include the use of an excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors. This equipment will access the project sites and operate mostly on existing roads, trails, or levees and completely avoid wetted channels or other waterbodies. Ford crossing dimensions are equivalent to the width of corresponding road or trail crossings. The length of the crossing from bank to bank and the total area of the crossing vary based on the width of the channel. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have a temporary disturbance impact ranging from 0.005 acres to 0.01 acres per project (mean per ford crossing = 0.0063 acres). Permanent effects to waterbodies and adjacent uplands should be minimal and have an un-measurable effect. Project duration ranges from two to five days. Within Region 2, the expected frequency of this activity type is approximately one crossing per year. The total anticipated effect for five years ranges from 0.022 – 0.044 acres of temporary impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.044 – 0.088 acres of temporary impact to aquatic and terrestrial habitats.

Maintenance and Installation of Clear Span Bridges:

Clear-span bridges will be installed to replace existing culverts and natural (unarmored) stream crossings. Bridge concrete footings and abutments will be poured in place from above the top of

the bank and will not have contact with channel flow. Each bridge span will be lowered into place by a crane operated from above the bank or tidal channel.

Other mechanized equipment, including excavator, backhoe, and ten-wheel dump truck, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.0001 acres to 0.01 acres per project (mean per clear-span bridge = 0.0042 acres) with no permanent effects to aquatic habitat being anticipated. Permanent effects to upland habitat are minimal and range from 0.0001 acres to 0.01 acres per project (mean per clear-span bridge = 0.0042 acres). Project duration ranges from one to 20 days. Within Region 2, the expected frequency of this activity type is approximately one bridge per year. The total anticipated effect for five years ranges from 0.00044 – 0.044 acres of temporary impact to aquatic habitats. Overall, total anticipated effect for ten years ranges from 0.00088 – 0.088 acres of temporary impact to aquatic habitat.

Streambank, Shoreline, and Levee Stabilization:

Bank and levee stabilization methods will be used in locations where bank or shoreline erosion has resulted in: (1) the release of sediment exceeding that generated by natural processes; (2) unstable road, trail, pathway, or levee structures; (3) erosion around a culvert or bridge abutments; and (4) major environmental or structural damage. Stabilization methods include the installation of log crib walls, replacing existing rip-rap, extending rip-rap sections, upland and riparian vegetation planting, and other bio-engineering techniques.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, and soil compactors, will operate mostly on existing roads and levees avoiding wetted channels or waterbodies. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.0001 acres to 0.09 acres per project (mean per bank stabilization = 0.021 acres). Permanent effects to waterbodies and adjacent uplands range from 0.0001 acres to 0.09 acres per project (mean per bank stabilization = 0.021 acres). Project duration ranges from one to eight days. Within Region 2, the expected frequency of this activity type is approximately three to four stabilization projects per year. The total anticipated effect for five years ranges from 0.0012 – 1.48 acres of temporary impact and

0.0012 – 1.48 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.0025 – 2.95 acres of temporary impact and 0.0025 – 2.95 acres of permanent impact to aquatic and terrestrial habitats.

Maintenance and Installation of Spring Boxes:

Spring box repairs include the maintenance of existing wood, metal, and slotted vertically placed collector pipe located to collect water in a seep or spring. The placement of new spring boxes mostly consists of installing slotted vertical collector pipe within these waterbody types. Spring box maintenance and development may also include the installation or repair of above or underground pipelines for conveying water from these water sources to alternative locations, including water tanks or troughs in conjunction with improving the distribution of livestock. Whenever possible, pipelines will be installed in existing roads and trails. All troughs will have escape ramps for wildlife.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, and small trucks, will operate mostly on existing roads, trails, levees, and disturbed areas. Cross country access will be minimized to avoid sensitive habitats and will be mostly restricted to open grasslands. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.0001 acres to 0.0016 acres per project (mean per spring box = 0.0006 acres). Permanent effects to waterbodies and adjacent uplands range from 0.005 acres to 0.01 acres per project (mean per spring box = 0.0006 acres). Project duration ranges from one to seven days. Within Region 2, the expected frequency of this activity type is approximately four spring boxes per year. The total anticipated effect for five years ranges from 0.0016 – 0.032 acres of temporary impact and 0.080 – 0.20 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.0032 – 0.064 acres of temporary impact and 0.16 – 0.40 acres of permanent impact to aquatic and terrestrial habitats.

Maintenance Dredging of Silt Basins, Ponds, and Lakes:

Maintenance dredging would occur in silt basins, ponds, lakes, and muted tidal wetlands to restore silt capacity and open water habitat for listed and/or aquatic species. Sediment removal may also incorporate design features to improve flow to and from receiving waters.

Mechanized equipment including excavator, backhoe, ten-wheel dump truck, and small trucks, will operate mostly on existing roads, trails, levees, and disturbed areas. Cross country access will be minimized to avoid sensitive habitats and will be mostly restricted to open grasslands. These activities, including the potential effects to upland, riparian, or wetland vegetation, have temporary disturbance impacts ranging from 0.014 acres to 0.03 acres per project (mean per dredging = 0.026 acres). Project duration ranges from one to seven days. Within Region 2, the expected frequency of this activity type is approximately seven to eight dredging projects per year. The total anticipated effect for five years ranges from 0.44 – 1.17 acres of temporary impact to aquatic habitats. Overall, total anticipated effect for ten years ranges from 0.87– 2.34 acres of temporary impact to aquatic habitat.

Maintenance of Existing Recreational-Shoreline Facilities:

Maintenance to existing recreational facilities would include repairs and/or replacement of docks, fishing piers, boat launches, marsh boardwalks and overlooks. The maintenance and replacement of these structures will preserve public access and ensure public safety. Non-toxic materials will be used in all repairs and replacement structures.

Mechanized equipment, including excavator, backhoe, crane, and ten-wheel dump truck, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. Small water craft could also be used in open water to provide access and conduct repairs. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have temporary disturbance impacts ranging from 0.005 acres to 0.02 acres per project (mean per shoreline facility = 0.01 acres). Permanent effects to waterbodies and adjacent uplands range from 0.005 acres to 0.02 acres per project (mean per shoreline facility = 0.01 acres). Project duration ranges from five to twenty days. Within Region 2, the expected frequency of this activity type is approximately one to two shoreline projects per year. The total anticipated effect for five years ranges from 0.022 – 0.18 acres of temporary impact and 0.022 – 0.18 acres of permanent impact to aquatic and terrestrial habitats. Overall, total anticipated effect for ten years ranges from 0.044 – 0.35 acres of temporary impact and 0.044 – 0.35 acres of permanent impact to aquatic and terrestrial habitats.

Removal of Hazardous Man-made Structures:

Abandoned structures acting as a barrier to fish and wildlife movements or hazards to public safety will be removed from various waterbodies including streams, ponds, lakes, tidal channels, estuaries, and bay waters. If possible, structures will be removed in their entirety. Excavated and disturbed areas will be restored following removal of objects.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, and all-terrain vehicles (ATV's), will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. Various water craft could also be used in open water to provide access and remove objects. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have minimal temporary disturbance impacts and un-measurable permanent effects to waterbodies and adjacent uplands. Project duration ranges from one half day to ten days. This activity type will be conducted as needed. Overall, for a five and ten year period, this activity is anticipated to have minimal adverse effect to various waterbodies and adjacent uplands.

Removal of Vessels:

Abandoned vessels acting as a barrier to fish and wildlife movements or hazards to navigation or public safety will be removed from various waterbodies including streams, ponds, lakes, tidal channels, estuaries, and bay waters. If possible, structures will be removed in their entirety. Excavated and disturbed areas will be restored following removal of objects.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, and ATV's, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. Various water craft would be used in open water to provide access and remove objects. These activities, including the potential effects to upland, riparian, or wetland vegetation, will have minimal temporary disturbance impacts and un-measurable permanent effects to waterbodies and adjacent uplands. Project duration ranges from one half day to ten days. This activity type will be conducted as needed. Overall, for a five and ten year period, this activity is anticipated to have a minimal adverse effect to various waterbodies and adjacent uplands.

Lentic, Lotic, and Tidal Restoration:

The District will restore various water-based ecosystems, including lentic, lotic, and tidal habitat. Restoration activities will focus on enhancement and/or creation of these aquatic ecosystems, with the primary objective to promote the conservation and recovery of state and federally listed species.

Lentic Waterbody (Pond) Restoration

Pond restoration activities would include the repair, maintenance, and restoration of man-made lentic waterbodies. These ponds provide water for livestock and support a variety of taxa including California tiger salamander and California red-legged frog. Projects will be designed to enhance aquatic habitat for wildlife, reduce erosion and sedimentation to receiving waters, and improve livestock water availability and grazing distribution. Activities could include the reconstruction of failed ponds, removal of sediments or de-siltation, and minor modifications of existing ponds to restore the original capacity and inundation period, repair and/or replacement of structural components such as spillways, overflow discharge pipes, earthen dam and embankment stabilization; removal of man-made obstructions or debris, control of noxious weeds, establishment of native vegetation, and control of non-native predators such as bullfrogs (*Rana catesbeiana*), predatory centrarchids, catfish, and *Gambusia spp.* Exotic predator control may involve the de-watering or draining of the pond.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, four wheel drive trucks, soil compacters, and ATV's, will access the project sites and typically operate on existing roads and earthen dam levees avoiding wetted channels. The implementation of these activities will mostly be temporary effects to upland, riparian, or wetland vegetation and will have minimal permanent impact. The size of these waterbodies is highly variable. Project duration ranges from four to twenty days. Overall, for a five year period, the total anticipated lentic restoration projects range between six to 20 pond sites within the distributional range of these species. Subsequent to the initial five year period, six to 20 additional pond sites will be identified for potential restoration.

Stream (Lotic Waterbody) Restoration

Stream restoration activities would involve the enhancement or restoration of ephemeral, intermittent, or perennial streams and riparian corridors to improve habitat characteristics for listed and other native species. These activities will incorporate hydrologic, hydraulic, biological, and geomorphic processes. The restoration projects are designed to enhance stream function, promote dynamic equilibrium, reduce erosion, improve water quality to receiving waters, and improve aquatic habitat characteristics and/or riparian vegetative structure within the restored stream reach sites.

Installation of in-stream structures to stabilize and protect degraded streambanks could include using boulder riprap, boulder wing deflectors, rock weirs, root wad deflectors, log cribbing, live vegetated crib walls, tree or native material revetment, brush mattresses, and native re-vegetation. Modification could include, but not be limited to, changes in gradient, sinuosity, channel slope and type, cross-section and flood plain profile, and bankside vegetation. To the extent practicable, invasive noxious weeds will be controlled or removed. Appropriate native vegetation will be used for riparian restoration or for replanting exposed banks in a way that will replicate the existing biological conditions to stream reach corridor sites that support listed species.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, soil compactors, and ATV's, will access the project sites and operate mostly on existing roads, trails, and levees avoiding wetted channels or waterbodies. The implementation of these activities will result in mostly temporary effects to upland, riparian, wetland vegetation, stream substrate and bank, but will have minimal permanent impact. The size of these waterbodies is highly variable and project duration ranges from four to sixty days. Overall, for a five year period, the total anticipated lotic restoration projects range between four to six stream reach sites within the distributional range of these species. Subsequent to the initial five year period, two to four additional stream reach sites will be identified for potential restoration.

Tidal Emergent Wetland Restoration

Wetland restoration activities would involve restoration and enhancement efforts to improve the habitat quality of tidal emergent wetlands or shorelines. This may include various restoration

activities in tidal flats and wetlands, diked baylands, and adjacent transitional upland habitats. These tidal wetland ecosystems provide habitat for giant garter snake, Ridgway's rail, and salt marsh harvest mouse.

Modifications could include, but not be limited to, changes in tidal action, flood plain profile, and vegetation types in degraded wetland areas. To the extent practicable, this will include the control of non-native species and predators in tidal wetlands and/or adjacent transitional upland habitats. Invasive noxious plant species will be controlled or removed. Target species would include, but not be limited to, iceplant (*Carpobrotus edulis*) and its hybrids, birdsfoot trefoil (*Lotus corniculatus*), broadleaf pepperweed (*Lepidium latifolium*), and Mediterranean saltwort (*Salsola soda*). Exposed wetland areas will be replanted with the appropriate native vegetation and species composition and density will be determined using reference sites of other functional wetlands with similar profiles dominated by native vegetation types. Non-native predator management will mostly focus on feral cats (*Felis silvestris catus*), non-native red fox (*Vulpes vulpes*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*) removal and control to reduce predation events to giant garter snake, Ridgway's rail, and salt marsh harvest mouse.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, soil compactors, and ATV's, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. The implementation of these activities will result in mostly temporary effects to upland and wetland vegetation, or tidal substrate, and will have minimal permanent impact. The size of these waterbodies is highly variable and project duration can range from a few days to several weeks. The anticipated tidal wetland restoration projects may include, but not be limited to, the removal of non-native vegetation, the removal of man-made debris or hazardous materials, and the re-establishment of native tidal and high marsh vegetation to enhance habitat conditions for giant garter snake, Ridgway's rail, and the salt marsh harvest mouse. Overall, for a five year period, the total anticipated tidal restoration projects range between two to four sites within the distributional range of these species. Subsequent to the initial five year period, additional tidal wetland sites will be identified for potential restoration.

The District's covered routine maintenance activities would result in the repair, maintenance, and restoration of suitable aquatic habitat, riparian habitat, tidal shoreline, and upland habitat for state

and federally-listed species, resulting in net environmental benefits to listed species as well as non-listed native species. The proposed conservation practices are designed to control erosion, reduce sedimentation, restore native vegetation, restore pond habitat, improve the quality of stream and riparian habitat, and maintain tidal wetlands. All of these actions would benefit listed species and their habitats in the long-term.

However, the routine maintenance project activities could potentially result in adverse effects to state and federally listed species. As discussed, this includes temporary and permanent effects to natural land cover, affecting aquatic habitat and adjacent terrestrial uplands. To quantify effect, the minimum and maximum range of impact and the mean for each routine maintenance project type was identified to determine potential temporary and permanent impacts associated with each project type for a five period.

Direct impacts are defined as ground-disturbing activities or projects that remove habitat for covered species or directly affect an individual species. Direct impacts can be either permanent or temporary. Examples of activities resulting in permanent wetland impacts include installing hardscape (i.e. rip-rap along shoreline or stream channels), placing new culverts or fords in a channel, constructing a new bridge over a channel, or reducing wetland complexity (e.g., removing pools). Temporary impacts are defined as any impact on vegetation or habitat that does not result in permanent habitat removal. Temporary impacts that affect natural land cover are limited in duration, and most sites return to their preexisting conditions within a year. However, woody vegetation often requires two years of regrowth to establish comparable cover. This extended temporary impact is limited to a few activities, a small fraction of project sites, and not likely to adversely affect listed species. Examples of temporary impacts include removal of wetland, riparian, or terrestrial vegetation to the extent that natural land cover habitat is affected and other actions that temporarily reduce stream or wetland function and habitat value (e.g., dewatering). Actual wetland impacts may be somewhat lower than those calculated because of flexibility in implementing avoidance measures (e.g., building clear-span bridges to avoid streams, building in sites where no riparian vegetation exists). Considering that the vast majority of covered projects involve the maintenance of existing structures, most of the effects are anticipated to be temporary impacts to aquatic and adjacent terrestrial habitats.

To avoid and minimize adverse impacts to listed species, aquatic resources, and affected habitat, the District will implement the General Avoidance and Minimization Measures, Project Specific Best Management Practices (BMPs) and Thresholds, and Species Specific Conservation Measures listed below.

General Avoidance and Minimization Measures

1. Project activities will be restricted to the minimum area necessary. Prior to start of work, project boundaries and access routes will be clearly demarcated to prevent work vehicles from straying into adjacent habitat.
2. An approved biological monitor will remain on-site during all construction activities that may result in take of federally and state listed species. The approved biological monitor(s) will be given the authority to stop any work that may result in the take of listed species.
3. Preconstruction surveys for listed species will be performed immediately prior to groundbreaking activities. Surveys will be conducted by approved biologists. If at any point, construction activities cease for more than five consecutive days, additional preconstruction surveys will be conducted prior to the resumption of work.
4. Prior to the start of each work day, an approved biologist will check under construction equipment, project vehicles, and their tires to ensure no listed species are utilizing the equipment as temporary shelter.
5. All trash and debris within the work area will be placed in containers with secure lids before the end of each work day in order to reduce the likelihood of entering nearby waterbodies and attracting predators to the site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.
6. The District will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When feasible, invasive exotic plants in the project areas will be removed.
7. If herbicides are needed, they will be used according to their label instructions.

8. When necessary to avoid and minimize disturbance and maintain down stream flow, water will be temporarily diverted around the work area using sand bag coffer-dams, hoses, and pumps.
9. If a work site is to be temporarily de-watered by pumping, intakes will be completely screened with wire mesh not larger than 2.5 millimeters or 3/32 inch. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
10. Pumps will be placed in a perforated intake basin to allow water to be drawn into the pump to protect and ensure aquatic organisms are not pulled into the pump.
11. An approved biologist will permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The applicant will have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.
12. Whenever feasible, the District will implement the Best Management Practices (BMPs) identified in the California's Salmonid Stream Habitat Restoration Manual and the Federal Interagency Stream Corridor Restoration Manual.
13. All District projects are reviewed by qualified Stewardship staff who will work directly with Operations staff to identify project specific BMPs and develop the appropriate protective guidelines for each project. An approved biologist familiar with sensitive species will closely monitor each project.
14. No routine maintenance activity will be conducted that substantially disrupts the movements of aquatic indigenous life.
15. Work within listed species habitat (lentic and lotic waterbodies) will be performed only between August 1 and October 31 or under dry site conditions and minimize adverse impacts to fish and wildlife resources and their habitats. However, debris removal from culverts immediately necessary to prevent flooding would be conducted at any time.

16. Work within tidal emergent wetlands, the San Francisco Bay and/or the Delta would be conducted between August 1 and January 31.
17. Work within non-listed species habitat (lentic and lotic waterbodies) will be performed between April 15 and October 31. However, debris removal from culverts immediately necessary to prevent flooding would be conducted at any time.
18. To the maximum extent feasible, debris removal during winter and spring to unclog culverts, etc. will be performed by hand crews or by the use of trucks with winches, and/or by backhoes operated from the top of the bank.
19. As much as possible, the District will avoid the removal of large woody riparian vegetation and remove only the minimum necessary to complete the project.
20. Woody debris, which does not cause a problem of bank instability, flooding, or culvert blockage, will be left in place to provide in-stream cover and habitat for aquatic species.
21. To the extent possible, the District will avoid the use of heavy mechanized equipment in waterways, streams, ponds, and lakes.
22. To the extent possible, no heavy mechanized equipment will operate in standing or flowing water and disturbance in stream channels will be minimized as much as possible.
23. The District will avoid using heavy equipment in areas where hand tools or light equipment are capable of performing the task.
24. Whenever feasible, the District will use rubber-tired vehicles as opposed to track mounted equipment to avoid soil compaction and disturbance.
25. New concrete will not be placed or poured on-site in a location that may come into contact with any natural waterbodies.
26. Any concrete pouring will be isolated from all natural waterbodies through appropriate wrapping or water barrier implements.
27. Prior to work, all equipment will be inspected for fuel, oil, and hydraulic leaks and will be repaired if necessary.

28. At the work site, fueling of equipment and vehicles will only occur in upland areas and, where feasible, at a minimum of 100 feet from open water.
29. Vehicles will be parked on pavement, existing roads, and previously disturbed areas to the maximum extent feasible.
30. To avoid and minimize disturbance, the District will plant riparian vegetation by hand or with a rubber-tired backhoe from above the top of bank.
31. Erosion control materials that use plastic or synthetic mono-filament netting will not be used within the action area in order to prevent listed species from becoming entangled, trapped or injured. This includes products that use photodegradable or biodegradable synthetic netting, which can take a full calendar year or more to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar fibers.

Project Specific Best Management Practices (BMPs) and Thresholds

Culvert Repair, Maintenance, Replacement, Upgrade, and Installation:

1. Whenever feasible, the District will replace old metal-galvanized culverts with modern plastic culverts. This will minimize the need for follow up maintenance and stream disturbance.
2. Whenever feasible, the District will install replacement culverts large enough to accommodate anticipated 25-year frequency storm events. This will minimize the need for follow up maintenance and stream disturbance.
3. Replacement of culverts will be installed at the existing grade to maintain natural stream gradient and minimize under cutting and erosion.
4. Whenever feasible, the District will remove culverts to restore and enhance the natural stream corridor and riparian vegetation.

5. Whenever feasible, the District will remove culverts and replace them with clear-span bridges or armored articulated fords. This will re-establish typical stream flow and reduce erosion.
6. To stabilize culverts, the District will construct headwalls or discharge end splash pads, and will install armoring with porous materials or use other techniques that allow plant growth and avoid the permanent elimination of stream habitat.

Maintenance of Sediment-Debris from Culverts:

1. Whenever feasible, debris will be removed from culverts using equipment operated from the top of banks and levees, or by hand crews.
2. Woody debris that does not block flow will be left in place to provide habitat for fish and wildlife.
3. The clearing of culverts consisting of the targeted removal woody debris, sediments, and man-made objects etc. that demands immediate action to prevent flooding, property damage, or maintain access to essential public services would be conducted at any time.
4. Targeted and localized sediment removal will occur in limited areas that will not exceed 500 linear feet.
5. Threshold for non-reportable sediment-debris removal from culverts: Projects less than 140 sq ft. (0.003 acres) removing less than 10 CY would be non-reportable. Debris removal immediately necessary to prevent flooding, property damage, and minimize erosion will be conducted at any time. During winter and spring work will be performed by hand crews, by the use of trucks with winches, and/or by backhoes operated from top of the bank. Woody debris which does not cause a problem of bank instability, flooding, or culvert blockage will be left in place to provide instream cover and habitat for aquatic species.

Installation of New Culvert Head and Tailwalls and Energy Dissipaters:

1. New rock head, tail walls and/or energy dissipaters will be installed to stabilize the streambank and prevent head and/or down cutting.

Natural stream crossings (fords):

1. Natural stream crossings are annually evaluated District-wide to determine the need for maintenance.
2. Minimal grading or debris removal will be performed to make the crossing passable.
3. Stream gravel and sediments will be left within the dry portion of the stream channel rather than moved to upland areas.
4. Natural crossings (which require less intensive maintenance) will be preferred and used where feasible.

Bank Stabilization and Erosion Control:

1. Whenever feasible the District will use bio-engineering techniques, such as planting riparian woody vegetation and installing willow waddles and mattresses, log crib-walls, log and stump deflectors, or vortex weirs to stabilize banks and reduce erosion.
2. Where appropriate jute netting or other erosion control fabrics will be used to provide protection until adequate plant growth can provide permanent protection.
3. Where appropriate broadcast and/or hydro-seeding (native mix) and planting of willow, maple, alder, and other native riparian woody vegetation will be carried out to stabilize banks and prevent erosion.
4. The District will request the use of more hardened bank stabilization techniques, if the use of bio-engineered techniques is considered infeasible at a project site.
5. When maintaining shoreline levees and armored embankments, work will be done during low tide to the greatest extent possible to minimize potential for sediment discharge to bay water.
6. Repair and stabilization of existing armored shoreline banks and levees will not exceed 500 linear feet total or 12,500 sq ft. (assuming 25 ft. width) per year at each District shoreline unit.

7. Repair and stabilization of existing unarmored shoreline banks and levees will not exceed 160 linear feet total or 4,000 sq ft. (assuming 25 ft. width) per year at each District shoreline unit.

Routine Maintenance Dredging of Ponds, Lakes and Silt Basins:

1. When feasible the work will be performed in dry conditions and above water level. Otherwise, floating open water turbidity curtains will be used to contain sediment.
2. Other erosion, sediment, and turbidity control measures and procedures may be implemented to contain sediments, minimize siltation, and prevent downstream turbidity.
3. Whenever feasible dredging will be done with an excavator from the top of bank.
4. All removed dredged sediments will be disposed of in the appropriate upland location(s).
5. Removal of riparian vegetation will be minimized during dredging operations.
6. To properly maintain existing silt basins, ponds, lakes, and other waterbodies, dredging of these basins will be limited to 600-700 CY of material as recommended by the Wildcat Creek Sediment Study, Hayward Shoreline Study, and Big Break Study. Dredging projects will not exceed 500 linear feet or 4,000 sq ft. (0.1 acres).

Maintenance of Existing Recreational Shoreline Facilities:

1. Whenever feasible, floating docks and gangways will utilize light transmitting materials or construction to reduce overwater shading.
2. Materials used in pile replacement and repair may include wood piles, pile wrap composed of polyvinyl chloride (PVC), wood pile stubs, or cylindrical steel connectors. After installation, divers attach a high density polyethylene wrap around the pile to protect the pile from physical damage, reduce ongoing exposure of chemically treated wood surface to the environment, protect the piles from boring marine organisms, and prolong the useful life of the pile.

Proposed restoration and enhancement:

While conducting routine maintenance, the District will incorporate an adaptive management strategy to improve existing conditions. Overall, implementing the above conservation measures reduces adverse effects to District lands and nearby waterbodies. The District will also restore and enhance existing ponds, streams, and other waterbodies and will focus on the enhancement and/or creation of these aquatic ecosystems, with the primary objective to promote the conservation and recovery of listed species. Restoration and enhancement will include, but not be limited to:

- Stream and pond restoration and creation for special status species and other aquatic species
- Removing instream man-made structures to restore the natural stream conditions
- Planting native riparian and wetland vegetation to improve water quality
- Controlling and removing non-native invasive species (i.e. bullfrogs, exotic fish, Chinese mitten crab etc.)
- Identifying and removing instream barriers to fish and other aquatic species
- Installing nest boxes for riparian bird species (i.e. wood ducks, tree swallows, and flycatchers)
- Removing non-native invasive vegetation to improve wetland and/or riparian habitat conditions
- Implement streambank bioengineering practices to reduce erosion and stabilize streambanks

Aquatic Restoration and Enhancement:

1. The preconstruction project list submitted by June 1st each year will include detailed descriptions and designs of proposed restoration projects for the upcoming year.
2. All restoration activities will have either: permanent beneficial effects to state and federally listed species; or at most, no permanent adverse effects (e.g. permanent effects to hydrology, water quality, or temperature in listed species habitat will be neutral to the species) to state and federally listed species.

Pond Restoration and Enhancement:

1. General pond restoration dredging will occur during dry site conditions, recognizing that certain sites conditions and/or years may require dewatering of ponds prior to dredging activities.
2. Stock ponds will only be dredged when dry and after determining that no California red-legged frogs and/or California tiger salamanders are present.
3. Wherever feasible, dredged ponds and earthen dams will be reconfigured to enhance the habitat for aquatic species.

Species Specific Conservation Measures

Alameda striped racer and giant garter snake

1. Within potentially suitable Alameda striped racer habitat, construction activities will occur between June 15 - October 31, when the striped racers are more active, capable of escaping, and less likely to be impacted.
2. Disturbance activities in known or potential giant garter snake habitat or within 200 feet of habitat will be performed only between May 1 and October 1 to avoid potential impacts to this species.
3. No plastic mono-filament erosion control matting will be used for erosion control in Alameda striped racer or giant garter snake habitat.

California red-legged frog and California tiger salamander

1. Work within California red-legged frog habitat (lentic and lotic waterbodies) will be performed only between August 31 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats.
2. Work within California tiger salamander aquatic habitat will be performed only between August 31 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats.

Foothill yellow-legged frog and western pond turtle

1. Work within foothill yellow-legged frog aquatic habitat will be performed only

between August 1 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats

2. Work within western pond turtle frog aquatic habitat will be performed only between August 1 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats

Shoreline species: California Ridgway's rail, California black rail, western snowy plover, California least tern, and salt marsh harvest mouse

1. Disturbance activities in known or potential Ridgway's rail, California black rail, western snowy plover, and/or California least tern habitat will be performed only during the non-nesting season between September 1 and January 31 to avoid potential impacts to these species.
2. To the extent possible, tidal and muted tidal pickleweed habitat will be avoided in known or potential salt marsh harvest mouse habitat.
3. No plastic mono-filament erosion control matting will be used for erosion control in salt marsh harvest mouse habitat.

Fairy and tadpole shrimp

1. Work within 250 feet of fairy and/or tadpole shrimp habitat will be performed only between August 1 and October 31 and under dry site conditions to minimize potential adverse impacts to aquatic habitats.

Delta smelt, longfin smelt, green sturgeon, salmonids (i.e., steelhead and chinook salmon)

1. Disturbance activities in known or potential delta smelt habitat will be performed only between August 1 and November 30 to avoid potential impacts to this species
2. Disturbance activities in known or potential longfin smelt habitat will be performed only between November 1 and January 31 to avoid potential impacts to this species
3. Disturbance activities in known or potential green sturgeon habitat will be performed only between July 1 and September 30 to avoid potential impacts to this species

4. Disturbance activities in known or potential salmonid habitat will be performed only between June 15 and October 15 to avoid potential impacts to this species

Proposed Restoration Activities

The District will restore various water-based ecosystems, including lentic, lotic, and tidal habitat. Restoration activities will focus on enhancement and/or creation of these aquatic ecosystems, with the primary objective to promote the conservation and recovery of listed species. Restoring and/or creating permanent aquatic habitat will compensate for the small-scale temporary and permanent cumulative impacts associated with the various routine maintenance projects.

Lentic Waterbody (Pond) Restoration

Pond restoration activities would include the repair, maintenance, and restoration of man-made lentic waterbodies. These ponds provide water for livestock and support a variety of taxa including California tiger salamander and California red-legged frog. Projects will be designed to enhance aquatic habitat for wildlife, reduce erosion and sedimentation to receiving waters, and improve livestock water availability and grazing distribution. Activities could include the reconstruction of failed ponds, removal of sediments or de-siltation, and minor modifications of existing ponds to restore the original capacity and inundation period, repair and/or replacement of structural components such as spillways, overflow discharge pipes, earthen dam and embankment stabilization; removal of man-made obstructions or debris, control of noxious weeds, establishment of native vegetation, and control of non-native predators such as bullfrogs (*Rana catesbeiana*), predatory centrarchids, catfish, and *Gambusia spp.* Exotic predator control may involve the de-watering or draining of the pond.

Mechanized equipment, including excavator, backhoe, ten-wheel dump truck, four wheel drive trucks, soil compacters, and ATV's, will access the project sites and typically operate on existing roads and earthen dam levees avoiding wetted channels. The implementation of these activities will mostly be temporary effects to upland, riparian, or wetland vegetation and will have minimal permanent impact. The size of these waterbodies is highly variable. Project duration ranges from

four to twenty days. Overall, for a five year period, the total anticipated lentic restoration projects range between six to 20 pond sites within the distributional range of these species. Subsequent to the initial five year period, six to 20 additional pond sites will be identified for potential restoration.

Stream (Lotic Waterbody) Restoration

Stream restoration activities would involve the enhancement or restoration of ephemeral, intermittent, or perennial streams and riparian corridors to improve habitat characteristics for listed and other native species. These activities will incorporate hydrologic, hydraulic, biological, and geomorphic processes. The restoration projects are designed to enhance stream function, promote dynamic equilibrium, reduce erosion, improve water quality to receiving waters, and improve aquatic habitat characteristics and/or riparian vegetative structure within the restored stream reach sites.

Installation of in-stream structures to stabilize and protect degraded streambanks could include using boulder riprap, boulder wing deflectors, rock weirs, root wad deflectors, log cribbing, live vegetated crib walls, tree or native material revetment, brush mattresses, and native re-vegetation. Modification could include, but not be limited to, changes in gradient, sinuosity, channel slope and type, cross-section and flood plain profile, and bankside vegetation. To the extent practicable, invasive noxious weeds will be controlled or removed. Appropriate native vegetation will be used for riparian restoration or for replanting exposed banks in a way that will replicate the existing biological conditions ~~to~~of stream reach corridor sites that support listed species.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, soil compactors, and ATV's, will access the project sites and operate mostly on existing roads, trails, and levees avoiding wetted channels or waterbodies. The implementation of these activities will result in mostly temporary effects to upland, riparian, wetland vegetation, stream substrate and bank, but will have minimal permanent impact. The size of these waterbodies is highly variable and project duration ranges from four to sixty days. Overall, for a five year period, the total anticipated lotic restoration projects range between four to six stream

reach sites within the distributional range of these species. Subsequent to the initial five year period, two to four additional stream reach sites will be identified for potential restoration.

Tidal Emergent Wetland Restoration

Wetland restoration activities would involve restoration and enhancement efforts to improve the habitat quality of tidal emergent wetlands or shorelines. This may include various restoration activities in tidal flats and wetlands, diked baylands, and adjacent transitional upland habitats. These tidal wetland ecosystems provide habitat for giant garter snake, Ridgway's rail, and salt marsh harvest mouse.

Modifications could include, but not be limited to, changes in tidal action, flood plain profile, and vegetation types in degraded wetland areas. To the extent practicable, this will include the control of non-native species and predators in tidal wetlands and/or adjacent transitional upland habitats. Invasive noxious plant species will be controlled or removed. Target species would include, but not be limited to, iceplant (*Carpobrotus edulis*) and its hybrids, birdsfoot trefoil (*Lotus corniculatus*), broadleaf pepperweed (*Lepidium latifolium*), and Mediterranean saltwort (*Salsola soda*). Exposed wetland areas will be replanted with the appropriate native vegetation and species composition and density will be determined using reference sites of other functional wetlands with similar profiles dominated by native vegetation types. Non-native predator management will mostly focus on feral cats (*Felis silvestris catus*), non-native red fox (*Vulpes vulpes*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*) removal and control to reduce predation events to giant garter snake, Ridgway's rail, and salt marsh harvest mouse.

Mechanized equipment, including excavator, backhoe, crane, ten-wheel dump truck, four wheel drive trucks, soil compactors, and ATV's, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. The implementation of these activities will result in mostly temporary effects to upland and wetland vegetation, or tidal substrate, and will have minimal permanent impact. The size of these waterbodies is highly variable and project duration can range from a few days to several weeks. The anticipated tidal wetland restoration projects may include, but not be limited to, the removal of non-native vegetation, the removal of man-made debris or hazardous materials, and the re-establishment of native tidal and high marsh vegetation to enhance habitat conditions for giant garter snake,

Ridgway's rail, and the salt marsh harvest mouse. Overall, for a five year period, the total anticipated tidal restoration projects range between two to four sites within the distributional range of these species. Subsequent to the initial five year period, additional tidal wetland sites will be identified for potential restoration.

Summary of Project Impacts

The District's covered activities and routine maintenance projects include the replacement of existing structures and facilities, minor improvement projects, and the restoration of various waterbodies to enhance habitat for listed species. The covered activities consist of minor construction and the maintenance of existing structures or facilities that are mostly small in scale. The footprint of individual projects, except for restoration activities, is extremely small and typically does not exceed 2000 square feet or 0.05 acres. As previously described above, the majority of affected waterbodies occur within San Francisco Regional Water Quality Control Board Region 2. Consequently, the anticipated range of cumulative impacts (temporary and permanent) for a five year period is estimated to range from 0.752 acres to 8.77 acres of impact (Appendix Table 1).

