SCAPE LANDSCAPE ARCHITECTURE DPC

HAYWARD SHORELINE MASTER PLAN
STAKEHOLDER WORKSHOP #1

PHASE 1: PROJECT INITIATION
MAY 16, 2019

AGENDA

I. MEET THE TEAM

II. PROJECT TIMELINE

III. PROJECT OBJECTIVES

IV. FINDINGS

V. NEXT STEPS

VI. TODAY’S WORKSHOP

MEET THE TEAM

MEET THE CLIENT TEAM

HAYWARD AREA SHORELINE PLANNING AGENCY

HAYWARD · CALIFORNIA

East Bay Regional Park District

CITY OF HAYWARD

HEART OF THE BAY

HAYWARD AREA RECREATION AND PARK DISTRICT

HARD

PROJECT OVERVIEW

MEET THE PROJECT TEAM

SCAPE

re:FOCUS PARTNERS

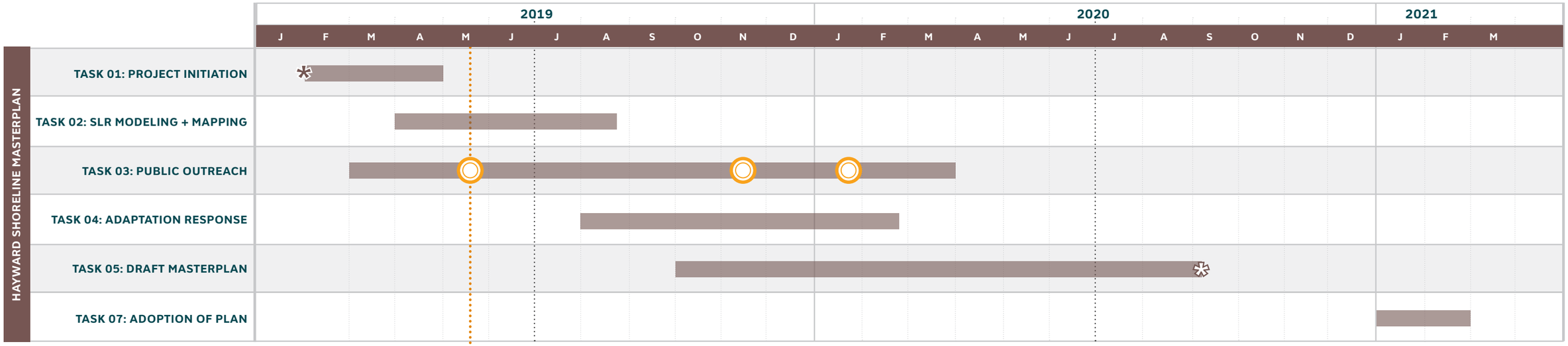
Convey

ARCADIS

SFEI | AQUATIC SCIENCE CENTER
SAN FRANCISCO ESTUARY INSTITUTE & THE AQUATIC SCIENCE CENTER

PROJECT SCHEDULE

TIMELINE



Community or Stakeholder Workshop

Task Duration

Final Masterplan Report Submission

WE ARE HERE

MASTER PLAN OBJECTIVES

ASSESS AND VISUALIZE RISK TO ECOLOGICAL AND RECREATIONAL ASSETS

ASSESS AND VISUALIZE RISK TO BUILT SHORELINE ASSETS

DEVELOP ADAPTATION RESPONSES BASED ON BEST AVAILABLE SCIENCE

CREATE MEANINGFUL AND IMPLEMENTABLE ADAPTATION RESPONSES

ENGAGE SHORELINE COMMUNITIES THROUGHOUT THE PLANNING PROCESS

HAYWARD MASTER PLAN

PROJECT INITIATION

SCAPE
ARCADIS
CONVEY
RE:FOCUS
SFEI

HAYWARD REGIONAL SHORELINE MASTER PLAN

FOR THE HAYWARD AREA SHORELINE PLANNING AGENCY

TASK 1 BACKGROUND REPORT & EXISTING CONDITIONS ANALYSIS

SUBMITTED 05/03/2019

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- Project Area

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- Endangered Species
- Sediment
- Groundwater
- Geology

INFRASTRUCTURE
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- Levees at Risk
- Critical Infrastructure
- FEMA Flood Hazard Zones
- Inundation Depths

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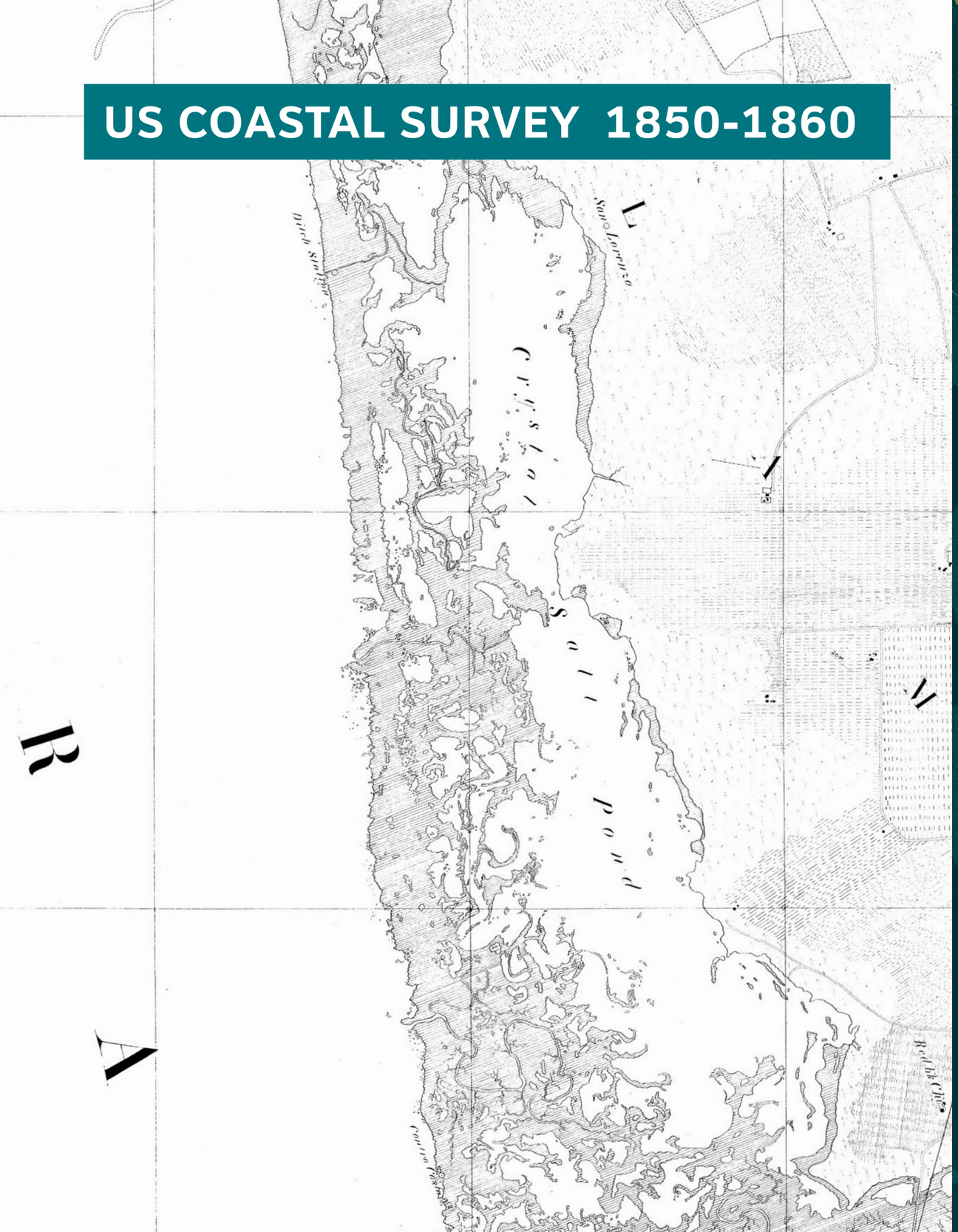
HAYWARD REGIONAL SHORELINE HISTORY

US COASTAL SURVEY 1850-1860



HAYWARD SHORELINE MASTER PLAN
HISTORIC BAYLANDS

LEGEND

- TIDAL MUDFLAT
- TIDAL MARSH
- SALT PONDS
- PANNES
- CHANNEL
- 1% ANNUAL CHANCE FLOOD HAZARD EXTENT

N 0 0.5 MI

SAN LORENZO CREEK

SAN LORENZO ALLUVIAL PLAIN

The Hayward Shoreline had no connection to upland freshwater creeks. Baylands were built over time from the sediment filled floodwaters of San Lorenzo Creek.

