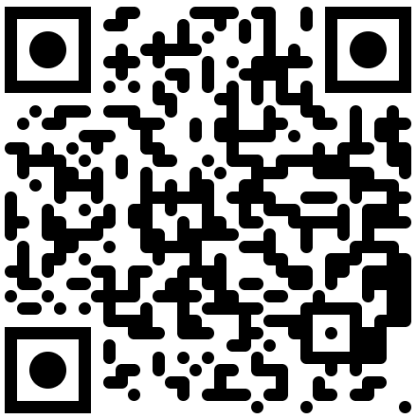


Bay Area Watersheds – Compiled research of creeks that drain into the San Francisco/San Pablo Bay system

Organized by Jon Fischer and Lauren Hartman
and the Society of Submerged Culture

List of Creeks that drain into the SF/San Pablo Bay system
organized by County

SF

- Lobos Creek
- Mission Creek
- Islais Creek
- Yosemite Creek

San Mateo Cnty / Peninsula

- Guadalupe Valley Creek
- Colma Creek
- San Bruno Creek
- Millbrae Creek
- Mills Creek
- Sanchez Creek
- San Mateo Creek
- Belmont Creek
- Pulgas Creek
- Cordilleras Creek
- Redwood Creek
- San Francisquito Creek (w/ Los Trancos defines border b/t San Mateo and Santa Clara Cnty)

Santa Clara

- Permanente Creek
- Matadero Creek
- Stevens Creek
- Adobe Creek

- Guadalupe River
- Saratoga Creek
- Coyote Creek

Alameda Cnty

- Mowry Slough
- Plummer Creek
- Alameda Creek/Alameda County Flood Control Channel
- Union City Slough
- Mount Eden Creek
- San Lorenzo Creek
- Estudillo Channel
- San Leandro Creek
- Lion Creek
- Peralta Creek
- Indian Gulch
- Glen Echo Creek
- Temescal Creek
- Derby Creek
- Potter Creek
- Strawberry Creek
- Codornices Creek
- Cerrito Creek

Contra Costa County

- Baxter Creek
- Wildcat Creek
- San Pablo Creek
- Garrity Creek
- Pinole Creek
- Refugio Creek
- Canada Del Cierbo Creek
- Edwards Creek

Napa

- Napa River

Sonoma

- Sonoma Creek
- Petaluma River

Marin

- Novato Creek
- Miller Creek
- Gallinas Creek
- San Rafael Creek
- Corte Madera Creek
- Old Mill Creek
- Coyote Creek

Selected Creek List (40)

SF

1. Lobos Creek
2. Mission Creek
3. Islais Creek
4. Yosemite Creek

San Mateo Cnty / Peninsula

5. Colma Creek
6. San Bruno Creek
7. Millbrae Creek
8. Mills Creek
9. San Mateo Creek
10. Belmont Creek
11. Pulgas Creek
12. San Francisquito Creek (w/ Los Trancos defines border b/t San Mateo and Santa Clara Cnty)

Santa Clara

13. Permanente Creek
14. Stevens Creek
15. Adobe Creek
16. Guadalupe River
17. Guadalupe Slough
18. Saratoga Creek
19. Coyote Creek

Alameda Cnty

20. Mowry Slough
21. Alameda Creek/Alameda County Flood Control Channel
22. Union City Slough
23. San Lorenzo Creek
24. San Leandro Creek
25. Glen Echo Creek
26. Temescal Creek
27. Strawberry Creek
28. Cerrito Creek (Alameda/CC County border)

Contra Costa County

29. Wildcat Creek
30. San Pablo Creek
31. Pinole Creek
32. Refugio Creek

Napa

33. Napa River

Sonoma

34. Sonoma Creek

35. Petaluma River

Marin

36. Novato Creek
37. Miller Creek
38. Corte Madera Creek
39. Old Mill Creek
40. Coyote Creek

News Items Sources:

1. San Francisco Chronicle
    a. Current Database via Cal Maritime Newsbank subscription

Mapping sites:

1. ArcGIS online
    a. Santa Clara Water Dist. ArcGIS Online Map
2. All Trails
    a. Can toggle between trail maps, satellite, and U.S. Topo
3. SF Estuary Institute & Aquatic Science center
    a. Lots of specialty project maps and pdfs
    b. Excellent Layered pdf map w/ Modern & Historial Baylands👍👍
        i. main page for this map
    c. 262 page Bay SHoreline Adaptation Atlas 👍👍 (focuses on operational landscape units (OLU)
        i. main page with downloads
            1. 2022 update ecotone levee and wildlife
4. SF Bay trail map
5. Natural Atlas
    a. Can /search select individual creeks/named features
        i. searched creeks get outlined 👍
6. Gaia GPS 👍
    a. For hiking
    b. Free version includes USGS topo overlays and printable maps!
    c. Can /search select individual creeks/named features
7. NOAA pdf Charts
    a. Entrance to San Francisco Bay pdf (Chart: 18649 Edition: 68)
    b. Mare Island Strait pdf (Chart: 18655)
    c. San Pablo Bay pdf (Chart: 18654)
    d. San Francisco Bay South pdf (Chart: 18655)
    e. NOAA symbols pdf 👍
8. SF Bay Trail Maps at MTC (Metropolitan Planning Commission – the transportation planning, financing and coordinating agency for the nine-county San Francisco Bay Area.)
    a. 25 maps circling the bay
9. San Francisco Bay Water Trail interactive & pdf (unlayered) map 👍👍

a. regional program that encourages non-motorized small **boaters** to safely enjoy the San Francisco Bay
b. Excellent **water features** (mud, marsh etc)
c. Documents **shoreline parks**
d. Includes searchable trails and trips

10. Don Edwards San Francisco Bay National Wildlife Refuge (U.S. Fish & Wildlife Service)
    a. main interactive map page
    b. Links
        i. wikipedia page here
        ii. usfws page here
            1. article on 50th anniversary by Jacquelyn D'almeida
        iii. SF Chronicle 10/8/22 article on 50th anniversary
        iv. SJ Mercury News on 50th anniversary (2022!)
        v. "The Refuge On the Wild Side of Silicon Valley" by Hilary Clark June 10, 2021 essay in Bay Nature Magazine (Bay Nature Institute)
    c. First urban National Wildlife Refuge established in the United States
    d. Partially based on the grass roots organization of Florence LaRiviere begun in the 1960s
        i. As of Oct 8 2022, still alive at 98 years old!
        ii. Florence LaRiviere article (pdf) in Summer 2019 issue of Tideline newsletter of SF Bay national Wildlife Refuge Complex
        iii. Won 2012 Environmental Law Institute "National Wetlands Award"
            1. "NWA" (lol) supported by the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, NOAA National Marine Fisheries Service, U.S. Department of Agriculture Natural Resources Conservation Service, USDA Forest Service and Federal Highway Administration. A committee of wetland experts representing federal and state agencies, academia, conservation organizations and the private sector selects the award recipients.
    e. Founded in 1972 w/ signature by Nixon
    f. Officially launched in 1974
    g. Renamed in 1995 by Bill Clinton for congressman Don Edwards (D – California)
        i. San Jose congressman in 1972 when he championed the refuge legislation
        ii. Don Edwards wikipedia page
        iii. one of eight members of the Judiciary Committee to vote for all five articles of impeachment drafted against President Richard Nixon during the Watergate scandal. (Three of the five articles were adopted prior to Nixon's resignation on August 9, 1974.)
        iv. opposed the U.S. military involvement in the Vietnam War, the invasion of Panama, and the Persian Gulf War
        v. L.A. times obituary

h. dedicated to preserving and enhancing wildlife habitat, protecting migratory birds, protecting threatened and endangered species, and providing opportunities for wildlife-oriented recreation and nature study for the surrounding communities.
i. 2004 area: 30,000 acres (120 km2)
j. 2022 visitors: 800,000
k. landscapes/habitats:
    i. open bay
    ii. salt pond
        1. About 9,000 acres (36 km2) of salt ponds within the refuge are managed by Cargill Salt, which has perpetual salt-making rights. Cargill uses the salt ponds to concentrate brines as part of its solar salt operation which produces salt for food, agriculture, medical, and industrial uses throughout the Western United States.
    iii. salt marsh
    iv. mudflat
    v. upland and vernal pool habitats
l. Located along the Pacific Flyway, millions of shorebirds and waterfowl stop to refuel at the Refuge during the spring and fall migration.
    i. hosts over 280 species of birds each year.
    ii. variety of birds that may call the refuge home or use it as a stopover:
        1. white pelican
        2. white-tailed kite
        3. hawks
        4. osprey
        5. eagles
    iii. non birds
        - endangered California clapper rail
        - salt marsh harvest mouse.
    iv. One of six wildlife refuges in the San Francisco Bay Area:
        1. Don Edwards San Francisco Bay National Wildlife Refuge
            a. renamed Don Edwards San Francisco Bay National Wildlife Refuge in 1995 in recognition of Congressman Don Edwards and his efforts to protect sensitive wetlands in south San Francisco Bay.
        2. Antioch Dunes
        3. Ellicott Slough
        4. Farallon
        5. Marin Islands
        6. San Pablo Bay.

11. South Bay Salt Pond Restoration Project
    a. Updated maps of South Bay Salt Marsh Projects w/ pdf downloads
12. Marin County Flood Control District

    a. Watersheds map page
13. Alameda County Flood Control & Water Conservation District 👍👍
    a. Watersheds Interactive map
    b. Google Earth Pro
        i. Map of the Western Alameda County Watershed
        ii. Map of the Eastern Alameda Creek Watershed
14. Google Maps
    a. Street View, Satellite view etc
15. S.F. Bay Water Trail
    a. Excellent coastal maps with details about mud, marshes, salt ponds

Other Resources

- Boating SF Website
    - Boating and Marine Directory
- What is a watershed? (Alameda Creek Alliance)
- What is a watershed? (The Watershed project)
- Watershed model YouTube video (The Watershed project)
- The Watershed Project
    - Good You Tube channel education videos for kids

Bay Area Creeks
B-buried
O-open
M-mixed

- Select List of (40) Main Watersheds (directly drain into Bay)
- Connector Sloughs
- Tribuatries
- Drain to sewer
- * indicates it is part of the box set
- Click on images, maps, or photos for the source website

San Francisco

Only two free flowing creeks remain in San francisco, Islais Creek and Lobos Creek.

▲ **18. Treatment Plants.** San Francisco has a 900 mile-long combined sewer system that transports both sewage and storm water to the city's three wastewater treatment plants. At each of these plants, San Francisco's wastewater is treated to remove sediment, organic waste, and pollutants, and then disinfected before being discharged into the San Francisco Bay and the Pacific Ocean. The Southeast Treatment Plant, located near Third and Evans Streets, treats wastewater from the eastern side of the city. The Oceanside Treatment Plant, located adjacent to the zoo, treats wastewater from the western side of the city. The North Point Wet Weather Facility, located on Bay Street, only operates when it rains to provide additional treatment capacity.

- *Mission Creek (B)
  - When Franciscan missionaries were settling in San Francisco, they planned the Mission layout to follow the freshwater flowing through the creek now known as Mission Creek. The spring water provided fresh drinking water and irrigated their crops.
    -
  - The Mission Creek Watershed includes: Dolores Creek, Laguna Dolores, Hayes Creek, Laguna Seca.
  -

▲ **11. Mission Bay Historical Marshes.** Ringing former Mission Bay, tidal marshes with meandering sloughs spread as far north as Mission Street near Seventh and Eighth Streets, and extended to the foot of Potrero Hill. In 1853, Mission Street crossed this marsh as a wooden plank road, and continued southwest in this fashion across the sand hills to Mission Dolores. The 1860 toll road project on Mission Street began the filling of the marsh area. During the 1906 earthquake, the soft marsh soils underlying Mission Street sank and buildings in this area collapsed.

12. Mission Dolores. In 1776, Spanish explorers looking for a site to build a mission encountered a flowing spring near the current site of Sanchez and Duboce streets. They names it *Fuente de Dolores,* and the creek emanating from it *Arroyo de los Dolores.* Looking downstream they saw a gently sloping grassland, sheltered from the blowing dunes, stretching toward the bay and a navigable arm of Mission Creek. Recognizing that success of the mission depended on agriculture and that the spring water could irrigate the crops, they selected the grasslands as the mission site. Initially, the area was known as Dolores; now it is the Mission District. Three months later the colonizing expedition arrived and began construction on high ground in the grasslands. A second creek ran down a gulch along today's 18th Street; it and the grasslands beyond were dedicated to cattle grazing.

▲ **10. Hayes Creek.** This historical creek does not appear on most old maps of the city, so was probably ephemeral, only flowing in wet weather. The rest of the year, it would have percolated underground. It is said that a high groundwater table can be found at the basement of the San Francisco Symphony Hall and other Civic Center buildings.

- **Vanished Waters of Southeastern San Francisco** - Notes on Mission Bay and the Marshes and Creeks of the Potreros and the Bernal Rancho

- **Mission History as Revealed By Creeks, Streams, Lakes and Lagoons**
- **Mission Creek Harbor**
- **Backyard Bird Count Data**

- * Islais Creek (B)

The name **Islais Creek** derives from the Olone word *is-lay* meaning a wild cherry tree.

- *Islais Creek Remembered* Found SF Article
  OpenSFHistory.org wnp37.03830

Photo credit:

- Precita Cr

▲ **17. Precita Park.** Precita Creek joined Islais Creek in the tidal marsh near the intersection of Evans Avenue and Cesar Chavez Street (formerly Army Street). Its channel occupied what is now Cesar Chavez Street. Although the channel of Precita Creek was not very wide, the bordering marshes were six hundred to eight hundred feet wide. The legislature of 1878 authorized the Board of Supervisors to construct a sewer in the channel of the creek.

▲ **16. Islais Creek at Glen Canyon Park.** Glen Canyon is an undeveloped area in San Francisco holding a big surprise – an upstream branch of Islais Creek running through the canyon. It is the best accessible natural free-flowing creek in San Francisco. Dense riparian thickets line the creek and native plant restoration is taking place along the banks. A streamside trail with wayside displays provides a pleasant place for a stroll. The creek ultimately flows into a culvert near the Recreation Center, and from there through an underground pipe to the bay. The creek name comes from an Ohlone word, *is-lay*, for a wild holly-leafed cherry tree.

- *Yosemite Cr
  - The Yosemite Creek Watershed includes: Yosemite Marsh, McNab Lake, University Mound Reservoir
  - EPA Report- YOSEMITE CREEK SEDIMENT, SAN FRANCISCO, CA
  - Two Long-Lost San Francisco Creeks Could Soon See the Light of Day

- *Lobos Creek

National Park Service Lobos Creek Trailhead

- Visitacion Valley Watershed
  - Visitacion Valley was split into two watersheds.
  - North Visitacion Valley Watershed: pumped northward into the San Francisco combined sanitary/stormeater sewers.
  - South Visitacion Valley Watershed drains by gravity to San Francisco Bay.