Monitoring and Reporting

A detailed annual preconstruction report of the proposed maintenance activities to be performed each year will be prepared and submitted by June 1st each year. The report will contain preliminary jurisdictional determinations for each of the proposed projects illustrating ordinary high water channel width, depth of streambed to ordinary high water, depth of streambed to top of bank, width at top of bank, stream type and stream gradient, high tide line elevation, high tide line to substrate, and extent of project activity in waters of the U.S. and waters of the State in relation to the dimensions of each proposed project (see Appendix project specific illustrations). Additionally, the tabular report will include the following for each project:

1. Project location
2. Clear project description-scope
3. Amount of wetland fill or fill of other waters
4. Amount of temporary and permanent impacts
5. Avoidance and minimization measures and best management practices

6. Detailed descriptions, designs, and performance criteria of proposed restoration projects for the upcoming year.

By February 15 of each year, the District will submit an annual report describing the activities performed the previous year and the resulting habitat disturbance. This report will include a description of the work performed, specifically noting any changes to proposed projects from what was outlined in the preconstruction project list. At a minimum, the annual report will include the following information for that year:

1. A description of activities/projects completed and their location;
2. The amount of wetland fill and/or other waters fill, temporary and permanent impacts associated with each project;
3. A description of the amount, type, and location of habitat restored or enhanced; Acreage of listed species habitat that was restored or enhanced and whether the permanent effects from the restoration to species habitat types will be beneficial or neutral; each listed species covered under the biological opinion will be addressed to insure species habitat disturbance can be tracked.
4. Pre and post-construction photographs for restoration projects will be submitted in the annual report until the restoration site meets its performance criteria.

After five years, the District will submit a summary report including the extent of permanent and temporary impacts to waters of the state and aquatic resources associated with the completed routine maintenance and restoration activities.

Other Regulatory Permits and Supporting Documents

U.S. Army Corps of Engineers Regional General Permit (File Number 28902S) authorizes the District to conduct various routine maintenance activities.

U.S. Army Corps of Engineers (File Number 28902S) has determined that the District's proposed routine maintenance activities appear to be covered under the *U.S. Army Corps of Engineers Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California* (NLAA) consultation with the National Marine Fisheries Service (NMFS).

The Army Corps of Engineers' (File Number 28902S) has determined that the proposed activities associated with the Discharger's routine maintenance activities will not adversely impact any Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act. Any proposed projects that may adversely impact EFH will require a separate Section 7 authorization in consultation with the National Marine Fisheries Service (NMFS) before work may be performed on those sites.

U.S. Army Corps of Engineers (File Number 28902S) has determined that the proposed project may affect federally-listed species and their designated critical habitat. Therefore, on June 28, 2017, the Corps initiated formal section 7 consultation with U.S. Fish and Wildlife Service pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. §1531 *et seq.*) and the implementing regulations 50 C.F.R. §§ 402.13 and 402.14.

The East Bay Regional Park District prepared a Biological Assessment titled *East Bay Regional Park District Biological Assessment on the Effects of Routine Maintenance Activities on Fifteen Federally Listed Species* – Steven Bobzien and Courtney Wilson, East Bay Regional Park District, May 23, 2017

California Department of Fish and Wildlife Routine Maintenance Agreement - Streambed Alteration Agreement (Notification Number: 1600-2016-0269-R3), September 22, 2016

Bay Conservation and Development Commission, in progress

Appendix

- District Map
- Table 1: S.F. Bay Region 2 Routine Maintenance Projects Anticipated Range of Impacts
- Waterbody Atlas for East Bay Regional Park District
- Preliminary Jurisdictional Determination Sheets

East Bay Regional Park District

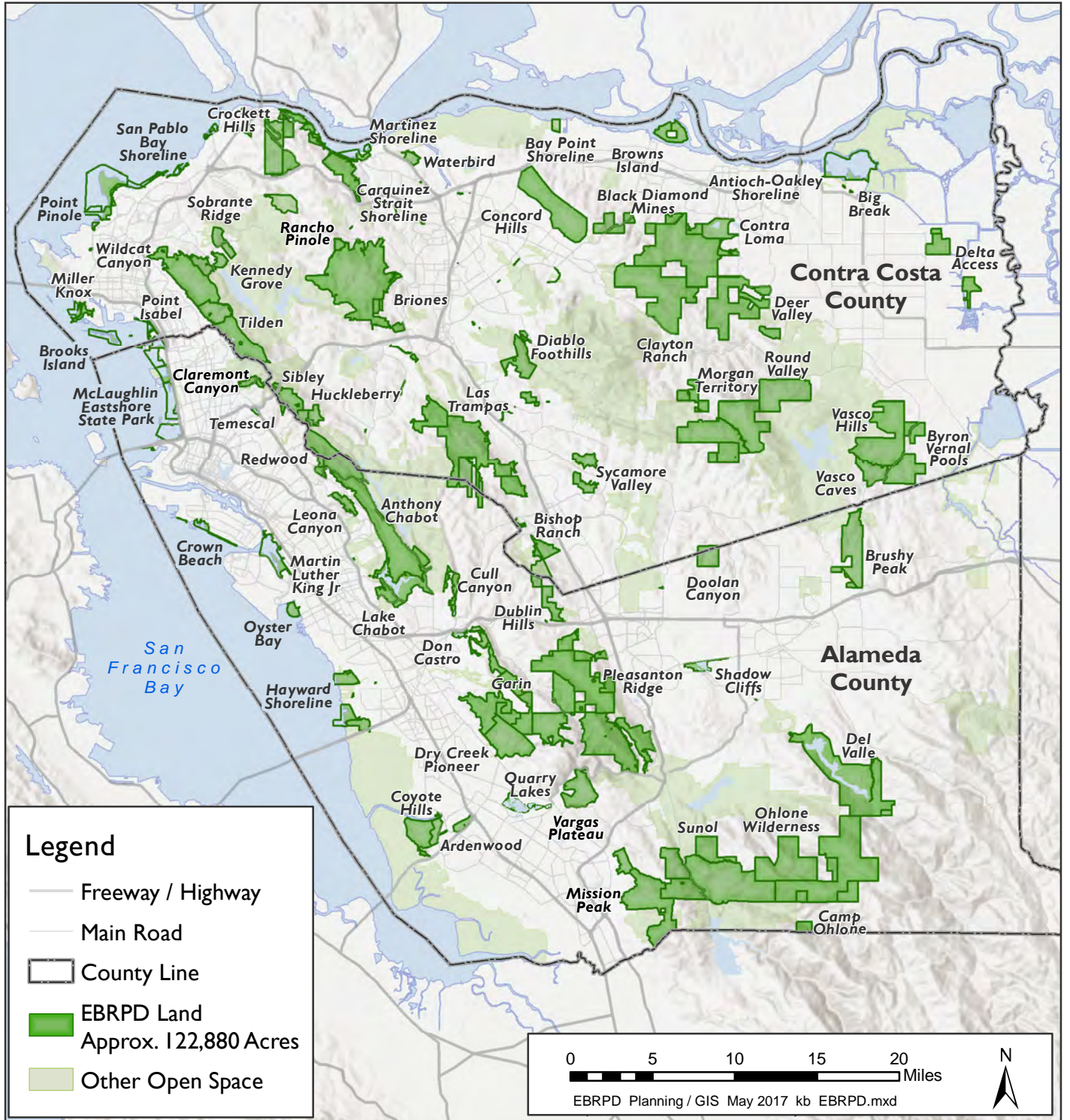


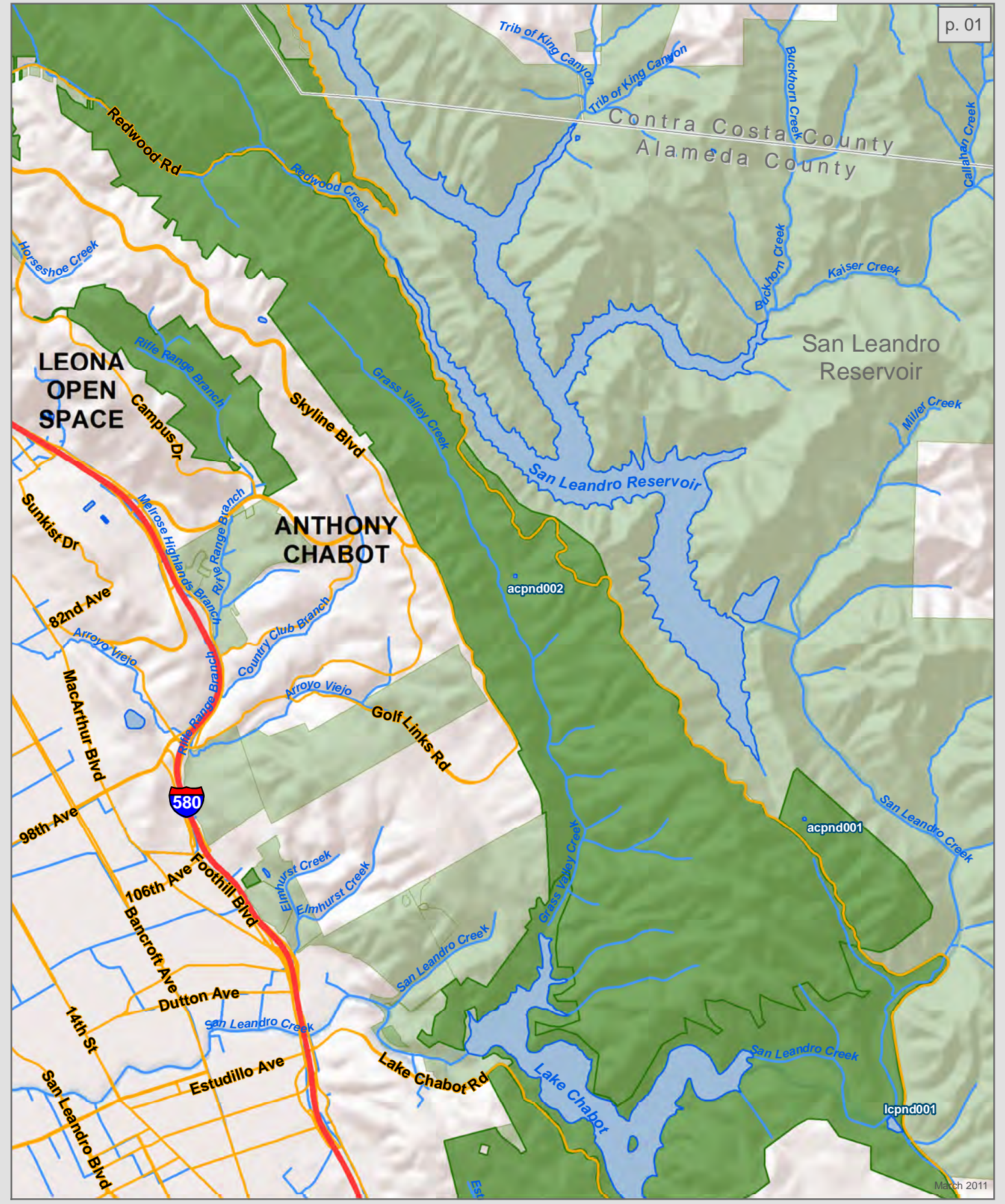
Table 1: Region 2 - S.F. Bay Routine Maintenance Projects Anticipated (5 years) Range of Impacts

Project Type	Minimum Temporary Impact (acres)	Maximum Temporary Impact (acres)	Minimum Permanent Impact (acres)	Maximum Permanent Impact (acres)
Replacing Same Size Culverts	0.00176	0.396	0	0
Upgrade Culvert	0.00352	0.792	0.00352	0.792
Install New Culverts	0.00528	0.2376	0.03432	0.26796
Clearing Culverts	0.00176	0.946	0	0
Culvert Head-Tailwalls	0.0176	0.066	0.0176	0.066
Install Energy Dissipaters	0.0044	0.088	0.0044	0.088
Installation of New Armored Fords	0.0352	0.1188	0.0352	0.1188
Maintenance of Existing Armored Fords	0.022	0.044	0	0
Maintenance and Installation of Bridges	0.00044	0.044	0	0
Streambank, Shoreline, and Levee Stabilization	0.00123	1.476	0.00123	1.476
Maintenance and Installation of Springboxes	0.0016	0.032	0.08	0.2
Maintenance Dredging of Waterbodies	0.4368	1.17	0	0
Maintenance of Shoreline Facilities	0.022	0.176	0.022	0.176
Removal of Hazardous Structures	0	0	0	0
Removal of Vessels	0	0	0	0
<i>Estimated Range of Impacts for Five (5) Years</i>	0.55359	5.5864	0.19827	3.18476

PARK INDEX

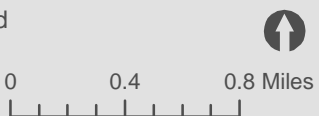
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DATA SOURCES: Contra Costa County Department of Conservation and Development Creek and Drainage GIS Data, Oakland Museum of California Creek and Watershed GIS Data for Pleasanton, Dublin, and Western Alameda County, USGS National Hydrography Dataset, The Regional Water Quality Control Board Jurisdictional Boundary, and EBRPD GIS Data.



Anthony Chabot & Leona Canyon

- Spring box
- Spring head
- Spring
- ⊗ Spring - Not Confirmed
- Streams and Creeks
- ▭ Lakes and Ponds

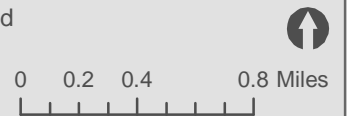




March 2011

Antioch Shoreline & Big Break Shoreline

- Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- Spring - Not Confirmed





COYOTE HILLS

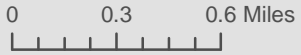
ARDENWOOD

San Francisco National Wildlife Refuge

March 2011

Ardenwood & Coyote Hills

- ▣ Spring box
- Spring head
- ⊙ Spring
- Streams and Creeks
- Lakes and Ponds
- ⊘ Spring - Not Confirmed



Suisun Bay

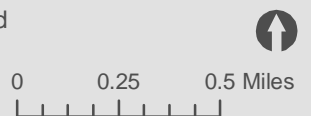
BAY POINT WETLANDS

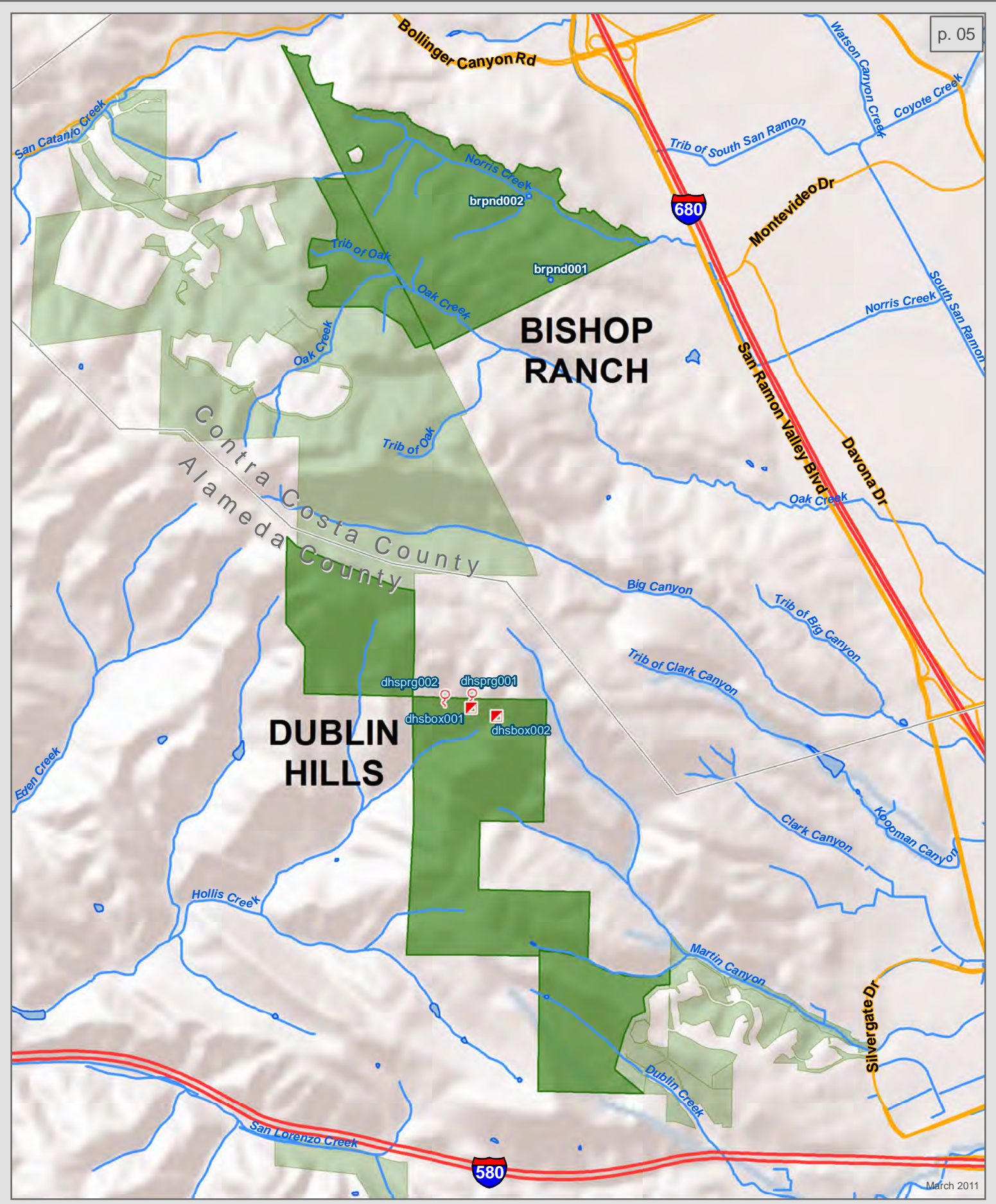


March 2011




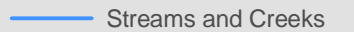

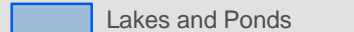
Bay Point Wetlands

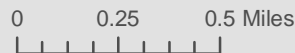
- ▣ Spring box
- Spring head
- Spring
- ▣ Spring - Not Confirmed
- Streams and Creeks
- ▣ Lakes and Ponds

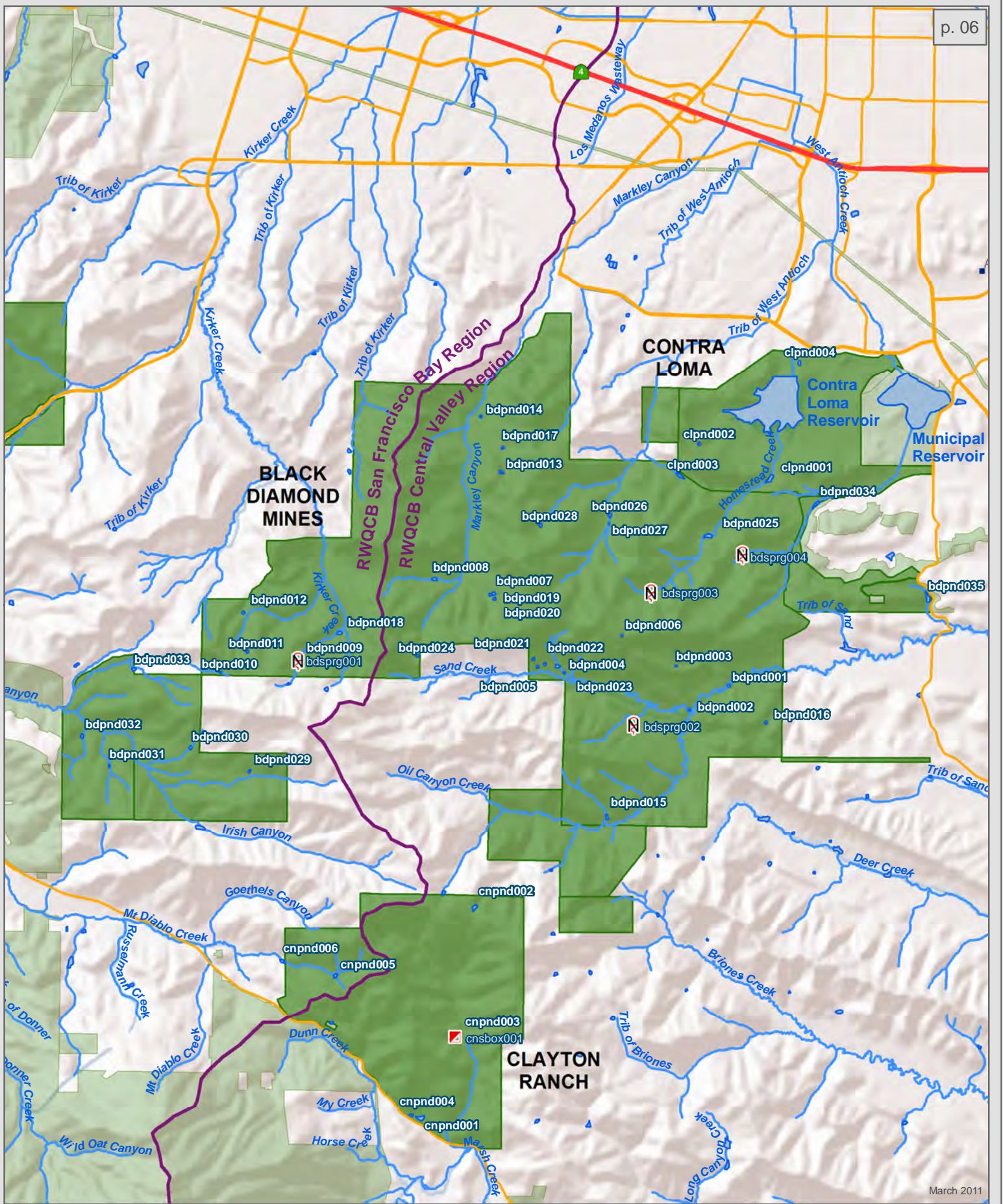




Bishop Ranch & Dublin Hills







-  Spring box
-  Spring - Not Confirmed
-  Spring head
-  Streams and Creeks
-  Spring
-  Lakes and Ponds



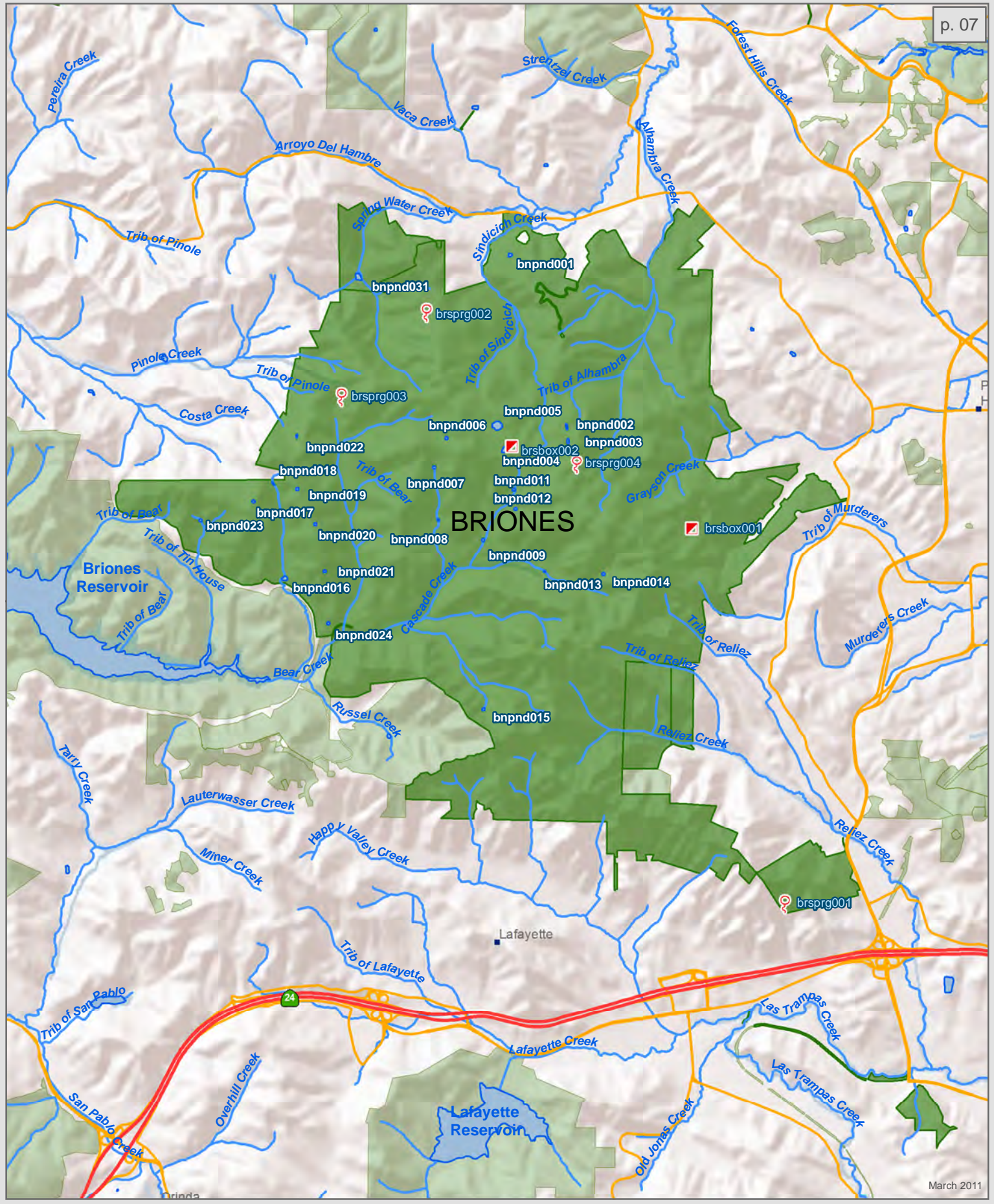


March 2011

Black Diamond Mines, Clayton Ranch, & Contra Loma




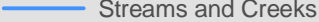


-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds

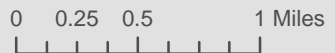




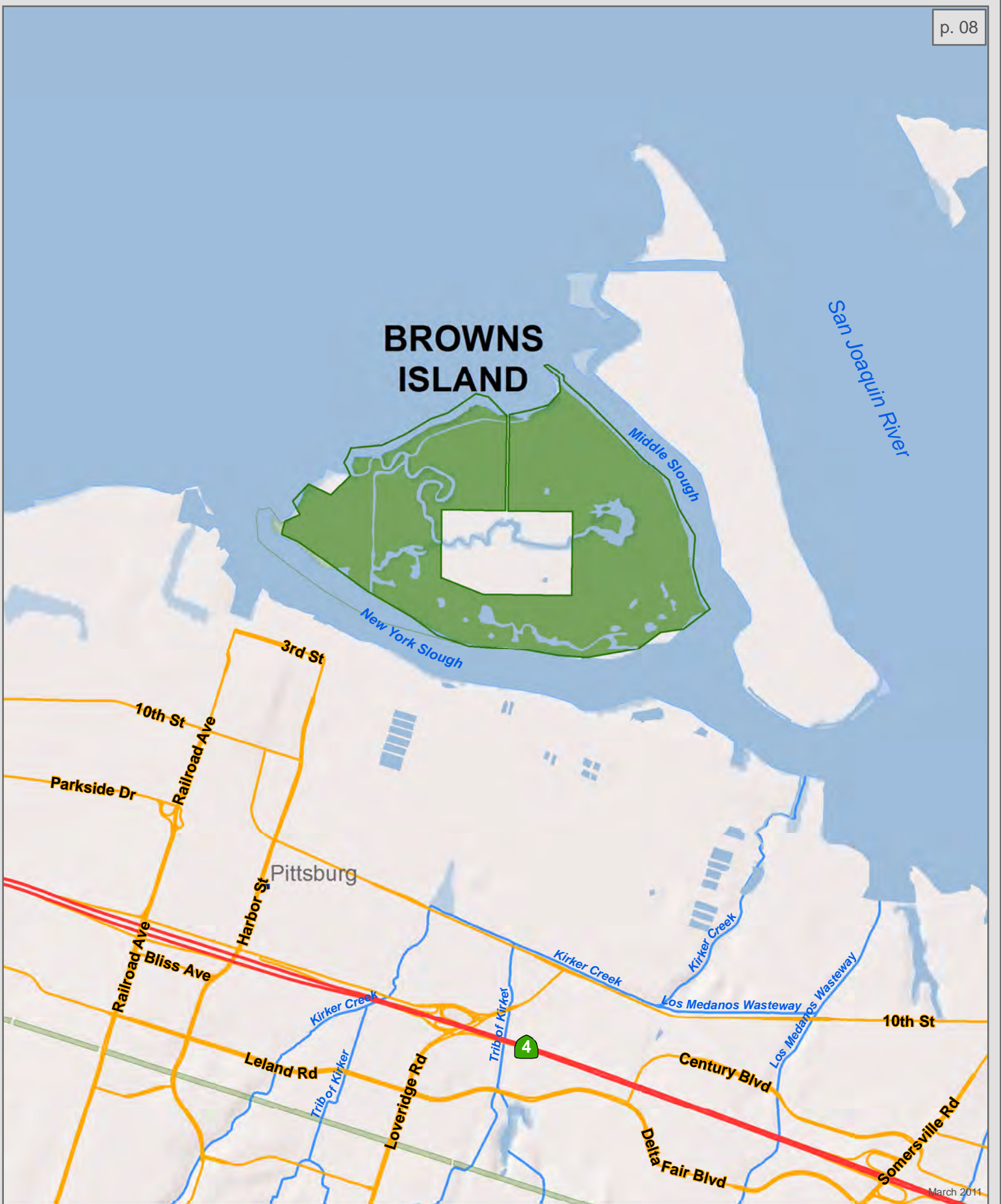
March 2011

Briones







-  Spring box
-  Spring - Not Confirmed
-  Spring head
-  Streams and Creeks
-  Spring
-  Lakes and Ponds

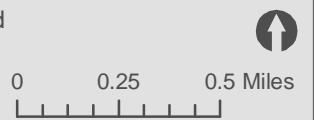


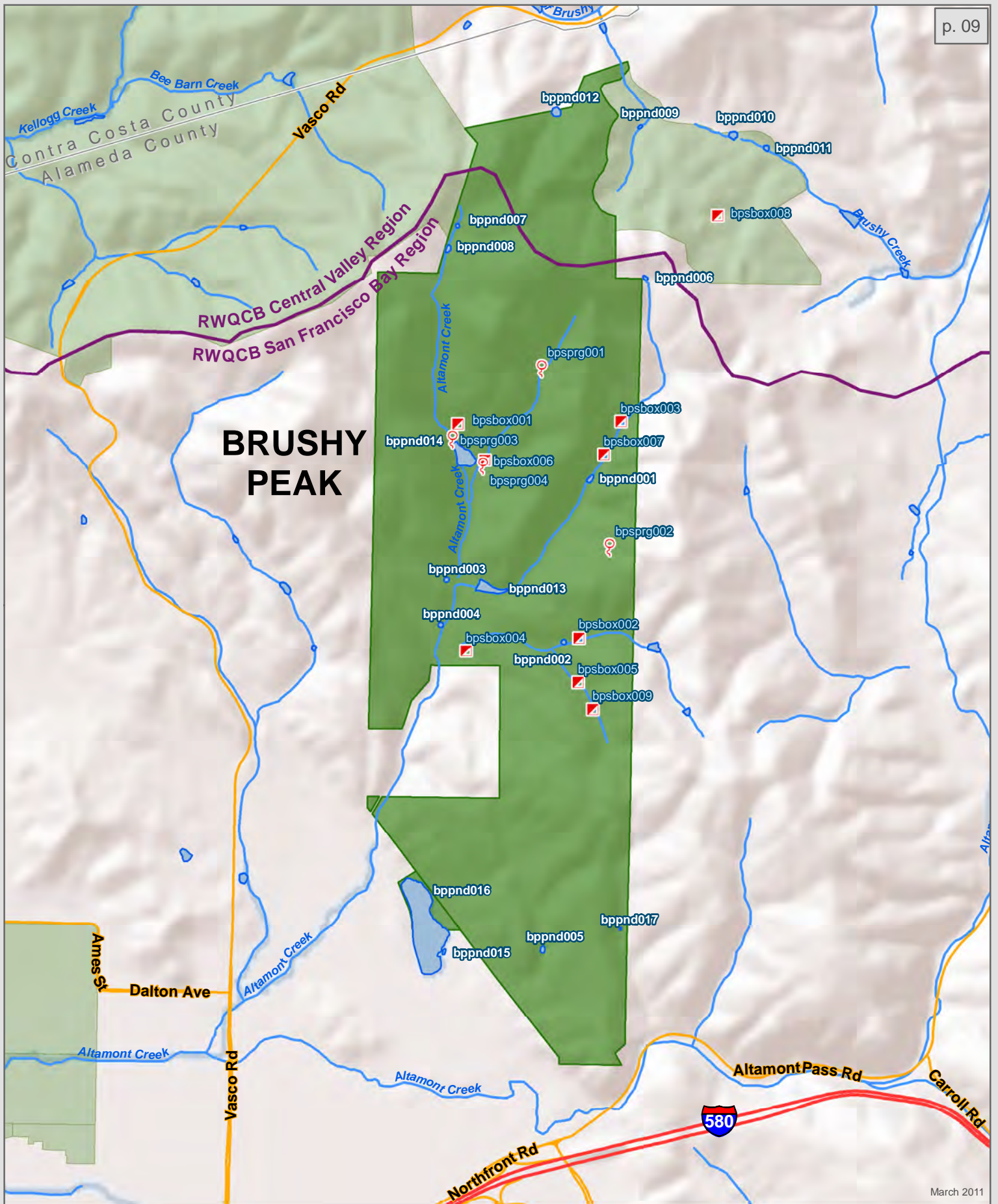
BROWNS ISLAND



Browns Island

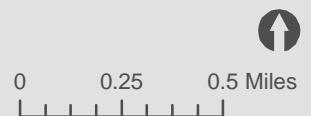
-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds



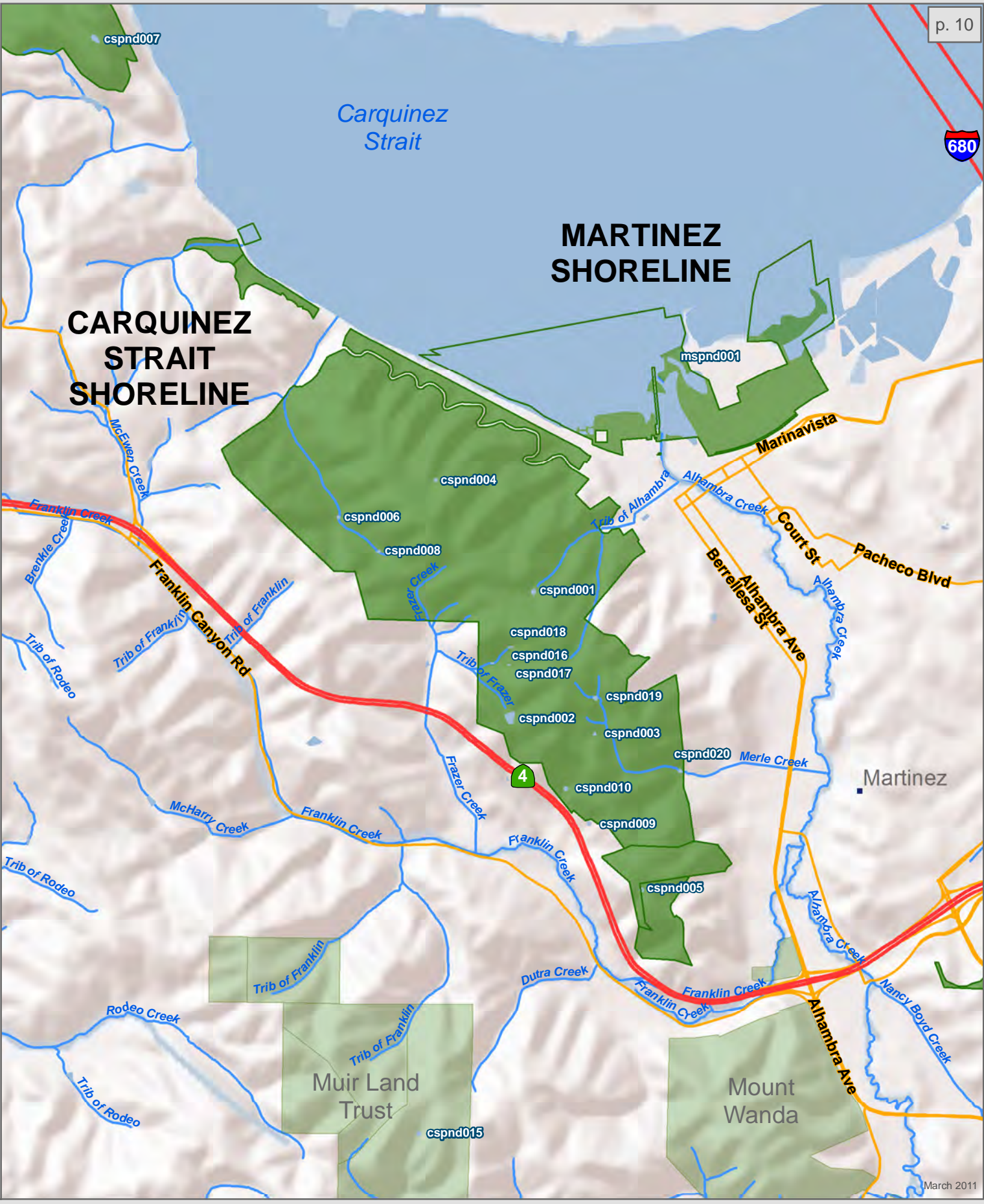


BRUSHY PEAK

- Spring box
- Spring head
- ⊗ Spring
- ⊗ Spring - Not Confirmed
- Streams and Creeks
- ▭ Lakes and Ponds



Brushy Peak



Carquinez Strait Shoreline & Martinez Shoreline

	Spring box		Spring - Not Confirmed
	Spring head		Streams and Creeks
	Spring		Lakes and Ponds

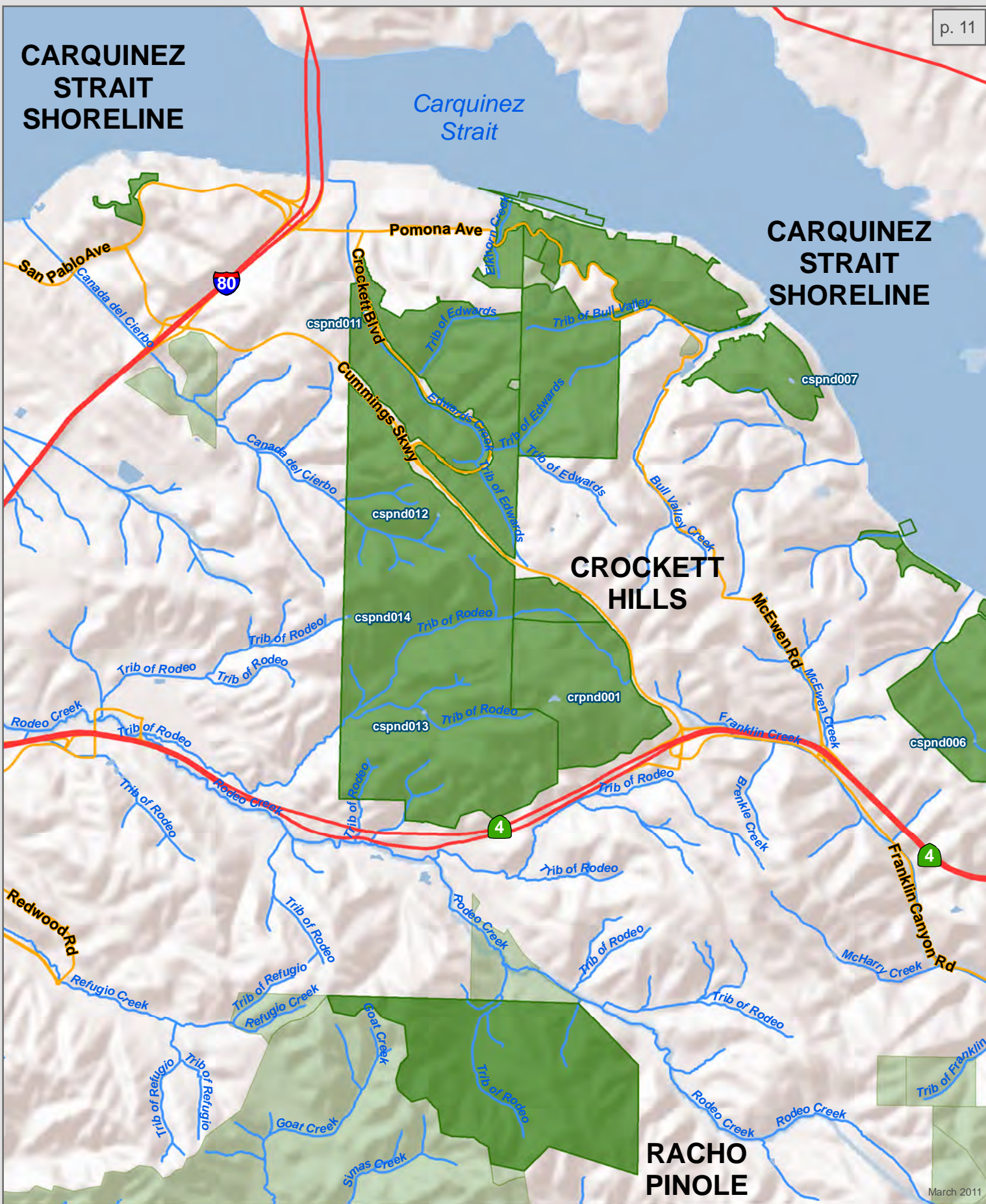
0 0.25 0.5 Miles

March 2011







CARQUINEZ STRAIT SHORELINE



Carquinez Strait

CARQUINEZ STRAIT SHORELINE

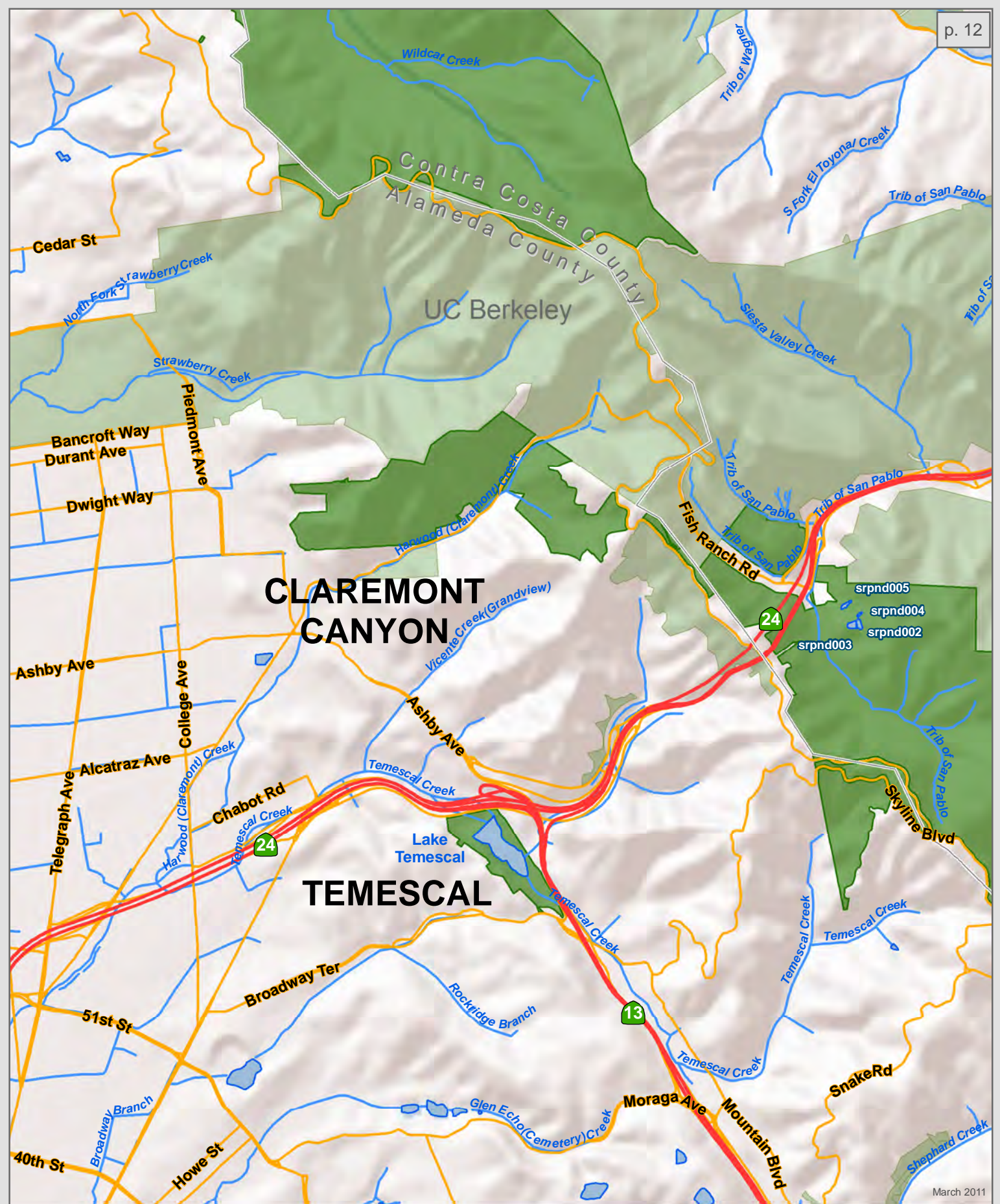


Carquinez Strait Shoreline, Crockett Hills, & Racho Pinole

 Spring box	 Spring - Not Confirmed
 Spring head	 Streams and Creeks
 Spring	 Lakes and Ponds


 0 0.25 0.5 Miles


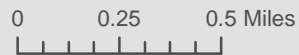
March 2011



March 2011

Claremont Canyon & Temescal

- ▣ Spring box
- Spring head
- Spring
- Streams and Creeks
- ▭ Lakes and Ponds
- ⊘ Spring - Not Confirmed





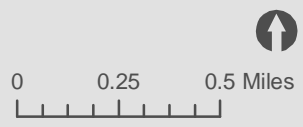
CROWN BEACH

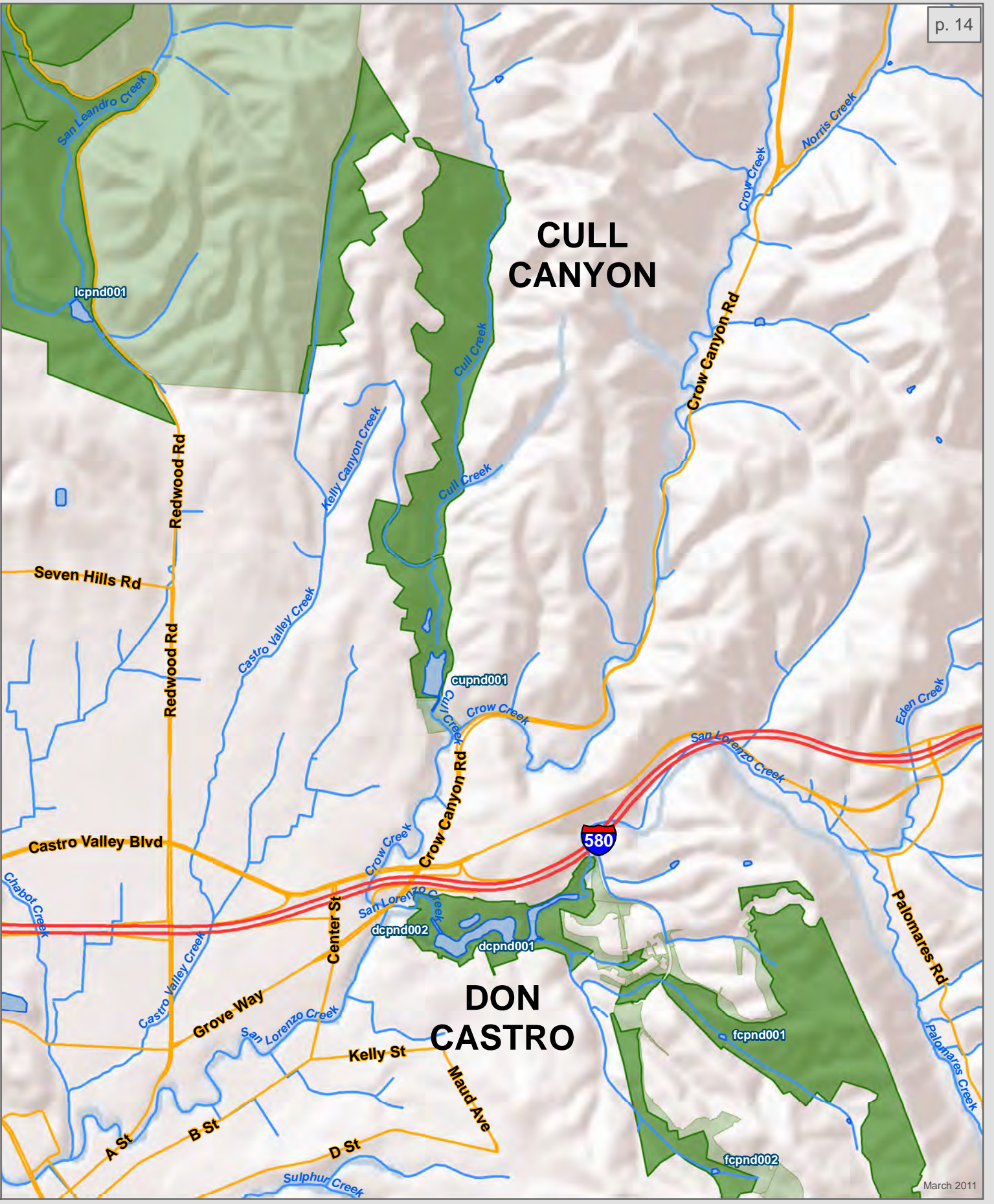
San Francisco Bay

March 2011

Crown Beach

- ▣ Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- ⊞ Spring - Not Confirmed

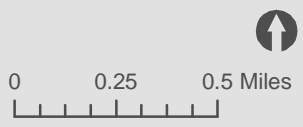


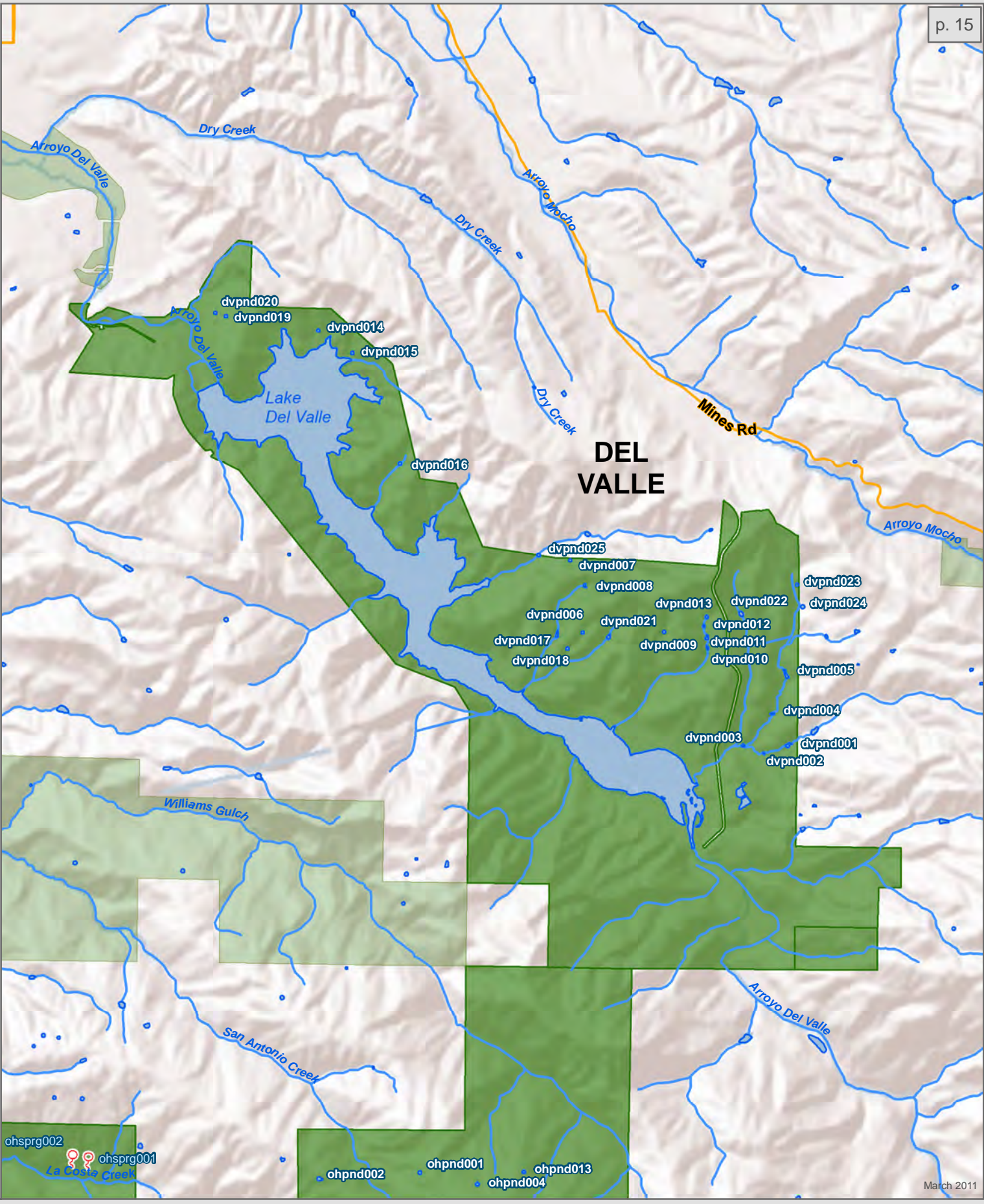


March 2011

Cull Canyon & Don Castro

- ▣ Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- ⊘ Spring - Not Confirmed

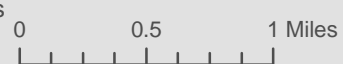


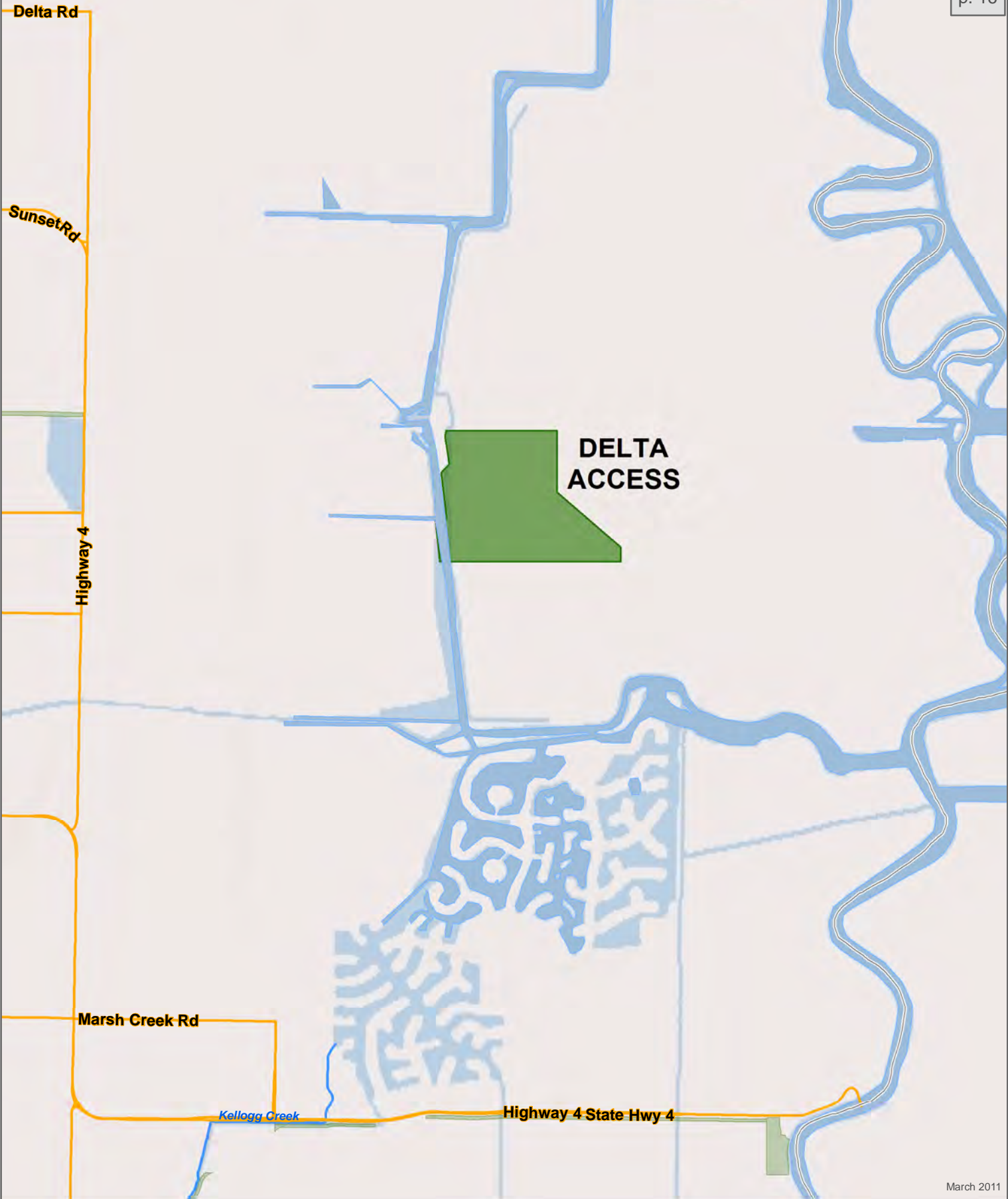


March 2011

Del Valle

- ▣ Spring box
- Spring head
- 📍 Spring
- ⊘ Spring - Not Confirmed
- Streams and Creeks
- ▭ Lakes and Ponds

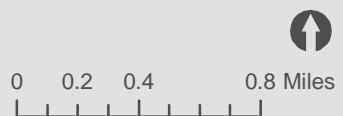


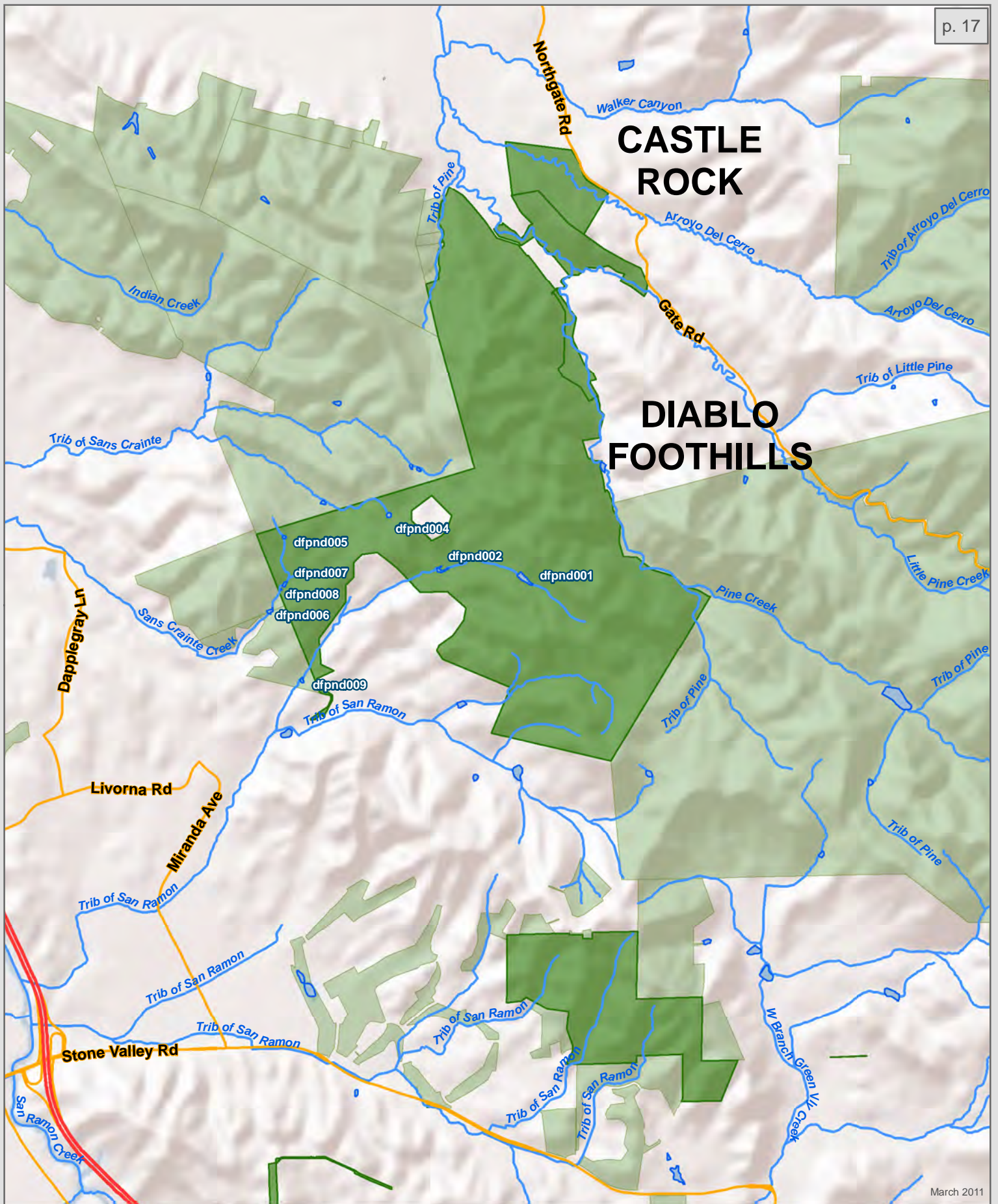


March 2011

Delta Access




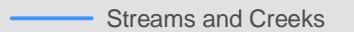

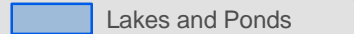
- ▣ Spring box
- Spring head
- Spring
- Streams and Creeks
- ▭ Lakes and Ponds
- ⊘ Spring - Not Confirmed

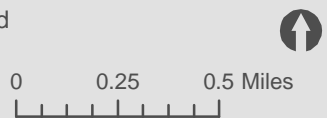




March 2011

Diablo Foothills & Castle Rock

-  Spring box
-  Spring - Not Confirmed
-  Spring head
-  Streams and Creeks
-  Spring
-  Lakes and Ponds

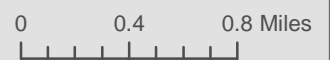


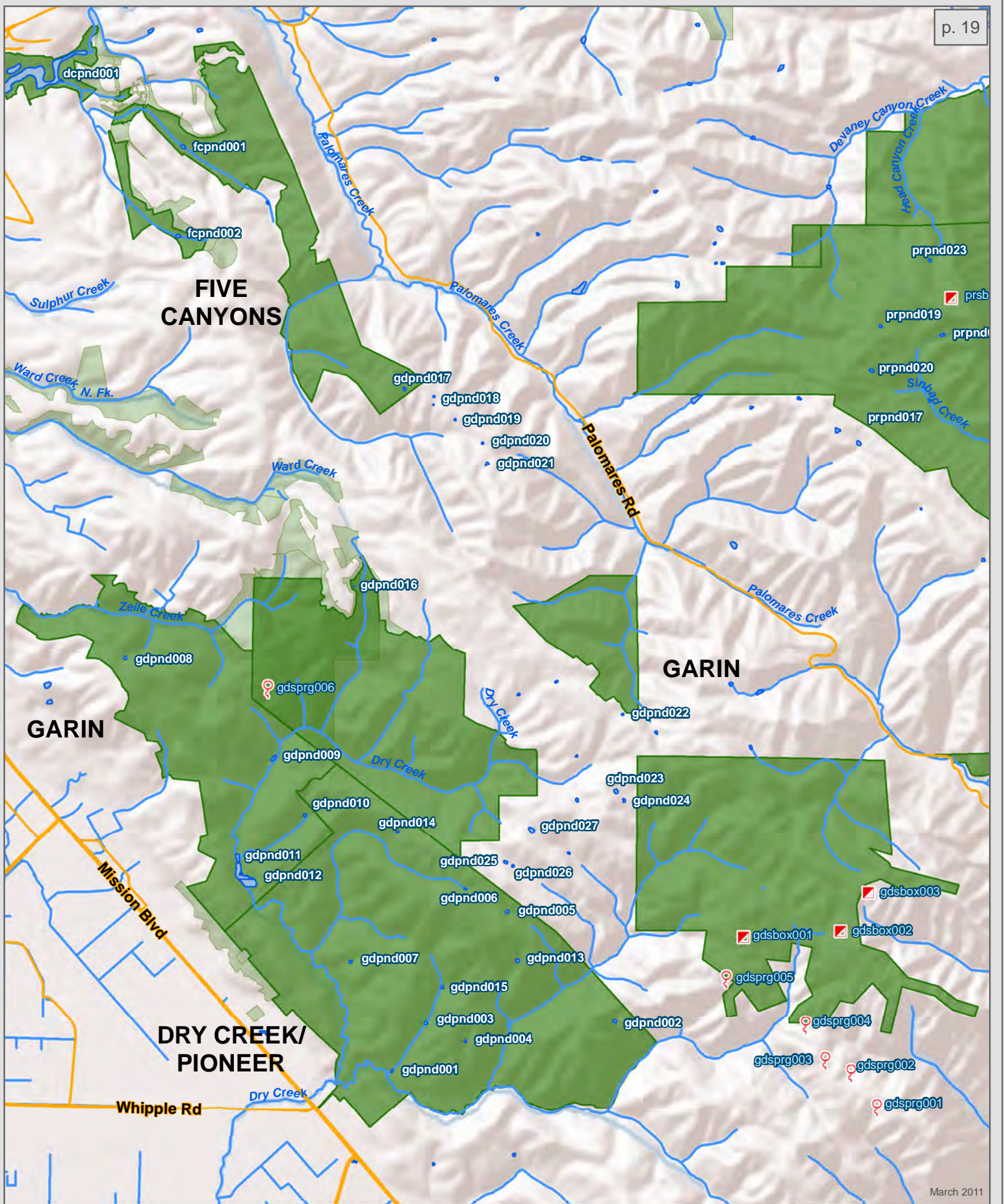


March 2011

Eastshore State Park & Point Isabel

- Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- N Spring - Not Confirmed

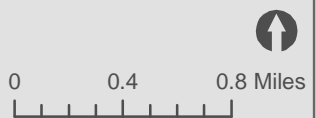




March 2011

Garin/Dry Creek & Five Canyons

- Spring box
- Spring head
- Spring
- Spring - Not Confirmed
- Streams and Creeks
- Lakes and Ponds






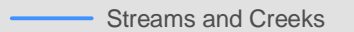

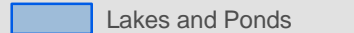
HAYWARD SHORELINE

San Francisco Bay

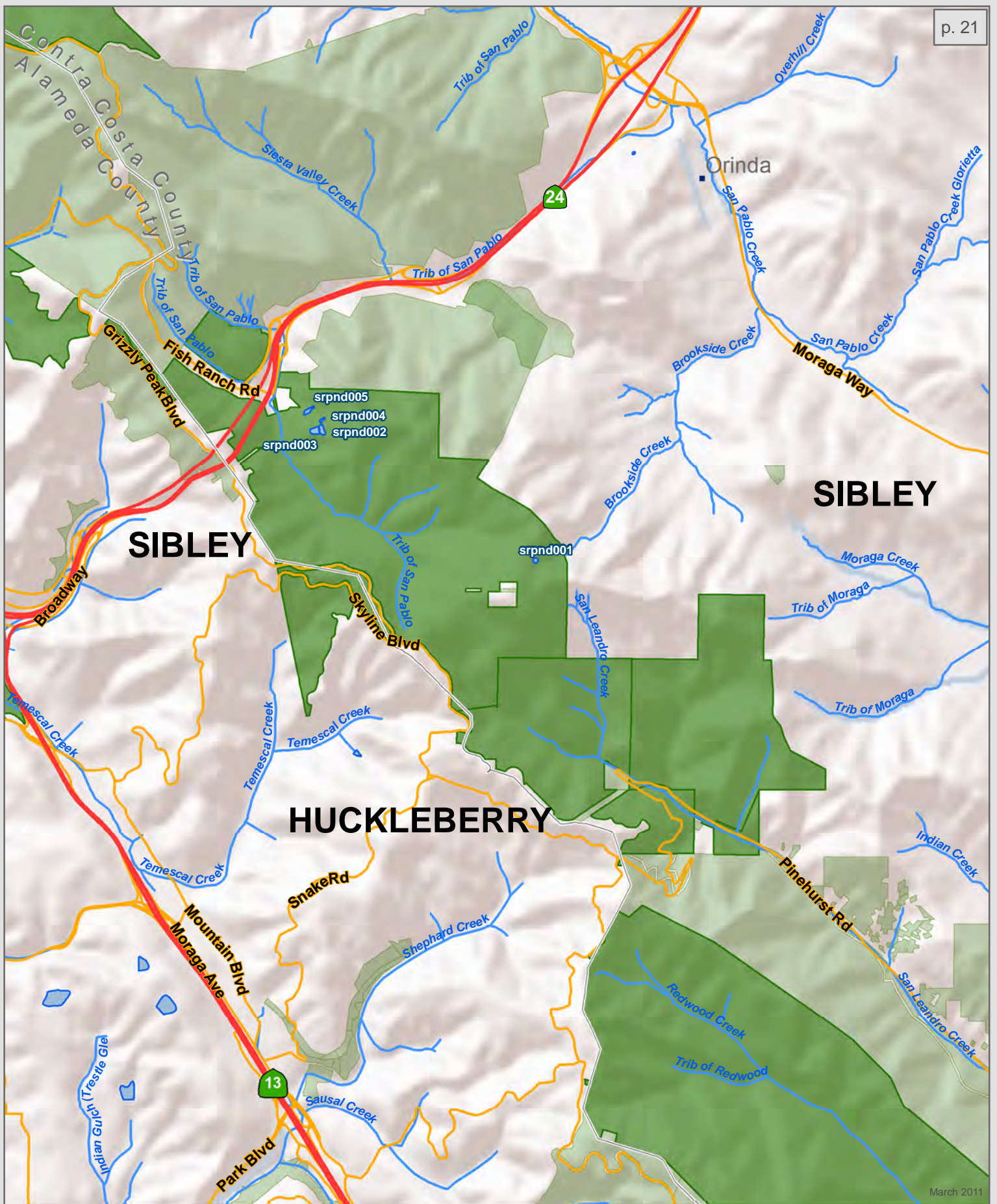


March 2011

Hayward Shoreline

-  Spring box
-  Spring - Not Confirmed
-  Spring head
-  Streams and Creeks
-  Spring
-  Lakes and Ponds