HAYWARD'S LANDING

Navigating shallow waters of The Bay required landing structures to facilitate the transportation of goods. These landings leveraged natural features that were higher in elevation to cross into deeper water. Built structures such as jetties also facilitated crossing of shallow mudflats.

CRYSTAL SALT POND

One of the largest naturally occurring salinas in the South Bay.

NARROW MARSHLAND

Most of the Hayward historic baylands were composed of naturally occurring salt ponds. Narrow portions of salt marsh contained tidal channels branching into smaller dead end sloughs.

BROAD TIDAL MUDFLATS

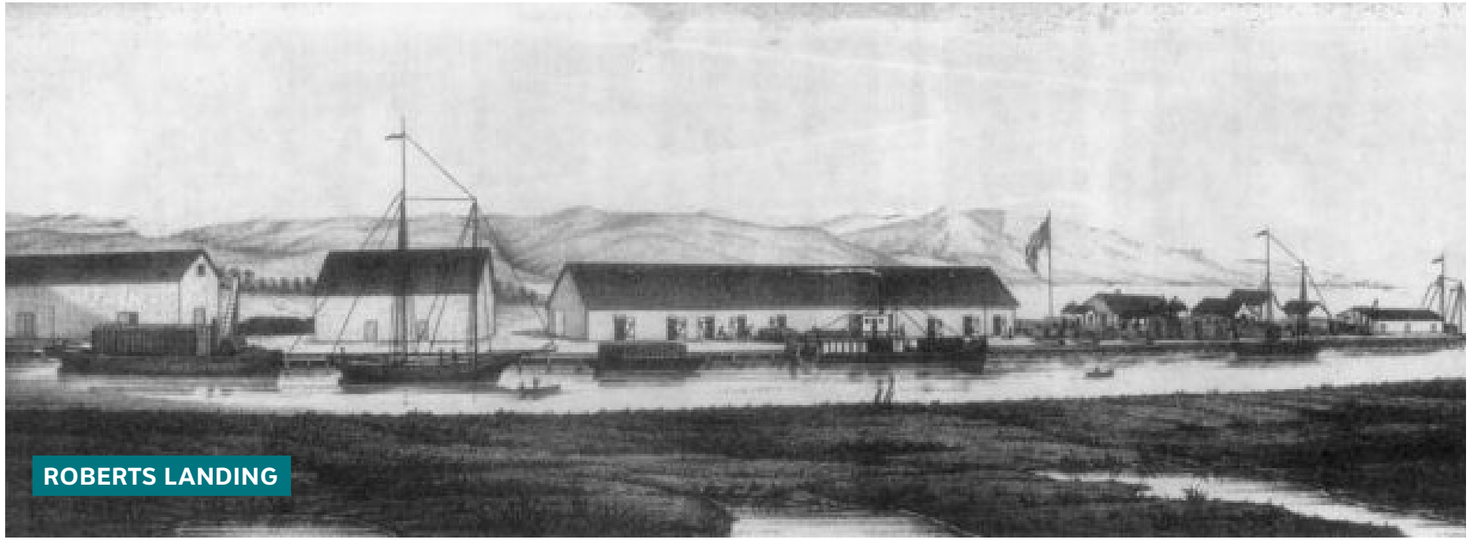
Continuous shallow mudflats extended miles out into the bay.

MT. EDEN CREEK

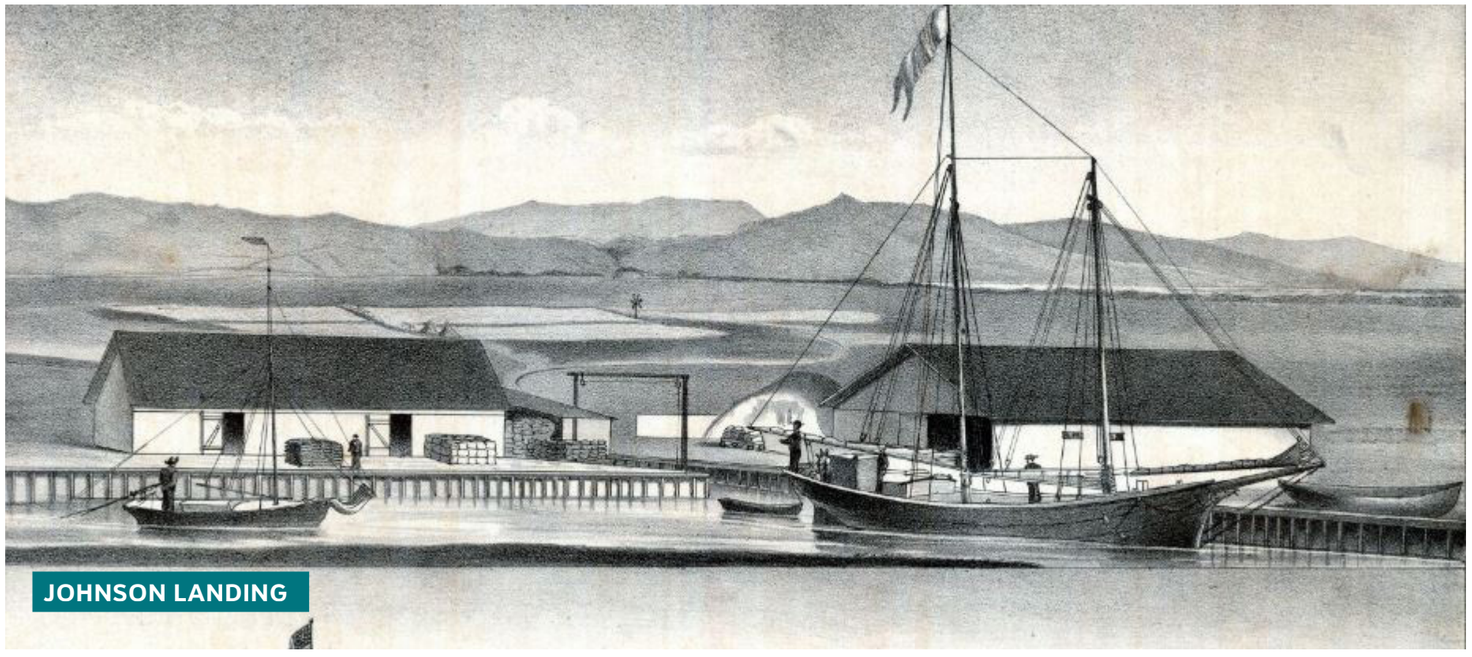
Sources:

1. San Francisco Estuary Institute 2016. *Historical and Modern Baylands 1998*. (April 18, 2019)

HISTORICAL LANDINGS



ROBERTS LANDING



JOHNSON LANDING

OLIVER SALT WORKS- CIRCA 1910

HAYWARD AREA SHORELINE PLANNING AGENCY- 1971

s or Rubble?

nd both on the Hayward Shoreline. Much an has built and discarded, dumped and in past years, remains today. Weather and lenting Bay tides have taken their toll on the dings, windmills, and boat houses. Now they are resque memories for the painter or photographer apture and take home. Smaller remnants of man's yside occupancy wash up on tidal mud flats—some nsightly, some enticing to the would-be collector. But to preserve the distinctive character of the Hayward Shoreline, visitors are asked to leave both relics and bble undisturbed.

blic or Private?

sent time, most of the Hayward Shoreline rivate parties. Gradually, it is being ac- agencies of HASPA, and the long- rea are being put into operation. the Shoreline is limited. study trips are being made ommunity so that as the essible, its care and ty workshops are the Hayward ct. Citizens contact ward

Enjoy or Endanger?