Upper Peninsula

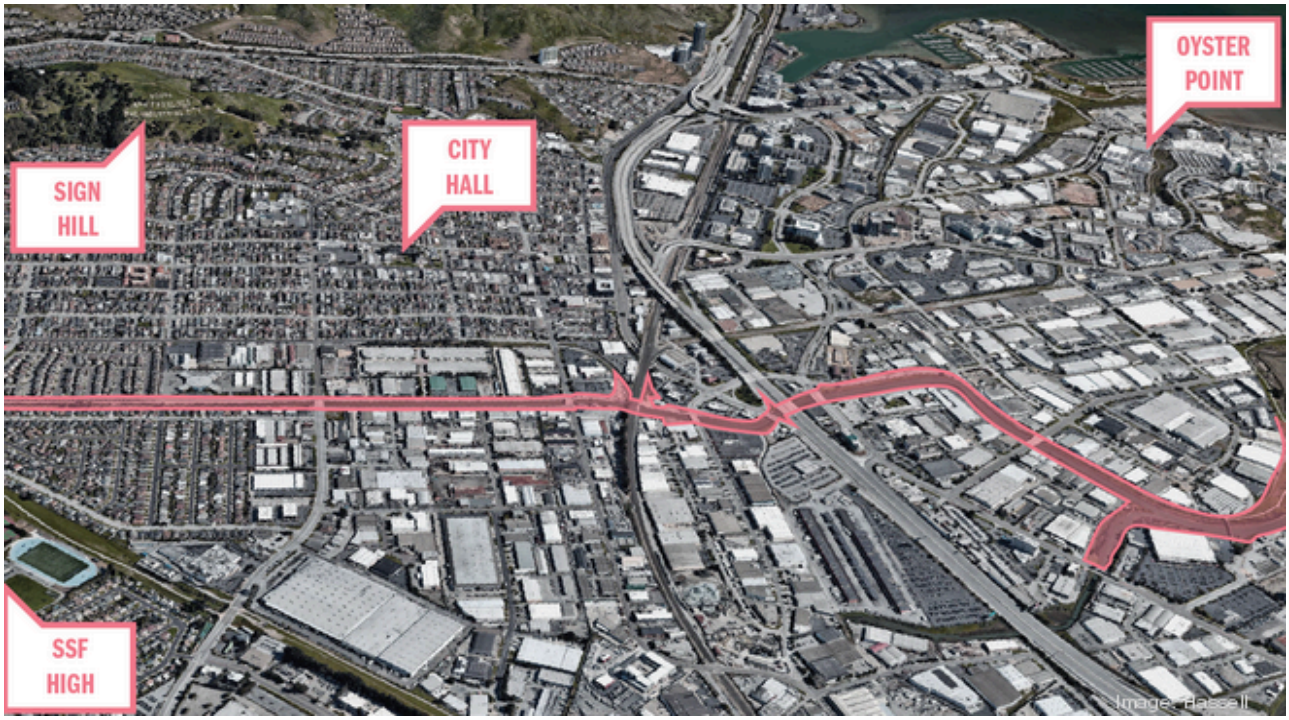
- Guadalupe Valley Creek (M)
  - no named tributaries

- Brisbane

  6. Quarry Road in Guadalupe Valley. From Quarry Road, climb the hill following the dirt road near the power lines to get a good view of Guadalupe Valley. Guadalupe Valley Creek originally flowed on the north side of Valley Drive; now the creek flows in a storm drain underneath the road. The small creeks tumbling down the canyons, such as the one just west of you, now flow into this storm drain. Imagine this landscape – originally named *Cañada de Guadalupe* – without buildings or roads, and with a tree-lined creek flowing into a marsh and then the bay.

  4. San Bruno Mountain State & County Park. Nestled in the canyons of San Bruno Mountain, small tributary creeks converge to form Colma Creek. This park is the perfect place to enjoy natural riparian habitat within the urbanized Peninsula. A short hike along the Bog and Lower Bog Trails takes you to a Colma Creek headwater. At the small bridge, notice the tall rushes (which look like grasses) lining the banks of the creek. Volunteers painstakingly removed invasive non-native plants along this section of the creek to plant the rushes and other native plants. Similar efforts are planned elsewhere within the park.

- *Colma Cr (M)
  - Children's book about Colma Creek created to spread awareness and excitement for the renovation project written in
  - "Meet the Man Helping Build a South San Francisco more resilient to Sea Level Rise"
  - KQED article "Nature Does Flood Control Better Than Concrete: One Idea in South San Francisco"
  - COLMA CREEK FLOOD CONTROL CHANNEL WALL REPAIR PROJECT



Colma Creek map by Hassell Studio
https://www.hassellstudio.com/project/colma-creek-adaptation-planning

- The Colma Creek Watershed includes: Twelvemile Creek

  10. Orange Memorial Park. Colma Creek is one of the largest creeks on the Peninsula, draining a highly urbanized watershed that also includes San Bruno Mountain. Only a few small tributaries on the mountainside remain in a natural state. Of the original seven and one half mile-long creek, one-half mile remains natural, two miles flow underground in a storm drain, and five miles flow in straight, engineered channels, such as here at this park. Notice the non-native vegetation – eucalyptus and palm trees – along the channel. Historically, native willows lined the old meandering creek channel (see map), and the creek drained into a large marsh covering most of eastern South San Francisco.

- *San Bruno Creek (M)
  - The San Bruno Creek Watershed includes:El Zanjon

13. San Bruno Creek & First Avenue. You may be asking yourself, "Where's the creek?" Through this section of the watershed, San Bruno Creek is in an underground culvert. Historically, San Bruno Creek soaked into the ground before reaching this point (see map). By the 1940s, the creek was ditched through this section to prevent seasonal flooding.

- Green Hills Cr (M)
  - Millbrae
  - This watershed collects runoff via several storm drain networks, which divert the flows around the S.F. Airport.
  - The Green Hills Creek Watershed includes: Highline Canal
- *Millbrae Cr (M)
  - no named tributaries

3. Mosta Grove. The downstream reaches of Millbrae Creek are hidden underground except for a small glimpse here and there. One of these glimpses is available along the trail at Mosta Grove. Named after Millbrae's sister city in Malta, Mosta Grove has a paved walking path following the historic path of the Millbrae Creek through a giant eucalyptus grove. Although the creek is underground through much of the park, you can catch a glimpse of the creek where it comes in from the street and just before it flows under the ball field.

- *Mills Cr (O)
  - no named tributaries

5. Mills Canyon Park Open Space. Mills Canyon is a natural wildlife area in the narrow, wooded canyon of Mills Creek. Lacking developed amenities, this park has a pristine, natural feeling that is hard to get elsewhere in the city. Take a steep, quarter-mile walk on a dirt trail from Adeline down to the bottom of the canyon and view the creek from the footbridge. The loop trail provides a variety of views of the canyon. This is a good place to experience one of our creeks in an upland environment where the channel is narrow and steep. Many creeks in this area have similar headwaters.

- Easton Cr(O)
  - Burlingame
- Sanchez Cr (O)
  - Burlingame
  - The Sanchez Creek Watershed includes: Ralston Creek, Burlingame Creek
  - Lower Terrace Creek
    - Below El Camino, the waters of Terrace are diverted along to Oakgrove into Burlingame Creek. However, the lower portion of Terrace Creek still

flows in the culvert (red dots) following the old path (green line) of the creek.

- Poplar Creek (M)
    - The Poplar Creek watershed and the unnamed watershed to the north were not drained by creeks. They are now drained by stormdrain networks. The engineered channel at the mouth of Poplar Creek does approximately follow the path of a slough which ran through a tidal marsh.
- *San Mateo Creek (O)

Bay Trail map - Burlingame to Redwood Shores

    - The San Mateo Creek Watershed includes: Polhemus Creek, Upper & Lower Crystal Springs Reservoir, San Andreas Reservoir

9. Gateway Park. San Mateo Creek is the central feature of this manicured city park. Lush lawns, a play structure, and creekside picnic tables offer inviting settings for families. Near the water, creek banks are carefully planted with native vegetation producing a natural look. A lot of engineering went into this reach of San Mateo Creek. Though in its historical channel and seemingly natural along this reach, the channel has been engineered for stability and flood capacity. Look for clues that the channel banks were widened and reinforced with gabions to prevent erosion.

10. Arroyo Court Park. San Mateo Creek, the largest creek on this map, meanders through this historical campsite of the de Anza expedition. Under the shade of large trees, a short trail leads from the interpretive sign down to benches overlooking a point bar, or inside bend in the creek where sediment deposits. Notice the boards placed on the opposite bank to prevent bank erosion. As often happens, the creek has eroded behind them.

11. Crystal Springs Dam. Completed in 1890, the dam created Crystal Springs Reservoir, originally filled by the local runoff and later by the Hetch Hetchy aqueduct. From the dam parking area, hike the Sawyer Camp Trail along picturesque Crystal Springs Reservoir and San Andreas Reservoir. Both reservoirs lie astride the San Andreas fault and supply drinking water to San Francisco and Peninsula communities. This park is also home to California's oldest known bay laurel tree, the Jepson Laurel, which is over 600 years old.

- Seal Slough Watershed (M)
  - Foster City
  - The Seal Slough Watershed includes: Leslie Creek, Borel Creek, Beresford Creek, Marina Lagoon.
  - Laurel Cr (O)

14. Laurelwood Park. This park in the headwaters of Laurel Creek offers a pleasant area with picnic tables, play structures, and grassy field, and a paved nature trail following the creek. The trail crosses a metal culvert that carries a small tributary then wanders through oak and willow forests. Keep an eye out for evidence, such as exposed tree roots, of recent creek-bank erosion. Just before the end of the trail, the creek leaves the trail and disappears into a pipe under a large grass-covered earthen dam. During wet weather, water backs up behind the dam, protecting the neighborhood below from flooding.

- *Belmont Cr / Belmont Slough (M)

- Bay Trail map - Redwood Shores to Ravenswood Slough
- The Belmont Creek Watershed includes: Water Dog Lake

16. Water Dog Lake. Banker William Ralston had this lake built in the 1800s to provide domestic water for his Belmont estate. Located in the heavily wooded canyon of Belmont Creek, the lake is now in a city park within an open space preserve. The trail to the lake is a wide fire road, which takes you through native forests and past views across the bay. Connecting trails are popular for mountain biking.

- Cordilleras Creek
  - The Cordilleras Creek Watershed includes: Steinberger Slough, Pulgas Cr
  - Bair Island is between Steinberger and Corkscrew Slough
    - Corkscrew Slough
    - Smith Slough
    - Westpoint Slough

- Pulgas Creek

  "The Pulgas Creek watershed drains approximately 3.5 square miles located within the City as well as portions of Belmont and unincorporated San Mateo County. Pulgas Creek has two forks, Upper Pulgas Creek and Brittan Creek, that start east of the open space preserve near Highway 280 and flow through the City's downtown. A large portion of the Pulgas Creek channel is modified through multiple culverts upstream of Arroyo Avenue before being combined into a single culvert upstream of the El Camino Real crossing. The creek is redirected east of Old County Road, passes through a culvert under Highway 101, and is lined with levees east of Highway 101 to protect adjacent areas from tidal flooding."
  https://www.cityofsancarlos.org/city_hall/departments_and_divisions/public_works/pulgas_creek_watershed.php

Lower Peninsula

Lower Peninsula Watershed Finder (Oakland Museum)

- Adobe Cr

    - Redwood Creek Watershed
    - Portion of Creek & Watershed Map of Palo Alto & Vicinity -- **Purchase Printed Map**
    - The Redwood Creek Watershed includes: Arroyo Ojo de Agua
    - Atherton Channel
    - No named tributaries
- *San Francisquito Cr
    - Palo Alto
    - **"Searsville Dam blocks spawning headwater streams for San Francisquito Creek. Removing the 65-foot dam will allow endangered steelhead to return upstream and spawn." www.AmericanRivers.org/SanFrancisquito**
    - San Francisquito Creek flows out of the Stanford campus incised into its alluvial fan. It flows across the flatlands confined between natural and artificial levees.
    - West Union and Sausal creeks run along the San Andreas Fault.
    - San Francisquito Watershed & Alluvial Fan ((Oakland Museum) 👍
        - **From *Creek & Watershed Map of Palo Alto & Vicinity* -- Purchase Printed Map**
    - The San Francisquito Creek Watershed includes: Los Trancos Creek, Corte Madera Creek, Coal Creek, Damiani Creek, Jones Gulch, Hamms Gulch, Sausal Creek, Neils Gulch, Bull Run Creek, Martin Creek, Alambique Creek, Bear Creek, West Union Creek, Appletree Gulch, Tripp Gulch, Squealer Gulch, McGarvey Gulch, Searsville Lake, Rengsdorff Gulch, Buckeye Creek, Dry Creek.

Stevens, Permanente, Adobe, & Matadero Creeks Map (Oakland Museum)👍

- Matadero Cr
    - Palo Alto
    - The Matadero Creek Watershed includes: Stanford Channel , Mayfield Slough, Deer Creek, Astradero Creek, Santa Rita Creek
- Adobe (M)
    - Los Altos
    - Los Altos Hills
    - Software company named after it
    - Detailed Map (Oakland Museum)👍

- Permanente Cr (M)
    - Kaiser's namesake

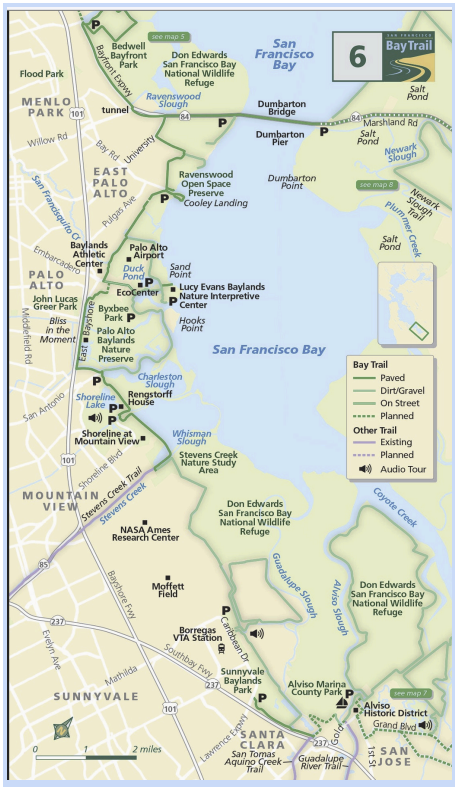
Permanente Creek

- Runs past the Kaiser Permanente Cement Plant on Black Mountain in Cupertino.
- The plant supplied all cement used by the Navy in the Pacific theater of World War II.
- After WWII the Kaiser Richmond Shipyard medical program became Kaiser Permanente

- Ohlone were living along the creek prior to the Spanish expedition in 1776
- Many of the Ohlone inhabitants living in along the Creek were taken to Mission Santa Clara de Asís beginning in 1776.
- Flows year-round so the Spanish settlers named it the permanent water source for the ranches along the creek starting in 1839.
- Detailed Map (oakland museum)👍
- The Permanente Creek Watershed includes: Mountain View Slough, Hale Creek, Ohlone Creek

- Stevens Cr (M)

Ravenswood Slough Alviso

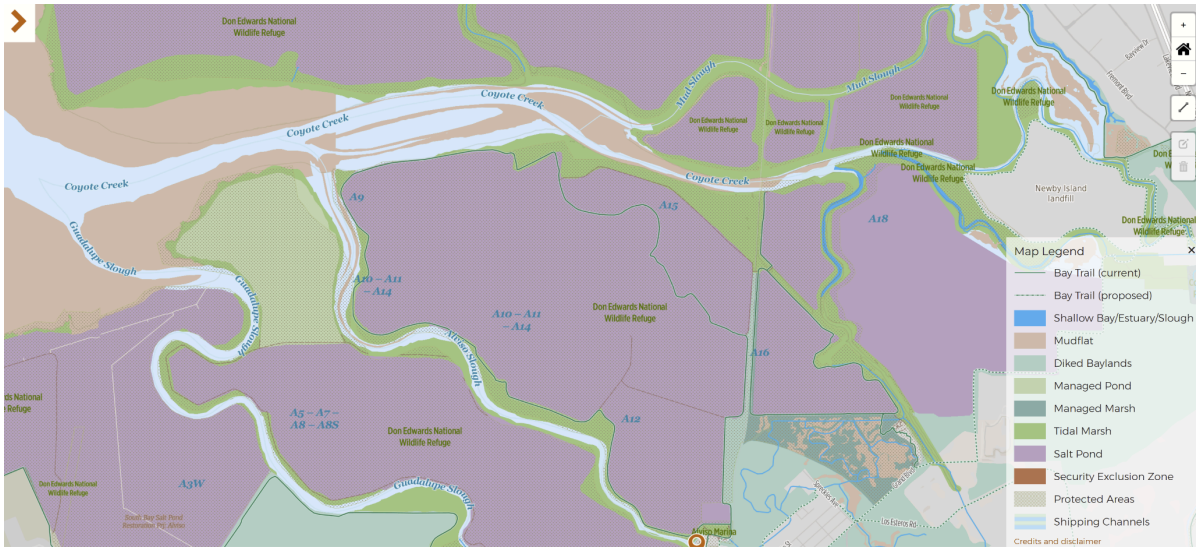


- Detailed Map (Oakland Museum)👍
- Mountain View Shoreline Park –adjacent to Stevens Creek Shoreline Nature Study Area map (Midpeninsula Regional Open Space District)
  - Adobe Creek
  - Stevens Creek
  - Permanente Creek
- The Stevens Creek Watershed includes: Heney Creek, Montebello Creek, Swiss Creek, Stevens Creek Reservoir.