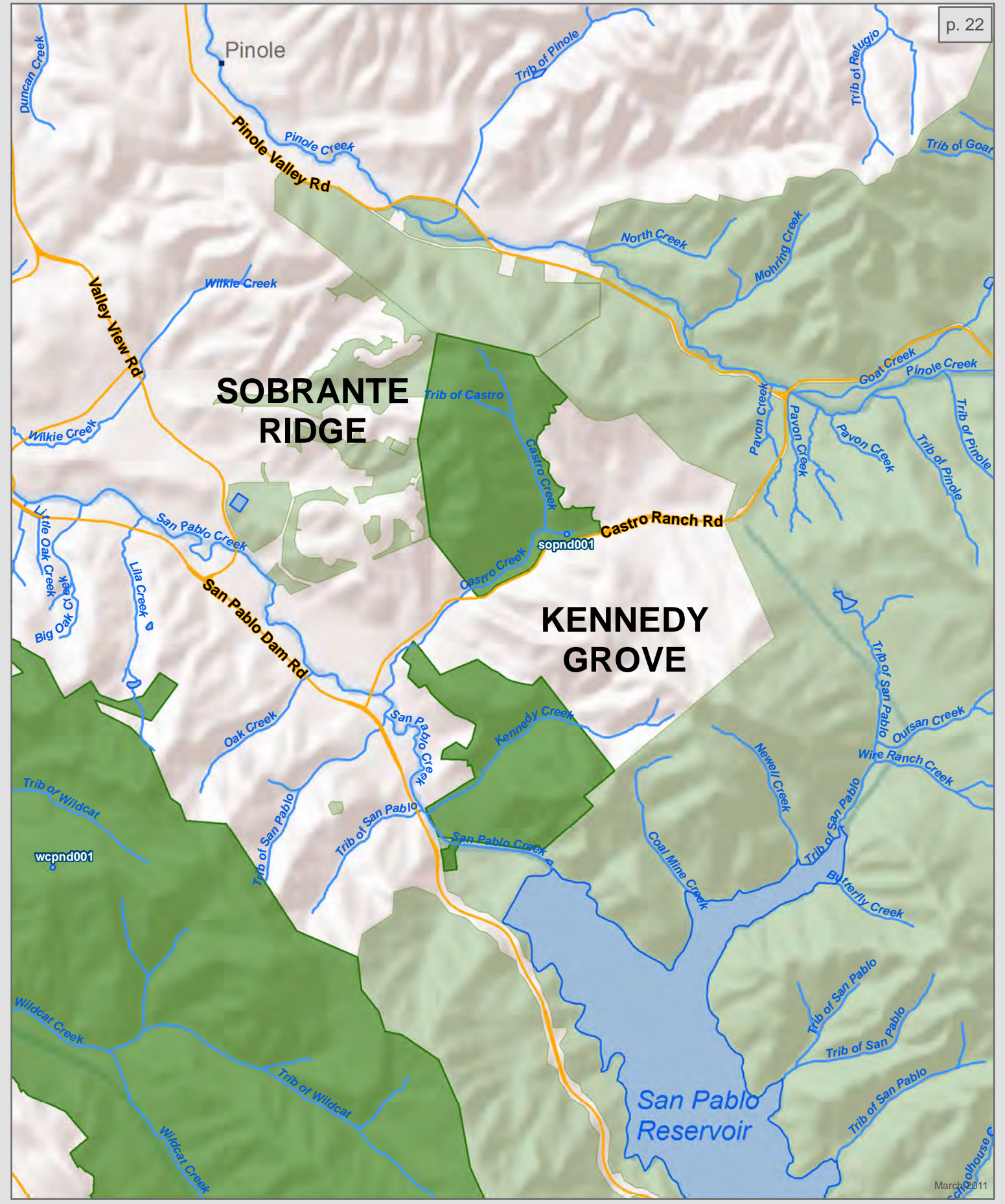
Huckleberry & Sibley

- ▣ Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- N Spring - Not Confirmed



SOBRANTE RIDGE

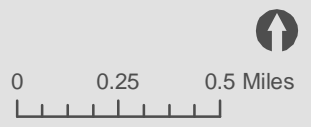
KENNEDY GROVE

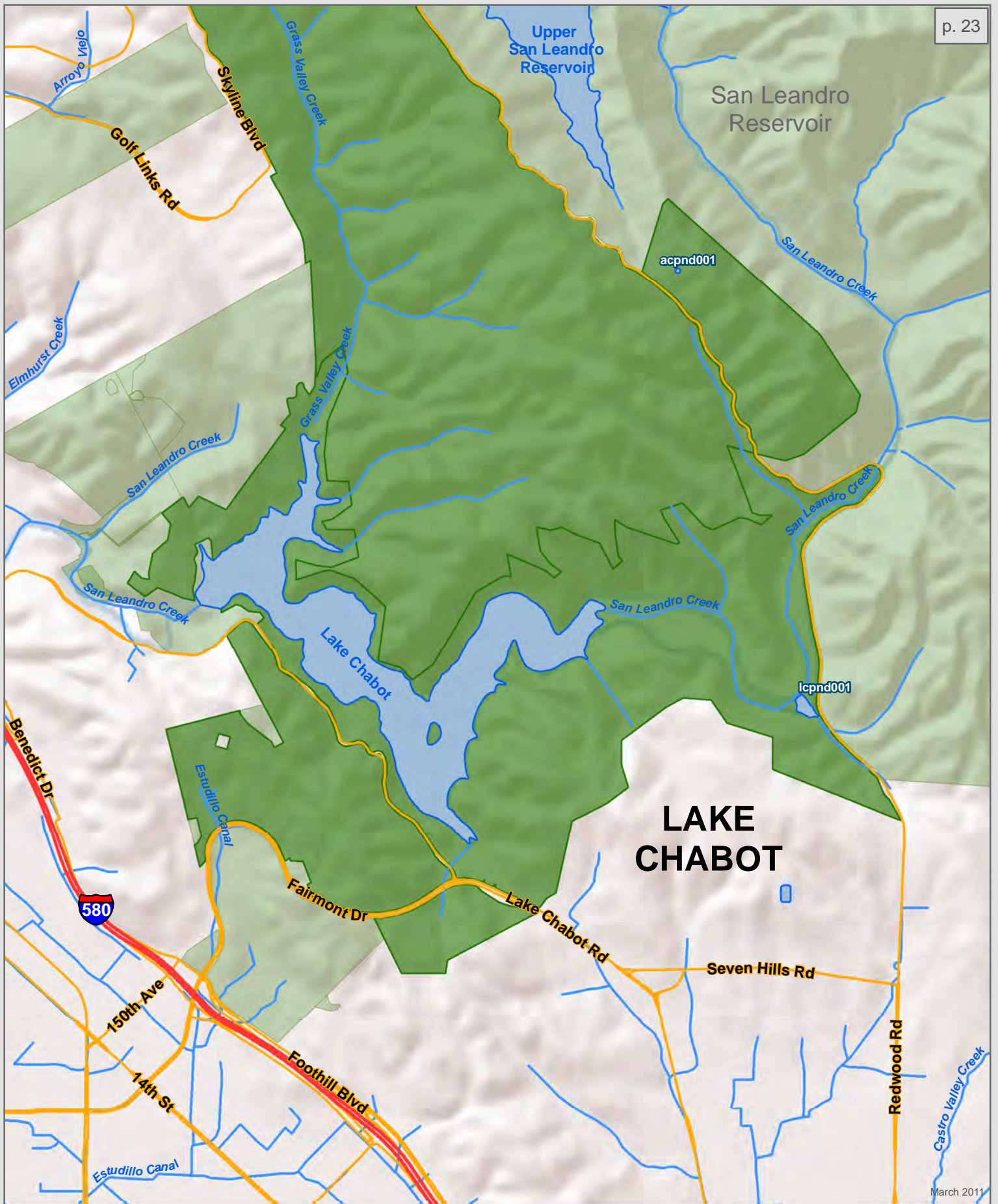


March 2011

Kennedy Grove & Sobrante Ridge







- ▣ Spring box
- Spring head
- ⊙ Spring
- Streams and Creeks
- ▭ Lakes and Ponds
- ⊘ Spring - Not Confirmed






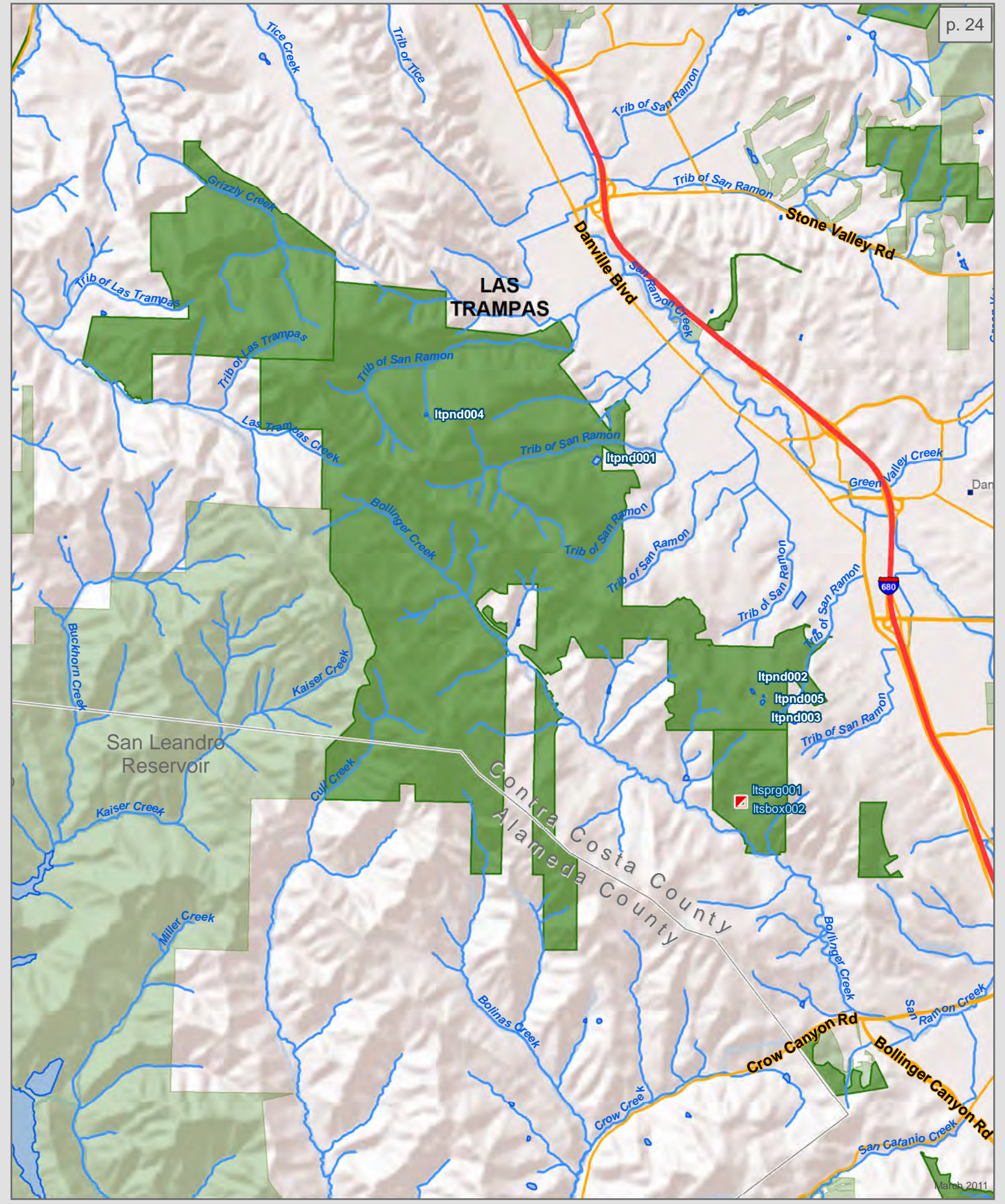
March 2011

Lake Chabot

-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds

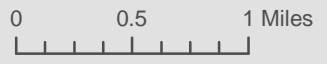
0 0.25 0.5 Miles



Las Trampas

	Spring box		Spring - Not Confirmed
	Spring head		Streams and Creeks
	Spring		Lakes and Ponds

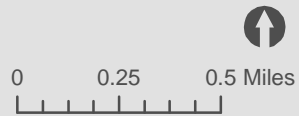


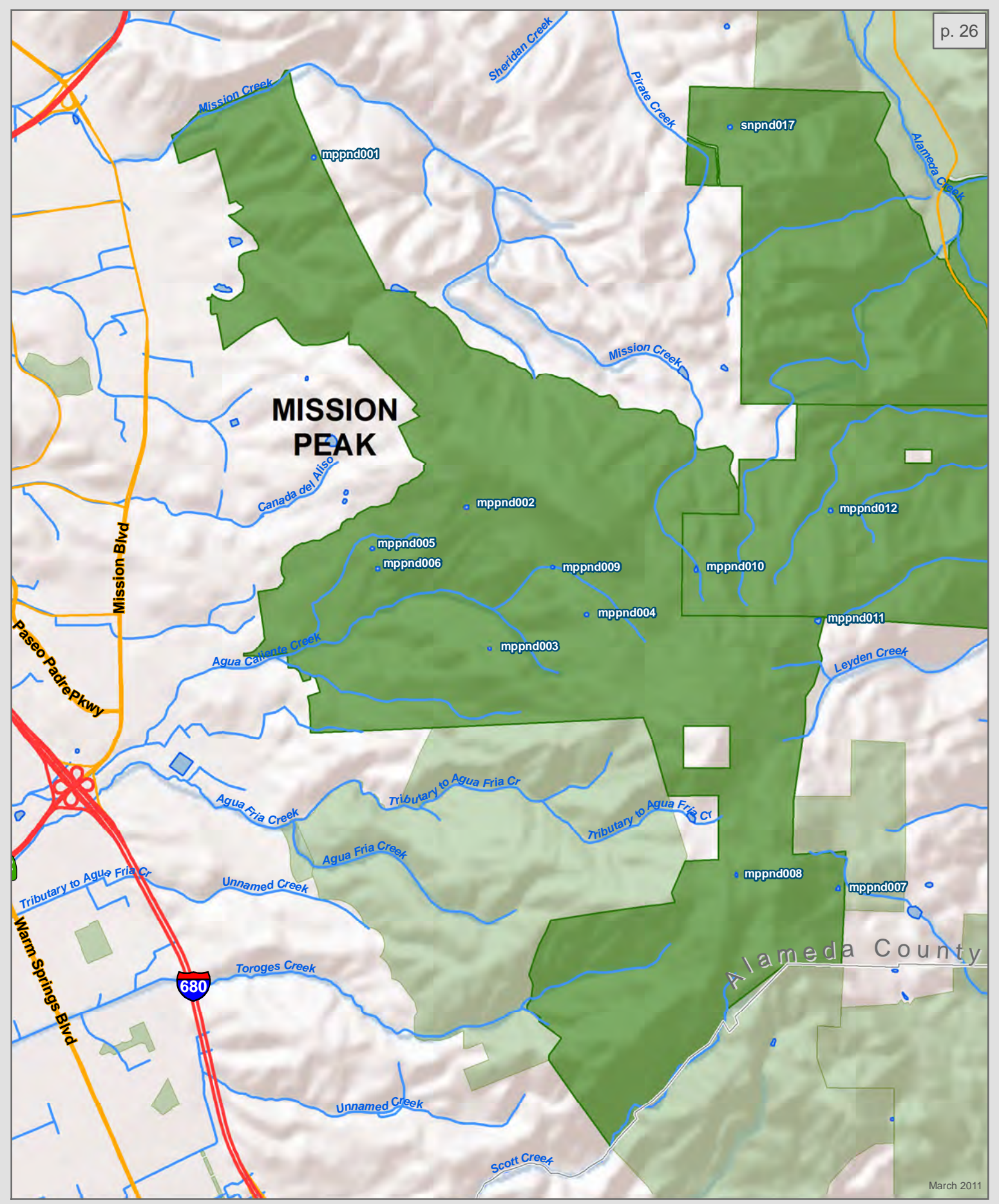


March 2011

Miller/Knox & Brooks Island







- Spring box
- Spring head
- Spring
- Ⓜ Spring - Not Confirmed
- Streams and Creeks
- Lakes and Ponds


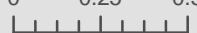


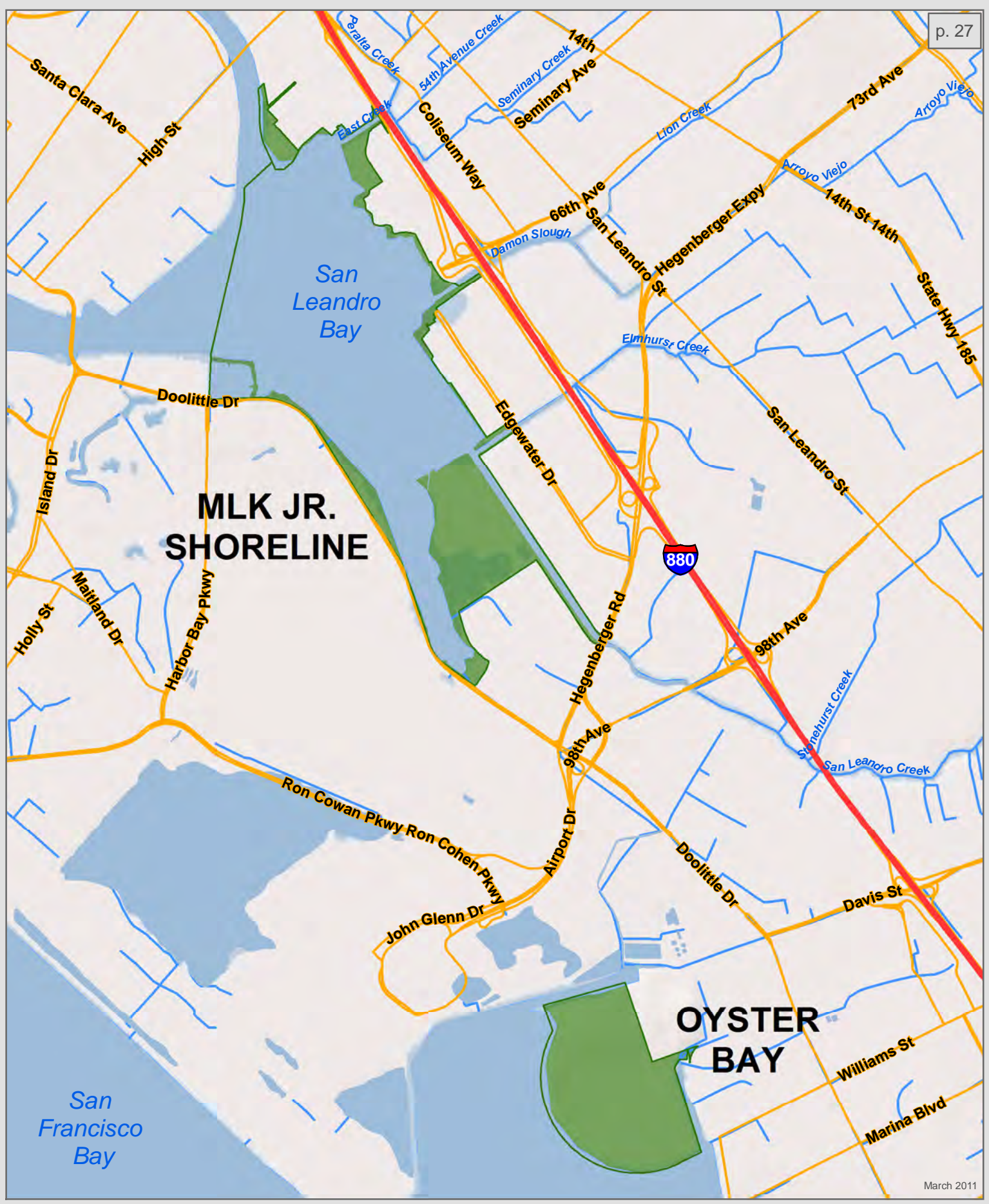


March 2011

Mission Peak







-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds

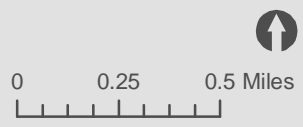

 0 0.25 0.5 Miles


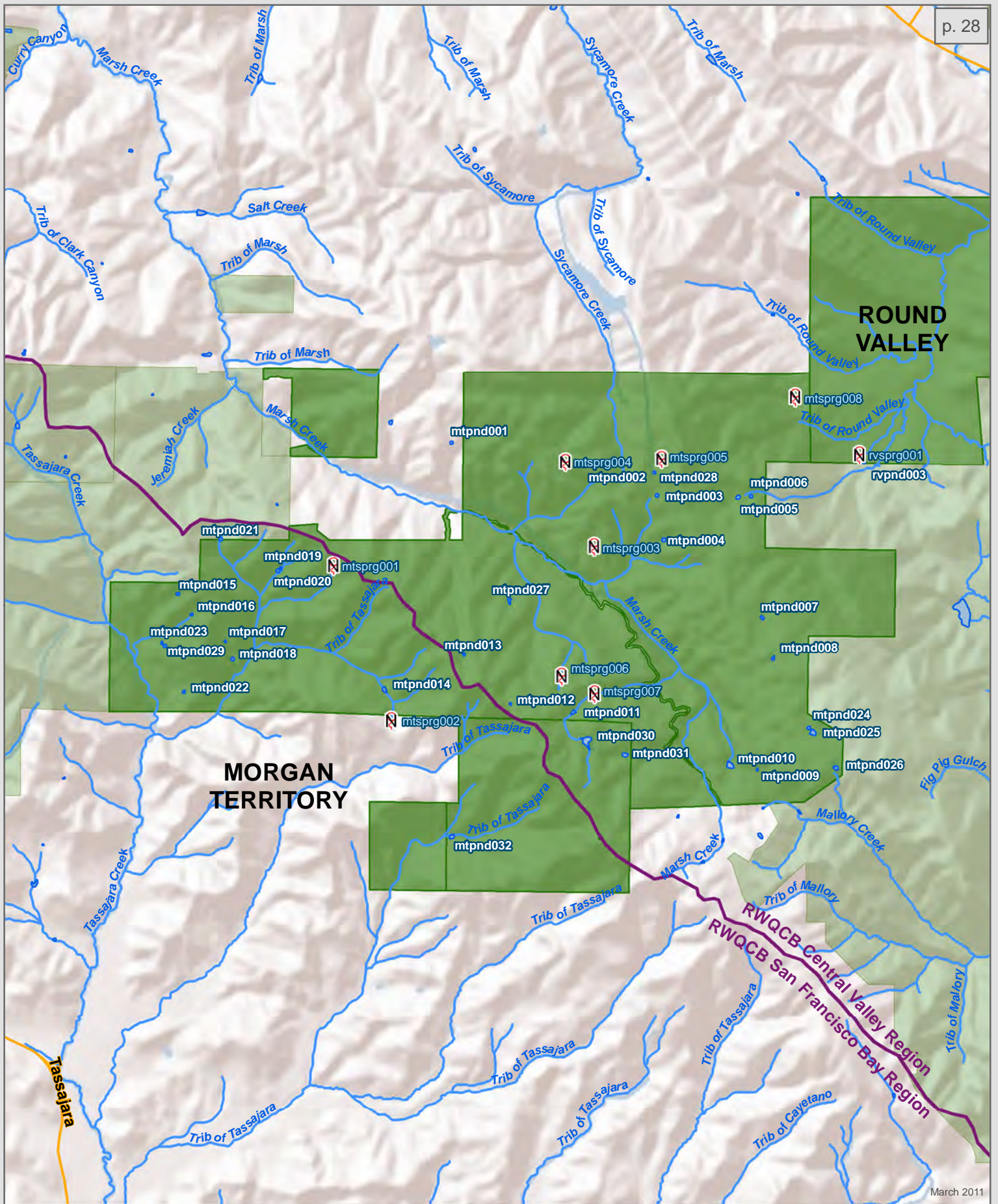


March 2011

MLK Jr. Shoreline & Oyster Bay

-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds

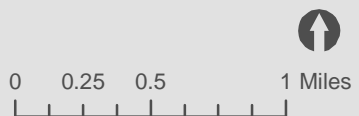


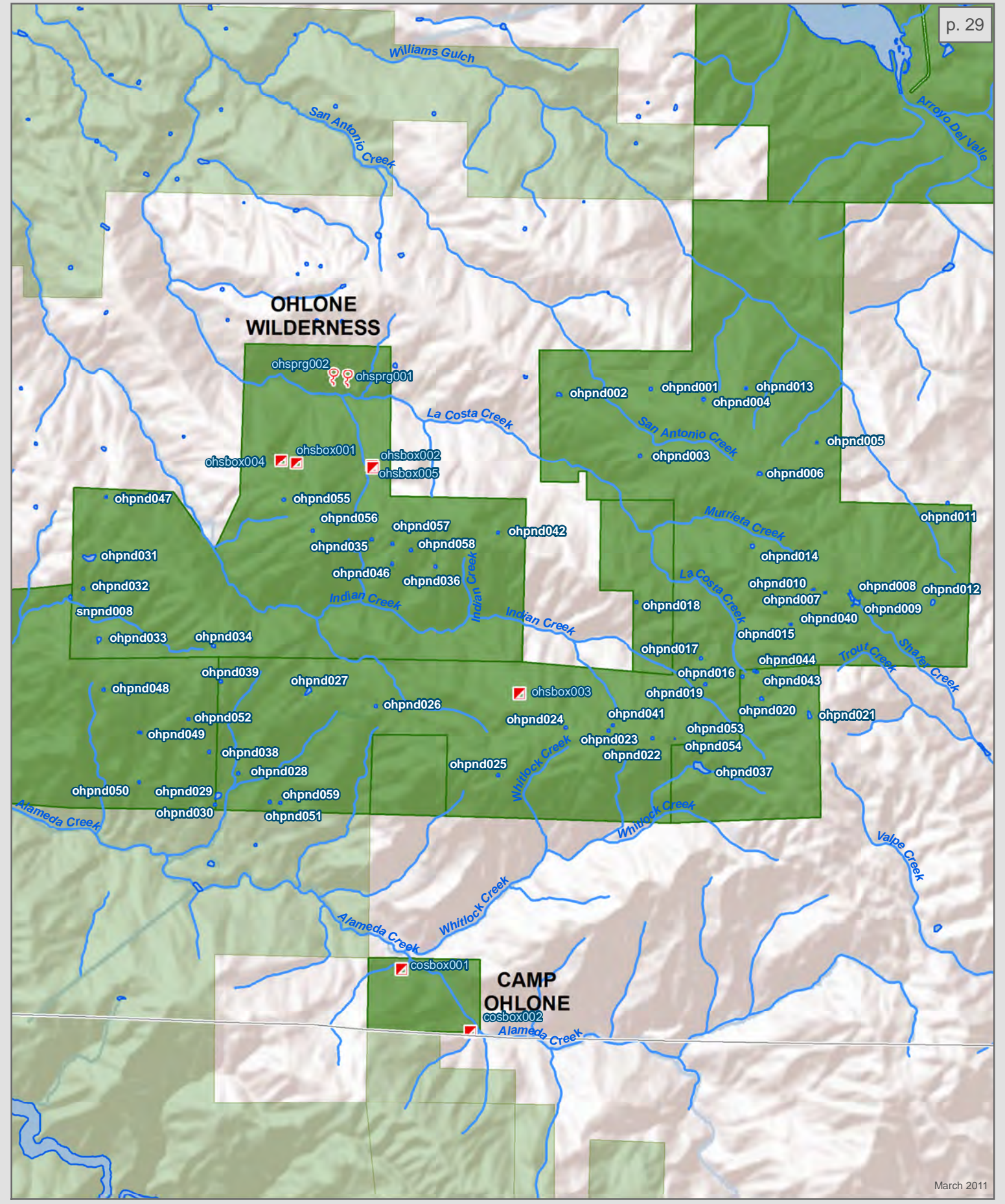


March 2011

Morgan Territory




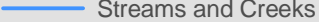


- Spring box
- Spring head
- Spring
- ⊗ Spring - Not Confirmed
- Streams and Creeks
- ▭ Lakes and Ponds







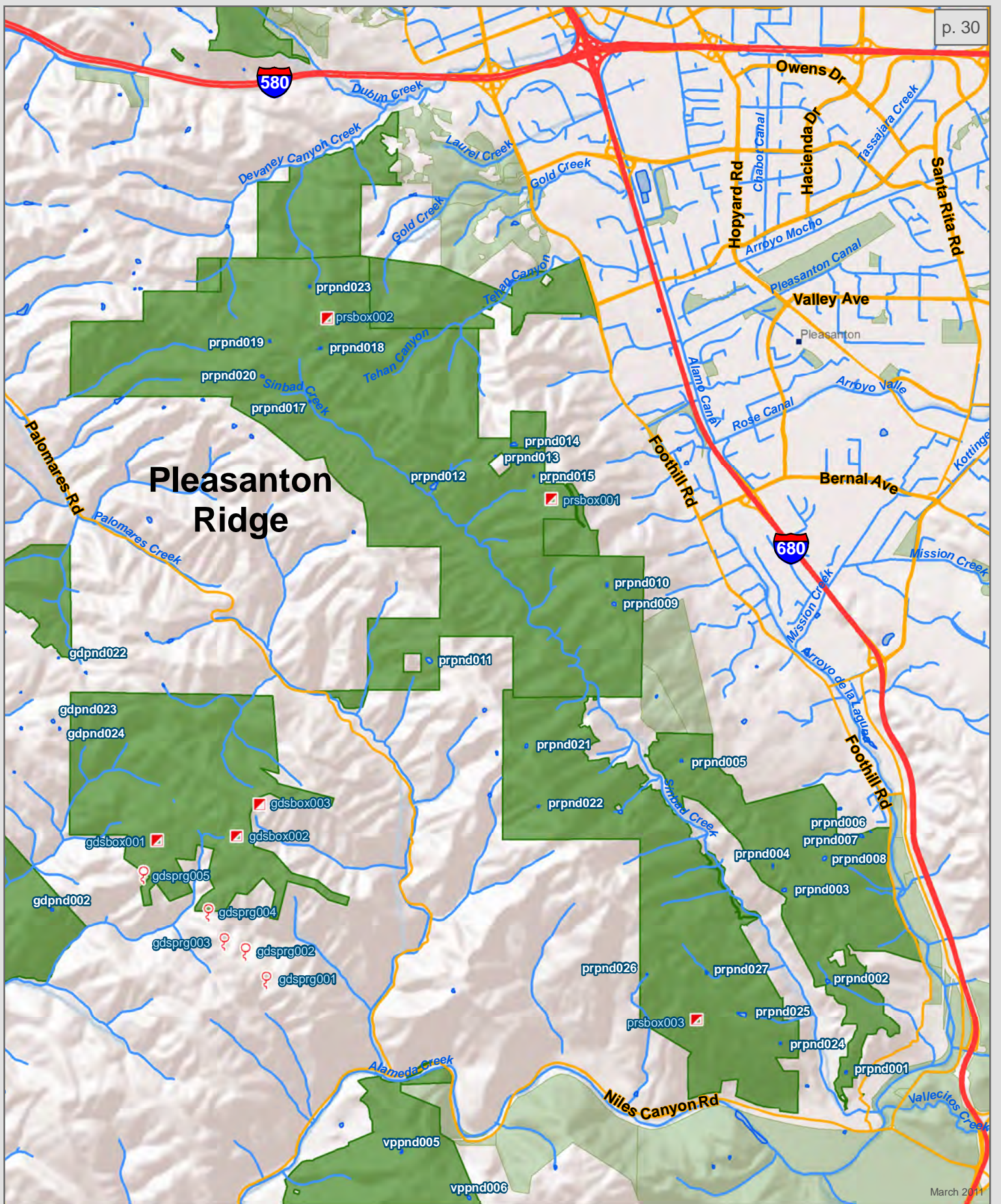
March 2011

Ohlone Wilderness & Camp Ohlone

 Spring box	 Spring - Not Confirmed
 Spring head	 Streams and Creeks
 Spring	 Lakes and Ponds









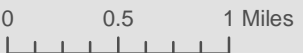




March 2011







Pleasanton Ridge


-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds




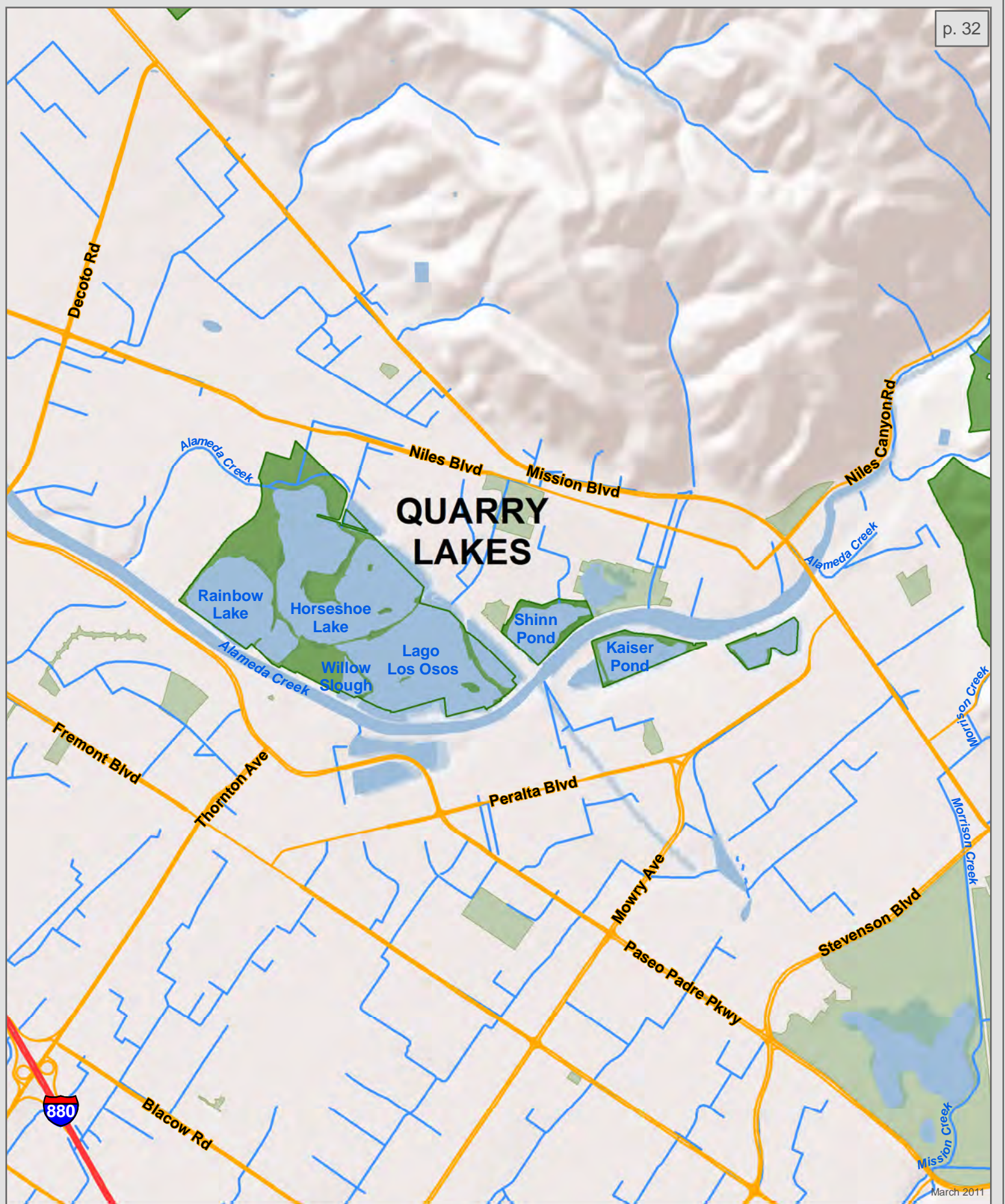


Point Pinole



 Spring box	 Spring - Not Confirmed
 Spring head	 Streams and Creeks
 Spring	 Lakes and Ponds