As we begin to understand the fragile nature of the Hayward Shoreline, we will be more likely to enjoy its nuances and less likely to endanger its delicate balance. Each feather, each shell, each wildflower seems a tempting keepsake to the uninformed visitor. But every time such a treasure is removed from its natural setting, a part of the Shoreline is diminished, nature's balance is upset. The massive effort to save the Hayward Shoreline is being made to protect and preserve the area—protection for the millions of creatures who inhabit it year-round, and preservation for human and nonhuman visitors who will

BY CARING TODAY,
WE PRESERVE OUR YESTERDAYS
FOR TOMORROW

HAYW

ward Area Shoreline

trict

This publication has been developed by representatives of the Hayward Shoreline Environmental Education Project in cooperation with HASPA and the Alameda County School Department under the provisions of the Environmental Education Act, 1975.

OCTOBER 197

ECOLOGICAL RESTORATION

PUBLIC OPEN SPACE

SITE WALKTHROUGH

HAYWARD SHORELINE MASTER PLAN
SAN FRANCISCO BAYLANDS

LEGEND

PROJECT BOUNDARY

STUDY AREA

N

0 1.5 3 MI

PIEDMONT

ALAMEDA

OAKLAND

SAN FRANCISCO

ALAMEDA COUNTY

SAN LEANDRO

SAN FRANCISCO BAY

HAYWARD

SAN FRANCISCO INTERNATIONAL AIRPORT

SAN MATEO BRIDGE

UNION CITY

SAN MATEO

FREMONT

NEWARK

REDWOOD CITY

PALO ALTO

HAYWARD SHORELINE MASTER PLAN
HAYWARD PROJECT AREA

LEGEND

PROJECT BOUNDARY

CITY BOUNDARY

N

0 0.5 MI

ANCHORAGE DRIVE

SAN LORENZO CREEK

GRANT AVENUE

BOCKMAN ROAD

GOLF COURSE ROAD

WEST A STREET

HESPERIAN BOULEVARD

WEST WINTON AVENUE

CABOT BOULEVARD

CITY OF HAYWARD

DEPOT ROAD

HAYWARD REGIONAL SHORELINE

SAN FRANCISCO BAY

CLAWITER ROAD

INDUSTRIAL BOULEVARD

STATE ROUTE 92

ARDEN ROAD

MT. EDEN CREEK

Sources:

1. San Francisco Estuary Institute and Aquatic Science Center 2015. *California Aquatic Resource Inventory.* (April 18, 2019)

HAYWARD SHORELINE MASTER PLAN
HISTORIC BAYLANDS

LEGEND

- TIDAL MUDFLAT
- TIDAL MARSH
- SALT PONDS
- PANNES
- CHANNEL
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N 0 0.5 MI

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MT. EDEN CREEK

Sources:
1. San Francisco Estuary Institute 2016. *Historical and Modern Baylands 1998*. (April 18, 2019)

HAYWARD SHORELINE MASTER PLAN
BAYLANDS ECOLOGY

LEGEND

- TIDAL MUDFLAT
- TIDAL / MUTED TIDAL MARSH
- DIKED POND/ WETLAND
- DIKED STORAGE AND TREATMENT PONDS
- INACTIVE SALT PONDS
- UPLAND LANDFILL

N 0 0.5 MI

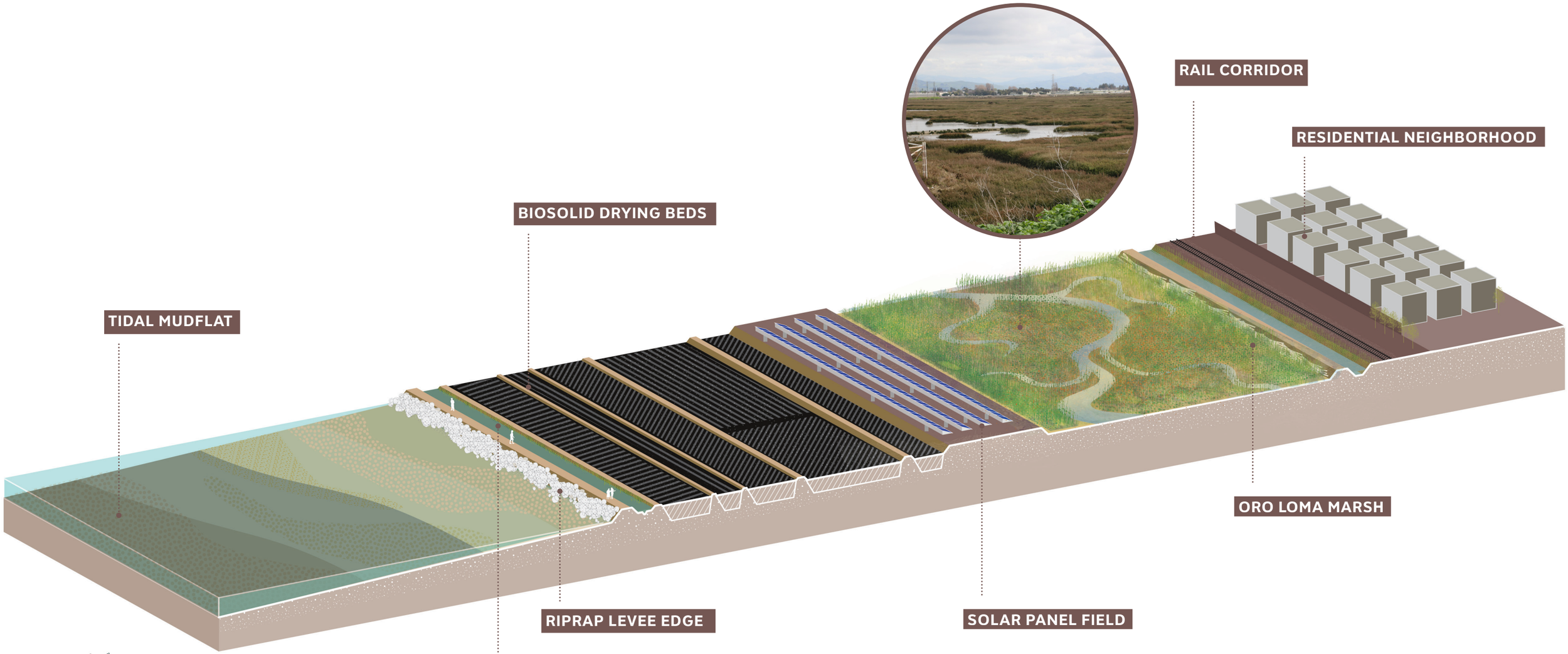
ANDREONAS CANYON CREEK
SAN LORENZO CREEK
BOCKMAN CHANNEL
ORO LOMA STORAGE PONDS
ORO LOMA MARSH
SULPHUR CREEK
ALAMEDA COUNTY W. WINTON LANDFILL
CITY OF HAYWARD W. WINTON LANDFILL
HAYWARD'S LANDING
HAYWARD LANDING CANAL
TRIANGLE MARSH
SAN FRANCISCO BAY
TIDAL MUDFLAT
COGSWELL MARSH
HAYWARD MARSH
H.A.R.D. MARSH
OLIVER SALT PONDS
OXIDATION/ STORAGE PONDS
SALT MARSH HARVEST MOUSE PRESERVE
SOUTH BAY SALT PONDS RESTORATION PROJECT
MT. EDEN CREEK
STATE ROUTE 92
BOCKMAN ROAD
GOLF COURSE
WEST WINTON AVENUE
DEPOT ROAD
CLAWITER ROAD
INDUSTRIAL BOULEVARD
ARDEN ROAD
SAN LEANDRO BAY TRAIL
CABOT BOULEVARD
CITY OF HAYWARD