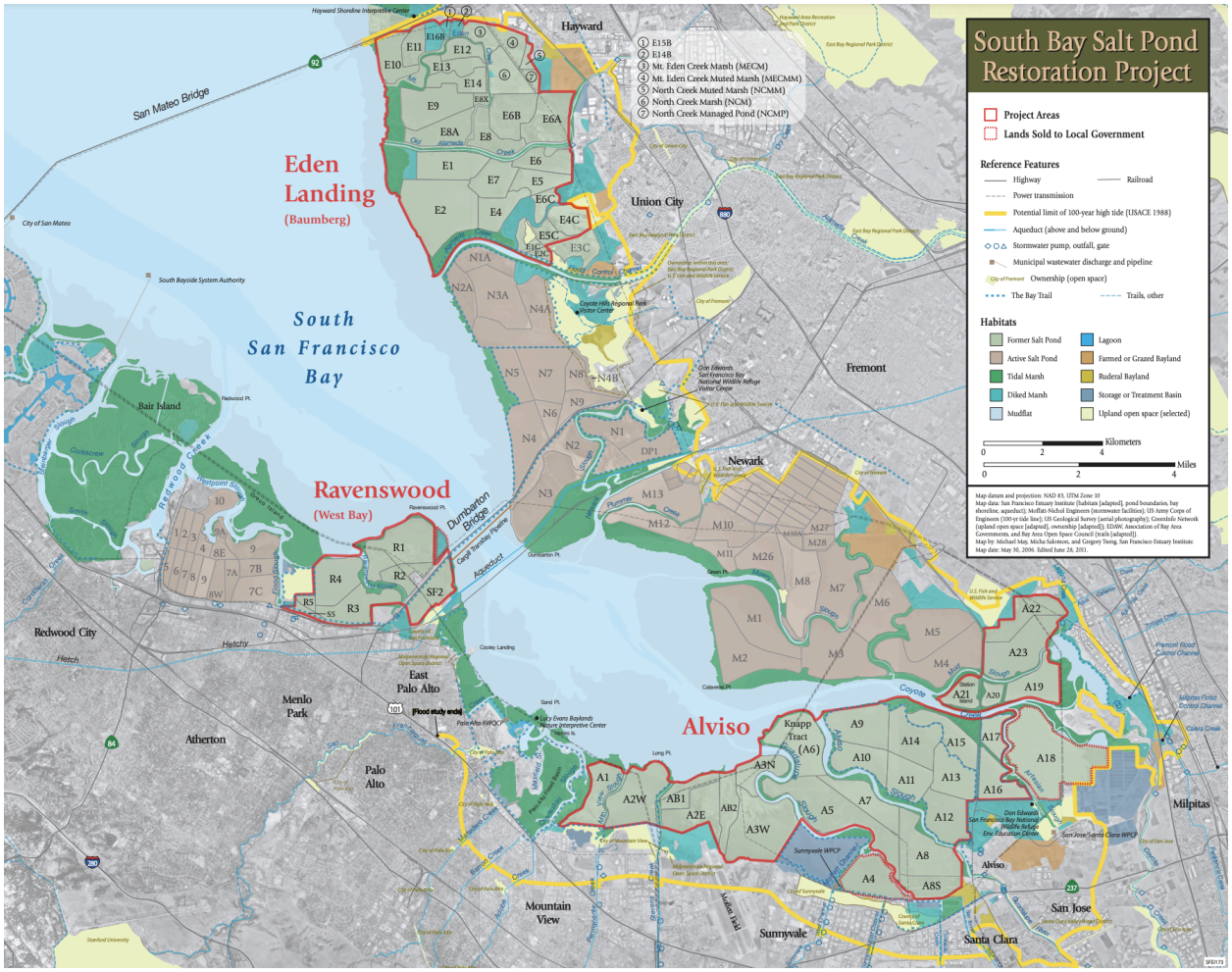
- Guadalupe Slough / West Valley watersheds
  - Guadalupe Slough baylands map **Portion of *Baylands & Creeks of South San Francisco Bay* -- Purchase Printed Map**
  - Sunnyvale East and West
  - Santa Clara Valley Water District map
  - West Valley Watersheds comprise an 85-square-mile area of several small watersheds
  - Agricultural and flood control drainage efforts in the 19th century connected all of the West Valley waterways to Guadalupe Slough at the southern end of San Francisco Bay.
  - **Santa Clara Valley Water District** does not own or operate any reservoirs in the West Valley Watersheds area.
  -
  - The Guadalupe Slough Watershed includes: Smith Creek, Wildcat Creek, Booker Creek, Rodeo Creek, Sunnyvale East Channel, Sunnyvale West Channel and

- * Wildcat Creek
  - Wildcat Creek Landscape History
  - “People have lived along Wildcat Creek since 3,000 to 4,000 BP. By that time, Sea level rise had slowed, and the Bay's size had stabilized, allowing broad mudflats and tidal marshes to develop and significant local settlement to commence (Banks and Orlins 1985, Fentress 1994).”
  - **Wildcat Creek Watershed: A Scientific Study of Physical Processes and Land Use Effects**
  - Calabazas Creek
  - Saratoga Cr (M)
    - supports a native rainbow trout population
    - Saratoga Creek wikipedia page
  - San Tomas Aquino Creek
  - **The flow of the Guadalupe River was rerouted** from Guadalupe Slough into Alviso Slough for the convenience of navigation. Today, San Tomas Aquino Creek, Saratoga Creek, Calabazas Creek, and the Sunnyvale East and West Channels flow into Guadalupe Slough.

San Jose



[South Bay Restoration Project pdf map](#) 👍



Historical Baylands Map

Portion of *Baylands & Creeks of South San Francisco Bay* -- Purchase Printed Map

San Jose Watershed Maps

- Guadalupe River (Alvisio Slough) (O)
    - **The Guadalupe River used to flow into Guadalupe Slough at Alviso, however, to facilitate navigation it was redirected into Alviso Slough.**
    - The Primeval mouth of the Guadalupe River was Guadalupe Slough, to the east lay Alviso (Steamboat) Slough. Alviso Slough was not fed by any upland streams, but simply carried tidewater in and out of the extensive salt marshes. Alviso Slough was relatively straight, while Guadalupe Slough meandered extensively through the marshes. To make it easier to get sailboats up the Guadalupe River to the port of Alviso, the Guadalupe River was redirected into the straighter Alviso Slough by the 1870s.
    - Historically the creeks that now drain into Guadalupe Slough did not reach all the way to San Francisco Bay; they are now connected to Guadalupe Slough by a network of flood-control channels.
    - The Guadalupe River Watershed includes Alviso Slough, Los Gatos Creek, Trout Creek, Hendly's Creek, Ross Creek, Pheasant Creek, Rincon Creek, Herbert Creek, Golf Creek, Lexington Reservoir, Calero Reservoir, Almaden Reservoir.
- Coyote Cr
    - **The Coyote Creek watershed is the largest in the Santa Clara basin, comprising 350 square miles of land that drains into Coyote Creek and its tributaries.**

Photo credit Lauren Hartman

- Actually a river draining 320 square miles (830 km^2) and running 63.6 miles (102.4 km)[4] from the confluence of its East Fork and Middle Fork to southeast San Francisco Bay.
- This diverse watershed extends from the flanks of the Diablo Range at elevations of over 4,000 feet to San Francisco Bay, encompassing oak forest, grassland, and urban areas of Morgan Hill, eastern San Jose, and Milpitas. The watershed is home to over one-half million people and provides riparian and aquatic habitat for a wide variety of plants and animals, some of which are threatened or endangered. For the population living, working, and visiting in the watershed, the numerous creeks and creek side habitats are a prized asset, providing clean drinking water, recreation, and wildlife habitat. At the same time, their associated flooding, erosion, and pollution present liabilities.
- The Coyote Creek Watershed includes: Agua Fria Creek, Torogas Creek, Scott Creek, Calera Creek, Arroyo de los Coches Berryessa Creek, Lower Penitencia Creek, Upper Penitencia Creek, Arroyo Aguague, Babb Creek, Flint Creek, Thompson Creek, Yerba Buena Creek, Silver Creek San Felipe Creek, Animas Creek, Packwood Creek, Anderson Reservoir.
- Downstream of where Coyote Creek meets tidewater, the channel continues along as a narrow slough flowing through the salt marsh. Other flows of freshwater join Coyote Creek in this tidewater section. It is a judgment call whether these are thought of as separate watersheds. This web page covers them all, but the maps show them as separate.

    - The Upper portion of Penitencia Creek was redirected into Coyote Creek upstream of the historic confluence of the two creeks. This left Lower Penitencia Creek carrying only the flows of smaller, more northerly tributaries. Most notable among these is Berryessa Creek.
    - Agua Fria Creek Watershed
        - drains the western face of Mission Peak
        - Size: 8 square miles
        - Flow: A group of small streams flowing from the western face of Mission Peak, joining and discharging into Coyote Creek in south San Francisco Bay
        - Includes: Agua Fria Creek, Toroges Creek, Scott Creek, and engineered channel Lines A, B, C, and D, which artificially link the creeks together near the bay.
        - Cities: Warm Springs
        - Open channel: 18.6 miles
    - Middle Coyote Map
        - **Portion of *Creek & Watershed Map of Milpitas & North San Jose* and *Creek & Watershed Map of Central San Jose & Vicinity*-- Purchase Printed Maps**
    - Coyote Baylands map w/ Mud Slough

Lower East Bay

The Alameda County Flood Control and Water Conservation District uses a naming system for flood control zones and drainage lines within zones. Link to A.C. flood control zones (A.C. Flood Control & Water Conservation District)

- Laguna Creek Watershed (M)
    - Area: 25.1 square miles
    - Starts in the foothills of the Diablo Range near Mission Peak and flows across the flatlands and into Mud Slough and Coyote Creek and eventually into south San Francisco Bay
    - Flow: Morrison Creek, Vargas Creek, Mission Creek, Washington Creek, Sabercat Creek, Canada del Aliso Creek, Agua Caliente Creek, and Laguna Creek
    - Cities: Fremont
    - Open channel: 44.6 miles
    - Oakland museum map of Laguna & Berryessa Creeks
        - Fremont
        - Laguna Creek gathers a number of short, steep streams flowing of the west slope of Mission Peak.
        - Lake Elizabeth in Fremont Central Park (Mission creek drains here) map (City of Fremont)
        - Laguna & Berryessa Creek Map 👍
        - Laguna Creek Watershed Map (topo)

        - **Portion of *Creek & Watershed Map of Fremont & Vicinity* -- Purchase Printed Map**
        - **Portion of *Creek & Watershed Map of Milpitas & North San Jose* -- Purchase Printed Map**
    - Laguna & Berryessa Historical Creek Map

- Mowry Slough System
    - **Size:** 12.8 square miles
    - **Flow:** From the northeast edge of Fremont to Mowry Slough and southern San Francisco Bay.
    - **Includes:** A network of storm drains and parallel canals draining the gently sloping urban flatlands
    - **Cities:** Fremont, Newark
    - **Open channel:** 14.9 miles, all of it engineered channels
    - A network of stormdrains and canals replaced small creeks that had drained into the Mowry Slough.
    - Map portion from ***Creek & Watershed Map of Fremont & Vicinity*** **-- Purchase Printed Map**

- Newark Slough - Plummer Creek system

- Both systems more or less drain together at the bay, draining salt ponds
- Location of visitor center & admin HQ for [Don Edwards San Francisco Bay National Wildlife Refuge] (U.S. Fish & Wildlife Service)\
- Dumbarton Pier

Photo credit: Google Maps

  - At the End of [Marshlands Rd] (Fremont)
  - Open sunrise to sunset w/ picnic tables
  - Shoreline Trail (next to E Dumbarton Bridge) [Google Maps parking area]
- Hetch Hetchy aqueduct and train tracks pass through Dumbarton Point
- [Historial Baylands Map] from **Portion of *Baylands & Creeks of South San Francisco Bay* -- [Purchase Printed Map]**

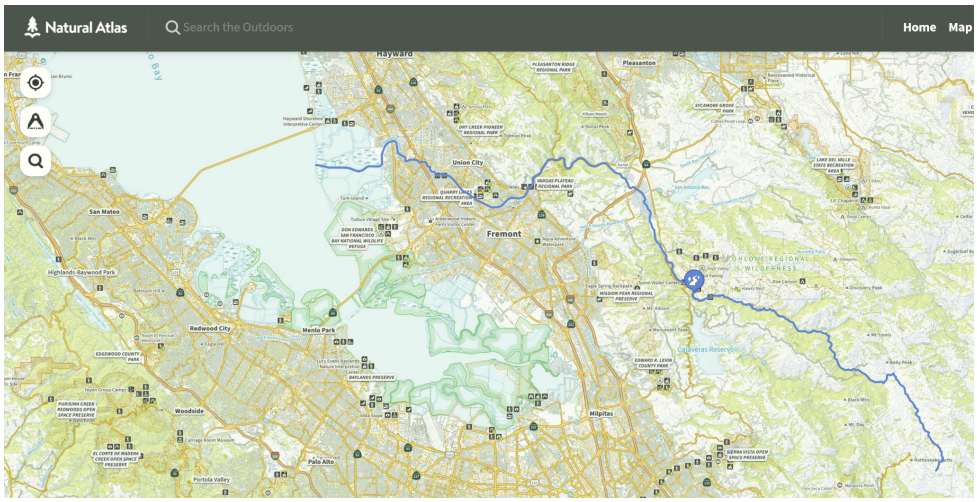
● Newark Slough (O)

- Open [Proposal to restore by Wildlands]
- LaRiviere Marsh

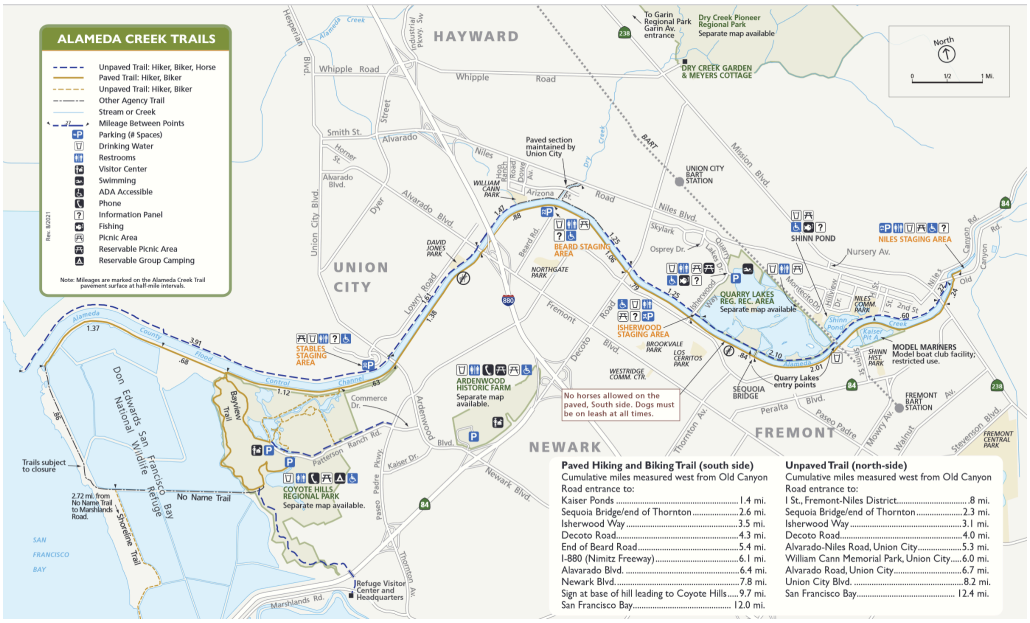
    - Sanjon de los Alisos is an old distributary of Alameda Creek. This creek would carry off waters when Alameda Creek flooded out of its banks. It now carries urban runoff into Newark Slough.
        - map from Fremont and Surroundings

- Plummer Cr Slough (O)
    - **Size:** 2.6 square miles
    - **Flow:** Drains the urban flatlands into Plummer Creek and the south San Francisco Bay
    - **Includes:** Zone 5, Line F-1 channel
    - **Cities:** Newark, Fremont
    - **Open channel:** 7.0 miles
    - A network of stormdrains and canals replaced small creeks that had drained into the Plummer Creek Slough.