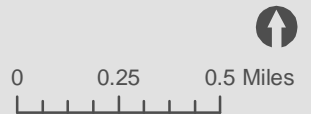


 0 0.25 0.5 Miles
 

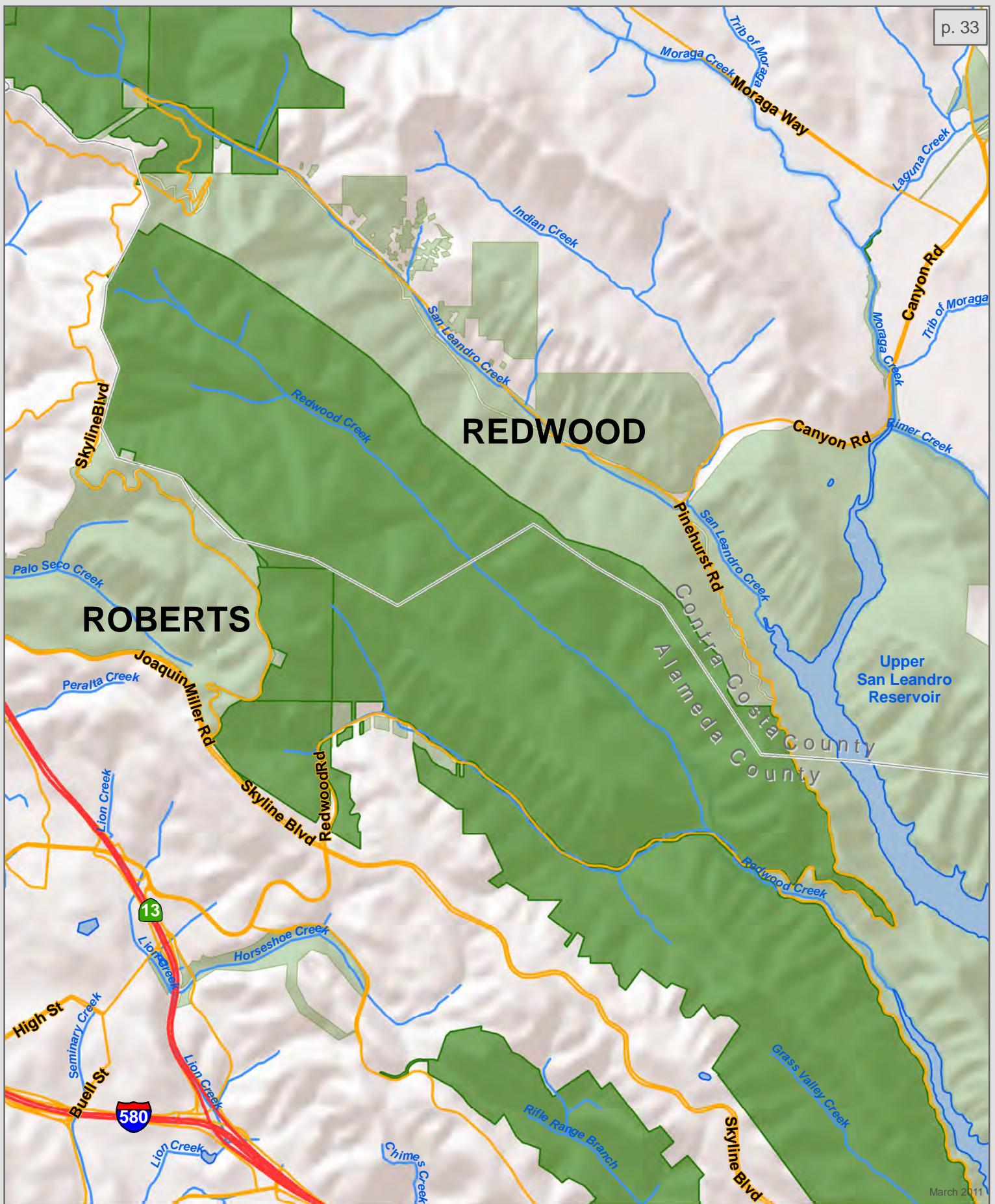


Quarry Lakes

-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds



March 2011



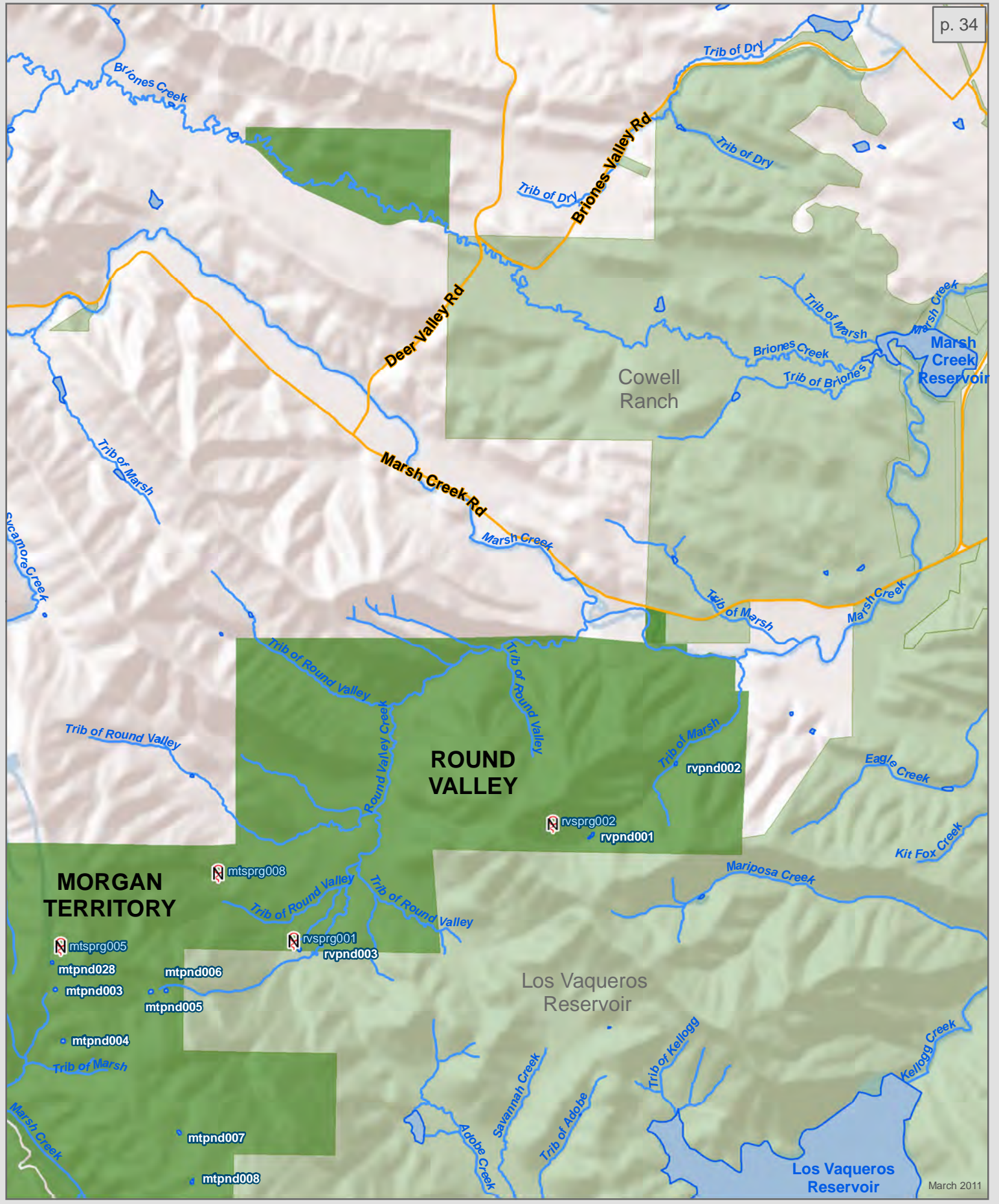
March 2011

Redwood & Roberts

Spring box	Spring - Not Confirmed
Spring head	Streams and Creeks
Spring	Lakes and Ponds

0 0.25 0.5 Miles





Round Valley



- Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- N Spring - Not Confirmed

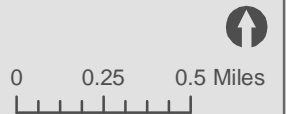




March 2011

San Pablo Bay Shoreline & Lone Tree Point







-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds



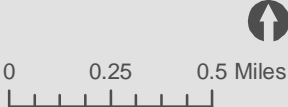


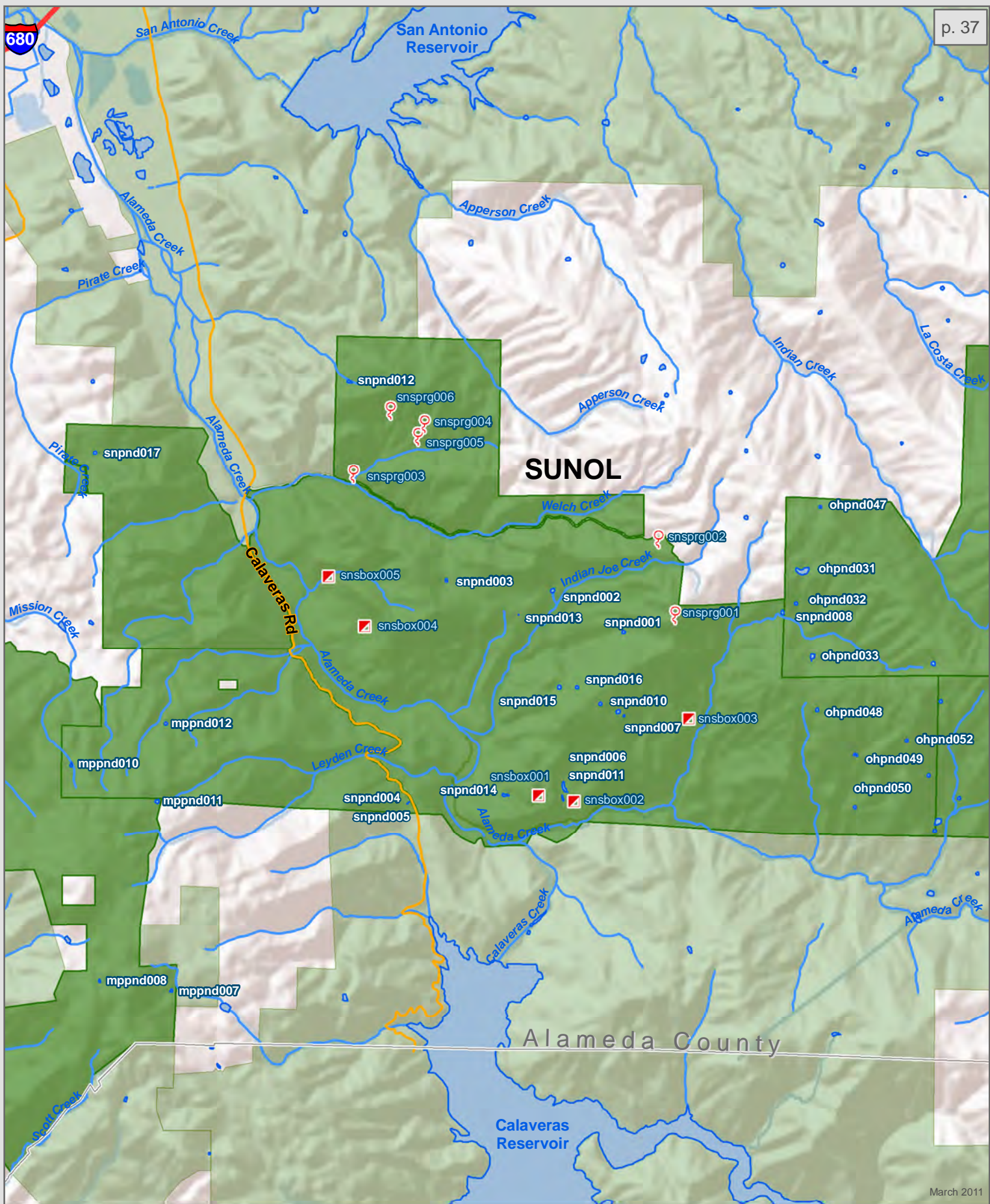
March 2011

Shadow Cliffs

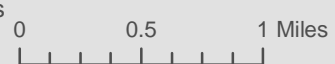
-  Spring box
-  Spring head
-  Spring
-  Streams and Creeks
-  Lakes and Ponds
-  Spring - Not Confirmed

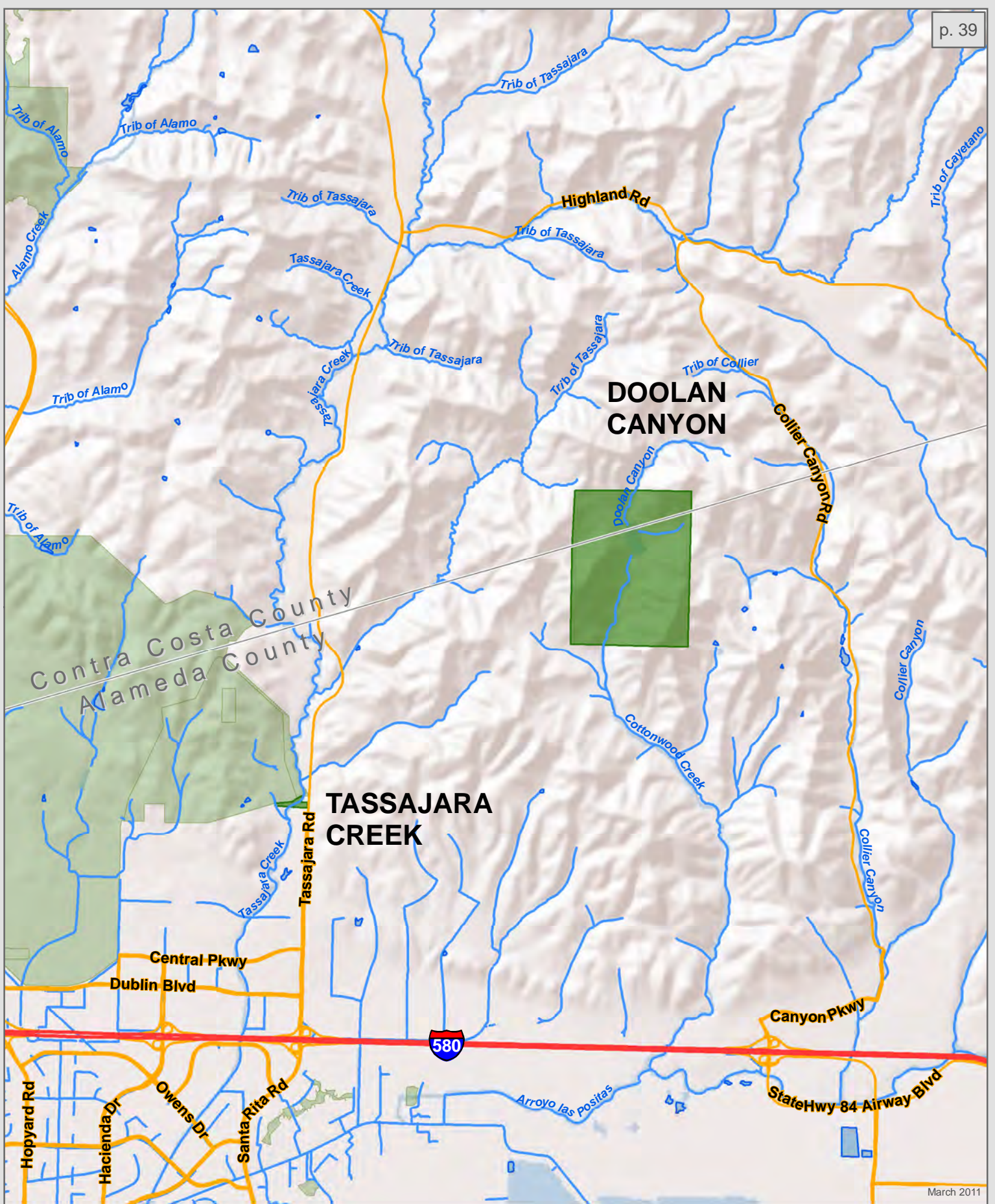
0 0.25 0.5 Miles









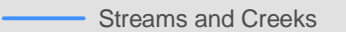
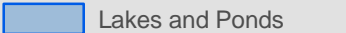
- ▣ Spring box
- Spring head
- Ⓧ Spring
- Streams and Creeks
- ▭ Lakes and Ponds
- Ⓧ Spring - Not Confirmed

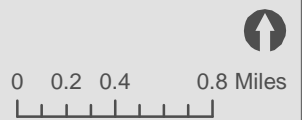


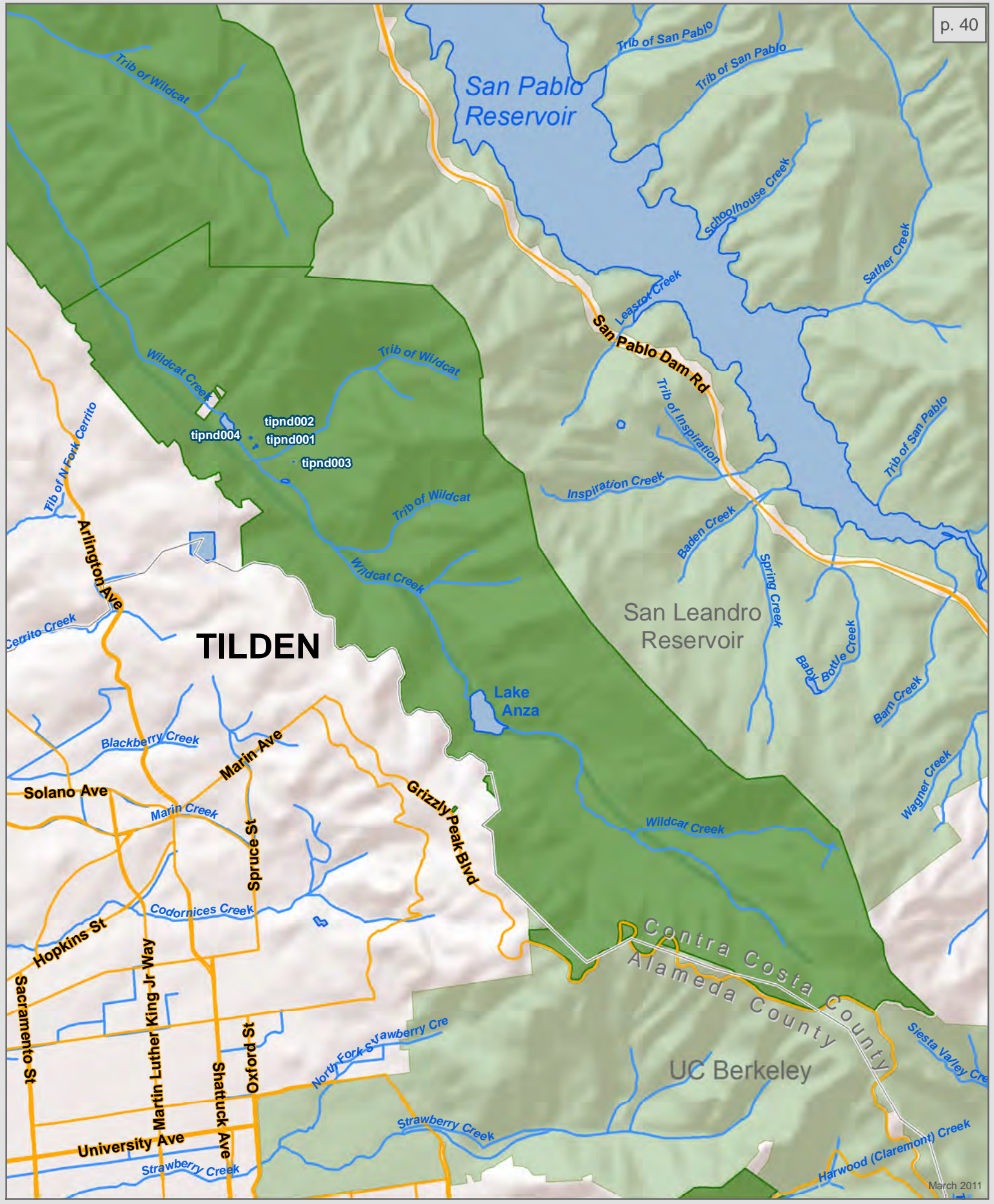


March 2011

Tassajara Creek & Doolan Canyon

-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds

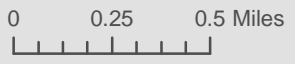




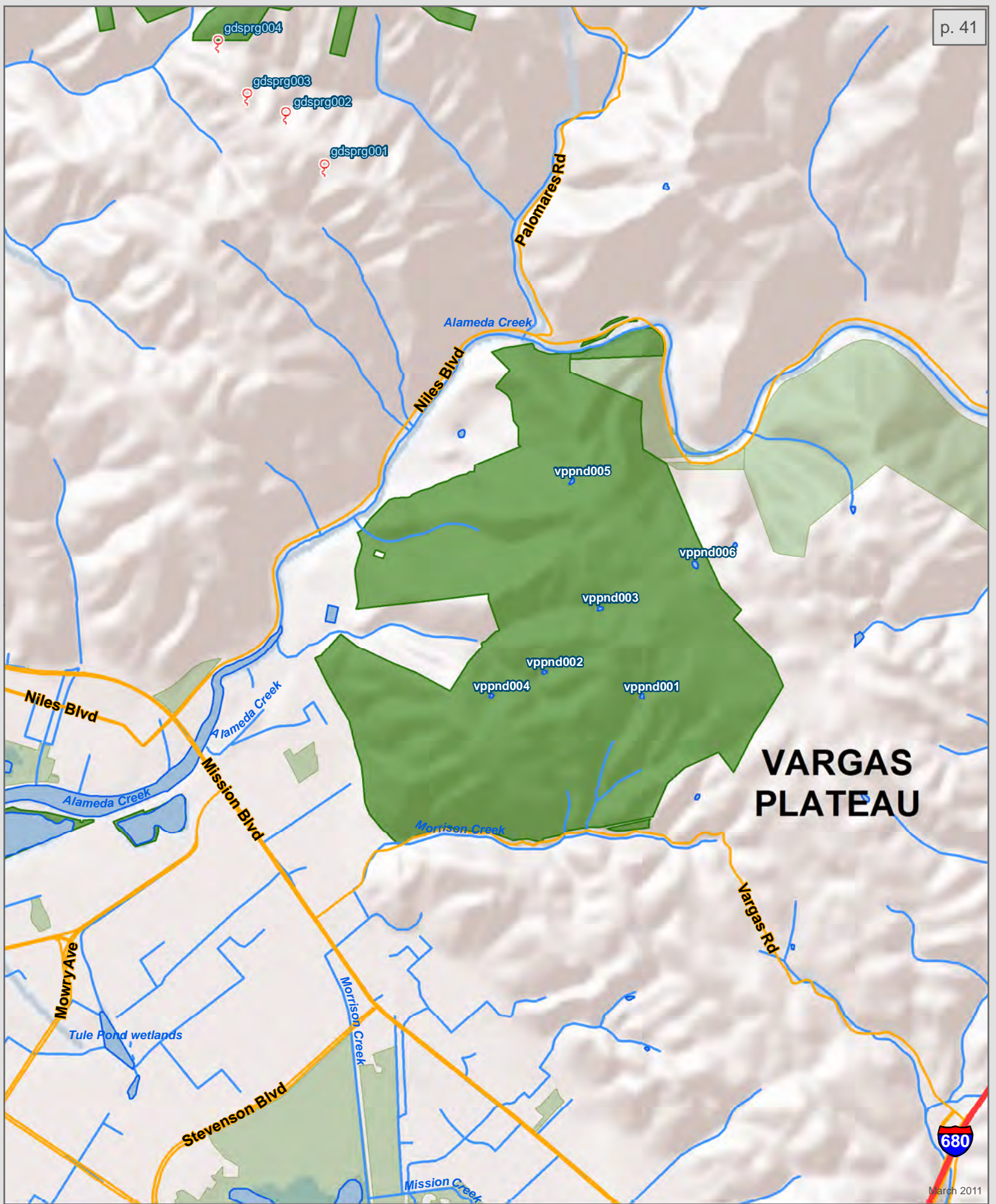
TILDEN

Tilden

- ▣ Spring box
- Spring head
- Spring
- ▣ Spring - Not Confirmed
- Streams and Creeks
- ▣ Lakes and Ponds

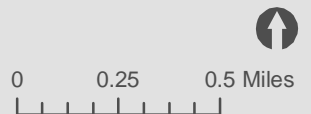


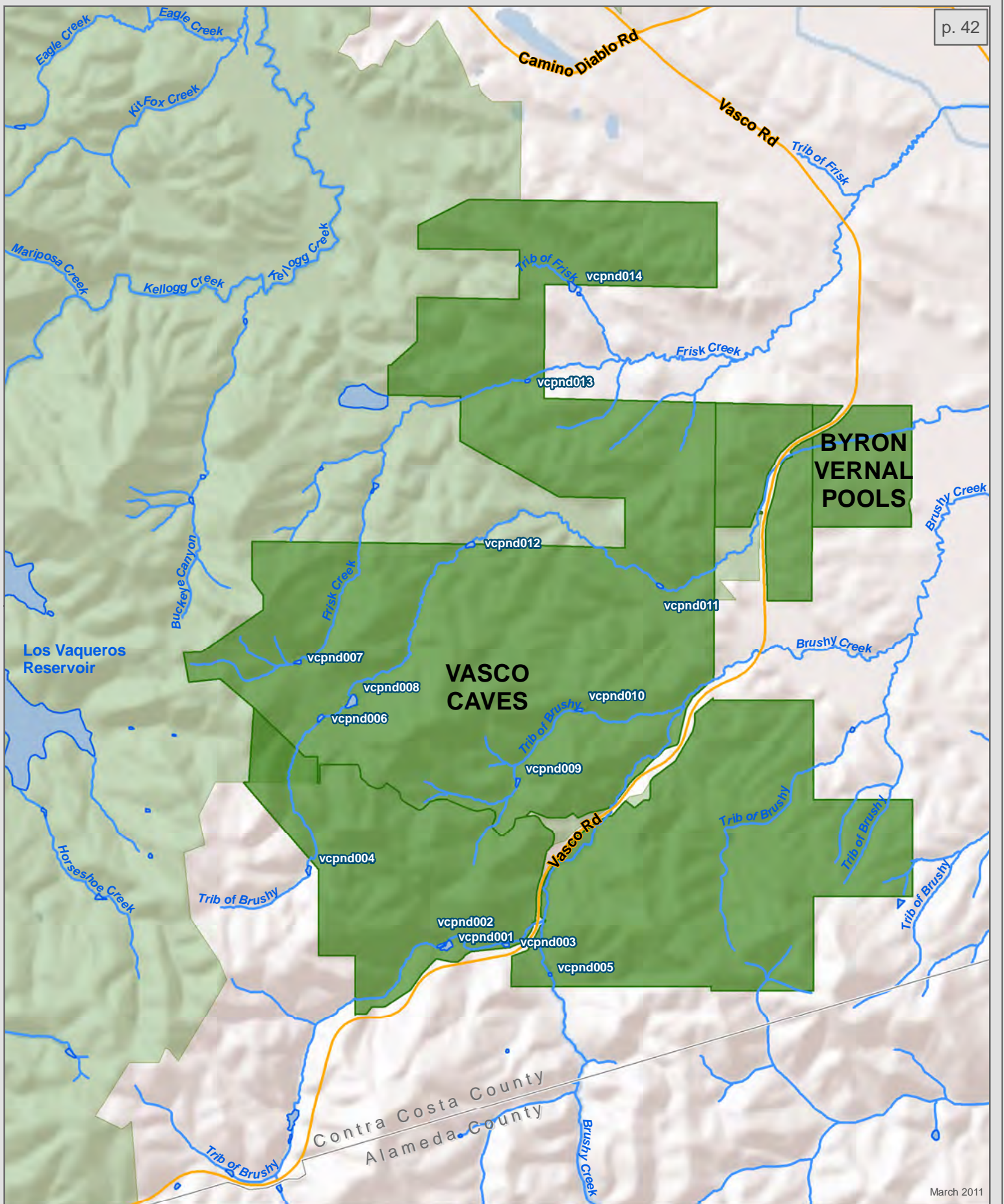
March 2011



Vargas Plateau

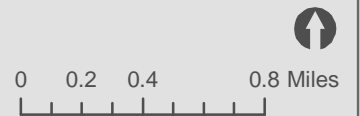
- Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- Spring - Not Confirmed





Vasco Caves & Byron Vernal Pools







- Spring box
- Spring head
- Spring
- Streams and Creeks
- Lakes and Ponds
- N Spring - Not Confirmed

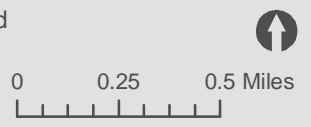


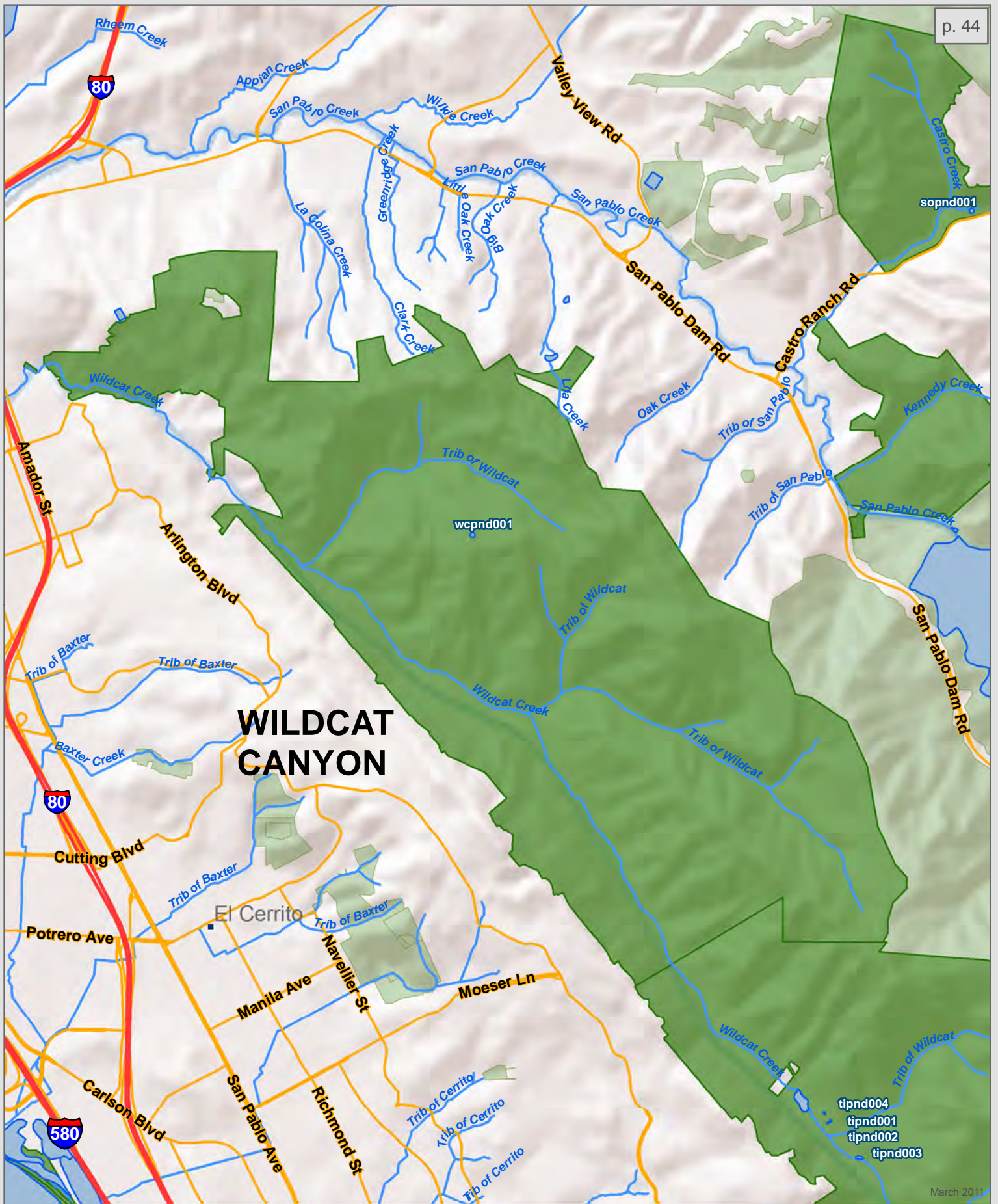


March 2011

Waterbird 

-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds





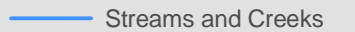
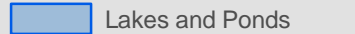




March 2011

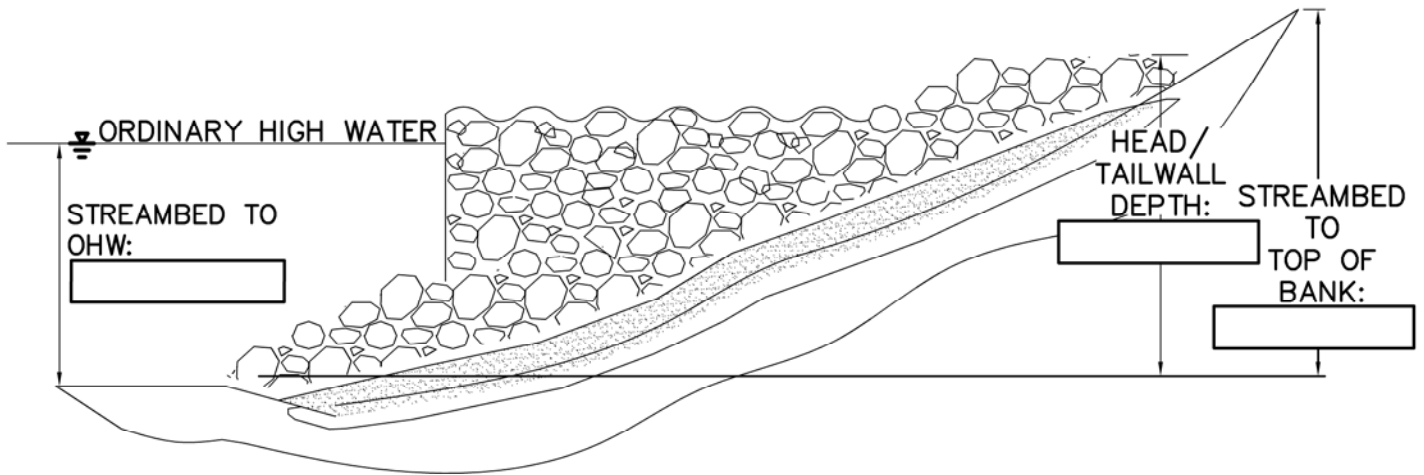
Wildcat Canyon



-  Spring box
-  Spring head
-  Spring
-  Spring - Not Confirmed
-  Streams and Creeks
-  Lakes and Ponds