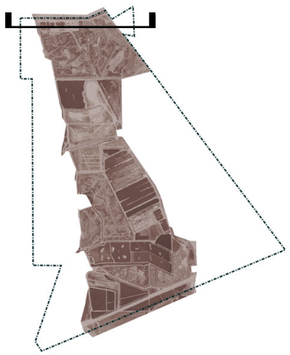
Sources:
1. San Francisco Estuary Institute and Aquatic Science Center 2015. *California Aquatic Resource Inventory*. (April 18, 2019)

ORO LOMA MARSH

ORO LOMA BAYLAND COMPLEX

CONVERTED BAYLANDS FOR INDUSTRIAL USE AND RESTORATION






ORO LOMA MARSH
BIOSOLID DRYING BEDS

ALAMEDA COUNTY OWNED WEST WINTON LANDFILL

FILLED BAYLANDS

VULNERABLE LANDFILL INFRASTRUCTURE AT THE BAY'S EDGE

TIDAL MUDFLAT

ALAMEDA COUNTY LANDFILL

INDUSTRIAL DEVELOPMENT

DRAINAGE CHANNEL

LANDFILL CONTAINMENT

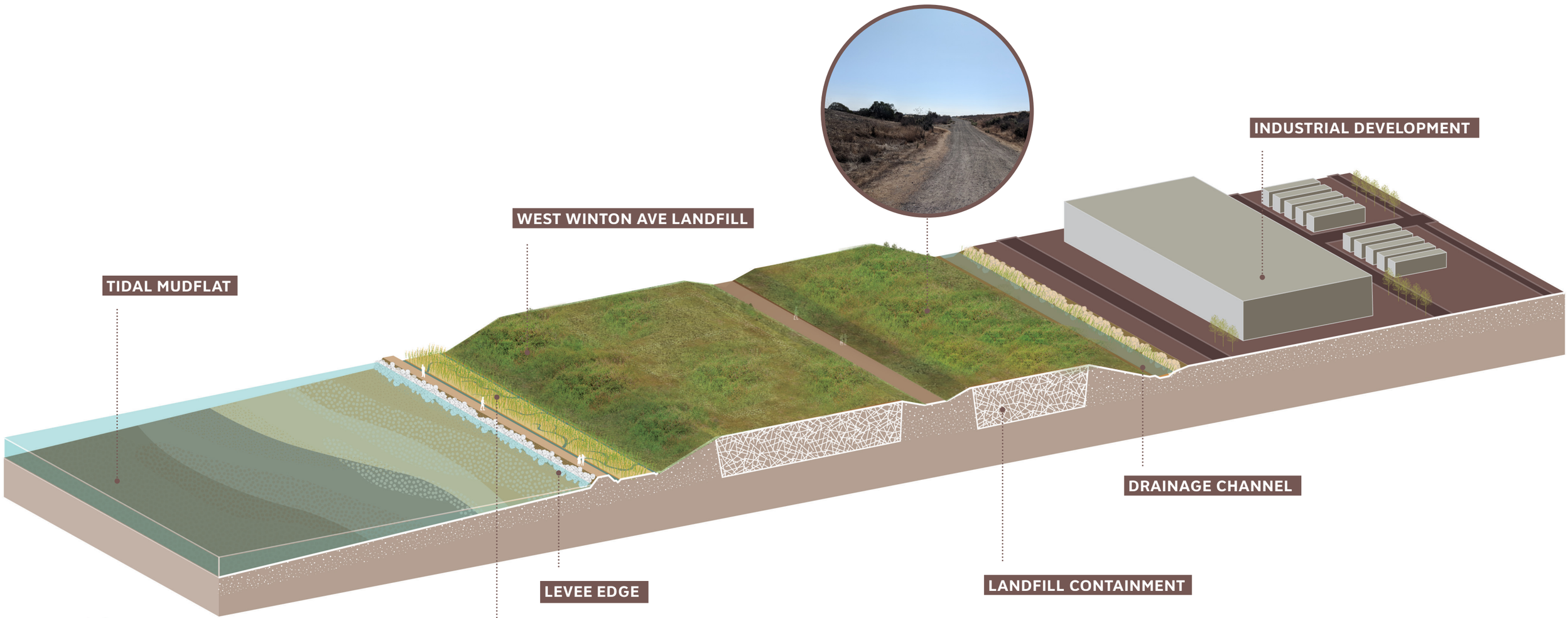
FRINGE MARSH


TRIANGLE MARSH
HAYWARD'S LANDING CANAL
ALAMEDA COUNTY LANDFILL