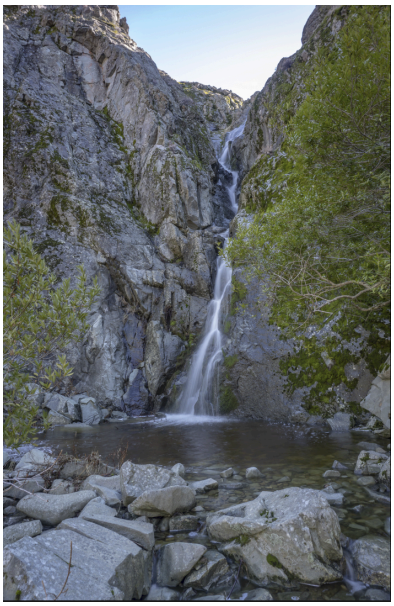
- Alameda Creek
    - The largest watershed in the Bay Area
    - The largest waters Alameda County Flood Control & Water Conservation District map
    - Alameda Creek Regional Trail Map (East Bay Regional Parks)



The largest watersAlameda County Flood Control & Water Conservation District map
Alameda Creek Regional Trail Map (East Bay Regional Parks)



- The largest watersAlame
- Alameda Creek Wikipedia Page
- Alameda Creek is 45 miles long
- size 660-square-mile
- Restoration: Completion of a series of dam removal and fish passage projects, along with improved stream flows for cold-water fish and planned habitat restoration, will improve and restore habitat conditions for migratory fish. Steelhead trout and Chinook salmon will soon be able to access up to 20 miles (32 km) of spawning and rearing habitat in Alameda Creek and its tributaries
  - Article: Overview of Alameda Creek Watershed (Alameda Creek Alliance)
  - Article: Riparian Forests and the Food Web in Alameda Creek Food Web in Alameda Creek (Alameda Creek Alliance)
  - Article: How Steelhead Use Habitat In the Alameda Creek Watershed (Alameda Creek Alliance)
- The creek and three major reservoirs in the watershed are used as water supply by the San Francisco Public Utilities Commission, Alameda County Water District and Zone 7 Water Agency.
- The **Alameda Creek Regional Trail** runs along Alameda Creek for 12 miles (19 km). The trail starts in the Niles neighborhood of Fremont and continues westward to the San Francisco Bay through the cities of Union City and Newark.
- Murietta Falls: tallest waterfall in the East Bay



https://modernhiker.com/hike/murietta-falls/

- Only 30 square miles, or 5% of the watershed, are located in western Alameda County.
- **Flow:** Alameda Creek heads in the rugged hills of the Diablo Range, draining from as far south as Mount Hamilton and as far east as Altamont Pass. Major tributaries join Alameda Creek in Sunol Valley. The creek then cuts through Niles Canyon and flows across the East Bay plain to the eastern shore of San Francisco Bay.
- This area includes: Alameda Creek Flood Control Channel, Ardenwood Creek, Dry Creek, Mt. Eden Creek, Crandall Creek,Old Alameda Creek, Patterson Creek, Sanjon de los Alisos, Stoneybrook Creek, Ward Creek
- Vallecitos Creek is currently operated as a canal delivering Delta water from the State Water Project for use in the Fremont area.
- Includes old channels of Alameda Creek that were occupied by Alameda Creek during floods, or that had been channels of Alameda Creek during geologic time as the creek meandered across its alluvial fan
- Article on Fremont Flood of 1955
    - Started flood control projects (Alameda County Flood Control District)

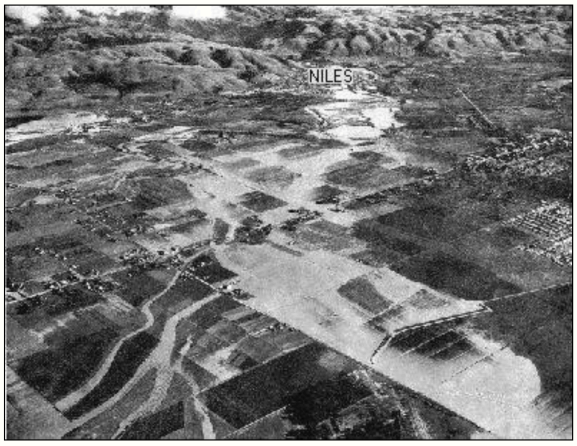


Photo by: R.L. Copeland. From: Floods at Fremont, California; L.E. Young, 1962; USGS Hydrological Atlas, HA-54

- Lower Alameda Creek Watershed (Fremont)
  - Drains at **Coyote Hill Slough**
  - Alameda County Flood Control & Water Conservation District Page 👍
  - **Includes:** Major tributaries in western Alameda County are Dry Creek, Crandall Creek, and Lines J-2 and J-3. These flow into the Alameda Creek Flood Control Channel, an 11-mile-long channel built in the early 1970s replacing the natural creek.
  - The western portion of the Alameda Creek Watershed bisected into north (old Alameda Creek Watershed) and south
- Crandall Creek subwatershed
  - that rimmed the south bay. Its former outflow to the bay is now the outflow of the ACFC Channel.
    - Patterson Farmdrains the flatlands south of Alameda Creek
    - 6.5-square-mile subwatershed
    - comprised of Crandall Creek and
    - Ardenwood Creek
      - drains the floodplain between Crandall Creek and the managed ponds and wetlands, or “baylands,” of San Francisco Bay.
    - once drained the floodwaters across the floodplain south of the historic Alameda Creek channel. Historically, Ardenwood Creek joined Crandall Creek just north of Coyote Hills, draining a riparian corridor thick with willows. From the point its confluence with Ardenwood Creek, Crandall Creek made a straight shot across the flatlands to the extensive tidal marsh : One of the area’s largest and most productive historic farms, the Patterson farm, was located along Ardenwood Creek in what is now Fremont, taking advantage of the fertile soils in the alluvial fan of historic Alameda Creek. The Patterson family house and farm are now preserved as part of Ardenwood Regional Preserve.

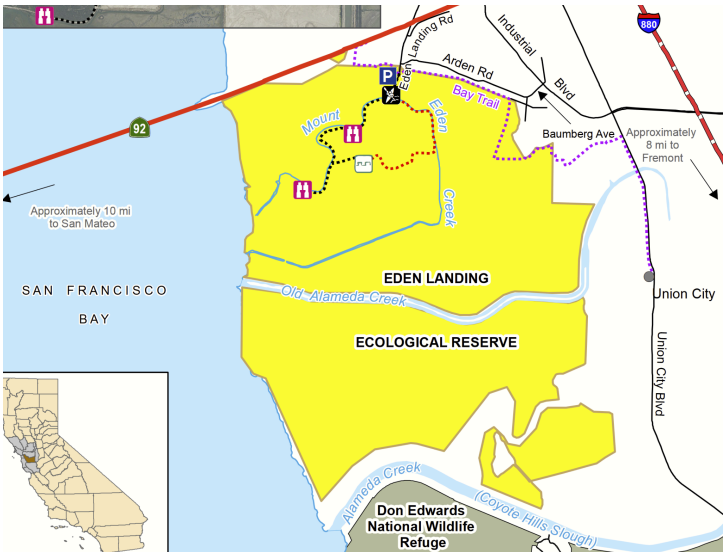
        - Commercial farming continues today at both Ardenwood and adjacent properties.Today Crandall Creek and Ardenwood Creek drain urban runoff through a series of culverts and engineered channels that flow into the Demonstration Urban Stormwater Treatment (DUST) Marsh, an artificial wetland designed to treat urban runoff, before eventually leading to San Francisco Bay. Its former outflow to the bay is now the outflow of the ACFC Channel.
- Dry Cr subwatershed (M)
    - drains the hills north of Niles Canyon
    - 9.9-square-mile
    - subwatershed that drains Walpert Ridge in the East Bay hills north of Niles Canyon. The north and south forks of Dry Creek meet near the terminus of Tamarack Drive in Union City. Both forks of Dry Creek run through Garin and **Dry Creek Pioneer Regional parks**, and through most of the subwatershed Dry Creek remains in its natural condition before its confluence with the ACFC Channel.
- South Fork Dry Creek along Tolman Peak Trail map here from East Bay Regional Parks
    - Zone 5, Lines J2 & J3 Subwatershed
        - drains the flatlands north of Alameda Creek
        - 1.9-square-mile
        - residential area of Union City near the managed ponds and wetlands of south San Francisco Bay.
        - A series of culverts drain to an engineered channel that joins the ACFC Channel.
        - The shallow waters of south San Francisco Bay provided excellent conditions for the extensive tidal flats and tidal marshes that rimmed the shoreline.
        - Salt: These same conditions made the south bay an excellent place for salt farming. Small scale salt production was a traditional activity of the Ohlone Native Americans, the Spanish, and early American settlers. From the mid-1800s through the late 1900s, salt production expanded to include large industrial ponds that transformed the south bay tidal flats and tidal marshes.
        - In 2003, most of the salt ponds were purchased for restoration and are now part of the **South Bay Salt Pond Restoration Project** managed by the California Coastal Conservancy. Due to natural subsidence and that induced by salt production, many of these ponds will remain behind levees as either restored areas, managed tidal marshes, or managed ponds, all of which provide valuable habitat.
- Confusingly, there is Lower Alameda Creek SUBWatershed
    - 11 square-mile subwatershed
    - comprised of the portion of Alameda Creek located in western Alameda County that begins near the mouth of Niles Canyon.
    - Historical Map from ***Creeks of the East Bay*** **-- Purchase Printed Map**

    - **Cities:** Fremont, Newark
    - (downstream of the confluence of the two major upstream tributaries, Arroyo de la Laguna anLower Alameda Creek Watershedd Upper Alameda Creek)
    - A number of small watersheds flowing directly into the Bay. From this point, Alameda Creek flows through the 12-mile-long Alameda Cr Flood Control Ch
        - constructed by the Army Corps of Engineers in the 1970s
        - diverted Alameda Creek south of its historic route
        - Alameda Creek Flood Control Channel Watershed Map
        - All these watersheds were distributaries of Alameda Creek; when the creek would flood out of its primary channel it would pour into these distributary channels. As recently as the 1950s these creeks would carry off waters when Alameda Creek flooded. Now the flows of Alameda Creek are held within the flood-control channel, whose watershed is in yellow, and the rest of the watersheds now carry mostly local urban runoff.
        - Within the watershed can be found the highest peaks (Mount Isabel and Mount Hamilton) and tallest waterfall (Murietta Falls) in the East Bay, over a dozen regional parks, and notable natural landmarks such as the cascades at Little Yosemite and the wildflower-strewn grasslands and oak savannahs of Sunol Preserve.
    - The channel passes through Union City and Fremont across the creek's historic flood plain, then flows north of Coyote Hills Regional Park before reaching San Francisco Bay. With the construction of the flood control channel, Alameda Creek was diverted south of its historic route. Although the historic channel was left intact to form Old Alameda Creek, the western portion of the Alameda Creek Watershed bisected into north and south – old and new.
    - The Old ACFC Channel flows to San Francisco Bay through Eden Landing Ecological Reserve, 5,500 acres of former industrial salt ponds extending from the south side of the San Mateo Bridge approach to the ACFC Channel. Eden Landing is being restored to tidal marsh and managed wetlands as part of the South Bay Salt Pond Restoration Project. Old Alameda Creek has been breached in several places where it formerly bisected the salt ponds, making it an integral part of the varied wetland habitats.
- Upper Alameda Creek
    - Runs along Niles Canyon Road
        - Two major upstream tributaries
            - Arroyo de la Laguna
            - Upper Alameda Creek
- **Old Amameda Cr**
    - Union City
    - historic path of Alameda Creek
    - (sometimes labeled as a second, northerly Alameda Creek on maps)
    - **Size**: 22 square miles

- **Flow**: Drains the Hayward hills and a large area of the East Bay plain into the historical channel of Alameda Creek and into the San Francisco Bay.
- **Includes**: Ward Creek, Zeile Creek, and Old Alameda Creek
- **Cities**: Hayward, Union City
- **Open channel:** 31.5 miles
- Ward Cr (M)
    - flows westward from the Hayward hills northeast of CSUEB through Memorial Park and into Ward Creek engineered channel where it is joined by several other flood control networks before entering the Old Alameda Creek Flood Control (Old ACFC) Channel.

- Ward Creek and Zeile Creek drain the hills surrounding California State University East Bay (CSUEB)
- Zeile Creek
    - drains the north portion of Garin Regional Park in Hayward then runs along the border between the park and California State University East Bay (CSUEB). The creek drains the neighborhood south of CSUEB and flows through Holy Sepulchre Cemetery before heading underground at Mission Boulevard. It then flows through culverts and engineered channels before joining the Ward Creek engineered channel at Huntswood Avenue.
- Lines H and D
    - The Alameda County Flood Control and Water Conservation District uses a naming system for flood control zones and drainage lines within zones. The Old Alameda Creek Watershed is in Zone 3, through which several major lines flow to the Ward Creek channel. Engineered culverts as far north as Highway 92 drain to Line H, which eventually joins the channel at I-880. Line D accepts drainage from the area surrounding the South Hayward BART Station and from Line N, which drains the area north of the Dry Creek Watershed. It then runs southwest along Industrial Parkway until it joins the Ward Creek channel.