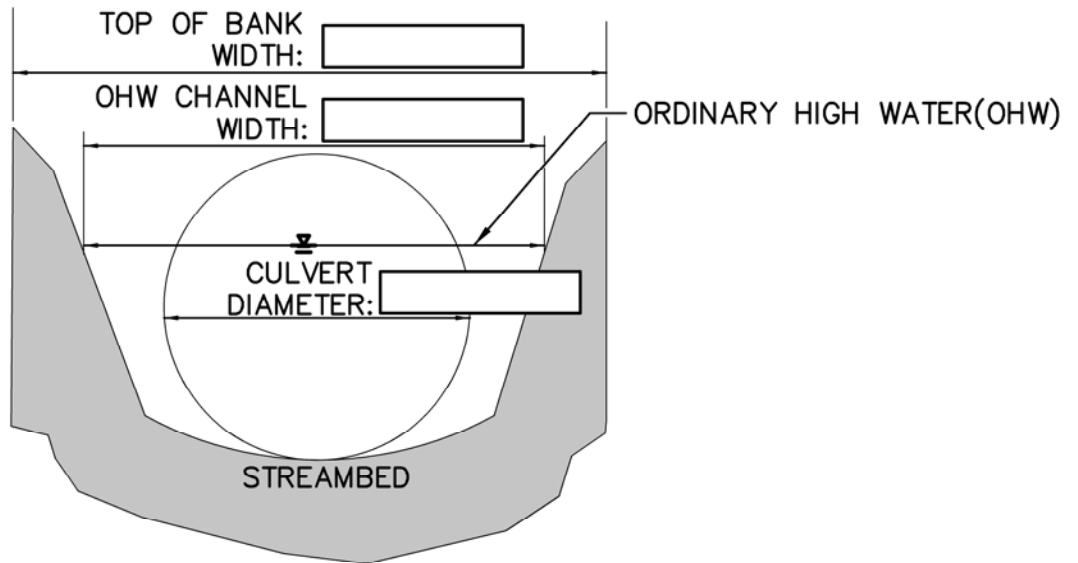
CULVERT REPAIR, REPLACEMENT, UPGRADE, AND MAINTENANCE (INCLUDING HEAD AND TAILWALLS)



CULVERT – SIDE VIEW

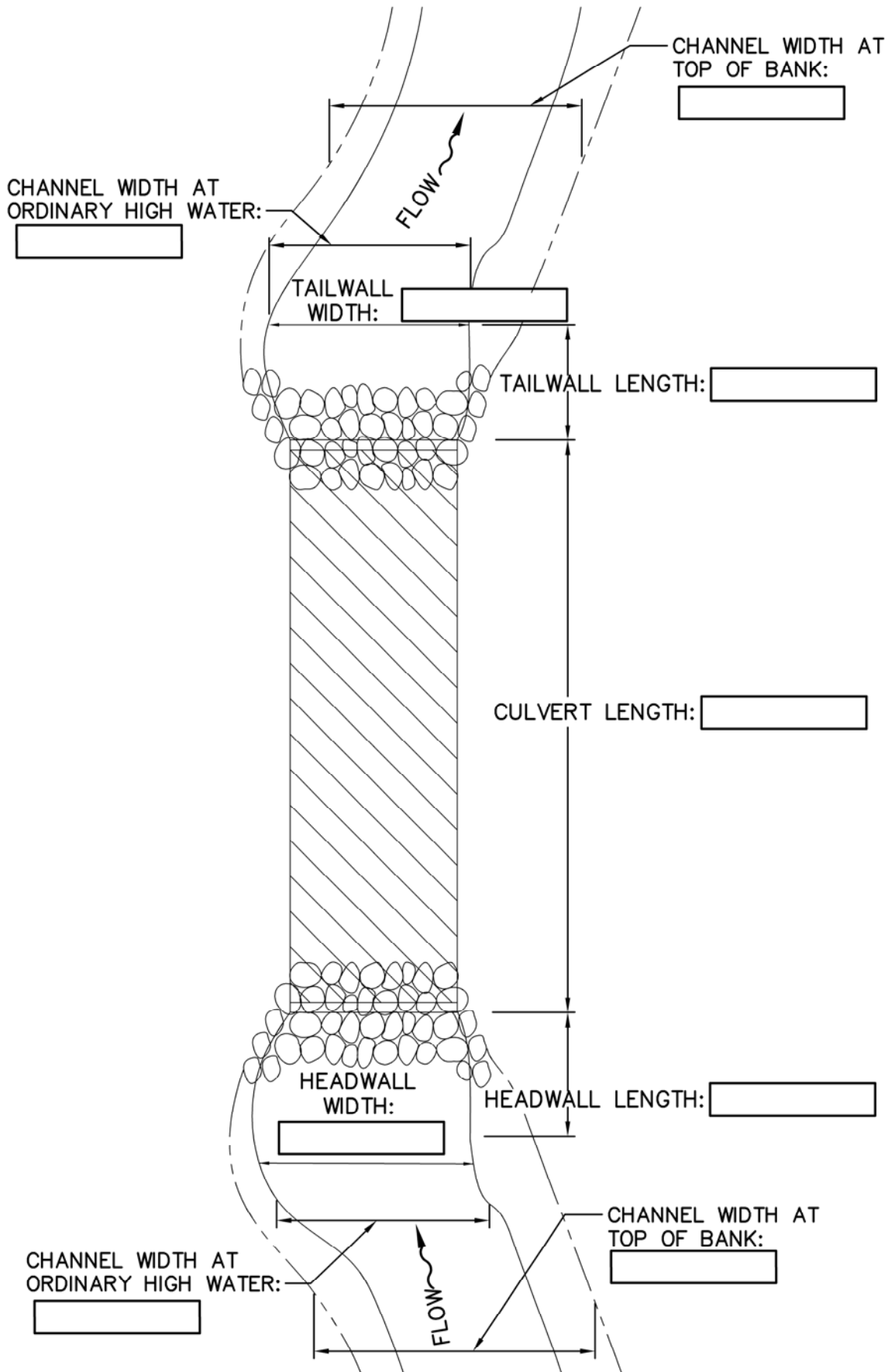
STREAM GRADIENT:

STREAM TYPE:



CULVERT – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: <input style="width: 90%;" type="text"/>	DATE <input style="width: 80%;" type="text"/>	OF 2
	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	



PRELIMINARY JURISDICTIONAL DETERMINATION



PARK NAME:

PROJECT NAME:

UNIQUE CODE:

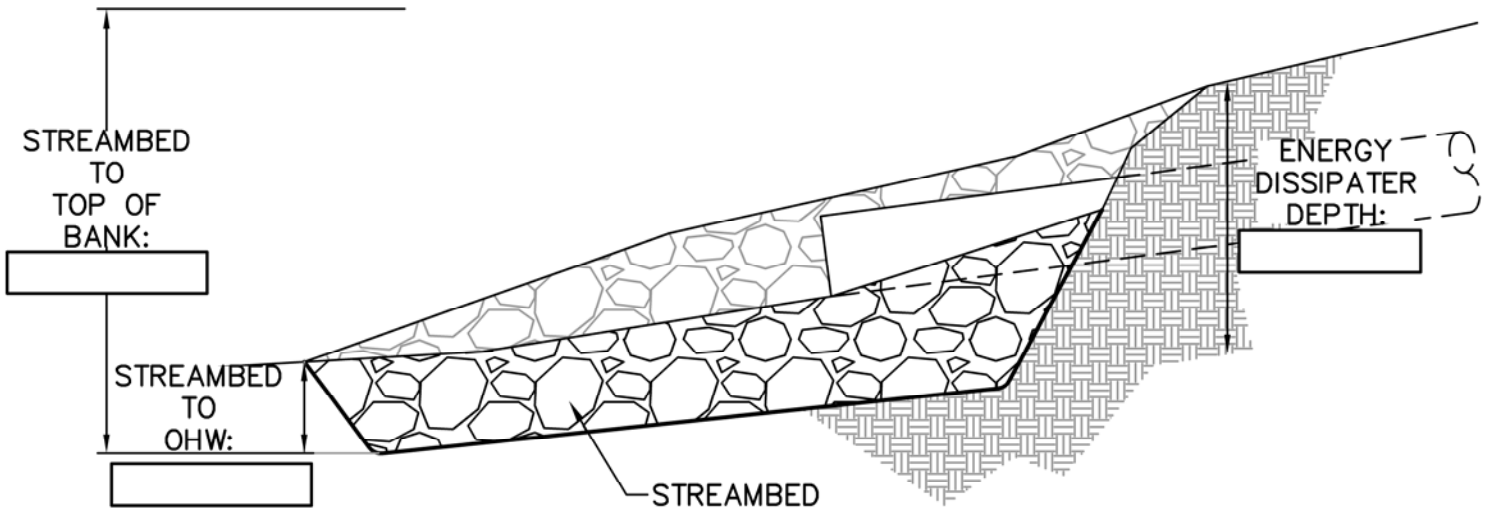
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DATE

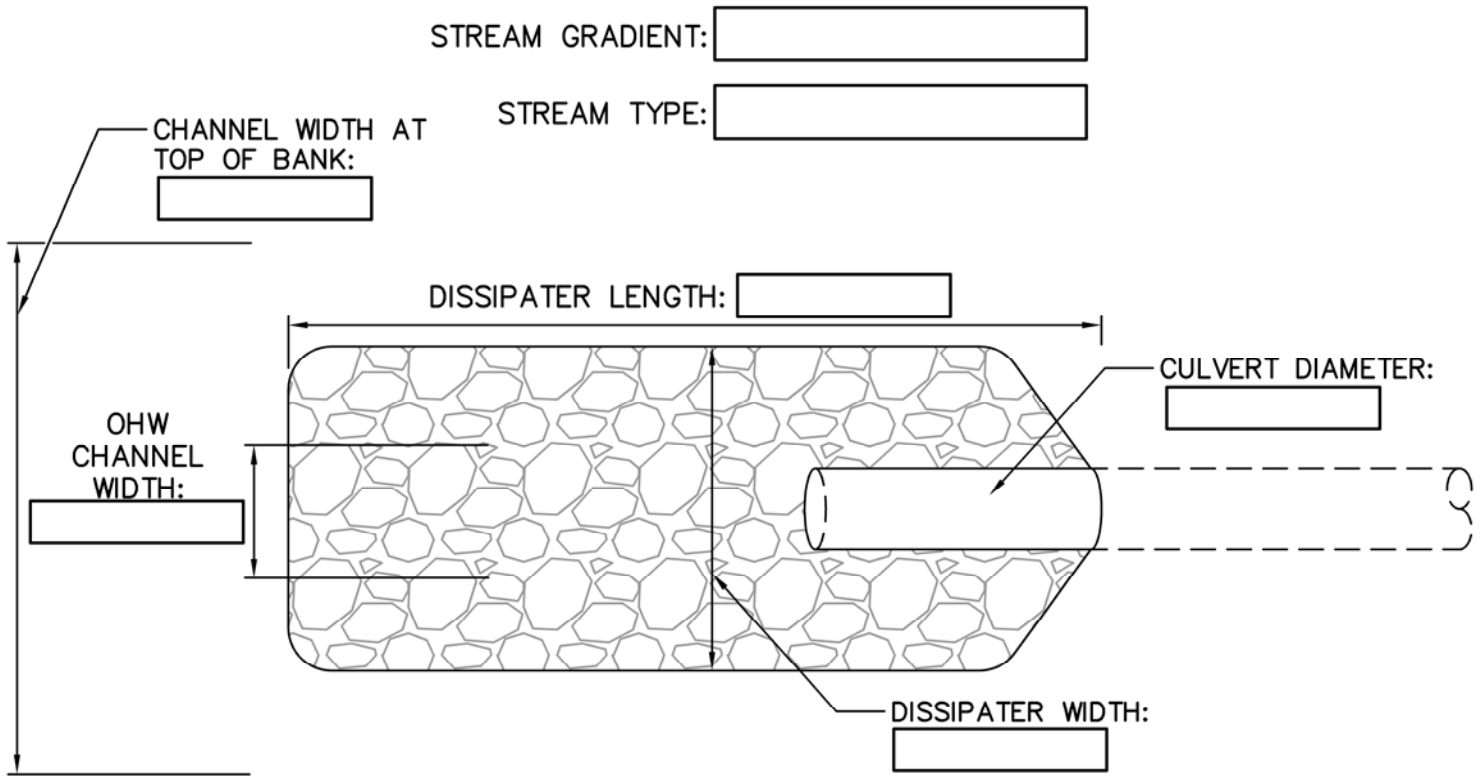
SHEET NO.
2
OF
2

EAST BAY REGIONAL PARK DISTRICT


ENERGY DISSIPATER



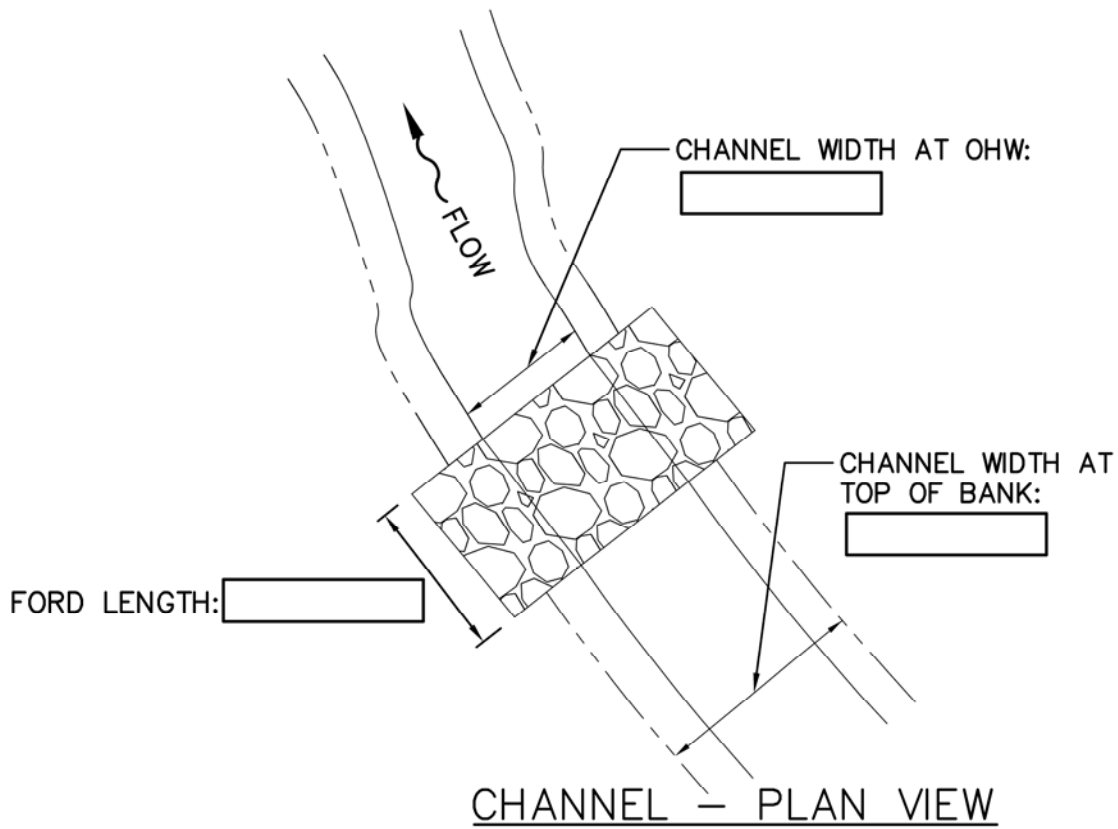
ENERGY DISSIPATER – LONGITUDINAL SECTION



ENERGY DISSIPATER – PLAN VIEW

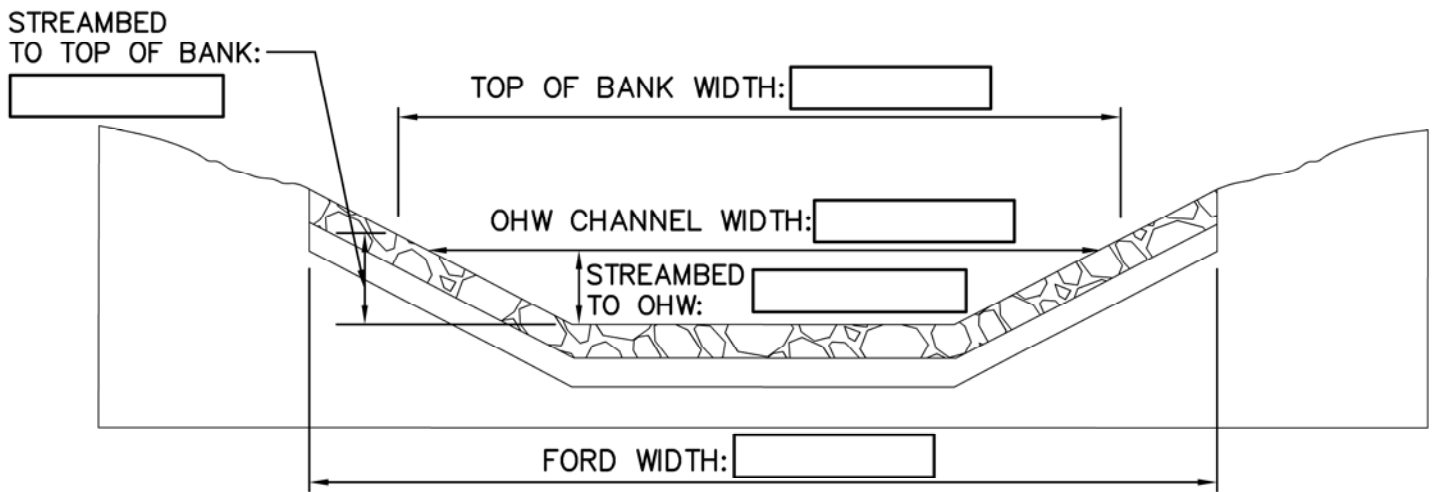
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	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

MAINTENANCE AND INSTALLATION OF ARMORED OR NATURAL ROCK FORDS



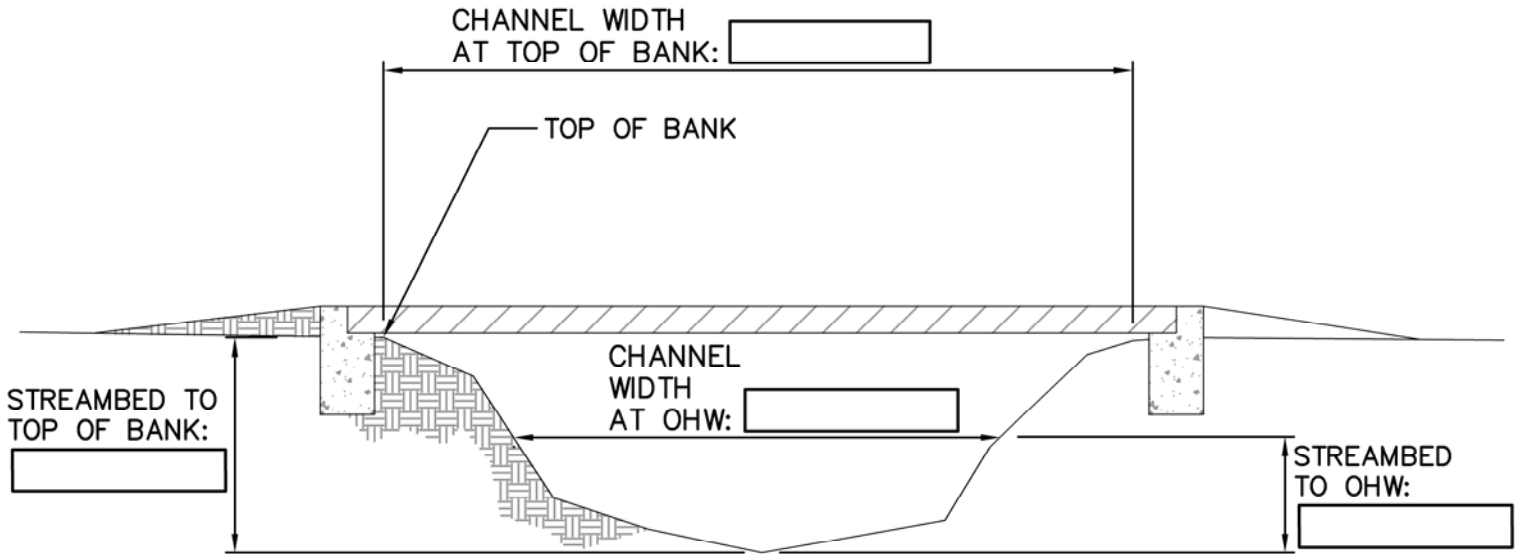
STREAM GRADIENT:

STREAM TYPE:



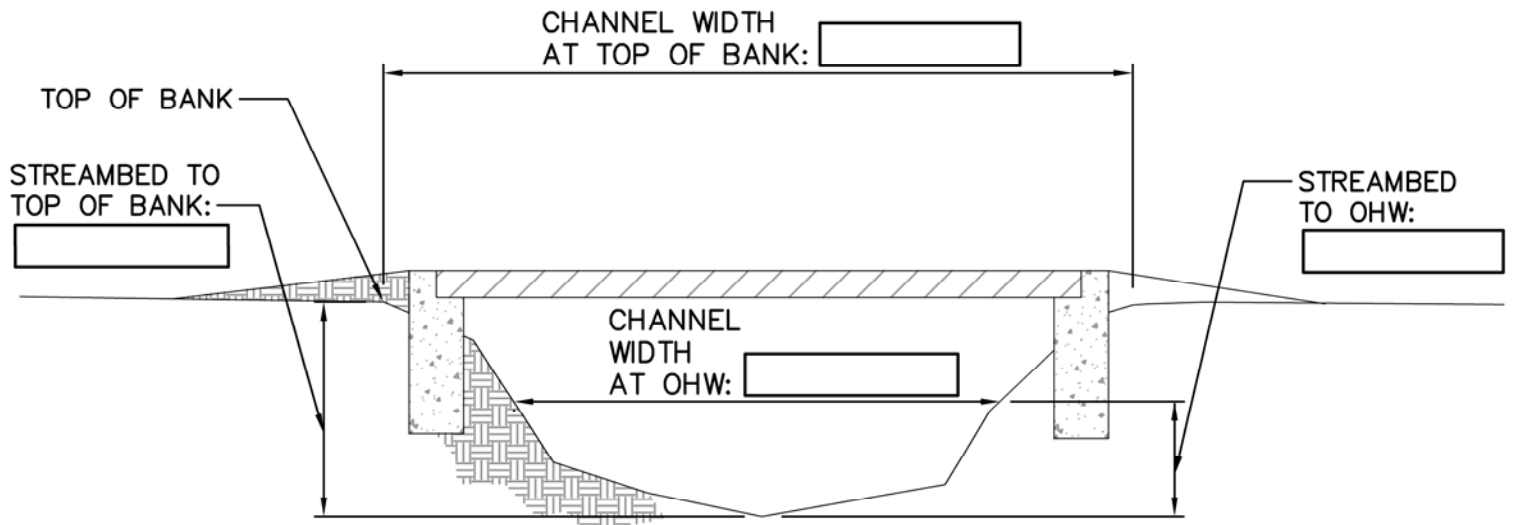
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	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

MAINTENANCE AND INSTALLATION OF CLEAR-SPAN BRIDGES



CLEAR-SPAN BRIDGE – FOOTINGS OUTSIDE OF TOP OF BANK

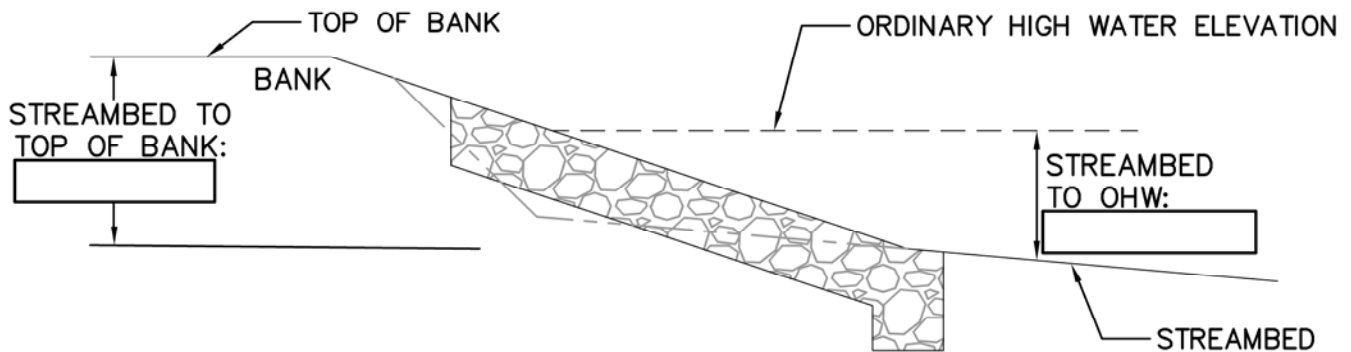
STREAM GRADIENT: []
 STREAM TYPE: []



CLEAR-SPAN BRIDGE – FOOTINGS INSIDE OF TOP OF BANK

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: []	DATE []	OF 1
	UNIQUE CODE: []	EAST BAY REGIONAL PARK DISTRICT	

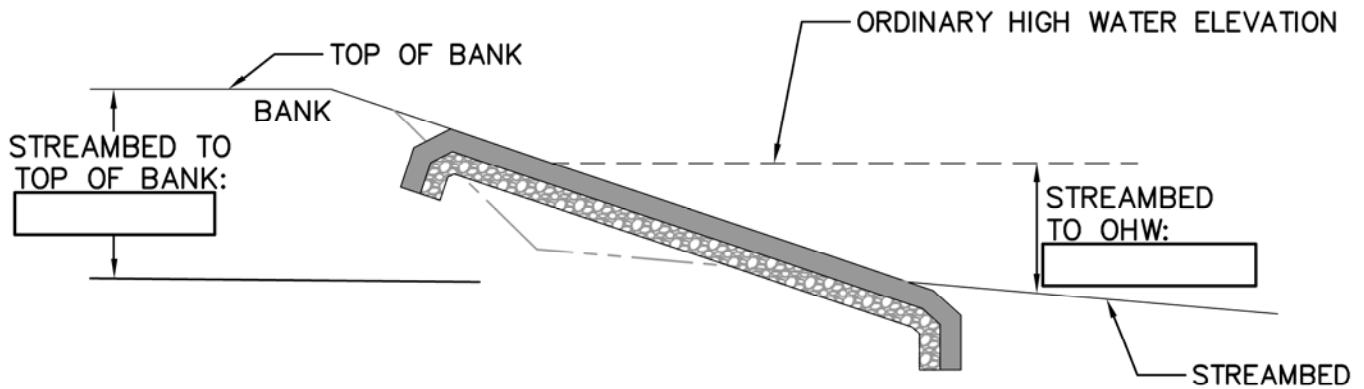
STREAMBANK STABILIZATION: LOTIC WATERBODIES




RIPRAP – SECTION

STREAM GRADIENT:

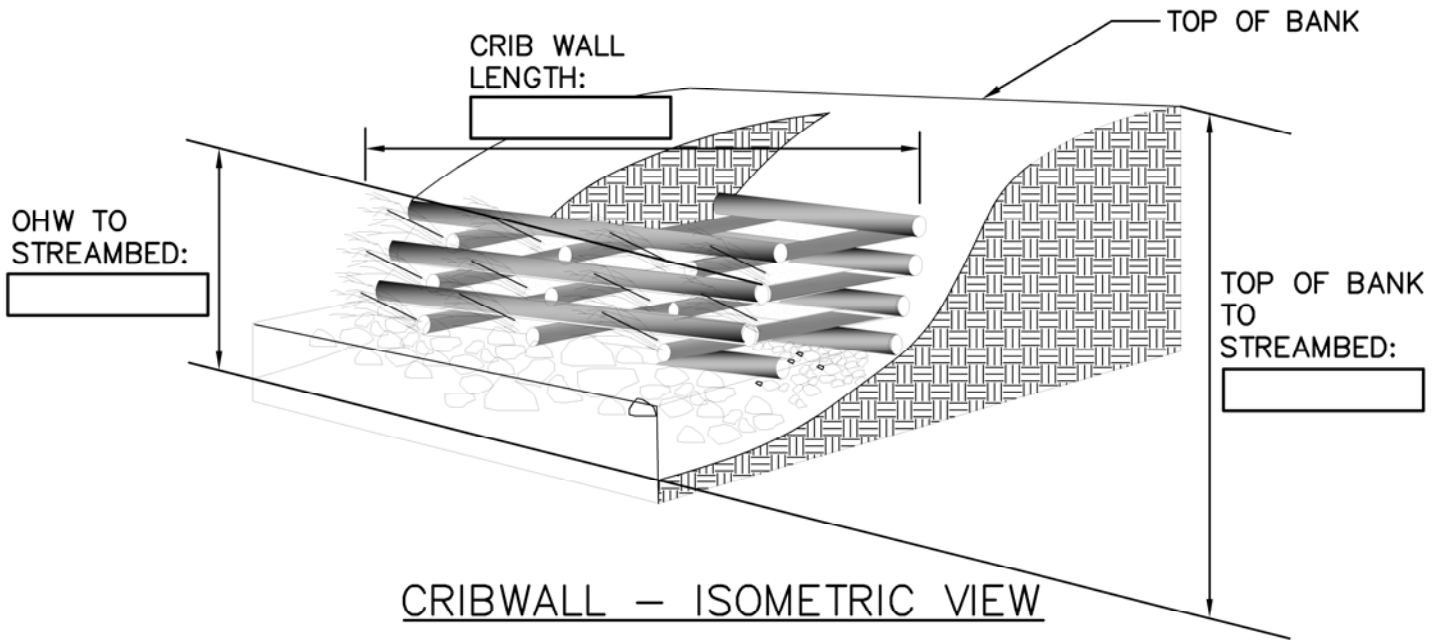
STREAM TYPE:



MODULAR CONCRETE UNIT ARMOR – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: <input type="text"/>	DATE <input type="text"/>	OF 1
	UNIQUE CODE: <input type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

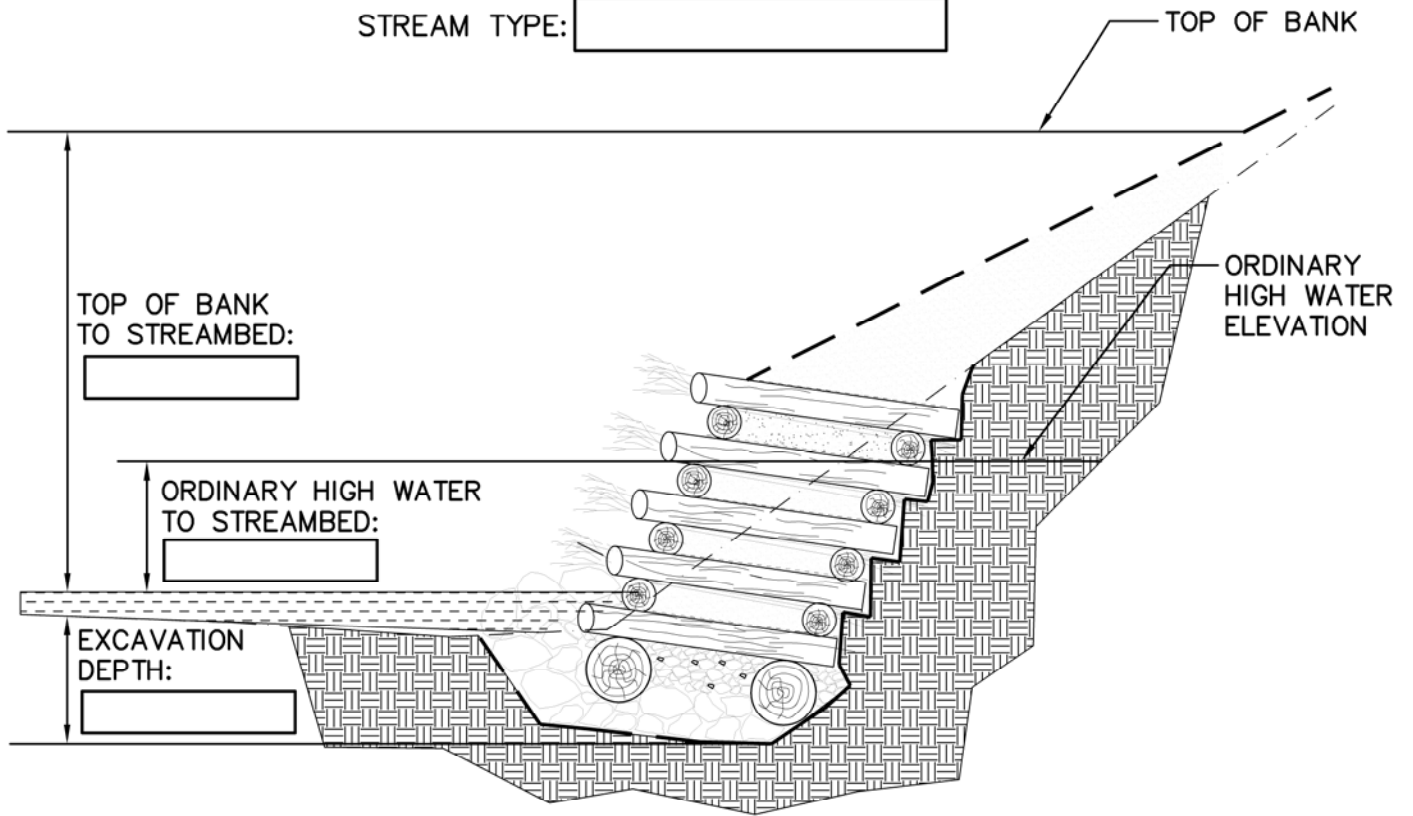
STREAMBANK STABILIZATION: LOG CRIBWALL




CRIBWALL – ISOMETRIC VIEW

STREAM GRADIENT:

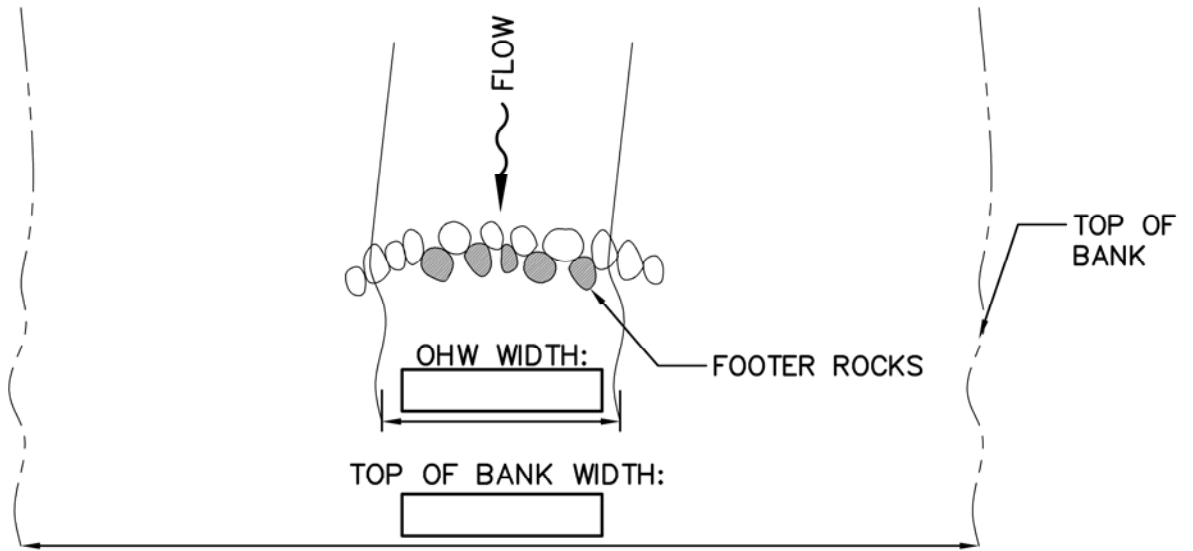
STREAM TYPE:



LOG CRIB WALL – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: <input type="text"/>	DATE <input type="text"/>	OF 1
	UNIQUE CODE: <input type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

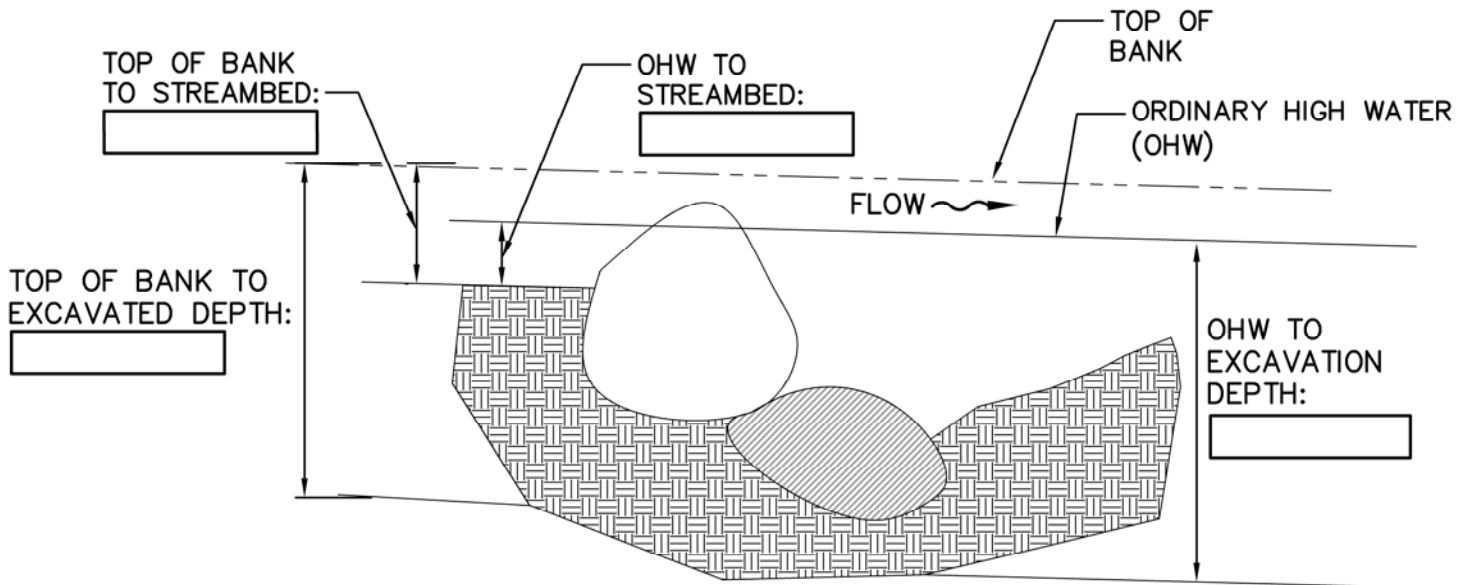
STREAMBANK STABILIZATION: ROCK WEIR



ROCK WEIR – PLAN VIEW

STREAM GRADIENT:


STREAM TYPE:



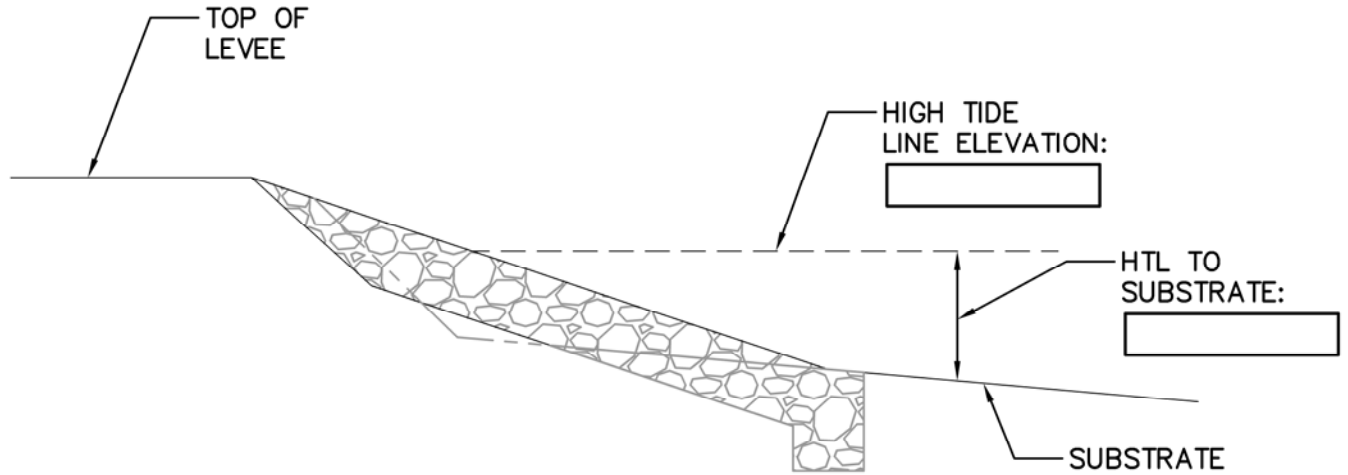
ROCK WEIR – SECTION

*ADAPTED FROM THE CALIFORNIA SALMONID STREAM HABITAT RESTORATION MANUAL

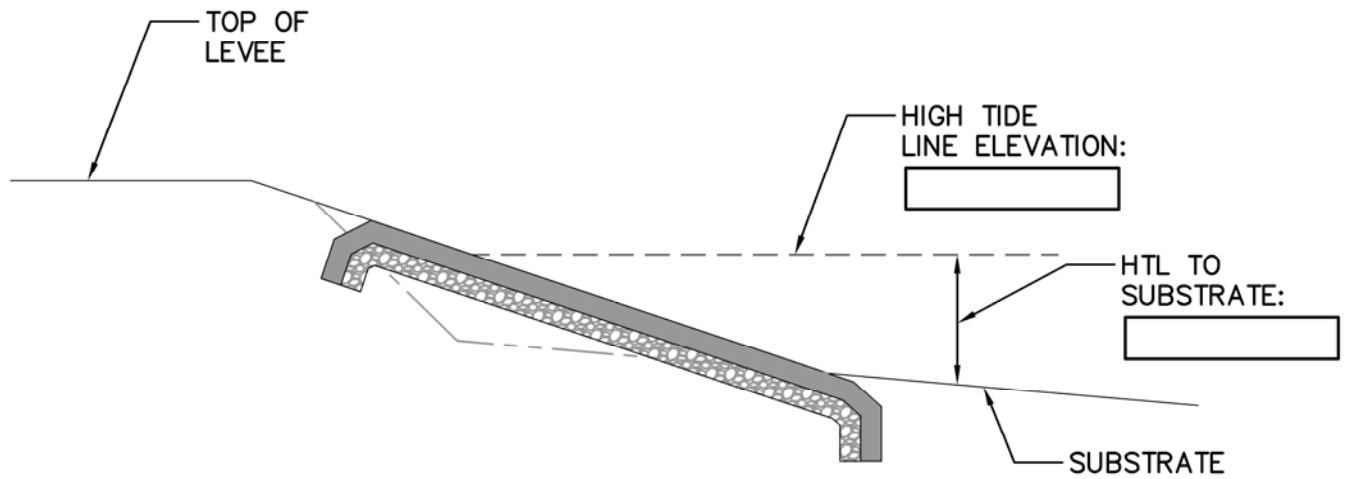
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	PARK NAME: <input type="text"/>	SCALE NONE	SHEET NO. 1
	PROJECT NAME: <input type="text"/>	DATE <input type="text"/>	OF 1
	UNIQUE CODE: <input type="text"/>	EAST BAY REGIONAL PARK DISTRICT	


BANK STABILIZATION: SHORELINE AND LEVEE BAY-DELTA TIDAL CHANNELS



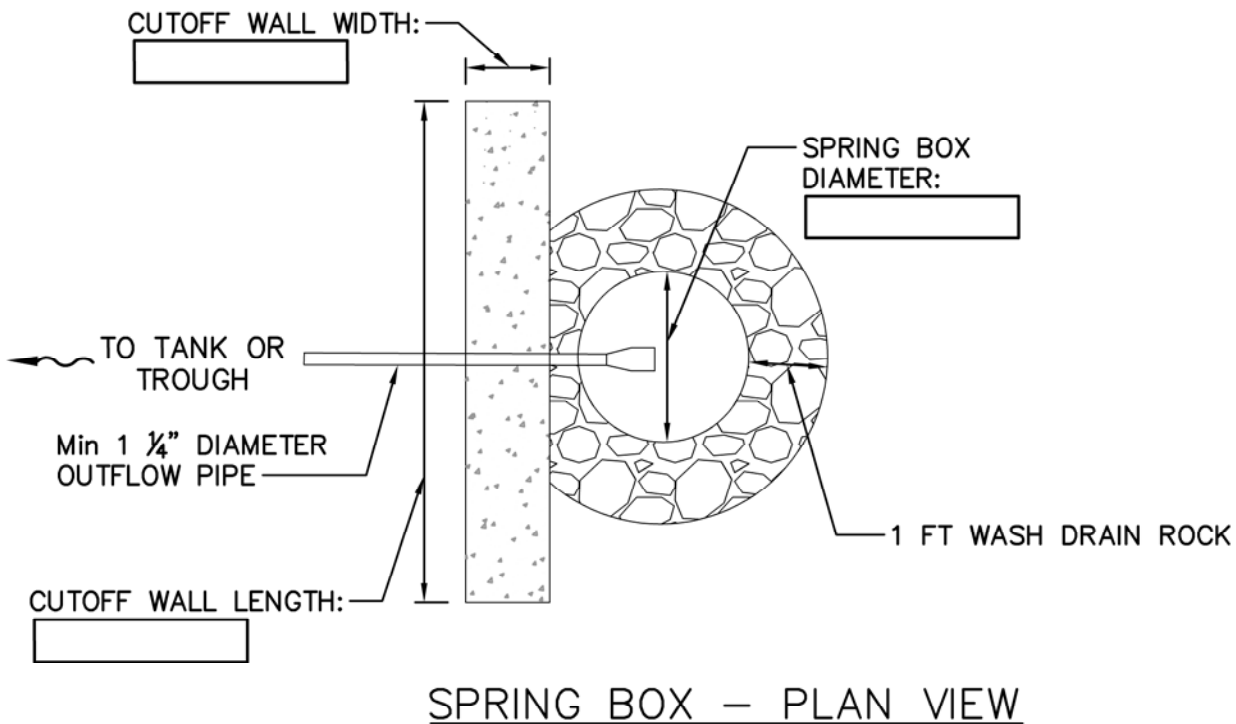
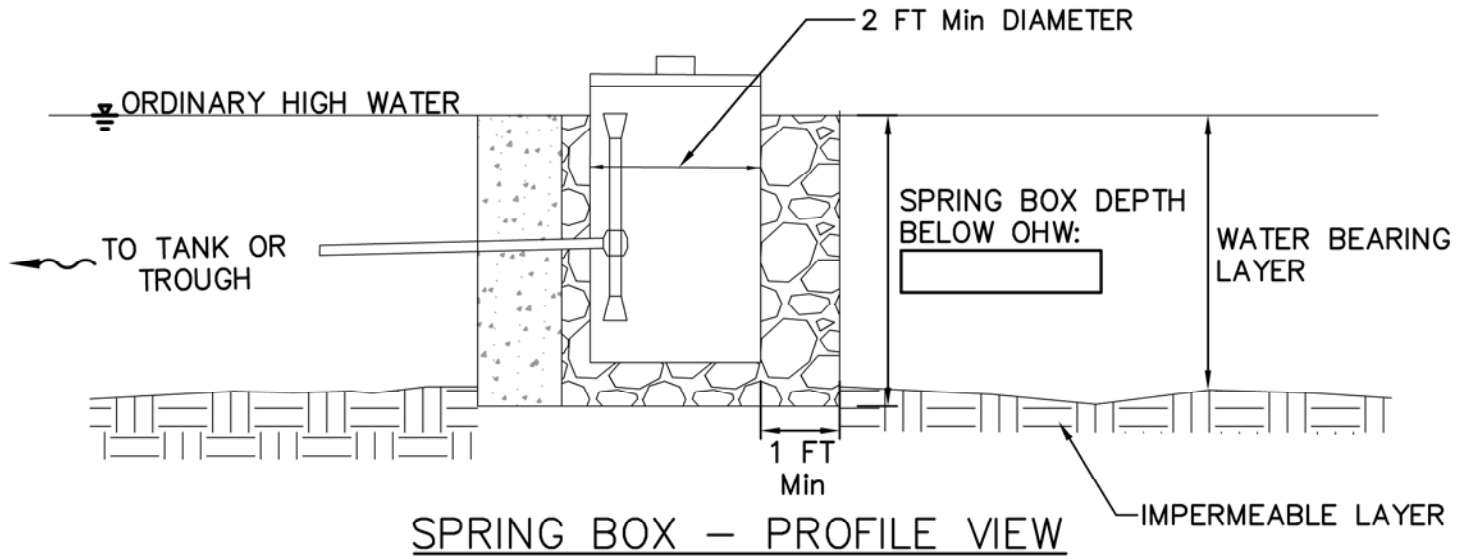
RIPRAP – SECTION



MODULAR CONCRETE UNIT ARMOR – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
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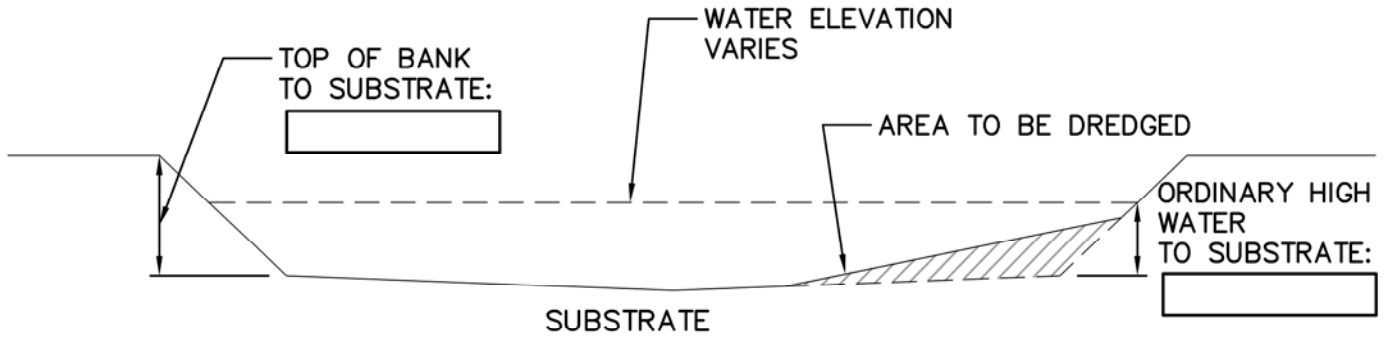
MAINTENANCE AND INSTALLATION OF SPRING BOXES



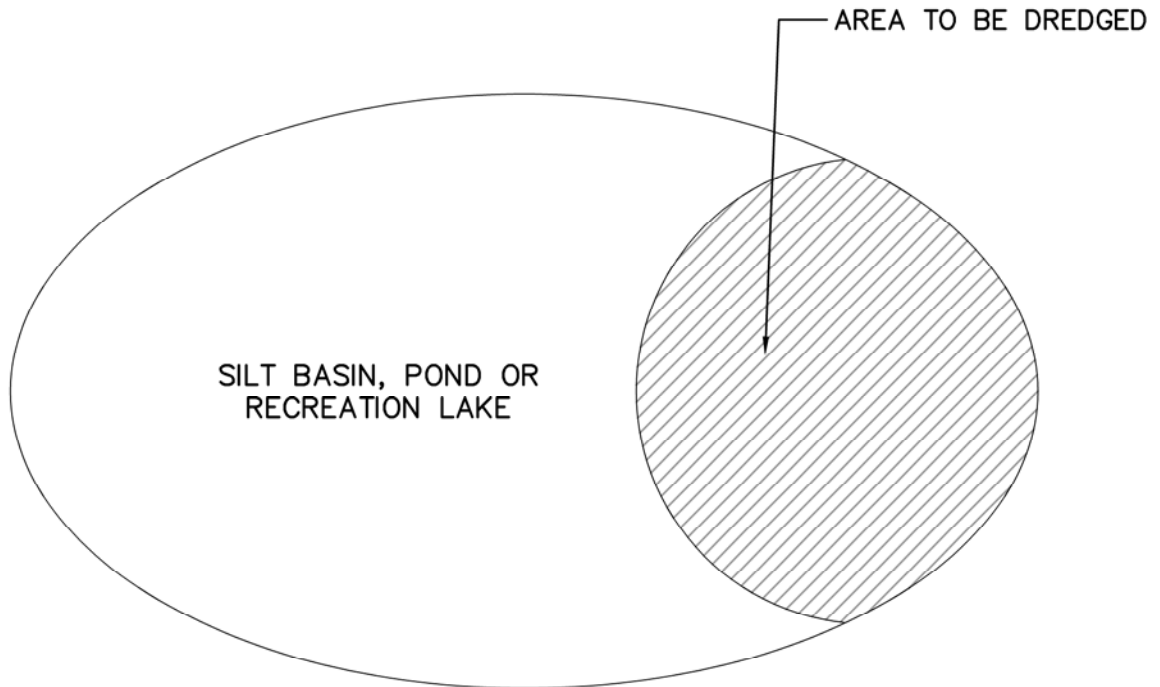
*ADAPTED FROM THE NATURAL RESOURCES CONSERVATION SERVICE

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: <input style="width: 90%;" type="text"/>	DATE <input style="width: 80%;" type="text"/>	OF 1
	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	


MAINTENANCE AND DREDGING OF SILT BASINS, PONDS, AND LAKES



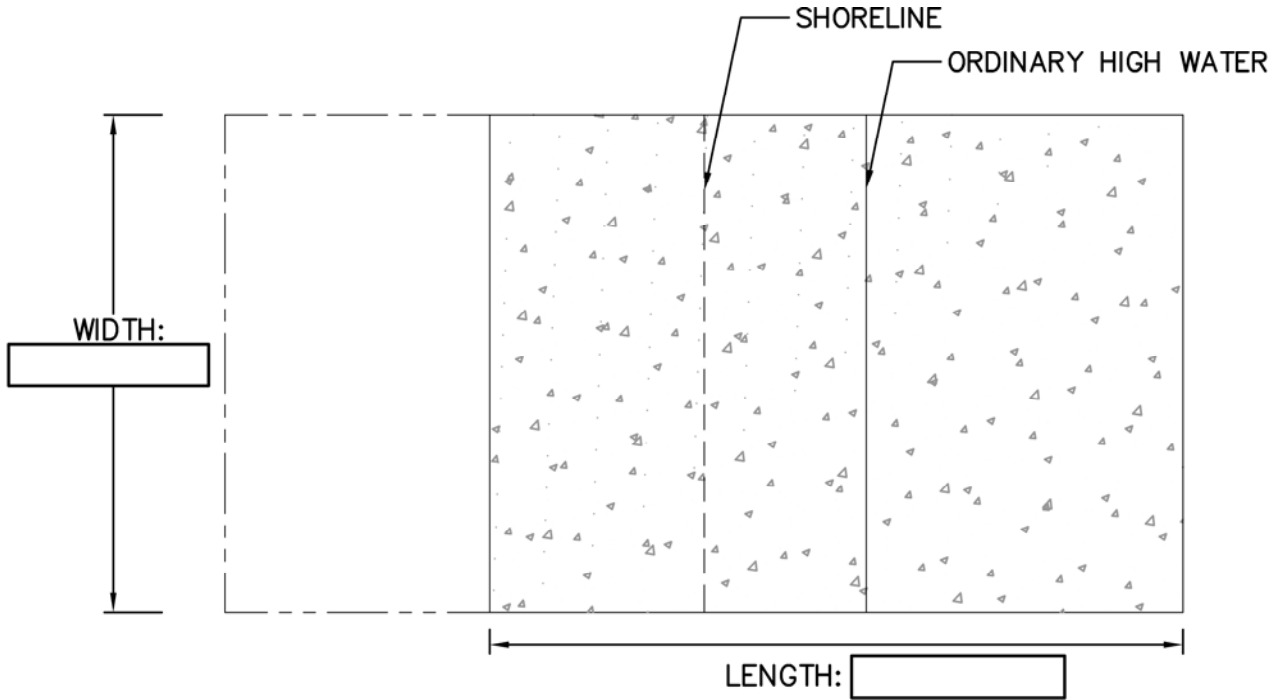
SEDIMENT DREDGING – SECTION



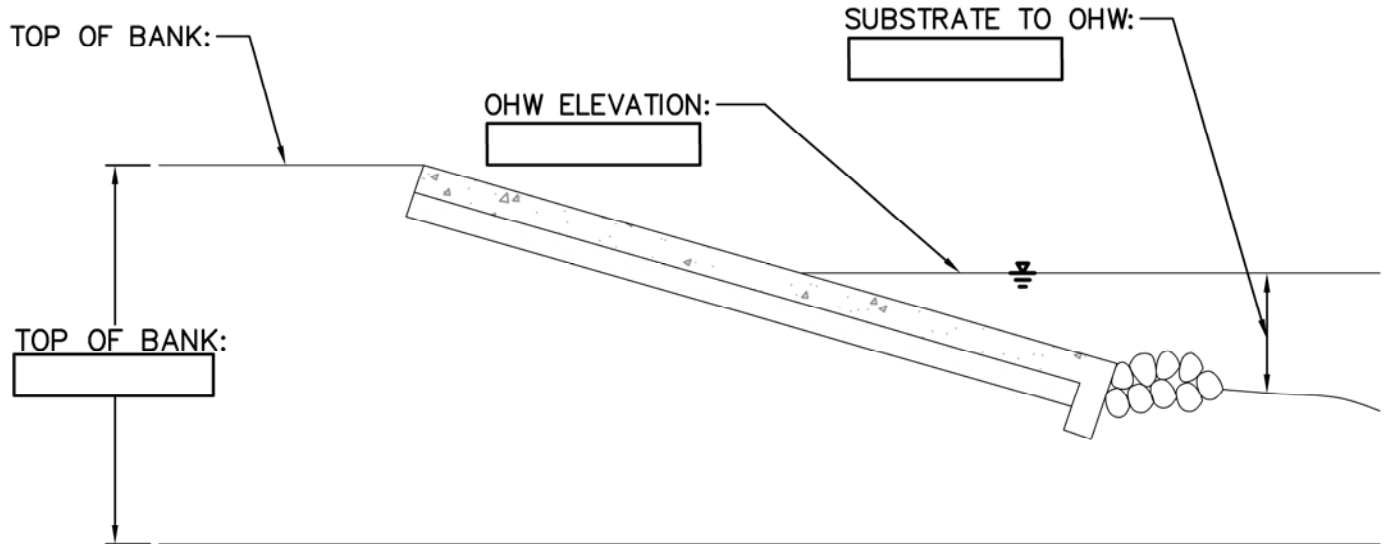
SEDIMENT DREDGING – PLAN VIEW

PRELIMINARY JURISDICTIONAL DETERMINATION			
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	PROJECT NAME: <input style="width: 90%;" type="text"/>	DATE <input style="width: 80%;" type="text"/>	OF 1
	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	


SHORELINE FACILITIES: BOAT RAMP - LENTIC



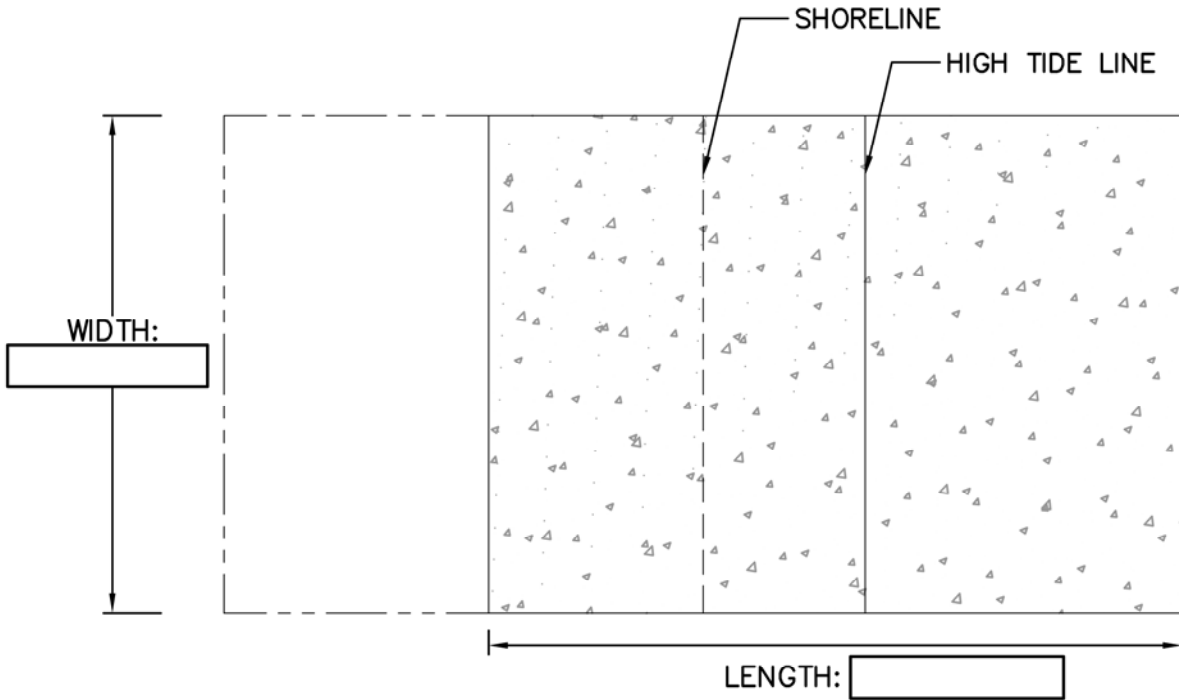
BOAT RAMP – PLAN VIEW



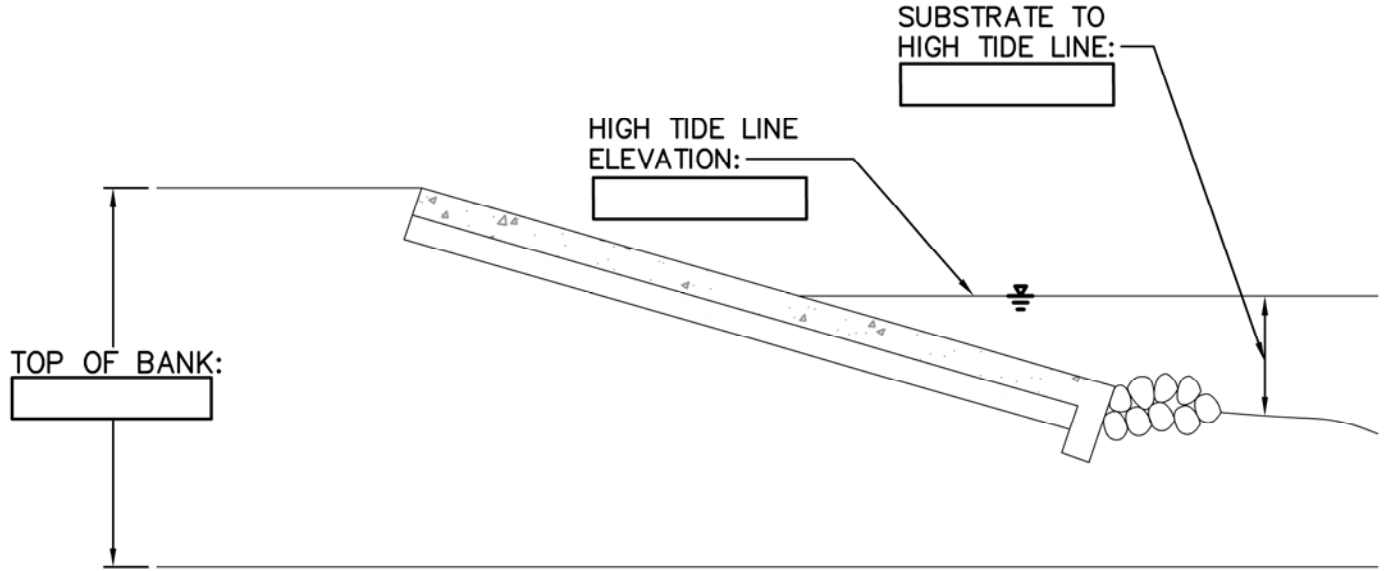
BOAT RAMP – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
	PARK NAME: <input type="text"/>	SCALE NONE	SHEET NO. 1
	PROJECT NAME: <input type="text"/>	DATE <input type="text"/>	OF 1
	UNIQUE CODE: <input type="text"/>	EAST BAY REGIONAL PARK DISTRICT	


SHORELINE FACILITIES: BOAT RAMP - TIDAL



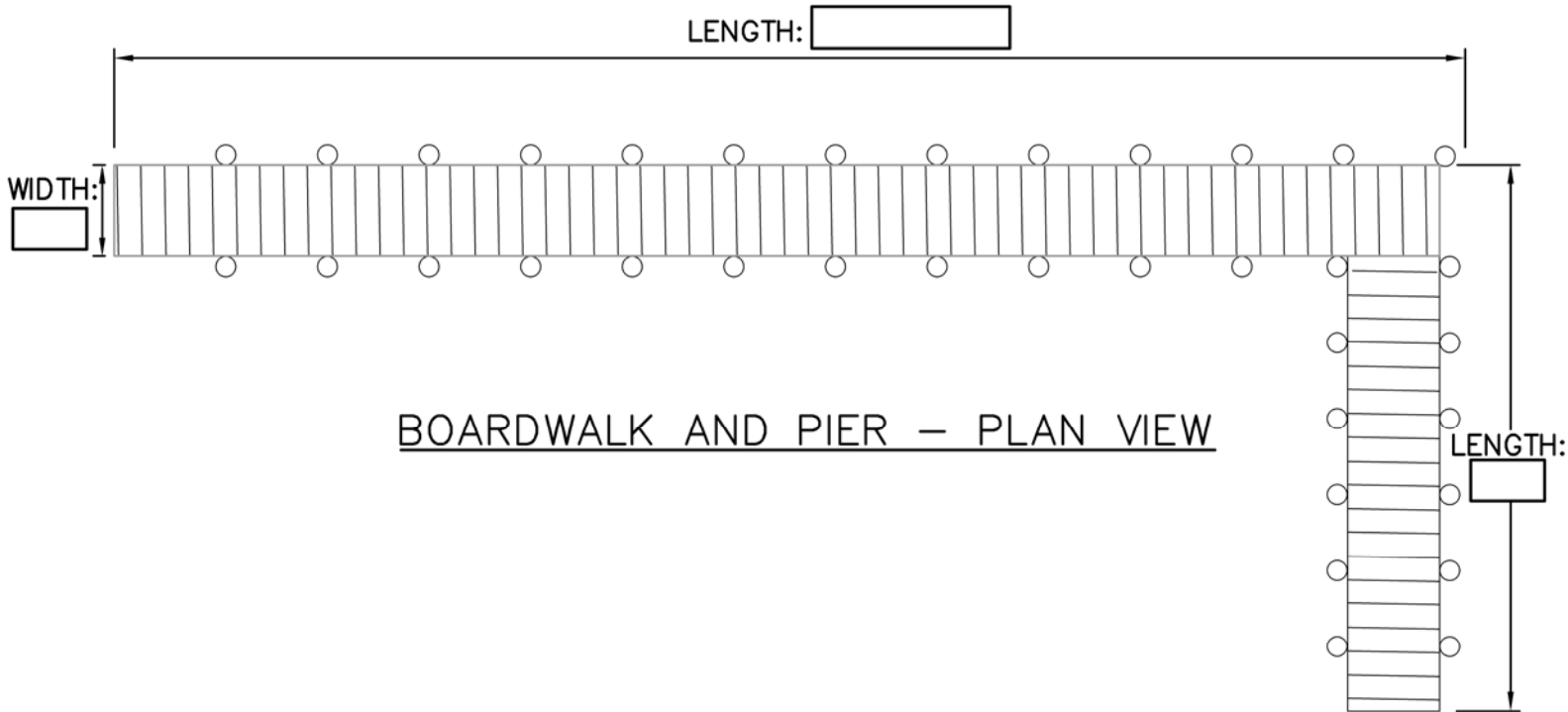
BOAT RAMP – PLAN VIEW



BOAT RAMP – SECTION

PRELIMINARY JURISDICTIONAL DETERMINATION			
	PARK NAME: <input type="text"/>	SCALE NONE	SHEET NO. 1
	PROJECT NAME: <input type="text"/>	DATE <input type="text"/>	OF 1
	UNIQUE CODE: <input type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