CITY OWNED WEST WINTON LANDFILL + TRIANGLE MARSH

THE BAYLAND SQUEEZE

INFRASTRUCTURE PREVENTING MARSH MIGRATION




ALAMEDA COUNTY LANDFILL
WEST WINTON LANDFILL
TRIANGLE MARSH

COGSWELL MARSH

BREACHED AND CONTAINED BAYLANDS

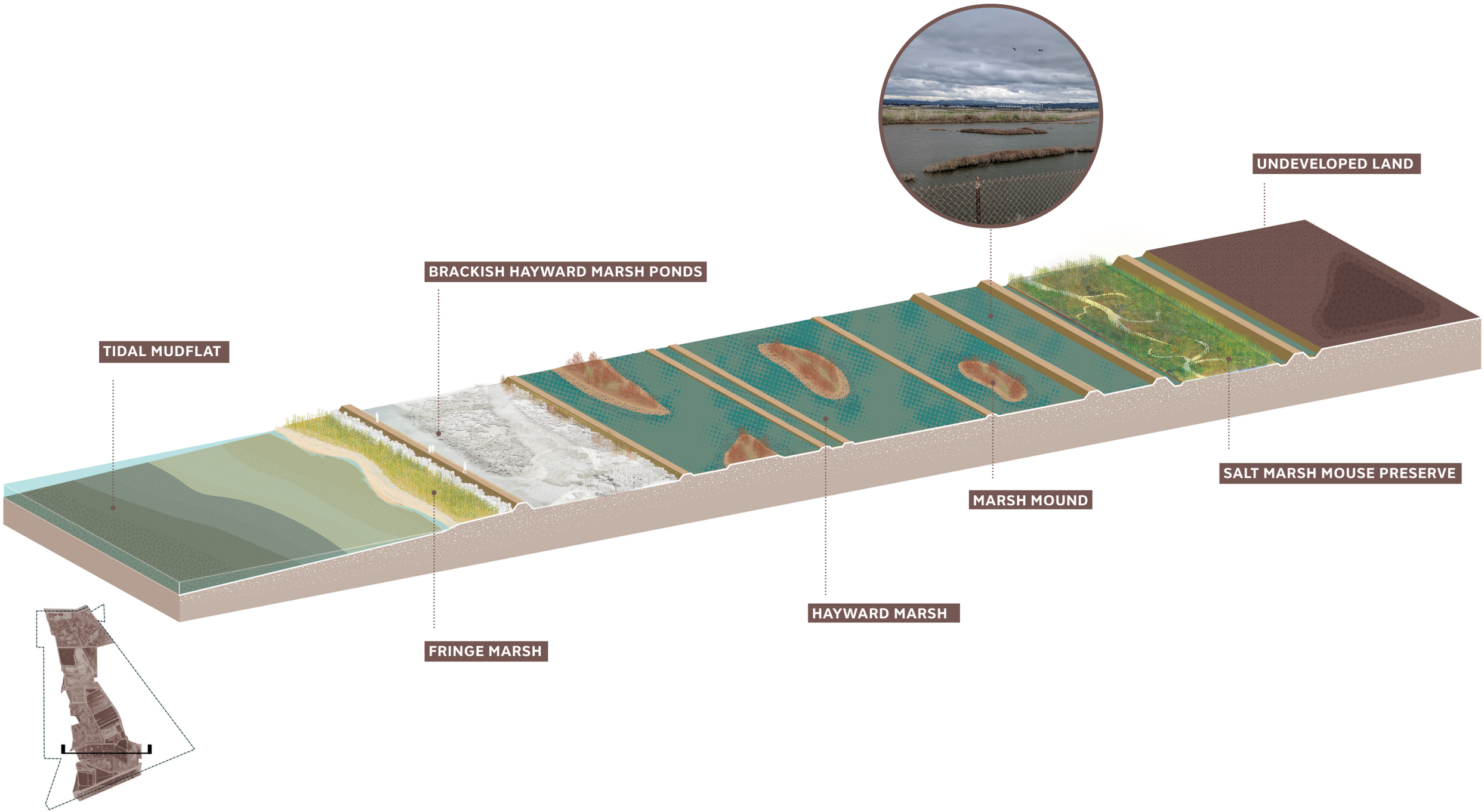
BAYLANDS FOR WATER ABSORPTION AND STORAGE


CALPINE ENERGY FACILITY
COGSWELL MARSH

HAYWARD MARSH

TREATMENT MARSH MOSAIC

BAYLANDS SUPPORTING WASTEWATER FILTRATION AND ENDANGERED SPECIES

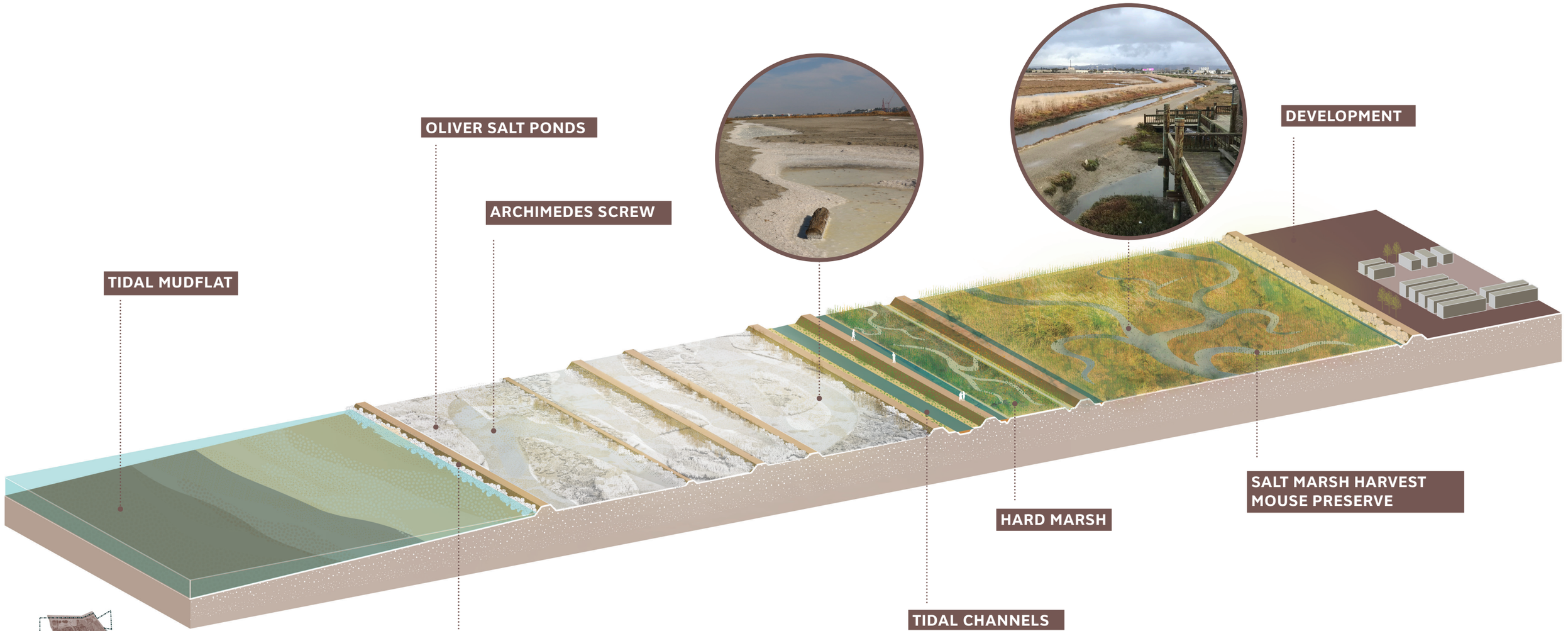


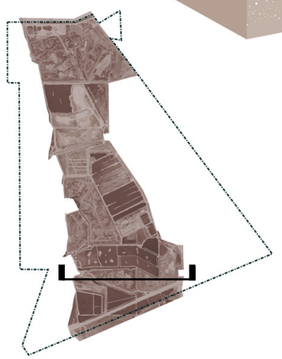

HAYWARD MARSH

OLIVER SALT PONDS + HARD MARSH

BAYLAND HABITAT GRADIENTS

DIVERSE ECOSYSTEMS AS EDUCATIONAL TOOLS