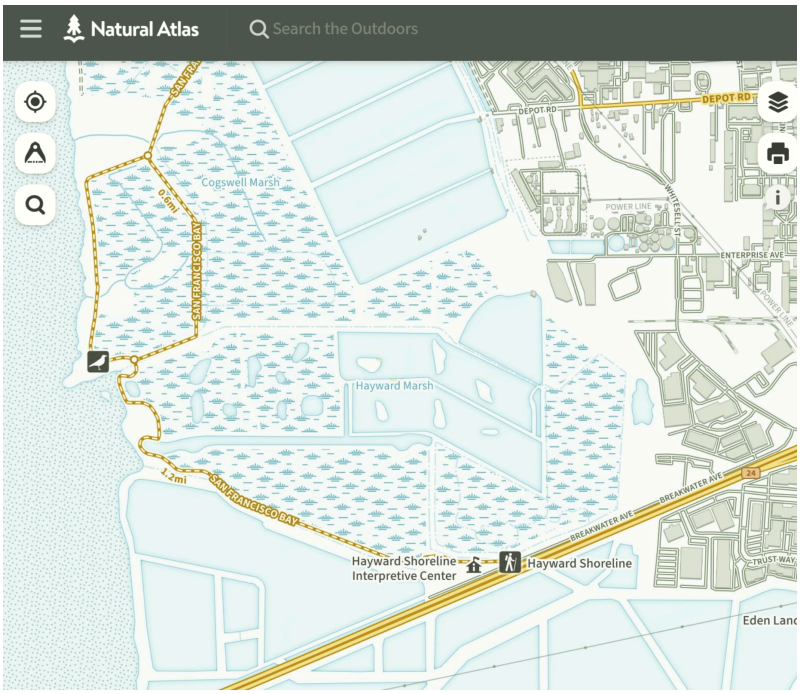
- **Eden Landing Ecological Reserve**



- More than 600 acres of former salt ponds are being transformed into managed ponds and tidal wetlands in this area south of Highway 92 as part of the 15,100-acre South Bay Salt Pond Restoration Project.
- Ca Dept of Fish & Wildlife map

- Mt. Eden Creek Watershed
  - **Size:** .7 square miles
  - **Flow:** A network of underground storm drains through a small industrial area of Hayward that discharges into Mt. Eden Creek and San Francisco Bay
  - **Includes:**
  - **Cities:** Hayward
  - **Open channel:** None
  - Info Page for Johnson Landing and Mt. Eden Creek Watersheds at Alameda County Flood Control and Water Conservation District
  - Culverts that lead to Mt. Eden Creek in Eden Landing Ecological Reserve drain a small triangular area south of Highway 92. Mt. Eden Creek was a tidal slough that was disconnected from surrounding wetlands with the construction of industrial salt pond levees in the 1800s. During the restoration of wetlands in Eden Landing, Mt. Eden Creek levees were breached in several places, reconnecting the creek with surrounding restored tidal marsh and reconnecting the marsh to the tidal regime on which it depends.
- Johnson Landing Engineered Canal
  - Drains a triangular portion of an urban neighborhood on the north side of Highway 92 near the edge of the Hayward Regional Shoreline. Underground culverts carry water to the canal, which drains through Hayward Marsh to San Francisco Bay near the patch of slightly higher ground known as Johnson Landing. Historically the Johnson Landing docks served as an embarkation point for passengers, salt, and agricultural products from the East Bay going to San Francisco. In the mid-1800s, John Johnson built levees in the area to create the first commercial salt production ponds in the bay. The trail from the Hayward

Shoreline Interpretive Center leads across the outboard levee to Johnson Landing, but no traces of the docks remain.
    - PDF Map (Alameda County Flood Control and Water Conservation District)
- Hayward Marsh



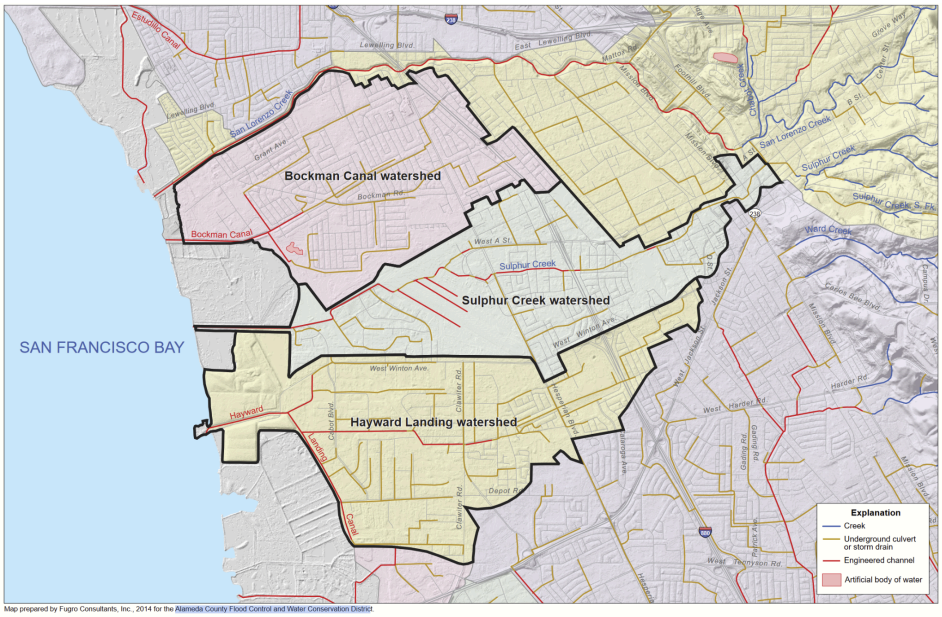
    - A 145-acre fresh water and tidal marsh within the Hayward Regional Shoreline. The marsh has five managed ponds and 15 islands for the abundant nesting shorebirds and waterfowl. It was formerly a salt evaporation pond that was restored in 1985. The marsh relies on secondary treated effluent as the fresh water source. Fresh water is diverted from the Union Sanitary District through a force main operated by the East Bay Discharge Authority that carries effluent into deep waters of San Francisco Bay. Today the marsh provides natural and effective water quality treatment before the diverted effluent is discharged.
    - Restore Hayward Marsh webpage (East Bay Regional Parks Dist.)

- Sulphur Creek

[Arroyo de la Laguna Watershed (Alameda Cr)]

  - Two major tributaries combine to form the main stem of Alameda Creek. These tributaries are Arroyo de la Laguna and South Fork Alameda Creek.Of course, each of these two tributary streams are in turn fed by many smaller tributaries. This page has links to high-resolution maps of the creeks of the northern end of the Arroyo de la Laguna watershed, around the cities of Pleasanton and Dublin. Tributaries on the eastern and southern ends of this watershed are only represented on a low-resolution, regional map.
  - The creeks in this region include: Alamo Creek, Arroyo de la Laguna, Arroyo Las Positas, Arroyo Mocho, Arroyo Valle, Chabot Creek, Clark Canyon, Collier Creek, Cottonwood Creek, Dublin Creek, Gold Creek, Happy Valley Creek, Koopman Canyon, Kottinger Creek, Martin Canyon, Mission Creek, Oak Creek, Pleasanton

Canal, San Ramon Creek, Sheep Camp Creek, Sinbad Creek, Sycamore Creek, Tassajara Creek, Tehan Canyon, Vallecitos Creek.



Bockman Canal, Sulphur Creek, and Hayward Landing Watersheds

- Bockman Canal
  - Map of Bockman Canal, Sulphur Creek, and Hayward Landing Watersheds (Alameda County Flood Control and Water Conservation District
  - Drains the western portion of San Lorenzo along the gently sloping flank of the alluvial fan of San Lorenzo Creek. It is underlain by layers of sand, silt, and clay deposited by the creek floodwaters over thousands of years. The canal enters the bay north of Oro Loma Marsh and south of the East Bay Discharge Authority's water treatment plant.
  - **Oro Loma Marsh** lies between Sulphur Creek and Bockman Canal. The area was diked from the bay and local creeks to form salt evaporation ponds for commercial salt production. In 1998, the marsh was restored, in part by breeching the Sulphur Creek levee and the outboard levee along the bay to restore tidal flow.
- Hayward Landing Canal
  - Underground culverts throughout the Hayward Landing Watershed drain to three open engineered channels: Zone 2, Line A* drains the center of the watershed; Zone 2, Line B drains from the north; and the Hayward Landing Canal drains the south side running northwesterly. The canal is joined by Line A, then turns at its juncture with Line B to drain through Hayward Regional Shoreline, reaching the bay at historic Hayward Landing. The remains of the docks where local goods were transported to San Francisco in the 1800s can still be seen there today. Within the Hayward Regional Shoreline, the canal runs past the former West Winton Landfill, which today appears as a series of low hills at odds with the surrounding marsh plain.

    - The 200-acre **Cogswell Marsh** is located in the baylands south of Hayward Landing Canal in an area historically used for salt production. In 1980 the site was restored to tidal marsh through an early, interagency effort that set a process in motion for future restoration projects. As one of the older salt pond restoration efforts, it serves as an example of what to expect from the massive South Bay Salt Pond Restoration Project.
- Sulphur Creek
    - Underground culverts throughout the Sulphur Creek Watershed drain to Sulphur Creek, which is an open, engineered channel that traverses the urban flatlands of Hayward. The channel supplies water flow into restored Oro Loma Marsh along the way. In the past, Hayward was frequently flooded by storm waters from Sulphur Creek—a problem partly alleviated by the culverting of the creek in the 1920s. Then, in 1962, the County of Alameda rerouted the creek to join San Lorenzo Creek at 2nd Street. The Sulphur Creek headwaters in the East Bay hills—the only portion of the creek still flowing in its natural creek bed—is now part of the San Lorenzo Creek Watershed.
- San Lorenzo Creek watershed
    - map from Alameda County Flood Control and Water Conservation District
    - **Size**: 48.2 square miles
    - **Flow**: Starts in the East Bay hills near Dublin Pass on Highway I-580, flows through Castro Valley and across the East Bay plain to San Francisco Bay.
    - **Includes**: Bolinas Creek, Crow Creek, Norris Creek, Cull Creek, Hollis Creek, Castro Valley Creek, Chabot Creek, Eden Creek, Palomares Creek, Upper Sulphur Creek,
    - Parks and reservoirs : Cull Canyon Lake and Regional Recreation Area, Don Castro Reservoir, Sulphur Creek Nature Center
    - **Cities**: Castro Valley, Hayward
    - **Open channel**: 105.9 miles
    - **Fun Fact:** A twin in size to the San Leandro Creek watershed to the north, the San Lorenzo Creek watershed contains many more miles of open creek. Much of San Leandro Creek has been inundated by its two large reservoirs.
    - Underground culverts throughout the Sulphur Creek Watershed drain to Sulphur Creek, which is an open, engineered channel that traverses the urban flatlands of Hayward. The channel supplies water flow into restored **Oro Loma Marsh** along the way. In the past, Hayward was frequently flooded by storm waters from Sulphur Creek—a problem partly alleviated by the culverting of the creek in the 1920s. Then, in 1962, the County of Alameda rerouted the creek to join San Lorenzo Creek at 2nd Street. The Sulphur Creek headwaters in the East Bay hills—the only portion of the creek still flowing in its natural creek bed—is now part of the San Lorenzo Creek Watershed.

- San Leandro Creek Watershed
    - map here 👍Alameda County Flood Control and Water Conservation District
    - **Size:** 49.4 square miles

- **Flow:** Starts deep in the East Bay hills, and then flows across the East Bay plain from downtown San Leandro to San Leandro Bay.
- **Includes:** Grass Valley Creek, Miller Creek, Redwood Creek, Indian Creek, King Canyon Creek, Moraga Creek, Laguna Creek, Rimer Creek, Buckhorn Creek, San Leandro Creek
- **Parks and reservoirs:** Lake Chabot, Upper San Leandro Reservoir, Redwood Regional Park, Chabot Regional Park
- **Cities:** San Leandro, Oakland, Moraga
- **Open channel:** 78.3 miles, mostly natural creek
- **San Leandro Bay** is on California's list of Toxic Hot Spots due to excessive levels of DDT, lead, mercury, pesticides, PCBs, PACs, selenium, and zinc in its sediment. In sediment tests, the highest concentrations of contamination were found near creek channels, indicating that the sources are from point and nonpoint inputs. The one exception was mercury, which had higher concentrations in open water areas compared to tributaries. A Watershed Survey Report prepared for the Regional Water Quality Control Board found that concentrations of chemical contaminants near the mouth of Elmhurst Creek exceeded the board's guideline values, that toxicity levels were detrimental to invertebrate reproduction, and that sediment was highly toxic to amphipods (marine crustaceans
- Several creeks with headwaters in the eastern reaches of the East Bay hills drain to Upper San Leandro Reservoir in Alameda County, including Indian Creek, King Canyon Creek, Moraga Creek, Kaiser Creek, Rimer Creek, and Buckhorn Creek. Redwood Creek drains the west side of San Leandro Reservoir; Miller Creek joins San Leandro Creek on the east side just below the reservoir spillway. San Leandro Creek connects the reservoir to Lake Chabot, which is also fed by Grass Valley Creek. Below Lake Chabot, San Leandro Creek continues above ground to San Leandro Boulevard, where it becomes channeled through downtown San Leandro to San Leandro Bay within the greater San Francisco Bay.
- map of moraga trails (city of moraga)
    - laguna creek
    - moraga creek
- The Arroyo de San Leandro, or San Leandro Creek, was likely named by the Spanish for a sixth-century archbishop of Seville named Saint Leander. The approximately 22-mile-long creek is *remarkably natural* and uncovered for most of its length. The headwaters begin in managed parkland at the southern edge of **Sibley Volcanic Regional Preserve** just beyond its border with Huckleberry **Botanic Regional Preserve.** The creek travels within similarly undeveloped areas through the Oakland and San Leandro hills to Upper San Leandro Reservoir then to Lake Chabot. Indian Creek joins San Leandro Creek just above the reservoir, and Miller Creek joins it just below the spillway. The Hayward Fault runs just below Lake Chabot, and it is at this juncture that the creek, still uncovered, makes an abrupt northwest turn and heads toward downtown San

Leandro. At San Leandro Boulevard, the creek is diverted through an engineered channel to an outflow in San Leandro Bay within the greater San Francisco Bay.

- **Upper San Leandro Reservoir** was built by the East Bay Municipal Utility District (EBMUD) in 1926 to replace Lake Chabot as the primary water storage facility for the city of San Leandro. It still serves that function today. Contained within several steep-walled canyons, the reservoir covers a surface area of 794 acres. Its drainage basin covers 18,680 acres, of which EBMUD owns 8,117. The East Bay Regional Park District (EBRPD) owns much of the remaining land. Nearly 90 percent of the basin is managed watershed or parkland. Several creeks, in addition to San Leandro Creek, flow into the reservoir from well into Contra Costa County, including Moraga Creek, Redwood Creek, Buckhorn Creek, and Kaiser Creek.
- Miller Creek joins San Leandro Creek below the spillway from Upper San Leandro Reservoir. The creek extends well to the east into open space owned and managed by EBMUD for water supply purposes. Access to the area is by permit only and requires adhering to a strict set of rules.
- Redwood Creek meets Upper San Leandro Reservoir on its west side near Redwood Road. The creek parallels Redwood Road to its intersection with Pinehurst Road, and from there the creek travels through a long valley into Redwood Regional Park, where its riparian corridor is one of the park's central features. Among fishery experts, Redwood Creek is famous as the primary spawning and rearing habitat for the population of **rainbow trout** that was originally used to describe the species in 1885. Rainbow trout have been introduced to freshwater streams all over the world, and hybrid strains have been created to produce hardier trout that can be successfully transplanted from hatcheries to the wild. The pure, wild strain found in Redwood Creek is becoming rare.
- Grass Valley Creek skirts the west side of Upper San Leandro Reservoir, draining a long valley in the Oakland Hills between Redwood Road and Skyline Boulevard. It flows east of the quiet neighborhood of Grass Valley and is crossed by a stone bridge at Grass Valley Road. Downstream of the bridge is a picturesque waterfall that flows in winter and spring. The creek continues through Anthony Chabot Regional Park and into Lake Chabot.
- **Lake Chabot:** Surrounded by Anthony Chabot Regional Park, Lake Chabot covers 340 acres and is managed by EBMUD for emergency water supplies. The EBRPD manages the undeveloped lands surrounding the lake for recreation. Lake Chabot is named for Anthony Chabot, who designed what was then called the San Leandro Reservoir as the main water supply for San Leandro and parts of Oakland. Construction began in 1874 and lasted until 1892. The brunt of the work fell to Chinese laborers who moved over 600,000 cubic yards of soil with shovels to create the reservoir's dam. The historical walk near the dam pays tribute to these workers. Lake Chabot is fed by Grass Valley Creek and San Leandro Creek, which also drains the lake through a spillway on the west side as it heads northwest to Arrowhead Marsh where it empties into San Leandro Bay.