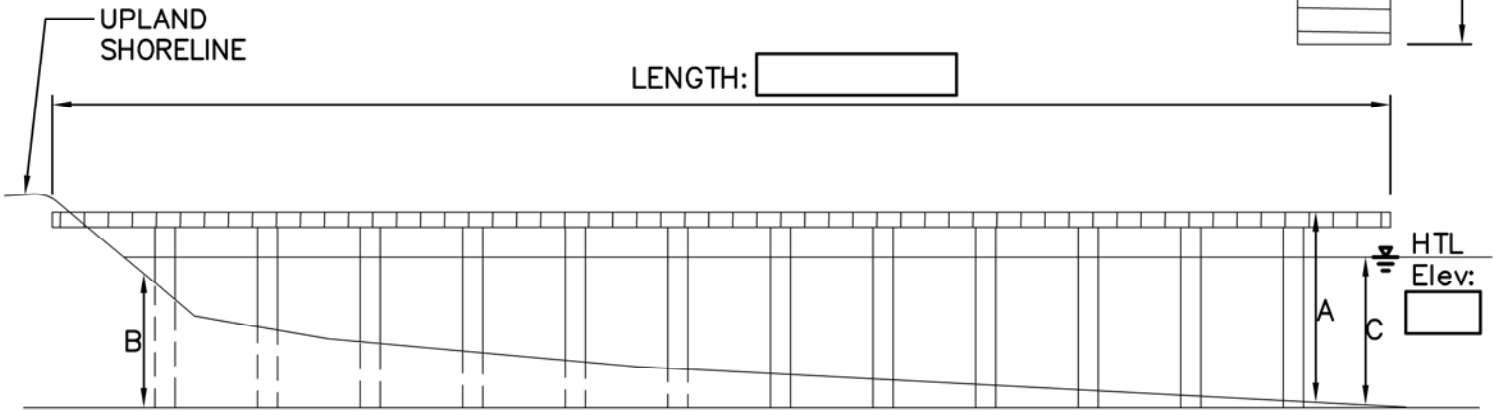
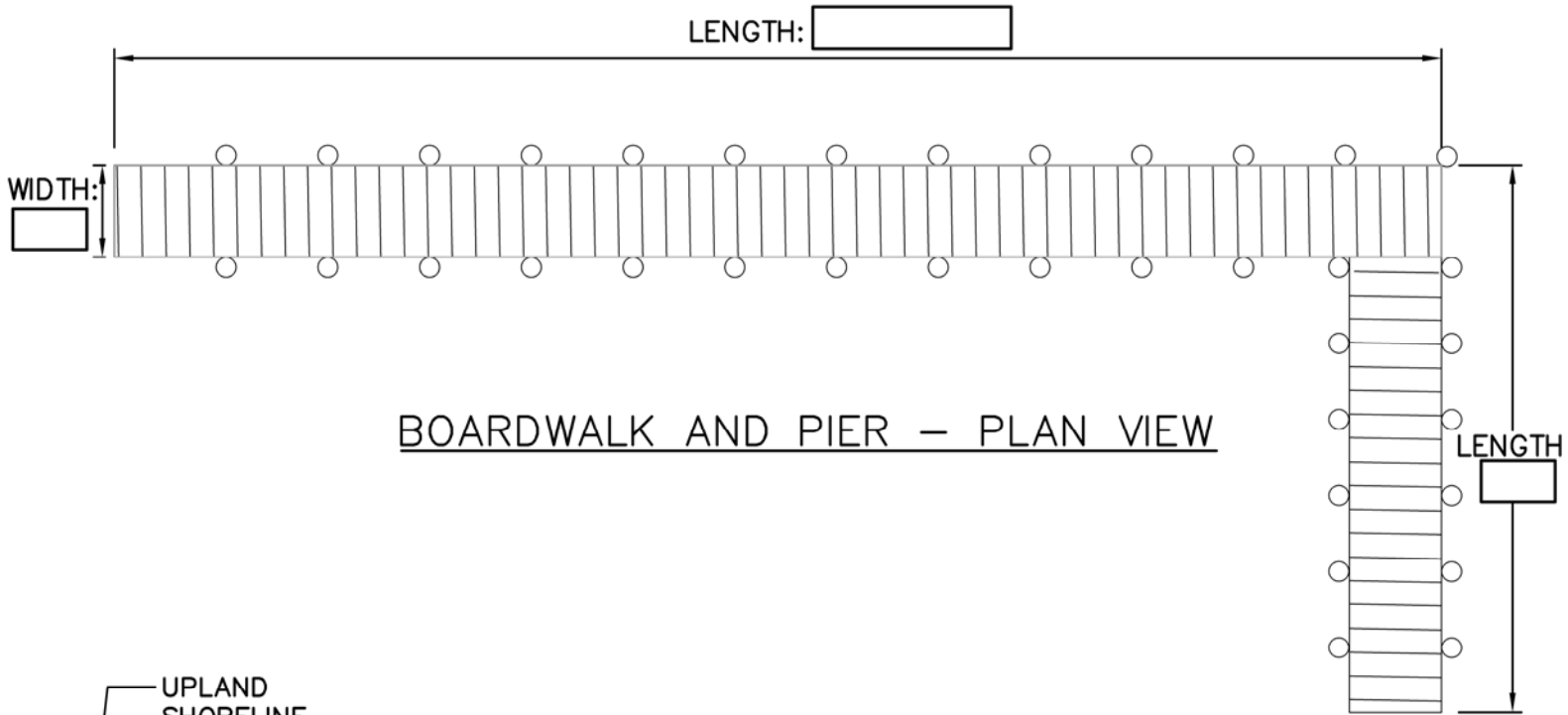
SHORELINE FACILITIES: BOARDWALK AND PIER - LENTIC AND LOTIC WATERBODIES



- TOTAL NUMBER OF PILINGS:
- PILING DIAMETER:
- A. Max PILING DEPTH SUBSTRATE TO PIER:
- B. Max PILING DEPTH BELOW SUBSTRATE:
- C. SUBSTRATE TO ORDINARY HIGH WATER (Max):
- D. SUBSTRATE TO TOP OF BANK (Max):

PRELIMINARY JURISDICTIONAL DETERMINATION			
	PARK NAME: <input style="width: 90%;" type="text"/>	SCALE NONE	SHEET NO. 1
	PROJECT NAME: <input style="width: 90%;" type="text"/>	DATE <input style="width: 80%;" type="text"/>	OF 1
	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

SHORELINE FACILITIES: BOARDWALK AND PIER - TIDAL



- TOTAL NUMBER OF PILINGS:
- PILING DIAMETER:
- A. Max PILING DEPTH SUBSTRATE TO PIER:
- B. Max PILING DEPTH BELOW SUBSTRATE:
- C. SUBSTRATE TO HIGH TIDE LINE ELEVATION (Max):

PRELIMINARY JURISDICTIONAL DETERMINATION			
	PARK NAME: <input style="width: 90%;" type="text"/>	SCALE NONE	SHEET NO. 1
	PROJECT NAME: <input style="width: 90%;" type="text"/>	DATE <input style="width: 80%;" type="text"/>	OF 1
	UNIQUE CODE: <input style="width: 80%;" type="text"/>	EAST BAY REGIONAL PARK DISTRICT	

East Bay Regional Park District

**Regional Maintenance Activities
Alameda and Contra Costa Counties**

ATTACHMENT B

**California Regional Water Quality Control Plan
San Francisco Bay Region
Self-Monitoring Program**

CALIFORNIA REGIONAL WATER QUALITY CONTROL PLAN
SAN FRANCISCO BAY REGION
SELF-MONITORING PROGRAM

for
East Bay Regional Park District
Regional Maintenance Activities

I. General

A. Basis

Reporting responsibilities of the East Bay Regional Park District as " Discharger" are specified in Sections 13225(a), 13267(b), 13268, 13383, 13387(b) of the California Water Code and this Board's Resolution No. 73-167.

B. Purpose

The principal purposes of a monitoring program by a discharger, also referred to as a Self-Monitoring Program, are to document compliance with discharge requirements and prohibitions established by this Board and to facilitate self-policing by the discharger in the prevention and abatement of pollution arising from maintenance activities.

C. Monitoring Methods

Monitoring of impact and mitigation sites shall be consistent with standard protocols for assessing percent coverage by plants, survival of plants, stability of banks, stability of berms, geomorphic stability of channels. Monitoring reports shall be signed by either an individual or a position having responsibility for the overall operation of the regulated activity (e.g., authorized agent, field supervisor, or project manager).

II. Specifications for Monitoring

The Discharger is required to perform monitoring in accordance with the following conditions and requirements:

A. Standard Observations

As appropriate, the following observations shall be recorded annually for each impact and mitigation site, until the appropriate performance criteria are attained (For some sites, such as sedimentation ponds or beach replenishment, these observations are not necessary).

1. Impact Sites:

- a. Percent coverage by vegetation relative to pre-impact vegetation.
- b. Percent survival of planted shrubs and trees.
- c. Stability of impacted creek bed and banks (e.g., slumping, undercutting, headcuts, knickpoints, incision, etc.).
- d. Stability of culvert inlets and outlets, including adjacent natural creek channels.
- e. Pre-construction and post-construction photographs
- f. Annual post-construction photographs for all sites that have not attained their performance criteria.

2. Mitigation Sites:
 - a. Percent coverage by vegetation relative to pre-restoration/enhancement vegetation.
 - b. Percent survival of planted shrubs and trees.
 - c. Stability of impacted creek bed and banks (e.g., slumping, undercutting, headcuts, knickpoints, incision, etc.).
 - d. Stability of berms supporting mitigation ponds.
 - e. Duration and depth of ponding during breeding seasons for listed amphibians at pond restoration or enhancement sites.
 - f. Pre-construction and post-construction photographs
 - g. Annual post-construction photographs for all sites that have not attained their performance criteria.
 - h. Any observations of use of mitigation sites by California red-legged frog, California tiger salamander, California clapper rail, salt marsh harvest mouse, Western pond turtle, or any other special status aquatic species.

B. Records to be maintained

1. Written reports, maintenance records, field notes, photographs and other records shall be maintained by the Discharger for a minimum of five years. Records shall include notes and observations for each site as follows:

- a. Identification of each impact or mitigation site.
- b. The dimensions (square feet and/or linear feet) of impacted waters of the State at each impact site
- c. The dimensions (square feet and/or linear feet) of enhanced or restored waters of the State at each mitigation site
- d. Date and time of monitoring event.
- e. Observations made of vegetation (percent coverage, percent survival, etc.)
- f. Observations of channel and/or berm stability (e.g., slumping, undercutting, headcuts, knickpoints, incision, etc.)
- g. Depth and duration of ponding.
- h. Any records of species observed using the site
- i. Site photographs
- j. Map or maps of each site showing the areas in which work was performed at each site and the locations and directions at which photographs were taken.

2. Written reports, maintenance records, field notes, photographs and other records shall be made accessible to Regional Water Board staff upon request.

III. Reports to be filed with the Board

- A. Reports and the letter transmitting reports shall be signed by the general manager or assistant general manager(s) of the Discharger, or by a duly authorized representative of that person.

B. Annual Notification of Proposed Projects

1. The Annual Notification of Proposed Projects for the following year's proposed projects shall be submitted by June 1st of each year.
2. The Annual Notification of Proposed Projects shall include:
 - a. All routine maintenance activities planned for the following year, including the Nationwide Permit (NWP) that would have authorized each project;
 - b. Individual project locations, scope, purpose and need;
 - c. The amount of fill of waters of the State, including wetlands, for each project, in square feet and/or linear feet as appropriate. For culvert replacement or rehabilitation projects, the length of existing and replacement culverts shall also be reported.¹:
 - d. Descriptions of all on-site mitigation (e.g., stabilization of disturbed surfaces, re-vegetation of disturbed surfaces, planting of riparian vegetation, etc) for that year's projects.
 - e. Descriptions of the off-site mitigation projects proposed for that year's projects (Since many mitigation sites will be consolidated mitigation sites compensate for impacts of multiple small projects, the appropriateness of each year's proposed mitigation shall be evaluated with respect to net impacts and net mitigation).
 - f. Performance criteria for on-site restoration that can be used to establish that habitats at impacted sites have recovered to near pre-impact levels (e.g., percent cover of disturbed surfaces with vegetation, percent survival of replanted riparian vegetation, etc.).
 - g. Performance criteria for off-site mitigation that can be used to establish that the mitigation projects have successfully created or enhanced habitat (e.g., geomorphic stability of channels and/or berms, percent survival of planted riparian vegetation, percent cover of planted vegetation, sufficient ponding to support breeding of listed amphibians, etc.).

C. Annual Post-Maintenance Reports

1. Following the end of the year, the discharger shall prepare and submit by February 15th of each year, a detailed report (annual report) on all completed routine maintenance projects and mitigation sites implemented during the previous year.
2. The annual report shall contain:
 - a. Information regarding the various maintenance projects' locations, length and width of impact areas. At culvert sites, the report shall include the length of the existing and replacement culverts. This information may be submitted in a tabular format with supporting text.
 - b. Information regarding the various mitigation projects' locations, length and width of impact areas. For each mitigation site, the annual report shall describe the type of mitigation habitat that was restored and/or enhanced. This information may be submitted in a tabular format with supporting text.

¹ Due to the relatively small footprint of most projects and the similar nature of many projects, the notification and post-maintenance reports may be organized as a large table. This table should be augmented with explanatory text for any unusual impact or mitigation sites.

- c. At bank stabilization sites, the project report shall include a description of the bio-engineering bank stabilization methods used at the site. If bio-engineering bank stabilization was not implemented, the annual report shall include a rationale for selecting an alternate bank stabilization method.
- d. A list of all BMPs applied to the various maintenance projects completed within each preceding year as part of the required annual report described above.
- e. A description of any unanticipated field conditions that affected the implementation of maintenance or mitigation projects.
- f. Any changes to planned maintenance projects or mitigation projects, as they were described in the Annual Notification of Proposed Projects.
- g. All of the Standard Observations specified in Section II.A of this SMP.
- h. Discussions of each site's progress toward meeting its performance criteria, including any recommendations for maintenance necessary to help attain the performance criteria and summaries of maintenance activities that have been performed in the prior year. If necessary, contingency measures for all mitigation projects shall be discussed. The discharger shall also identify any special approaches or conditions utilized to complete the maintenance and mitigation projects.
- i. A current account of impacts and mitigation restoration, including: a summary of losses of wetlands/waters of the State associated with each individual routine maintenance activity project, including the total acreage, linear feet, and type of wetland/waters of the State impacted; a summary of the gains of wetlands/waters of the State associated with each mitigation site including the total acreage, linear feet, and type of wetland/waters of the State enhanced or restored; and a summary of net increase (or decrease) in the total acres, linear feet, and type of wetland/water of the State created in the previous year. This information will be used to determine whether or not the Discharger has created excess mitigation credits for use by the Discharger as mitigation for future maintenance projects, or as otherwise allowed by the Provisions of the Order.
- j. If any impact or mitigation sites have attained their performance criteria, the Annual Report will present the basis for determining that such sites have met their performance criteria. Upon receiving concurrence from the Executive Officer of the Regional Board, these sites may be removed from annual monitoring and reporting requirements.

East Bay Regional Park District

**Regional Maintenance Activities
Alameda and Contra Costa Counties**

ATTACHMENT C

**Federally Listed Species that Occur Within
East Bay Regional Park District Property**

Federally listed species that occur within East Bay Regional Park District and potentially occur at various project sites that are covered under the U.S. Fish and Wildlife Service and NOAA – National Marine Fisheries Service programmatic consultation (November 16, 2006).

Longhorn fairy shrimp (*Branchinecta longiantenna*)
Vernal pool fairy shrimp (*Branchinecta lynchi*)
Vernal pool tadpole shrimp (*Lepidurus packardii*)
Delta smelt (*Hypomesus transpacificus*)
Chinook salmon (*Oncorhynchus tshawytscha*)
Steelhead (*Oncorhynchus mykiss*)
California tiger salamander (*Ambystoma californiense*)
California red-legged frog (*Rana draytonii*) formally (*Rana aurora draytonii*)
Giant garter snake (*Thamnophis gigas*)
California clapper rail (*Rallus longirostris obsoletus*)
Salt marsh harvest mouse (*Reithrodontomys raviventris*)
Contra Costa goldfields (*Lasthenia conjugens*)
Soft bird-beak (*Cordylanthus mollis* ssp. *mollis*)

These thirteen covered species could potentially occur at various proposed routine maintenance project sites within the East Bay Regional Park District. To assess potential effects on federally listed we are providing a quantitative and qualitative analysis of all the East Bay Regional Park District's (District) routine maintenance projects conducted under our U.S. Army Corps of Engineer's General permits Numbers 23394S and 28902S. This includes evaluating potential impacts of routine maintenance projects to federally listed species and potential effects to critical habitat. From 1998-2009 the District worked on a total 247 projects in a variety of wetlands throughout our parklands. One hundred twenty three of these projects had no permanent impact or wetland loss and 124 projects had some permanent impact resulting in wetland loss per project ranging from <0.0001 acres to 0.09 acres, for an overall cumulative total of 1.016 acres of permanent wetland loss. To compensate for this wetland loss the District created and/or restored > 2.58 acres of lentic water habitat.

Not all of the 247 routine maintenance projects occurred in habitat that support federally listed species. Within the District, the California red-legged frog (*Rana draytonii*) occurs in 81 ponds and 26 district stream reaches, and California tiger salamander (*Ambystoma californiense*) have been documented breeding in 80 stock ponds, where 39% of the ponds these two species are sympatric. During the eleven year permit period, 116 routine projects were completed in potentially suitable habitat and 55 projects resulted in some permanent wetland loss within the distributional range of the California red-legged frog. The impacts per project ranged from <0.0001 to 0.02 acres, for an overall total of 0.360 acres of permanent wetland loss in areas which potentially provide habitat for this species. The other 61 projects had minimal temporary impact and resulted in no permanent wetland loss or adversely affected aquatic breeding or non-breeding habitats.

While 101 routine projects were completed within the distributional range of California tiger salamander, none of the projects impacted lentic waterbodies or resulted in temporary or permanent loss of aquatic breeding habitat. In addition, the vast majority of routine maintenance projects occurred in various drainages and stream reaches that do not support California tiger salamander breeding populations. The projects primarily include the replacement of culverts and installation of armored fords on existing roads with un-measurable temporary disturbance to suitable upland habitat for California tiger salamanders.

Although these projects occurred in the distributional range of the California red-legged frog and/or California tiger salamander, not all of the projects occurred within critical habitat designation or in areas known to support the species. Large portions of District lands are excluded from critical habitat designation of California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162). In addition as previously stated, none of the routine maintenance projects had a direct, indirect, and/or cumulative effect on aquatic or terrestrial habitat known to support or potentially suitable for California tiger salamanders.

Similarly, the vast majority of the District's parklands in eastern Contra Costa County are excluded from critical habitat designation for California red-legged frog (Federal Register: March 17, 2010 – Volume 75, Number 511). However, critical habitat units in Alameda and Contra Costa Counties include District lands.

Consequently, the District's eleven years of routine maintenance projects permanently impacted 0.287 acres of wetlands within California red-legged frog critical habitat designation, and 0.098 acres of wetland loss within the critical habitat designation for the California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162). However, most of the permanent wetland loss in critical habitat designation occurred at sites where we have not documented these species. In fact, the 0.098 acres of permanent impacts affected lotic habitat and in streams that do not support California tiger salamander breeding populations. Moreover, from 1998-2009 we have not documented any California red-legged frogs or California tiger salamanders at the projects sites. Nevertheless, to assist in the conservation and recovery, the District has restored and/or created 2.40 acres of California red-legged frog and 0.78 acres of California tiger salamander lentic water habitat.

Although District lands support populations of longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*), these species are restricted to isolated rock out-crop waterbody depressions at Vasco Caves and Brushy Peak Regional Preserves (Federal Register: August 11, 2005 – Volume 70, Number 154). We have not documented any of these crustaceans in other waterbody sites. In addition, these rock out-crops are protected features and have not been impacted by anthropogenic effects associated with any project. While routine maintenance projects have occurred in the distributional range of these species, none of the projects have impacted any waterbodies known to support these species. Only one project occurred in critical habitat designation. However, it was within a high gradient seasonal stream which is considered not suitable aquatic habitat to support these species.

Many of the District's shoreline units are within the distributional range of California clapper rail (*Rallus longirostris obsoletus*) and salt marsh harvest mouse (*Reithrodontomys raviventris*). The California clapper rail successfully nests at several shoreline units, most notably at Hayward and Martin Luther King Jr. Regional Shorelines where the dense vegetative cover supports high rail densities. Similarly, the salt marsh harvest mouse have been documented at Coyote Hills, Hayward Marsh, Salt Marsh Harvest Mouse Preserve, Oro Loma Marsh, Emeryville Crescent, Hoffman Marsh, Martinez East, Pittsburg West, and Waterbird (Shell) Marsh. These salt water emergent marshes are pickleweed (*Salicornia virginica*) dominated sites which provide habitat for the salt marsh harvest mouse. Typical routine maintenance projects along our shorelines have consisted of protecting or repairing existing levees and upland structures. During the eleven year permit periods, seven routine projects were completed in potentially suitable habitat and only one project resulted in 0.07 acres of permanent wetland loss within the distributional range of the California clapper rail. An additional 0.05 acres of wetlands were temporarily impacted during the construction period of replacing rip-rap on outboard eroded levees with no vegetation. Likewise, during this period, five routine projects were completed in distributional range of salt marsh harvest mouse and temporarily impacted 0.10 acres of potentially suitable habitat along levees. However, the vast majority of these maintenance project sites were along out-board exposed levees in areas where we have not documented California clapper rail or salt marsh harvest mouse in locations with suitable habitat to support these species.

The north eastern shoreline edge of Contra Costa County is just within the distributional range of the giant garter snake (*Thamnophis gigas*). Although Big Break Regional Shoreline contains suitable habitat to support this species, we have not documented giant garter snake at the shoreline. Moreover, no routine maintenance projects have occurred in this region with aquatic or terrestrial habitat potentially suitable for this species.

District shorelines from Suisun Bay to the Delta Region of the San Joaquin River are in the distribution range of Delta smelt (*Hypomesus transpacificus*) which occupy and disperse into stream channels and tidal backwater sloughs. During the eleven year permit period, four routine projects were completed in potentially suitable habitat and only one project resulted in 0.009 acres of permanent wetland loss within the distributional range of Delta smelt. An additional 0.01 acres of wetlands were temporarily impacted during the period of construction to replace existing rip-rap, culvert, and flapper gate. All four of these projects occurred in critical habitat designation for Delta smelt (Federal Register: December 19, 1994 – Volume 59, Number 242). However, these routine maintenance projects did not impact any submerged or emerged aquatic vegetation and had minimal disturbance or adverse affect to Delta smelt habitat.

The District's shorelines and several parklands are in watersheds with steelhead (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*), most notably in lower Alameda Creek and Delta Regions along the San Joaquin River. Though during the eleven year permit periods many routine maintenance projects have been performed in drainages and streams, none have occurred in reaches occupied by these salmonids or considered active spawning corridors. While six routine maintenance projects resulted in 0.07 acres of permanent wetland loss were completed in potentially suitable estuarine salmonid habitat along shorelines of San Francisco and Suisun Bays, these projects consisted of protecting or repairing existing levees and flap gate structures. Additionally, the vast majority of rip-rap was placed above mean high water line with minimal affect to steelhead and Chinook salmon habitat.

Critical habitat designation for salmonids including steelhead and Chinook salmon has been determined throughout various regions of the San Francisco Bay Region (Federal Register: September 2, 2005 – Volume 70, Number 170 and Federal Register: January 5, 2006 – Volume 71, Number 3). However, the streams and drainages within District lands, including previously occupied steelhead habitat areas of Wildcat Creek and upper Alameda Creek are not considered Distinct Population Segments or included in the

critical habitat designation (Federal Register: September 2, 2005 – Volume 70, Number 170 and Federal Register: January 5, 2006 – Volume 71, Number 3). Similarly, District lands are not included in the critical habitat designation for Chinook salmon (Federal Register: September 2, 2005– Volume 70, Number 170). Nevertheless, the District has removed several migratory barriers and been very involved in efforts to re-establish an anadromous steelhead and possibly Chinook salmon to upper Alameda Creek.

Contra Costa goldfields (*Lasthenia conjugens*) are habitat limited to vernal pools in open grassy areas at elevations up to 470 meters. Although several Contra Costa goldfield populations are included in critical habitat designation (Federal Register: August 11, 2005 – Volume 70, Number 154), none of the sites are within District lands. In addition, we have not documented or confirmed any individual plants or populations of Contra Costa goldfields on District lands. Thus, routine maintenance projects have not impacted Contra Costa goldfields or critical habitat designation.

Soft bird's-beak (*Cordylanthus mollis ssp. mollis*) occurs on the upper reaches of coastal salt marshes, primarily at the limits of tidal influence. It is associated with *Salicornia virginica*, *Distichlis spicata*, *Jaumea carnosa*, *Frankenia salina*, and *Triglochin maritima*. The only District population occurs on the transition zone between shoreline sand and the pickleweed (*Salicornia virginica*) marsh along the northeast corner of Point Pinole Regional Shoreline, a location where no routine maintenance activities have occurred.

Here are other federally listed species that occur within Alameda and Contra Costa Counties and potentially on District lands and various project sites.

Santa Cruz tarplant (*Holocarpha macradenia*)

Large-flowered fiddleneck (*Amsinckia grandiflora*)

Presidio clarkia (*Clarkia franciscana*)

Antioch Dunes evening primrose (*Oenothera deltoides* ssp. *howellii*)

Pallid manzanita (*Arctostaphylos pallida*)

Alameda whipsnake (*Masticophis lateralis euryxanthus*)

Western snowy plover (*Charadrius alexandrinus nivosus*)

California least tern (*Sterna antillarum browni*)

San Joaquin kit fox (*Vulpes macrotis mutica*)

These additional nine species could potentially occur at various proposed routine maintenance project sites within the East Bay Regional Park District. However, most of these species, except for the Western snowy plover and California least tern, are generally associated with upland habitats. Moreover, excluding the Alameda whipsnake, these species have limited distributional range and/or occurrence on District lands.

Santa Cruz tarplant (*Holocarpha macradenia*) is found on coastal prairies and grasslands, often with clay or sandy-clay soils, between 10 meters and 220 meters elevations. This species is most frequently associated with non-native grasses and non-native French broom (*Genista monpessulana*). Several transplanted populations of Santa Cruz tarplant occur in the non-native annual grasslands of Wildcat Canyon Regional Park. This introduced Santa Cruz tarplant population is within critical habitat designation (Federal Register: October 16, 2002 – Volume 67, Number 200). However, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species. Nevertheless, for many years the District has been implementing various management actions at the Santa Cruz tarplant population site to enhance the primary constituent elements to improve habitat conditions for this species.

Large-flowered fiddleneck (*Amsinckia grandiflora*) normally occurs in inner coast range grasslands with steep slopes and sandy soils. The only District population was planted on a relatively small site in a non-native annual grassland ridgetop within Black Diamond

Mines Regional Preserve. Moreover, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species.

Presidio clarkia (*Clarkia franciscana*) grows in grassland communities with serpentine soils. The only District occurrence is a large population on the serpentine prairie of Redwood Regional Park. However, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species. Instead, the District has implemented various management actions at the serpentine prairie site to enhance the primary constituent elements to improve habitat conditions for Presidio clarkia.

Antioch Dunes evening primrose (*Oenothera deltoides* ssp. *howellii*) occurs on inland sand dunes. The only District occurrence is a small population on the Southwest side of Browns Island in Contra Costa County. However, no routine maintenance projects have occurred in this region or where known populations exist.

Pallid manzanita (*Arctostaphylos pallida*) occurs in chaparral communities with somewhat mesic soils and in coastal scrub, with an elevation range of 200-445m. These soils are generally thin, silica-rich shales. Large populations (>450 individuals) are found in Huckleberry Botanic Preserve and Sobrante Ridge Regional Preserve. About 20 planted pallid manzanitas occur in Tilden Regional Park, and a single plant is found in both Redwood Regional Park and Sibley Volcanic Regional Preserve. However, no routine maintenance projects have occurred in any area with known populations.

The Alameda whipsnake (*Masticophis lateralis euryxanthus*) typically inhabits District parks throughout Alameda and Contra Costa Counties with suitable chaparral, scrub, and oak savanna habitats. This species is closely associated with these uplands habitats but also occurs in riparian and stream corridors. Vast regions of District lands are excluded from critical habitat designation for Alameda whipsnake (Federal Register: October 3, 2000 – Volume 65, Number 192 and Federal Register: October 2, 2006 – Volume 71, Number 190). While 221 routine projects were completed within the distributional

range of the Alameda whipsnake, these projects involve various aquatic habitat types and often in mesic locations without the essential primary constituent elements to support this species. Furthermore, most of these maintenance activities have occurred in areas where we have not documented Alameda whipsnake and had minimal disturbance to suitable upland habitat.

Historically, Western snowy plover (*Charadrius alexandrinus nivosus*) and California least tern (*Sterna antillarum browni*) infrequently occurred and had very limited nesting on District properties. Western snowy plovers nesting attempts at Hayward Regional Shoreline were restricted to an event on Island 5 and one nest attempt on the basin levee. Similarly in 1990, only one nest attempt was documented by California least terns on the same small island at Hayward Regional Shoreline. However, after the District completed a habitat enhancement project on Island 5, California least terns have successfully nested every year since 2007 and appears to have established a stable colony. Correspondingly, on Island 5, Western snowy plover successfully nested in 2008 and each of the subsequent years. During the eleven year permit periods, only two routine maintenance projects were completed at Hayward Regional Shoreline. While these projects resulted in 0.04 acres of temporary and permanent wetland impacts, both projects were on levees at considerable distances from the island supporting Western snowy nests and the California least tern colony. In addition, the construction occurred during the non-nesting season with no disturbance to either species. As a consequence, none of the projects or associated routine maintenance activities impacted Western snowy nests or the California least tern.

The eastern portions of Alameda and Contra Costa Counties are the extreme northern extent of the San Joaquin kit fox (*Vulpes macrotis mutica*) range. This species typically occur in xeric upland habitats, predominantly in the open grassland and oak savanna. Since 1990 only eight San Joaquin kit fox have been documented on District lands with occurrences at Black Diamond Mines, Round Valley, Brushy Peak, and Vasco Caves Regional Preserves. Considering, San Joaquin kit fox are associated with xeric upland habitats, their extremely low density throughout Alameda and Contra Costa Counties,

and the routine maintenance projects occur in aquatic habitats with little disturbance to uplands, it is unlikely the project activities had a measurable effect or impact San Joaquin kit fox habitat.

Summary and Discussion

The proposed activities associated with District's routine maintenance activities including bank stabilization, maintenance and minor modifications of existing boat docks-marinas, installation and maintenance of existing clear-span bridges, replacement and upgrades of existing culverts, minor maintenance dredging of silt basins, and levee maintenance appear to meet the criteria described in the U.S. Army Corps of Engineers programmatic consultation with U.S. Fish and Wildlife Service and NOAA-National Marine Fisheries Service. The District currently manages 66 regional parks, recreation areas, wilderness lands, shorelines, preserves, and land bank areas that encompass over 102,000 acres in Alameda and Contra Costa Counties. Approximately 80 percent of District lands are protected and operated as natural parklands which provide potential habitat for 22 federally listed species. This eleven year Regional General Permit analysis illustrates that the District's routine maintenance projects had minimal direct, indirect, and cumulative effects to these species. In effect, most temporary disturbance and permanent aquatic loss were largely limited within California red-legged frog habitat, with little effect to other aquatic and upland habitats potentially supporting other species.

In addition, many routine maintenance projects that quantitatively resulted in permanent wetland loss, actually improve habitat conditions by restoring natural flow regimes, reducing stream and shoreline erosion, minimizing sediment loading, and maintaining open water conditions. Projects such as replacing culverts with armored fords or clear-span bridges have daylighted stream reaches, prevented scouring, and often improved the hydrological conditions and lotic habitat suitability for California red-legged frog, Delta smelt, steelhead, and Chinook salmon. Other projects such as the stabilization of

existing levees actually protect several shoreline restoration sites including Oro Loma Marsh, Cogswell Marsh, and Hayward Marsh which provide habitat for California clapper rail, California least tern (i.e. Island 5), Western snowy plover (i.e. Island 5), and salt marsh harvest mouse.

Moreover, the District have conducted these routine maintenance projects with a variety of best management practices to avoid and minimize potential adverse affects to listed species (Attachment C). They include but are not limited to the following: Within the distributional range of California red-legged frog and/or California tiger salamander work is performed between August 1 and October 31 or under dry site conditions to avoid potential impacts to aquatic habitats and vulnerable life stages. Similarly, to avoid and minimize potential impacts to California clapper rail, Western snowy plover, and/or California least tern, routine maintenance activities are conducted during the non-nesting season (September 1 to January 1).

On August 6, 1998 the U.S. Fish and Wildlife Service concurred with the US Army Corps of Engineers determination that the District's routine maintenance activities performed under the Regional General Permit are not likely to impact the California red-legged frog (enclosed). In addition, U.S. Fish and Wildlife Service critical habitat designation for California red-legged frog (Federal Register: April 13, 2006 – Volume 71, Number 71 and Federal Register: March 17, 2010 – Volume 75, Number 511) and critical habitat designation for California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162) includes a Special 4d rule exemption for existing routine ranching activities including maintenance of existing waterbodies and water sources created to provide water for livestock. Also on May 5, 1998 the District received a Technical Assistance from U.S. Fish and Wildlife Service that determined the effects of annual road grading and maintenance activities of existing roads and trails are not likely to result in the take of Alameda whipsnake (enclosed).

Within the District's Master Plan 1997, the "conservation of rare, threatened, and endangered species of plants and animals and their supporting habitats will take

precedent over all other activities”. Accordingly, District biologists are involved in the recovery of federally listed species. We have provided information and participated on the California red-legged frog Recovery Plan, developing the survey protocol, and critical habitat designations; California tiger salamander federal and state listing petitions and critical habitat designations; California clapper rail, salt marsh harvest mouse, and San Joaquin kit fox Recovery Plans; Alameda whipsnake Recovery Plan and critical habitat designation; steelhead, Chinook salmon and Santa Cruz tarplant critical habitat designations. In addition, we continue to conduct research and work with USFWS and NMFS biologists to assist in the conservation and recovery of steelhead, California red-legged frog, California tiger salamander, Alameda whipsnake, California clapper rail, California least terns, Western snowy plover, San Joaquin kit fox, Presidio clarkia, large-flowered fiddleneck, and Santa Cruz tarplant.

Because the District’s routine maintenance projects are extremely small scale and work activities are performed with best management practices (Attachment C) which includes very specific avoidance measures to minimize potential impacts to listed species and their habitats, we believe it is unlikely the District’s proposed routine maintenance activities would adversely affect these 22 federally listed species, any distinct population segment, evolutionary significant unit, or critical habitat designation.

East Bay Regional Park District
Regional Maintenance Activities
Alameda and Contra Costa Counties

ATTACHMENT D

Mitigation Ratios for
East Bay Regional Park District
Regional Maintenance Activities

ATTACHMENT D

MITIGATION RATIOS FOR EBRPD ROUTINE MAINTENANCE ACTIVITIES

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Culverts			
Replacement of Existing Culverts (replacement culverts with same length as prior culvert and equal or larger diameter).	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Constructing new Head & Tail Walls for culverts (may include replacement culvert with same length as prior culvert and equal or larger diameter).	Temporary and Permanent	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees. Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters, and successful revegetation with appropriate native species.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement
Routine Maintenance of Existing Culvert (sediment and debris removal)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of Energy Dissipaters (Rock Riprap Armoring at Culvert Inlets or Outlets)	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>
Dredging			
Routine Maintenance Dredging of silt basins and ponds	Temporary	Temporary Impacts: No mitigation necessary for dredging of silt basins and ponds that provide habitat for special status species.	NA
Streambank, shoreline and Levee Stabilization			
Replacement of existing rip-rap or existing shoreline /levee stabilization	Temporary	No mitigation required for work performed within the prior footprint of bank armoring.	NA
Streambank, shoreline and Levee Stabilization			
Installation of new rip-rap, or other non-bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of new rip-rap in combination with bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1:1 to 2:1 for Restoration 2:1 to 4:1 for Enhancement</p>
Installation of bioengineered bank stabilization.	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 0.5:1 for Restoration 2:1 for Enhancement</p>
Rock Ford Crossings			
Installation of new armored or natural rock ford crossings	Temporary & Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Maintenance of existing armored rock fords	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Clear Span Bridges, Spring boxes and Existing Shoreline Facilities			
Maintenance and Installation of Clear span bridges	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Note: Replacement of a culvert with a clear span bridge may create creek restoration credits.
Maintenance of spring boxes	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Maintenance of Existing Recreational Shoreline Facilities	Temporary	Temporary Impacts: Revegetation of disturbed vegetated surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Material Removal			
Removal of Vessels from Waterbodies	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Removal of Debris from Waterbodies (including hazardous man-made structures)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic, shoreline, or riparian vegetation was disturbed.