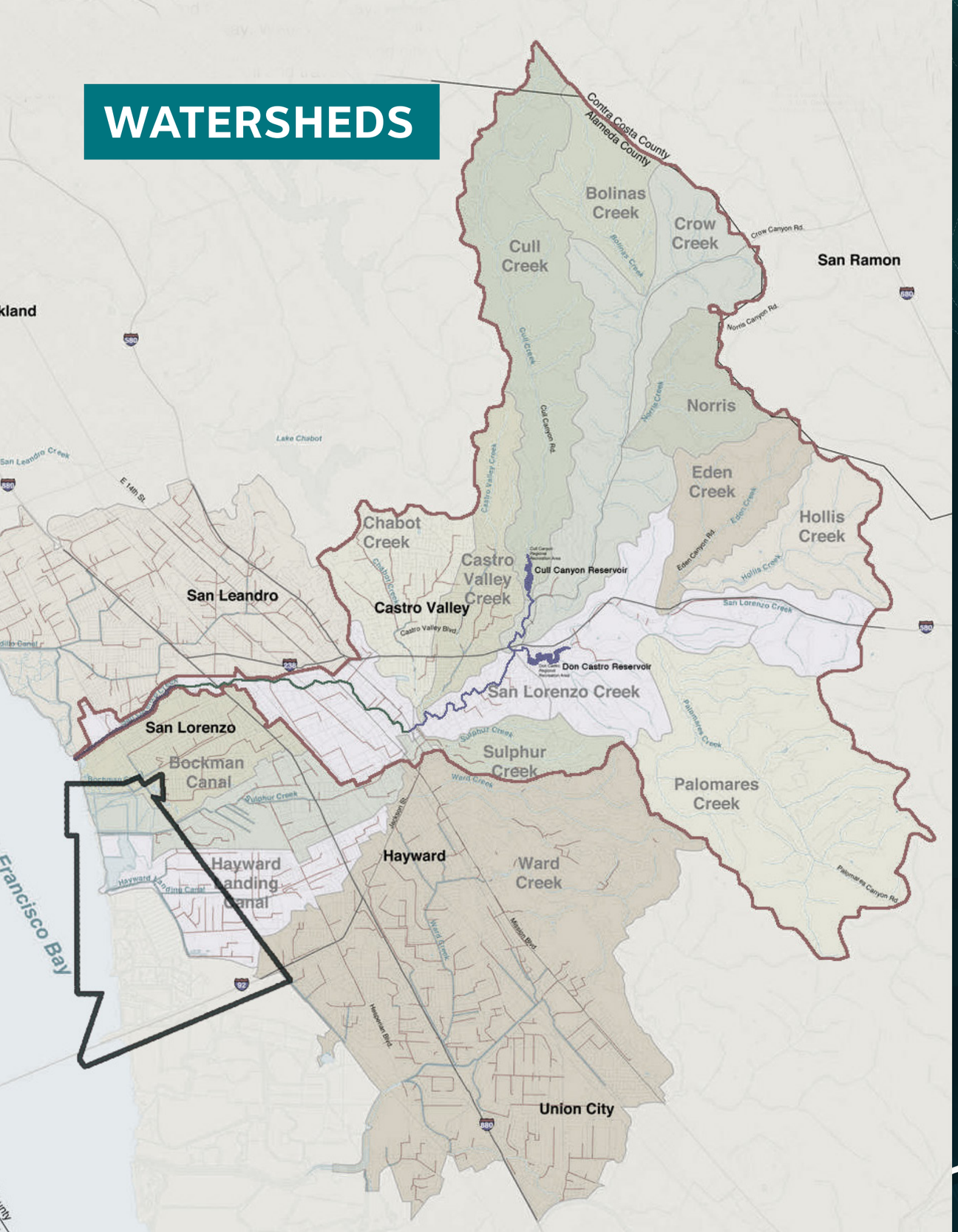


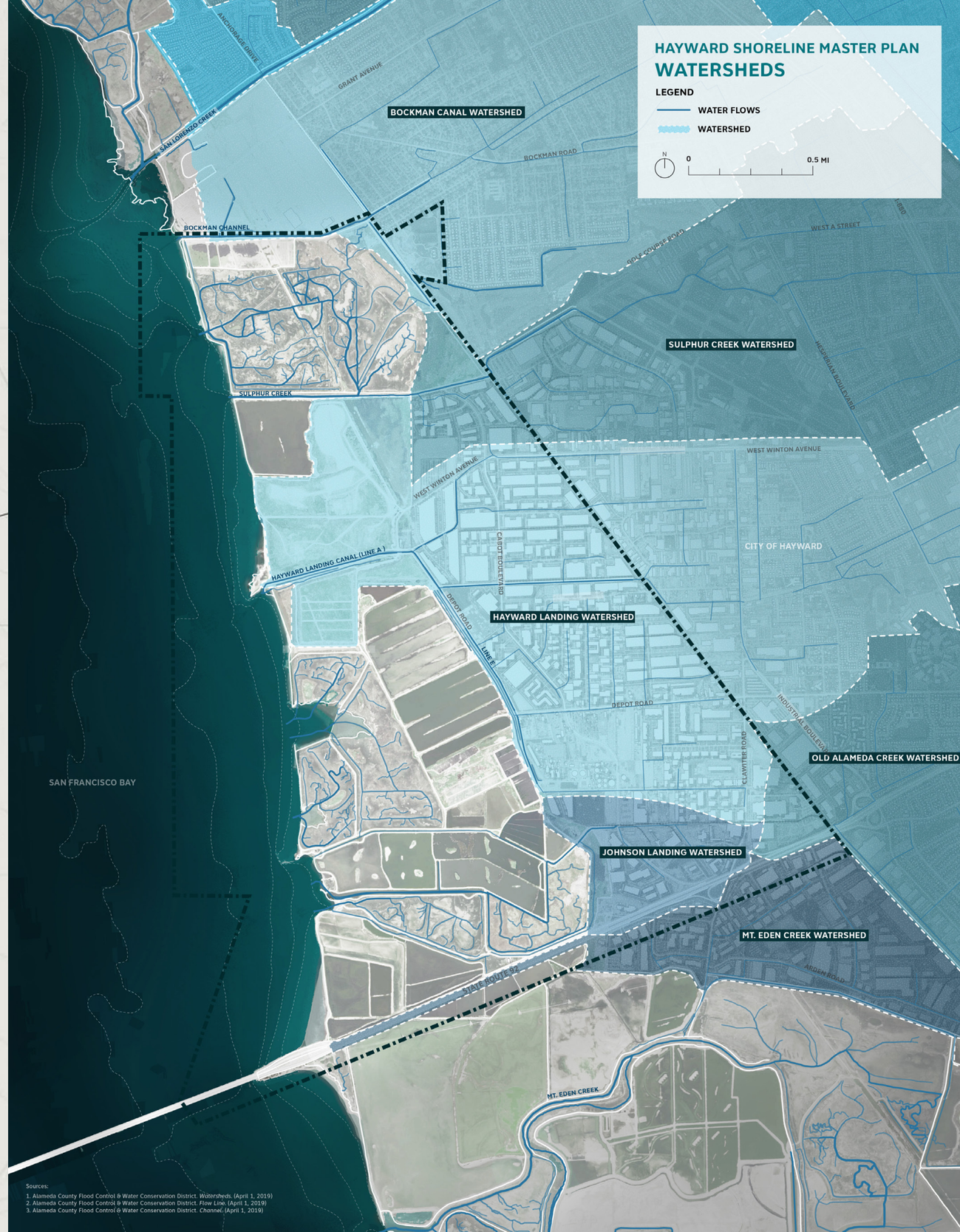



STATE ROUTE 92
OLIVER SALT PONDS
HARD MARSH

HAYWARD REGIONAL SHORELINE ECOLOGY

WATERSHEDS

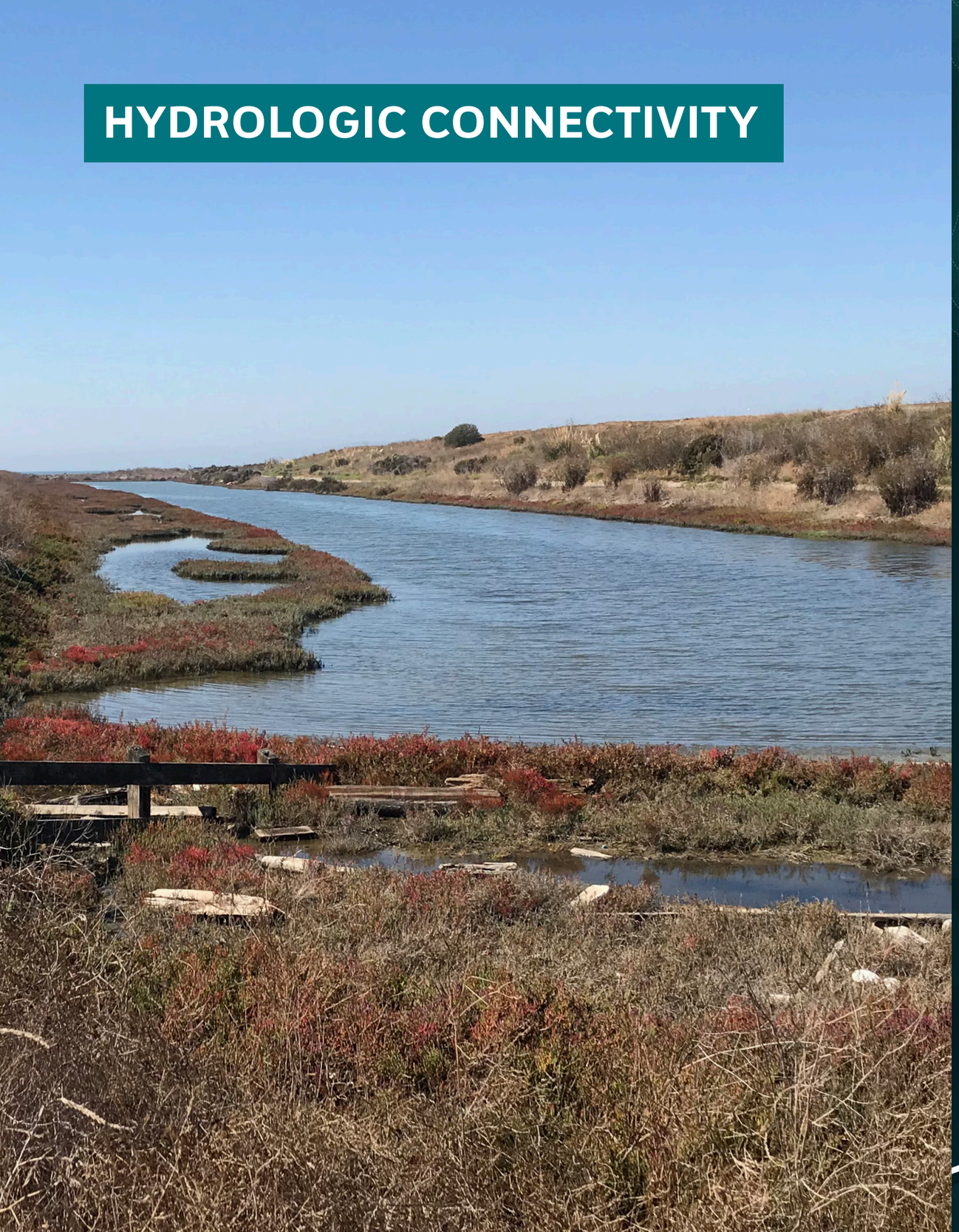


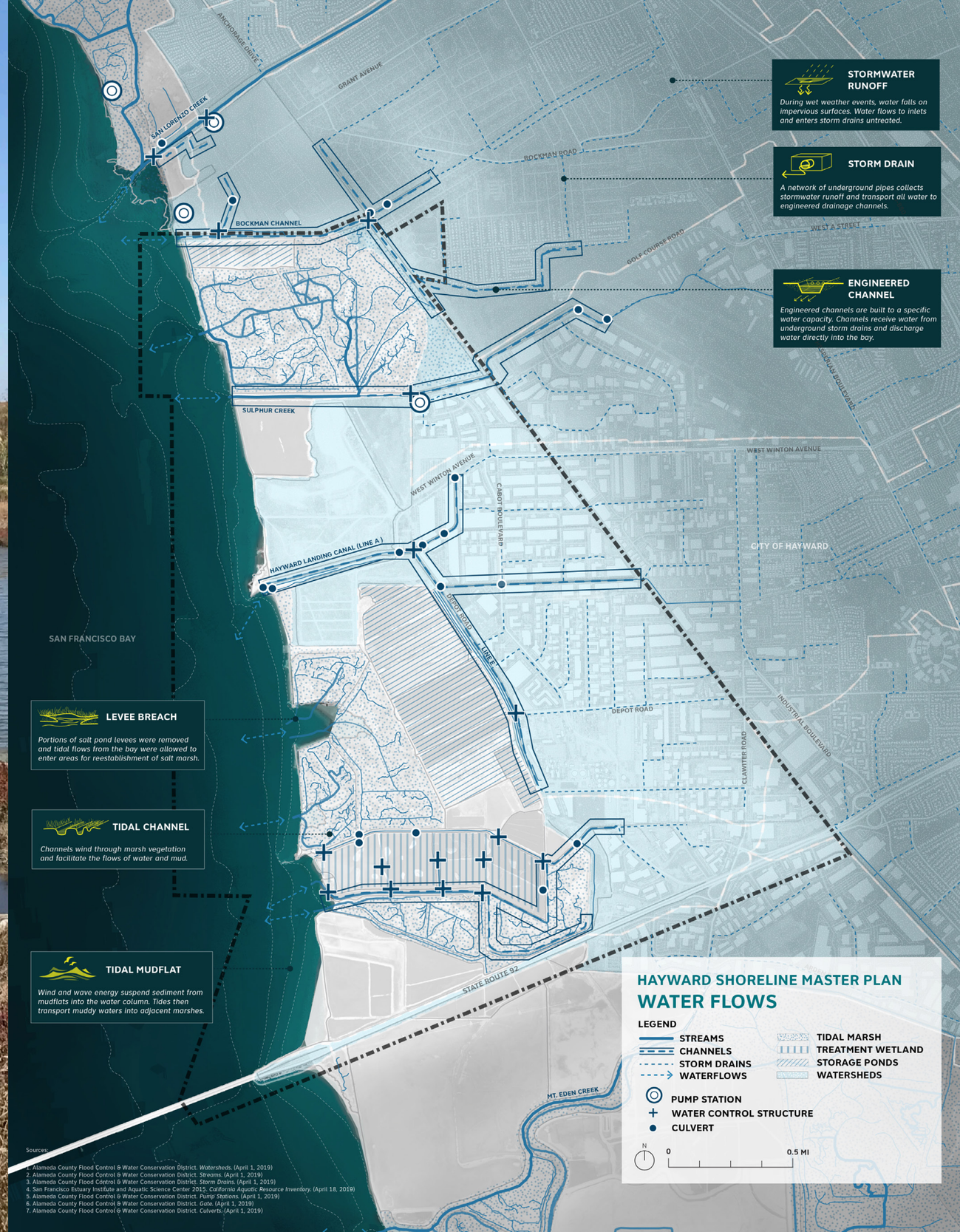


Sources:

1. Alameda County Flood Control & Water Conservation District. *Watersheds.* (April 1, 2019)
2. Alameda County Flood Control & Water Conservation District. *Flow Line.* (April 1, 2019)
3. Alameda County Flood Control & Water Conservation District. *Channel.* (April 1, 2019)

HYDROLOGIC CONNECTIVITY





Sources:

1. Alameda County Flood Control & Water Conservation District. *Watersheds*. (April 1, 2019)
2. Alameda County Flood Control & Water Conservation District. *Streams*. (April 1, 2019)
3. Alameda County Flood Control & Water Conservation District. *Storm Drains*. (April 1, 2019)
4. San Francisco Estuary Institute and Aquatic Science Center. 2013. *California Aquatic Resource Inventory*. (April 18, 2019)
5. Alameda County Flood Control & Water Conservation District. *Pump Stations*. (April 1, 2019)
6. Alameda County Flood Control & Water Conservation District. *Gate*. (April 1, 2019)
7. Alameda County Flood Control & Water Conservation District. *Culverts*. (April 1, 2019)