    - San Leandro Creek enters **San Leandro Bay** through an engineered channel at **Arrowhead Marsh** in Martin Luther King Jr. Regional Shoreline near Oakland International Airport. Arrowhead Marsh is a young tidal marsh–one of the few left in the East Bay. It was likely created during the construction of the Lake Chabot Dam when a severe storm sent 21,000 cubic yards of the dam's clay core downstream to the mouth of San Leandro Creek. Since the creation of the regional shoreline, surrounding marshlands have been restored, expanding the available habitat and making the area an important stopping place for migratory waterfowl.
- Elmhurst Creek Watershed
    - ac flood control map
    - **Size:** 2.6 square miles
    - **Flow:** Starts along the ridge near Bishop O'Dowd High School as a network of underground storm drains that flows across south Oakland and emerges as an engineered channel flowing into San Leandro Bay.
    - **Includes:**
    - **Cities:** Oakland
    - **Open channel:** 1.8 miles of engineered channel
    - drains residential and industrial areas of south Oakland entirely through engineered channels and underground culverts. As a result, the watershed supports few plants and animals until it approaches the bay.
    - Upper Elmhurst Creek, which drains the canyons behind Hellman Recreation Center in Oakland, has been rerouted into San Leandro Creek so is no longer part of the Elmhurst Creek Watershed. **Elmhurst Creek** once ran its natural course through south Oakland along the edge of San Leandro Creek's alluvial fan to San Leandro Bay. These alluvial deposits remain the defining edge of the Elmhurst Creek Watershed. Today, Elmhurst Creek flows through an engineered channel that begins west of San Leandro Street, crosses under Hegenberger Road, and runs along the south side of the Oakland Coliseum complex to San Leandro Bay **near Arrowhead Marsh**
    - **Flora Fauna:** The entire shoreline of San Leandro Bay was once thick with tidal marsh giving way inland to seasonal wetlands. The marsh was filled and developed for industrial uses, but in recent years much of the marsh and seasonal wetlands have been restored. Parking lots have been converted to seasonal wetlands with salt grass and pickleweed. In tidal areas, gum plant, salt grass, pickleweed, and cord grass are the dominant plant species, which typically grow in that order from higher marsh plain to lower. Pickleweed along the interior marsh is prime habitat for the state and federally endangered salt marsh harvest mouse. Cord grass is prevalent along tidal sloughs and channels, and salt grass is returning along the inland rim of the marsh. Native cord grass and the nearby small sandy beaches that dot the edge of San Leandro Bay create prime habitat for the state and federally endangered clapper rail and the endangered California least tern, respectively.
- Arroyo Viejo Creek

- ac flood control map
- **Size:** 6.23 square miles
- **Flow:** From the hills west of Skyline Boulevard in Oakland, to Damon Slough and San Leandro Bay
- **Includes:** Rifle Range Branch, Melrose Highlands Branch, County Club Branch, and 73rd Ave Branch
- **Open channel:** 7.8 miles
- begins on the western slope of the Oakland hills and runs west through Oakland to the San Francisco Bay, narrowing as it passes through flatter land. The eastern boundary of the watershed roughly parallels Skyline Boulevard, where it meets the San Leandro Creek Watershed. There are five creeks in the watershed: Rifle Range, Country Club, Melrose Highlands Branch, 73rd Avenue Branch, and Arroyo Viejo. The Rifle Range and Country Club branches discharge into the Arroyo Melrose Highlands Branch, which then drains Into Arroyo Viejo Creek proper. At that point, the creek enters a series of engineered channels and underground culverts that carry its water to San Leandro Bay within the larger San Francisco Bay.
- begins as two short branches of almost entirely open creek. One begins on the grounds of the Sequoyah Country Club and the other in Knowland Park. The two branches converge within the park, where the creek then roughly follows Golf Links Road until it crosses under I-580. The channel is primarily open until it reaches Holy Redeemer College, just north of Seneca Reservoir. It is then contained in engineered channels and culverts, interrupted by one semi-natural segment through Arroyo Viejo Park. The creek continues through similar structures before eventually merging with Lion Creek near the Oakland Coliseum, then drains into San Leandro Bay.
- The Country Club Branch consists of over a mile of primarily open creek with a couple of smaller culverted segments. This branch gets its name from its location following the northwestern boundary of the Sequoyah Country Club. It begins in a culvert under Surray Lane and flows westerly to its confluence with the Melrose Highlands Branch at Calafia Avenue and Mountain Boulevard.
- The Rifle Range Branch begins in the Leona Canyon Regional Open Space Preserve, where it flows naturally through the canyon for over a mile. As the creek leaves the preserve on the southeastern end, it enters an underground culvert along Campus Drive. It then flows west along Keller Avenue before exiting the culvert and continues primarily unconfined toward the southwest. The creek eventually joins with the culverted Melrose Highlands Branch, which follows Mountain Boulevard toward Arroyo Viejo Creek.
- The entire extent of the Melrose Highlands Branch is contained in an underground culvert along Mountain Boulevard. The creek flows southwest to its confluence with Arroyo Viejo Creek near Golf Links Road in the Grass Valley neighborhood of Oakland.
- **Seneca Reservoir:** This 30-million-gallon capped reservoir, carved out of a hillside in 1950, lies just north of Bishop O'Dowd High School in Oakland and is

off limits to the general public. Owned and operated by the East Bay Municipal Utility District, it is part of a network of reservoirs, aqueducts, treatment plants, and distribution facilities that extends from the Mokelumne River Basin in the Sierra Nevada to the East Bay.
    - The entire 73rd Avenue Branch has been placed in underground culverts with the exception of a one-block segment at its origin between Ney and Outlook avenues. This small section of creek, located in a highly developed residential area, then enters a culvert under 73rd Avenue for over a mile before draining into Arroyo Viejo Creek at International Boulevard.
- Peralta Creek Watershed
    - ac flood control map
    - **Size:** 5.6 square miles
    - **Flow:** Drains a portion of the Oakland hills and flatlands into East Creek and San Leandro Bay
    - **Includes:** Harrington Avenue Branch, Courtland Creek, Seminary Creek, Curran Branch, Laguna Branch, Berlin Branch, and Peralta Creek
    - **Cities:** Oakland
    - **Open channel:** 4.8 miles
    - The Peralta Creek Watershed, also known as East Creek Watershed, stretches from the Oakland hills through urban residential and commercial areas to the San Leandro Bay. The watershed is drained by several small creeks that join near the bay. From north to south these are Peralta Creek (the largest), Courtland Creek, 54th Avenue Creek, and Seminary Creek. Before flowing beneath I-880, the four join to form East Creek Slough, a straight engineered channel that replaces an old meandering tidal-marsh slough of the same name. East Creek flows into the San Leandro Bay near 50th Avenue.
    - 54th Avenue Creek runs underground beginning at 50th and Vicksburg avenues, travels under 52nd Avenue and then turns southward under International Boulevard. It continues under 54th Avenue until it becomes an engineered channel and drains into East Creek and San Leandro Bay.
    - Courtland Creek has its origins near Monterey Boulevard and Redwood Road. Though mostly underground, significant stretches of the creek are still exposed. It runs from the Oakland hills along Courtland Avenue through East Oakland's Maxwell Park and the Fairfax and Fremont districts. Historically a tributary to the larger Lyon Creek, it was diverted after the Oakland Coliseum was built in 1966. The Bay checkerspot butterfly is a federally threatened species and is endemic to the area.
    - Peralta Creek originates in the Oakland hills. The main stem flows through Butters Canyon at an elevation of 1,015 feet to a culvert under Butters Drive. It then bisects the city of Oakland as it travels downstream through the Oakland flatlands. For the majority of its journey, it flows in underground pipes and culverts, crossing under Highway 13, I-580, I-880, and a BART line before it emerges in an engineered channel and empties into the San Leandro Bay.
    - Peralta Creek is also fed by four branches or tributaries:

        - The Berlin Branch is a narrow creek that runs along Maple Avenue for a little over a mile before joining Peralta Creek. Most of the creek flows underground in storm drain pipes beneath roads, buildings and other infrastructure. However, one section of the creek runs open with poplars, oaks, walnut and redwood trees lining its banks. Wildlife may include visiting cedar waxwings and year-round residents such as downy woodpeckers, western scrub jays, and black phoebes. The creek remains dry for much of the year, but during winter it carries storm runoff.
        - The Curran Branch runs totally underground in a culvert fed by a network of storm drains. It starts near Coolidge Avenue and Carmel Street.
        - The Harrington Avenue Branch begins near I-580 and Viola Street. It flows parallel to Harrington Avenue in an underground culvert as well as above ground. It joins with Peralta Creek at 36th Avenue and Foothill Boulevard.
        - The Laguna Branch starts at Carmel Street and Laguna Avenue and makes its way southward through the Lower Dimond district and underneath the I-580. It meets the Curran Branch at Ward Lane. From there, it alternates between an open, engineered, and culverted creek until it merges with Peralta Creek at Davis Street.
    - Seminary Creek begins in the foothills and runs mostly in underground pipes through flatlands neighborhoods and finally under industrial warehouses before it enters culverts under Coliseum Way and becomes an engineered channel that follows the peripheries of the Oakland Swap Meet, or Coliseum Public Market. The creek ultimately empties into San Leandro Bay, which is part of the Martin Luther King Jr. Regional Shoreline.
    - The Kingsland Branch starts near Fleming Avenue and Rawson Street. It flows through an underground culvert that merges with Seminary Creek on Harmon Avenue past 57th Avenue.
    - The original East Creek was a wide tidal-marsh slough that meandered along the northeastern margin of San Leandro Bay, unconnected to the upland creeks. The creeks of the Peralta Creek watershed have been artificially connected to San Leandro Bay via an engineered channel built where East Creek once lay. The new channel was named for its predecessor.
    - **San Leandro Bay** is an arm of the San Francisco Bay, located along the east side of the Oakland International Airport and Bay Farm Island. Once a rich habitat for wildlife, most its original marshland and habitat have been filled or dredged. See Arrowhead Marsh on the East Bay Regional Parks website to find a map of the remaining area of these tidal marshes.
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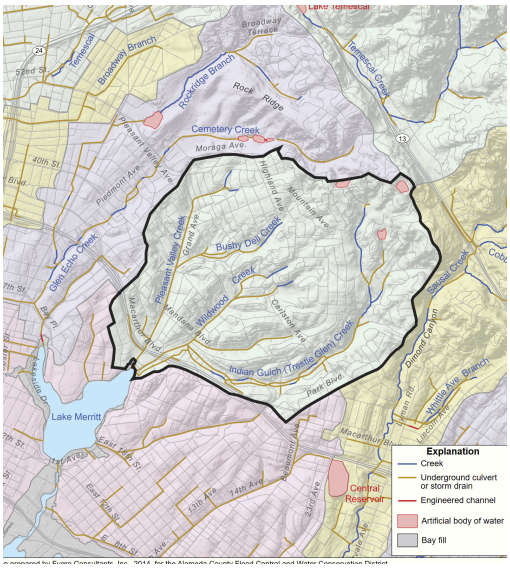
- **Sausal Creek Watershed**
    - ac flood control map
    - **Size:** 4.2 square miles

- **Flow:** Starts in the Oakland Hills near Joaquin Miller Park and Montclair, flows through Dimond Canyon, the Fruitvale neighborhood, and into the Oakland Tidal Canal beside the Fruitvale bridge.
- **Includes:** Palo Seco Creek, Shephard Creek, Cobbledick Creek, Whittle Avenue Branch, Sausal Creek
- **Cities:** Oakland
- **Open channel:** 5.5 miles
- The Sausal Creek watershed begins as a series of ephemeral creeks 1,300-1,500 feet above sea level in the Oakland Hills. Its three main tributaries drain the western slope of the East Bay hills and are bounded by Snake Road and Montclair Village to the north, Skyline Boulevard to the east, and Joaquin Miller Road, Lincoln Avenue, and Fruitvale Boulevard to the south. Its natural channels course through Dimond Canyon and Dimond Park and then dive under Interstate 580. In the Oakland flatlands, culverted sections of the creek channel alternate with open stretches of creek before disappearing into the last culvert at East 22nd Street. Finally, the creek emerges into the Oakland Estuary at the tidal channel that separates the city and island of Alameda from the mainland.
- Above Highway 13, the Sausal Creek watershed divides into three main basins named after their major creeks: These three creeks meet near Highway 13 and become Sausal Creek.
    - Cobbledick Creek and its tributaries have open channels with seasonal flows. Most of the creek is on private residential land. It runs along Scout Road and joins Shephard Creek to become Palo Seco Creek, which runs through Joaquin Miller Park to become Sausal Creek. The native shrubs and trees include toyon, manzanita, oak, and madrone.
    - Escher Creek is a locally named ephemeral tributary to Shephard Creek. Shepherd Canyon Homeowners Association is working to remove invasive plants, reduce erosion, and establish native plants along the creek. The creek originally flowed under the soccer field in Shepherd Canyon Park; now it curls around the north edge of the meadow to meet Shephard Creek in its culvert.
    - Palo Seco Creek is in the least developed of the four sub-basins. The majority of trees here are coastal redwoods and willows with blackberry in the understory. The creek channels for the most part remain open and unculverted. Palo Seco Creek has high quality aquatic habitat due to a great diversity of aquatic insects. A small population of rainbow trout lives in lower Palo Seco Creek.
- Sausal Creek starts at the confluence of Shephard Creek and Palo Seco Creek, flowing almost straight south until it reaches the Oakland Estuary in San Francisco Bay. It makes its way through 100-foot deep Dimond Canyon, lined with California bay laurels, oaks, willows, and many native and invasive plant species. Above the Leimert Bridge, the creek is marred by grade control structures, culverts, and cement linings. Below the bridge is a restoration site where grade control structures were removed and thousands of native plants

replaced invasive non-natives. At El Centro Avenue, the creek flows through a culvert into Dimond Park. In the Oakland flatlands, culverted sections alternate with open stretches of creek before disappearing into the final culvert at East 22nd Street.

- Shephard Creek has limited opportunities for native plant restoration. What was once an open creek channel has now been diverted into a maze of culverts and storm drains, making for very little riparian and aquatic habitat.
- The **Oakland Estuary** is a strait the separates the cities of Oakland and Alameda. Its eastern end connects to San Leandro Bay where leopard sharks, seals, and bat rays can be found. Its western end connects to San Francisco Bay. Dredging and manufacturing industries have caused much sedimentation and contamination.



- **Trestle Glen (Indian Gulch)/Pleasant Valley Creek Watershed**
  - ac flood control map
  - **Size:** 3.0 square miles
  - **Flow:** Drains much of the City of Piedmont into the east arm of Lake Merritt
  - **Includes:** Small creeks that converge downstream including Pleasant Valley Creek, Indian Gulch (also known as Trestle Glen Creek), Bushy Dell Creek, and Wildwood Creek
  - **Cities:** Piedmont, Oakland
  - **Open channel:** 2.0 miles
  - The Indian Gulch/Pleasant Valley Creek Watershed covers about three square miles draining much of the city of Piedmont and parts of the Lower Hills District of the city of Oakland. Urbanized hills with creeks in the valleys between them characterize the natural geography of Piedmont. The watershed's four small creeks converge downstream and flow into the eastern arm of Lake Merritt, a major landmark near downtown Oakland, and from there into San Francisco Bay.

There are two miles of noncontiguous open channel that flow through public parks and private property.Construction of roads in the canyon bottoms resulted in the culverting of most of the creeks in the watershed. The blue lines on the map show where natural reaches can still be found.

- The Indian Gulch/Pleasant Valley Creek Watershed begins in the hilly eastern portion of Piedmont. The major creeks—Bushy Dell, Indian Gulch, Pleasant Valley, and Wildwood—flow southwest out of the hills into Lake Merritt in Oakland. The creeks are sustained by a combination of natural springs, rain water, groundwater, and urban runoff. The entire city of Piedmont, save for a narrow strip of land along Park Boulevard, drains to one of two outfalls at Lake Merritt's eastern arm, accounting for at least one-quarter of the Lake Merritt watershed.
- Bushy Dell Creek begins in Piedmont Park and flows in an underground culvert through Witter Field. It then joins the underground culvert beneath Magnolia Avenue and flows toward Grand Avenue where it merges with Pleasant Valley Creek before emptying into the northern outfall at Lake Merritt. The Piedmont Recreation Department has worked hard to restore native vegetation near the creek's headwaters behind Piedmont Community Hall, where visitors can walk along the open creek before it reaches a culvert upon leaving Piedmont Park. Native vegetation includes young maples, oaks, alum root plants, and sword ferns among the redwoods.
- Indian Gulch (Trestle Glen) Creek originates near the Sotelo Avenue and Glen Alpine Road Loop and flows parallel to Sea View Avenue before coursing through the neighborhood of Crocker Highlands to the southern outfall at Lake Merritt's eastern arm. Early settlers called the creek Indian Gulch after the Huchiun village that stood near the present-day intersection of Lakeshore Avenue and Trestle Glen Road. In 1893, F.M. "Borax" Smith built a rail trestle across the canyon to Sather Park, thus it also bears the name Trestle Glen Creek. The culverted creek swings back and forth under Trestle Glen Road outlining the original meanders of the creek before it was largely buried for urban development.
- Pleasant Valley Creek originates in Dracena Park in Piedmont and flows under Grand Avenue to the northern outfall at Lake Merritt. It is entirely culverted except for its headwaters north of the park's entrance.
- **Tyson Lak**e is a small, privately owned man-made lake near LaSalle Avenue and the headwaters of Trestle Glen Creek. Lying within the Mountain View Cemetery at the Oakland city limit, it has a mean depth of 18 feet and a volume of 3 million gallons of water. There is no public access.
- The forked headwaters of Wildwood Creek drain the Piedmont neighborhoods of Wildwood Gardens and Crocker Park. Except for the headwaters, the entire creek is culverted as it flows from Wildwood Gardens to Oakmont Avenue and continues under Lakeshore Avenue to Lake Merritt.
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- **Glen Echo Creek Watershed**
  - ac flood control map
  - **Size:** 2.6 square miles
  - **Flow:** Originates in the upper Rockridge neighborhood of Oakland and flows into the west arm of Lake Merritt
  - **Includes:** Rockridge Branch, Broadway Branch, and Glen Echo (Cemetery) Creek
  - **Cities:** Oakland
  - **Open channel:** 1.43 miles
  - The 2.6-square-mile Glen Echo Creek Watershed drains the Upper Rockridge and Piedmont Avenue areas in Oakland as well as parts of the City of Piedmont that lie near Mountain View Cemetery. Glen Echo Creek, also referred to as Cemetery Creek where it approaches and flows through the cemetery, and the Rockridge Branch are the two primary creeks that flow from the hills west of Highway 13. The Rockridge Branch flows to a pond behind The Ridge shopping center. There, the Broadway Branch carries the flow underground along Broadway. The creeks flow through residential and commercial areas with alternating daylighted and culverted sections. They cross under I 580 and continue until the Broadway Branch joins Glen Echo Creek above the west arm of its eventual outlet, Lake Merritt.
  - ***Glen Echo Creek** drains the PANIL area (40 square blocks bounded by Broadway, MacArthur Boulevard, Oakland Avenue, and the City of Piedmont), the Rockridge area, Trestle Glen, lower Park Boulevard, and most of Piedmont. It flows through the Piedmont Avenue district and is the main tributary that empties into Lake Merritt's western arm. Sections of open creek can be seen between Linda and Monte Vista avenues. The creek disappears underground and re-emerges west of MacArthur Boulevard in Oak Glen Park for several blocks along Richmond Boulevard. From there, the creek once again is culverted and then reappears by the Veterans' Memorial Building at Harrison Street and Grand Avenue before emptying into Lake Merritt.
  - The **Rockridge Branch** drains the Upper Rockridge residential area, flowing through culverts along Broadway Terrace. A short offshoot flows along Clarewood Drive and surfaces in between the two entrances to Clarewood Lane. This offshoot joins the Rockridge Branch just above the Claremont Country Club where it flows above ground through the golf course and falls spectacularly into the reservoir at the former Bilger Quarry behind Rockridge Shopping Center. From there, it is culverted under the parking lot where it merges with the Broadway Branch at Broadway.
  - **Lake Merritt** is a 140-acre tidal estuary with two high and low tides each day. The brackish water is a result of the mixture of salt water from the Oakland Estuary with fresh water from five creeks, smaller streams, and 62 storm drains that carry rainwater from the Oakland hills. Lake Merritt is believed to have formed in the late Pleistocene era, more than 10,000 years ago. In 1896, Dr.

Samuel Merritt constructed a narrow dam across the channel with gates to trap the high tides, creating the Oakland icon known today as Lake Merritt.

- A Harvester Boat cleans the excess algae from the late https://lakemerrittinstitute.org/wp-content/uploads/2019/06/07_10_tidings.pdf

- The **Oakland Estuary** is a strait that connects the San Francisco Bay

- West Oakland Watershed
    - The drainage system in these watersheds is a network of underground culverts and storm drains. Historically the Broadway Branch of Glen Echo Creek flowed through the northeast corner of the West Oakland Watershed, but this has also been channeled into underground culverts.
    - **Ettie Street Pump Station**
    - Flooding was a serious problem in West Oakland after the former lowlands and marshlands were developed in the late 1800s. In 1954, construction of an extensive storm drain network and pump station improved stormwater drainage from West Oakland to the Emeryville Crescent, a crescent-shaped marsh that stretches from the eastern approach of the Bay Bridge in Oakland to the foot of Powell Street in Emeryville. The two watersheds now direct water to the Ettie Street Pump Station where it is pumped under I-580 to the bay.
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- *Temescal Creek
    - **Size:** 6.7 square miles
    - **Flow:** From the north Oakland hills on either side of Highway 24, through Emeryville, and into San Francisco Bay at the Emeryville Crescent.
    - **Includes:** Harwood (Claremont) Creek, Vicente Creek (Grandview Branch), Tunnel Branch, Lake Temescal
    - **Cities:** Oakland, Emeryville
    - **Open channel:** 4.6 miles

The word "temescal" derives from the word *temescalli,* which means "sweat house" in the Nahuatl language of the Mexica ("Aztec") people of Mexico. The name was given to the creek when it became part of the Peralta's Rancho San Antonio. It is surmised that the Peraltas or perhaps one of their ranch hands (vaqueros) had seen local indigenous (Ohlone) structures along the creek similar to those in other parts of New Spain which were called *temescalli*.

- “Temescalli” means sweat house in one of the indigenous (Aztec) languages of Mexico. Early rancheros may have named the creek based on similarities of local indigenous Ohlone structures to those in prehispanic Mexico. The south fork of Temescal Creek begins in the northern section of Oakland’s Montclair district near the top of Pinecrest Road. City streets follow the creek until it leaves its canyon and flows north along Highway 13 in a linear valley formed by the Hayward Fault. An unnamed, culverted branch that drains the Caldecott Tunnel area joins the creek to flow into Lake Temescal. From the lake outlet, Temescal Creek flows primarily through culverts along its former drainage path. It follows Highway 24, skirting the north side of the Rockridge district of Oakland. At

Telegraph Avenue it continues almost in a straight line for the rest of its course. It flows under Temescal Creek Park, where some water is diverted through an engineered, landscaped creek bed that runs along the east side of Claremont Avenue from Clifton Street to Clarke Street. It then continues to Emeryville in an engineered channel before crossing under I-80 to the tidal marshes and the bay.

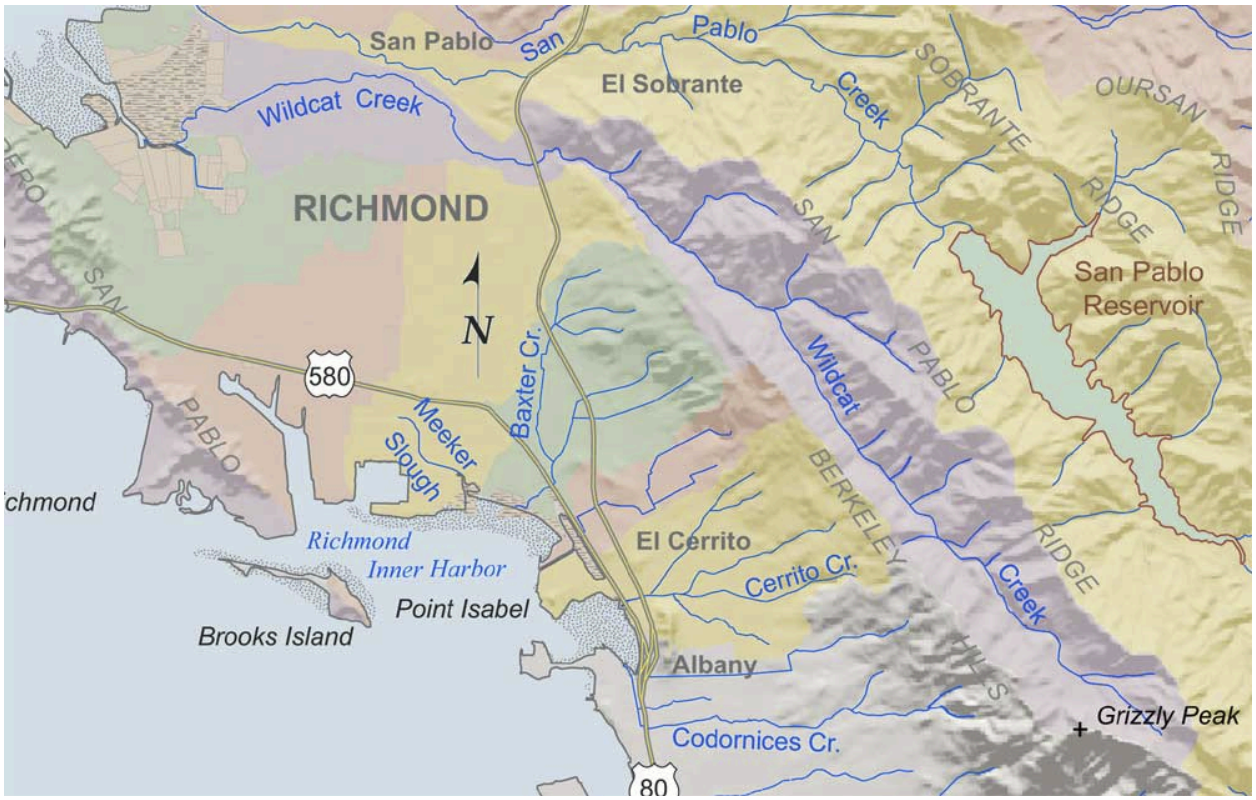
- ***Lake Temescal,** the key feature of the Lake Temescal Regional Recreation Area, was built at the site of a natural sag pond that formed in a depression between two strands of the Hayward fault, an active strike-slip-fault. The lake was dammed and dredged in the 19th century to increase its capacity as a city reservoir. Lake Chabot later replaced Lake Temescal as a water source. In 1936, Lake Temescal became one of the East Bay Regional Park District's (EBRPD) first regional parks. Today the Lake Temescal Recreation Area is used for swimming, picnicking, and fishing.
- Walking Waterhoods: Temescal Creek - Mouth, created by Wholly H2O
- Temescal Creek, the lower reach- from www.oaklandgeology.com
- Emeryville-Shellmound at 4600 block of Shell Mound St

- Claremont (Harwood) Creek In the 19th century, the north fork of Temescal Creek was renamed Harwood's Creek after the owner of the property near the creek's origin. It was renamed Claremont Creek in the early 20th century after the Claremont residential development. Claremont Creek drains Claremont Canyon, which extends above the historic Claremont Hotel and Resort. The creek is diverted around the hotel grounds through culverts that begin just above the hotel. Two long stretches of creek resurface in the residential Claremont district before the creek goes underground again and eventually joins Temescal Creek near the Rockridge BART Station.
- Vicente Creek (aka the Grandview Branch) drains the Claremont hills area and joins the culvert for Temescal Creek near the Chabot Recreation Center. Most of Vicente Creek flows above ground, crisscrossing the Oakland-Berkeley city border through the residential Claremont neighborhood.
- **Emeryville Crescent** Temescal Creek flows through culverts under I-80 and into San Francisco Bay at the Emeryville Crescent State Marine Preserve near the Bay Bridge approach. The preserve is one of the last remaining tidal marshes in the central bay. Its tidal flats formerly showcased driftwood sculptures, which were removed in the 1990s so the marsh could recover. Today, pickleweed and cord grass are more abundant, and the tidal flats are a feeding ground for healthy populations of birds.

- Derby Creek & Potter Creek
  - **Size:** 3.8 square miles
  - **Flow:** Drains south Berkeley from the Berkeley hills to Aquatic Park and San Francisco Bay.
  - **Includes:** The buried channels of Potter Creek and Derby Creek.
  - **Cities:** Berkeley, Emeryville

    - **Open channel:** .2 miles
    - The 3.8-square-mile Potter and Derby Creek Watershed lies predominantly in the city of Berkeley but spans the borders of Oakland and Emeryville in the east and southwest. Draining mostly flat land, the watershed begins on the west side of the Berkeley hills and runs west to San Francisco Bay. The relatively flat topography of the creek channels suggest that they were once tributaries of Strawberry Creek. As the population of Berkeley grew, Potter and Derby creeks were culverted and today are almost entirely underground in constructed channels.
    - Except for a small stretch of Derby Creek on the University of California, Berkeley campus, the channels of these two creeks have been completely filled in and replaced by a rectangular storm drain network. The open section of Derby Creek totals approximately .2 miles. The network of storm drains ends in Berkeley at two outlets that connect to the bay: one at the south end of Aquatic Park just north of Ashby Avenue and the other just south of Ashby.
- Powell Street Watershed The small .24 square mile (153 acre) Powell Street Watershed is located along the western end of Powell Street in Emeryville, south of the Potter/Derby Creek Watershed. It drains a residential and industrial area through underground culverts to the bay.
- *Strawberry Creek
    - **Size:** 3.0 square miles
    - **Flow:** Flows from Grizzly Peak in the Berkeley hills, through the University of California, downtown and residential areas of Berkeley, and enters the bay near University Avenue.
    - **Includes:** Hamilton Gulch, North Fork Strawberry Creek,
    - **Cities:** Berkeley
    - **Open channel:** 3.2 miles
    - Strawberry Creek has two main tributaries, the North Fork and Hamilton Gulch. The North Fork flows through the neighborhoods of North Berkeley, its watershed comprising 388 acres bounded by Little Grizzly Peak on the east and Rose Street and the main branch of Strawberry Creek to the south. The main branch flows west toward San Francisco Bay after its confluence with the North Fork. Hamilton Gulch is a smaller tributary in the southeast corner of the watershed and is almost completely natural. A number of small tributaries draining canyons and ravines in the hills join Strawberry Creek and Hamilton Gulch. Stormwater routing and stream channel culverting have greatly altered the natural drainage paths throughout the entire Strawberry Creek Watershed.
    - Ohlone Shell mound Heritiage Site and Sacred Grounds Map Utilizing the fine detail of the U.S. government's 1856 Coast Survey map, landscape architect Chris Walker and filmmaker Toby McLeod set out to illustrate 150 years of changes to the landscape of the West Berkeley Shellmound through a series of 15 map overlays:

- Schoolhouse Creek is almost entirely culverted under the streets of Berkeley with only a few daylighted sections in residential backyards. Originally the creek flowed into the south end of a large, northward-flowing salt marsh and slough that also carried the waters of Codornices and Marin creeks to San Francisco Bay. West of this marsh, low dunes and a crescent of sandy beach curved northwest to Fleming Point. Today, the marsh has been filled, and the creek is channeled into a pipe that drains into the bay.



- Codornices Creek
  - **Size:** 2.9 square miles
  - **Flow:** Starts in the Berkeley hills along Grizzly Peak Boulevard and flows across north Berkeley and Albany to San Francisco Bay south of Albany Hill
  - **Includes:** Village Creek (Lower Marin Creek), Upper Marin Creek, and Blackberry Creek
  - **Cities:**
  - **Open channel:** 4.6 miles
  - The major creeks of the Codornices Creek Watershed are Codornices, Village, Marin and Blackberry. Codornices Creek is the longest and most open creek in the watershed. Village Creek consists of segments of natural creek, engineered channel, and underground storm drains, with one of the segments of engineered channel designed to function like a natural creek. Marin Creek consists entirely of underground culverts and a series of storm drains. Blackberry Creek and its branches were once tributaries of Cerrito Creek, before being diverted by storm drains.

- ## Blackberry Creek
- Blackberry Creek has two branches that drain the Thousand Oaks neighborhood in Berkeley and converge at John Hinkel Park and another branch, which is Capistrano. In 1990, a several-hundred-foot stretch of the creek was daylighted and is now a small park in the lower corner of the schoolyard of Thousand Oaks Elementary. Blackberry Creek used to flow through the city of Albany and merge with Cerritto Creek. Capistrano flows through a series of storm drains along Capistrano Avenue and intercepts Blackberry Creek. It now flows into the Marin Creek storm drain which drains to the Albany mudflats, elsewhere called the Albany Mudflats Ecological Reserve.
- ## Codornices Creek
- Codornices Creek is a perennial creek, which drains its 1.1- square-mile watershed and flows 2.9 miles from its headwaters in the Berkeley hills to San Francisco Bay. It flows through the cities of Berkeley and Albany and is one of the least culverted creeks in the East Bay. The north and south forks converge to form the mainstem at Codornices Park, after which the creek flows downstream through the Berkeley Rose Garden and Live Oak Park. It passes the Ohlone Greenway before crossing under San Pablo Avenue and entering a restored section at 5th-6th streets along the southern edge of University Village. It then crosses under I-80 where it flows into the slough, which feeds a small salt marsh, and drains out into the bay. As Berkeley's most intact creek, it provides habitat for native rainbow trout.
- Marin Creek is a small seasonal creek that originates in the Berkeley hills and travels through the cities of Berkeley and Albany to San Francisco Bay. Most of the creek has been modified and flows through storm drains with a few exceptions below San Pablo Avenue and University Village. A storm drain system catches the flows from Blackberry Creek and Upper Marin Creek and discharges them from an outfall into the salt marsh above Golden Gate Fields. Lower Marin Creek is also known as Village Creek.
- Seasonal Village Creek, the western remnant of Marin Creek, drains approximately .15 square miles beginning at the intersection of Marin and Peralta Avenues. University of California Berkeley daylighted a 900-foot stretch of the creek that runs parallel to Buchanan Street along the northern boundary of University Village and provides riparian habitat. The creek passes through an engineered channel and a culvert under the freeway, reaching the north-south running slough that empties onto the Albany Mud Flats Ecological Preserve and into San Francisco Bay.
- Gilman Street Watershed covers an area of .5 square miles of Berkeley flatlands between the Codornices and Schoolhouse watersheds. It has no creeks or open channels but rather, a network of smaller storm drains that feed a main drain running down Gilman Street to the Bay, replacing the north-running slough and salt marsh that once carried water from Schoolhouse, Codornices, and Marin Creek to the Bay farther north.

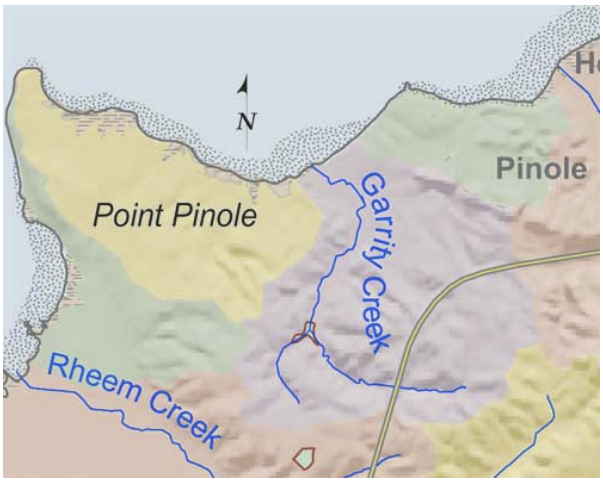
    - West Albany Hill Watershed is very small and is approximately 0.05 square miles (32 acres). It is located adjacent to Cerrito Creek Watershed on West Albany Hill, a prominent hill along the east shore of the bay in the city of Albany. The watershed drains to the bay via gutters and small underground storm drains (less than 24 inches in diameter), which are not shown on the Google Earth watershed map.
    - There are very few marshlands in this area, which historically was mostly edged by sandy beach beyond a north-south tidal marsh fed by these small creeks. Only about 20 percent of the original tidal marshes that once ringed the bay remain. The typical bands of vegetation represented by cord grass, pickleweed, and gumplant, can be found in the fragmentary marsh at the mouth of Codornices, south of Buchanan where it meets the San Francisco Bay.
- Cerrito Creek
    - **Size:** 3.1 square miles
    - **Flow:** Heads in the Berkeley Hills along Grizzly Peak Boulevard in the town of Kensington and flows across the Cities of El Cerrito and Albany to San Francisco Bay.
    - **Includes:** North Fork Cerrito Creek, Cerrito Creek, Middle Creek, and other unnamed tributaries.
    - **Cities:** El Cerrito, Kensington, Albany
    - **Open channel:** 3.9 miles
    - Cerrito Creek begins as a series of small springs and tributaries that flow into The North Fork, Middle Creek, and the main stem, the three main sections of the creek. Summit Reservoir, located in the southeast corner of the watershed, is the only water body not connected to the creek. Point Isabel Watershed does not contain any major creeks or water bodies.
    - Cerrito Creek begins near the crest of the Berkeley hills just west of Summit Reservoir and east of Arlington Avenue. Upstream, the creek marks the border between Berkeley and Kensington and downstream between Albany and El Cerrito. Stretches of open creek alternate with culverted sections before the creek enters an engineered channel just west of San Pablo Avenue.
    - The North Fork begins in the city of Kensington near Arlington Avenue and is similarly composed of open channel and underground culverts. The creek flows west, merging with two unnamed tributaries, one near Liberty Street and Fairmont Avenue and another at Kearney Street and Fairmont Avenue. Eventually the North Fork joins Cerrito Creek just west of El Cerrito Plaza.
    - Middle Creek begins at the intersection of San Carlos and Portland avenues in Albany. It is almost entirely culverted with the exception of a few small sections. The largest segment of open channel lies near the confluence with Cerrito Creek located in Creekside Park in Albany. Plant restoration efforts have been ongoing along the creek banks in this location since 2000.
    - Native plants grow along Cerrito Creek
    - **Summit Reservoir**, located in the southeast corner of the watershed at the top of Spruce Street, is a man-made fresh water reservoir. In the 1920s, the East Bay

Municipal Utility District constructed an aqueduct through the Berkeley hills to transport water from the San Pablo Reservoir to a still-active pumping facility in Kensington, located just above the Colusa Circle. Some of the water is pumped up the hill to the reservoir. The rest is pumped to other reservoirs serving the East Bay.

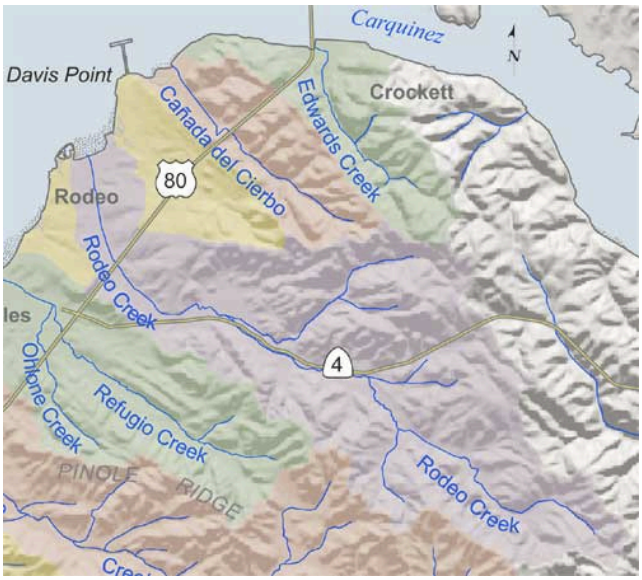
- The Point Isabel Watershed contains no creeks. All runoff flows either into the bay or into Hoffman Marsh, a small remnant of natural tidal marsh that runs alongside I-580. Hoffman Marsh receives significant runoff from a small creek just north of the Cerrito Creek Watershed. The runoff drains out though Hoffman Channel, a wide engineered channel that connects the marsh to the bay and allows the tides to flow in and out.

Contra Costa County

Contra Costa Watershed map (pdf link)

- Baxter Creek
- Wildcat Creek
- San Pablo Creek
  -
- Garrity Creek
  - 

- *Pinole Creek
  - The creek has one of the last primarily undeveloped watersheds in the Bay Area.[2]
  - In 1965, the Army Corps of Engineers armored the creek channel between Interstate 80 and San Pablo Bay for flood control. However, this removed riparian zone vegetation and tree cover needed for food, shelter, and shade for fish and other wildlife.[5]
  - In 2016, completion of the Pinole Creek Fish Passage Improvement Project at Highway 80 removed the only significant barrier to fish passage and hydrologically reconnected habitat in the upper watershed with the San Pablo and San Francisco Bay Estuaries.
  -
- *Refugio Creek

- Rodeo Creek
  - 

- Canada Del Cierbo Creek
- Edwards Creek

Napa

Maps

- [North Bay Restoration Maps]

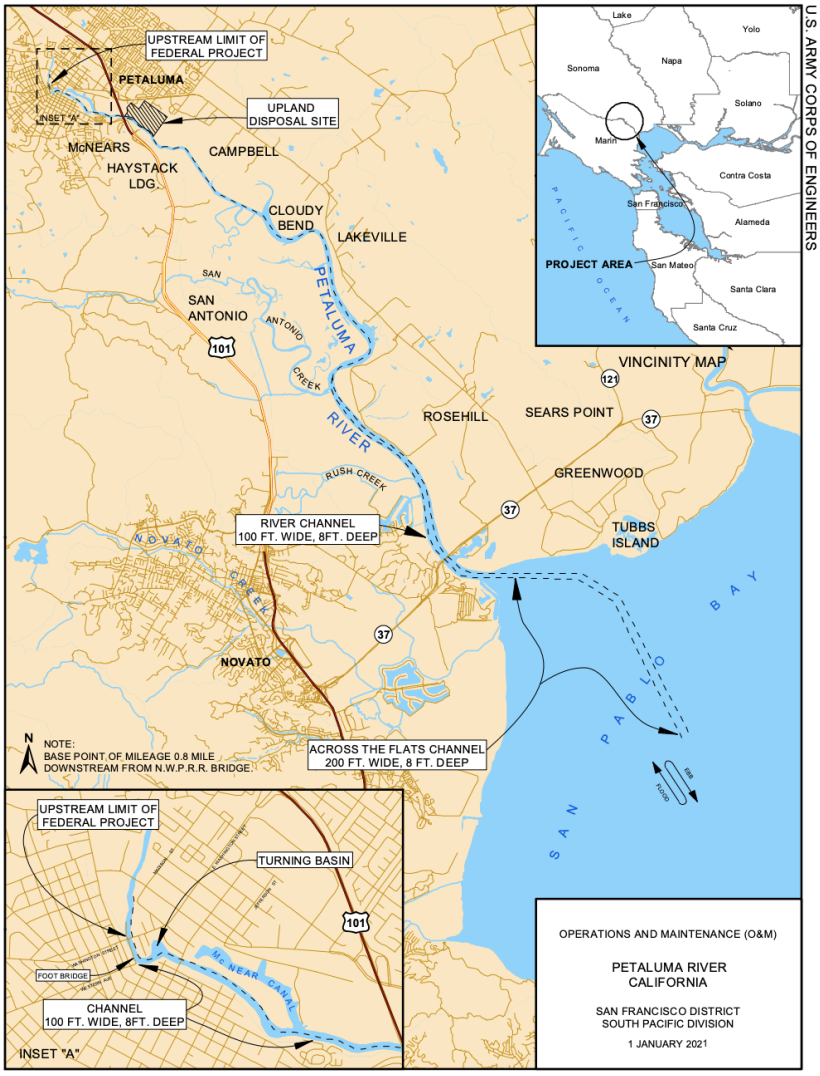
- Napa River

- Napa river in downtown Napa: (big oxbow here)

- Carneros Creek
  - The Carneros Creek official mainstem is 9.8 miles (15.8 km) long.[3][1] This third order stream has a rectangular drainage basin area of 8.9 square miles (23 km^2). The highest elevation in the watershed is 1,660 feet (510 m) above mean sea level, dropping to sea level at its confluence with the Napa River. The lowest 1,640 feet (500 m) of the creek is confined within flood levees.[6]

Sonoma

- Sonoma Creek
  - Watershed
  - 33.4-mile-long (53.8 km)
  - The creek was left in it's natural state until 1850
  - Tolay Creek
  - marks part of the western boundary of the Sonoma Valley AVA, a federally designated wine appellation
  - Five Facts about Sonoma Creek
  - Sonoma Creek Falls
- Petaluma River



Marin

https://www.nbwatershed.org/old-about-us/watershed-map/

- Novato Creek
  Largest watershed in eastern Marin County

Size: 45-square mile basin
Flow: Marin County and the City of Novato, and into San Pablo Bay near the mouth of the Petaluma River.
Includes:

- The Bel Marin Keys Neighborhood Alliance Group is a resident community organization with the purpose to preserve our precious lagoons, locks, levees, and creek.
- https://marinmagazine.com/community/sustainability/bel-marin-keys-2/
  - Developed in stages between 1961 and 1985
  - community of about 700 homes

Cities:

Open channel:

- Miller Creek
    - James Miller, was an Irishman who settled on part of Rancho San Pedro, Santa Margarita y Las Gallinas in 1845.[3]
    - He worked at
- Gallinas Creek
- San Rafael Creek
- Corte Madera Creek
    - Flora and Fauna Of Upland Corta Madera Creek Watershed
    Friends of Corte Madera Creek
- Old Mill Creek
- Coyote Creek