CONTRASTING WATER FLOWS

ENDANGERED SPECIES HABITAT

Sources:

1. San Francisco Estuary Institute and Aquatic Science Center 2015. *California Aquatic Resource Inventory.* (April 18, 2019)
2. The Cornell Lab of Ornithology. eBird Hotspots Map. *Year-Round, Past Ten Years.* (April 18, 2019)
3. The Cornell Lab of Ornithology. eBird Species Map. *Year-Round, Past Ten Years.* (April 18, 2019)

LEAST TERN NESTING AT HAYWARD MARSH

HAYWARD REGIONAL SHORELINE INFRASTRUCTURE

NON ENGINEERED BERMS

HAYWARD SHORELINE MASTER PLAN
LEVEE CONDITIONS

LEGEND

- BERM
- ENGINEERED LEVEE
- EMBANKMENT
- TRANSPORTATION STRUCTURE
- SECTION LINE

N 0 0.5 MI

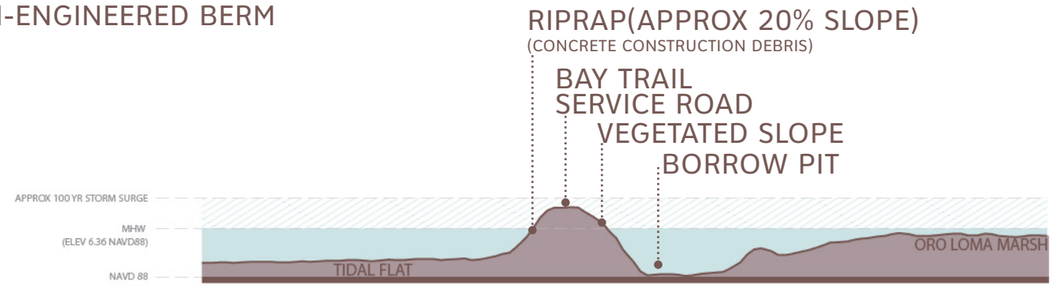
ANCHORAGE DRIVE
GRANT AVENUE
SAN LORENZO CREEK
BOCKMAN ROAD
BOCKMAN CHANNEL
GOLF COURSE ROAD
HESPERIAN BOULEVARD
A
SULPHUR CREEK
WEST WINTON AVENUE
B
CAROT BOULEVARD
CITY OF HAYWARD
HAYWARD LANDING CANAL (LINE A)
C
DEPOT ROAD
LINE E
E
SAN FRANCISCO BAY
INDUSTRIAL BOULEVARD
CLAWITER ROAD
G
H
D
STATE ROUTE 92
ARDEN ROAD
MT. EDEN CREEK

Sources:
1. Adapting to Rising Tides. *ART Bay Area Sea Level Rise and Shoreline Analysis Maps.* (April 18, 2019)

OUTBOARD LEVEE CONDITIONS

MARSH

NON-ENGINEERED BERM

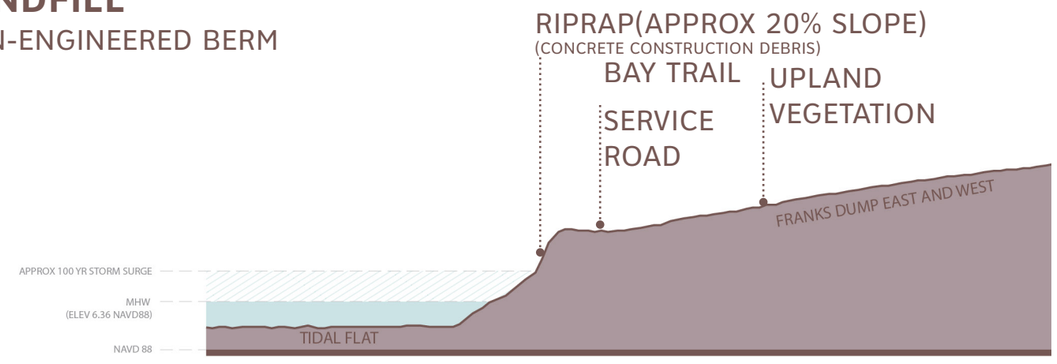


WAVE-EXPOSED SECTION

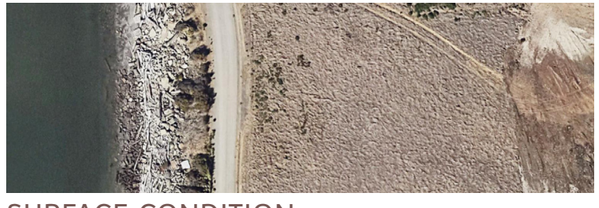
SURFACE CONDITION

LANDFILL

NON-ENGINEERED BERM



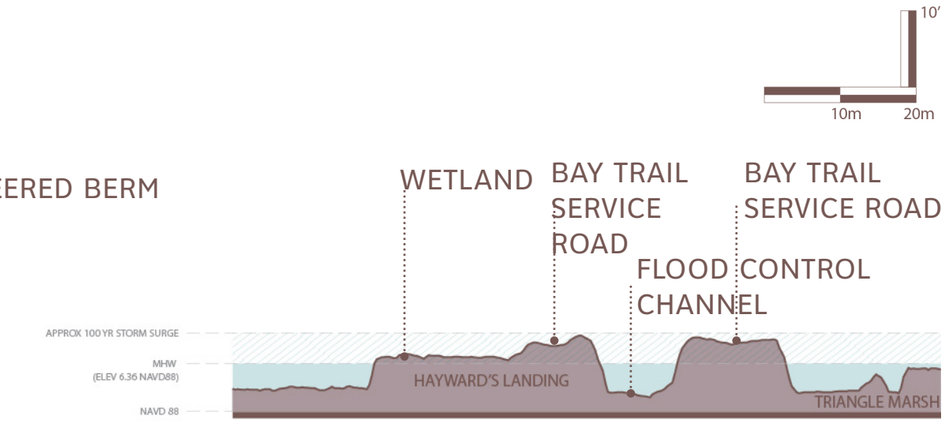
WAVE-EXPOSED SECTION

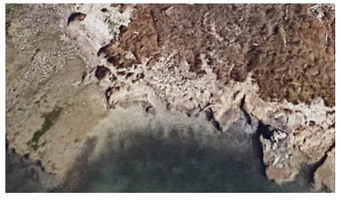


SURFACE CONDITION

LANDING

WETLAND
NON-ENGINEERED BERM



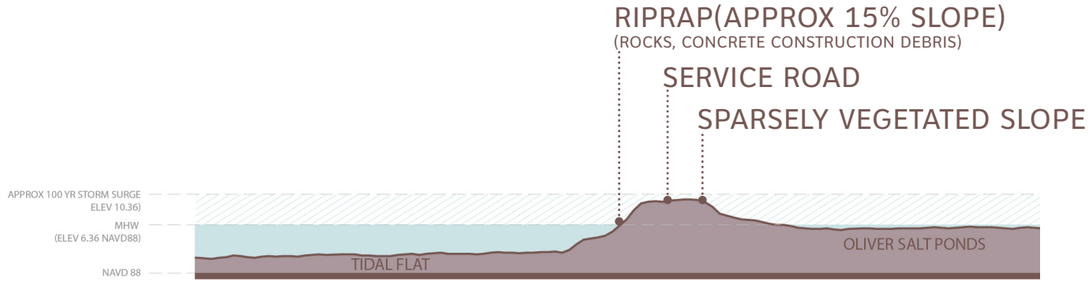


WAVE-EXPOSED SECTION

SURFACE CONDITION

SALT POND

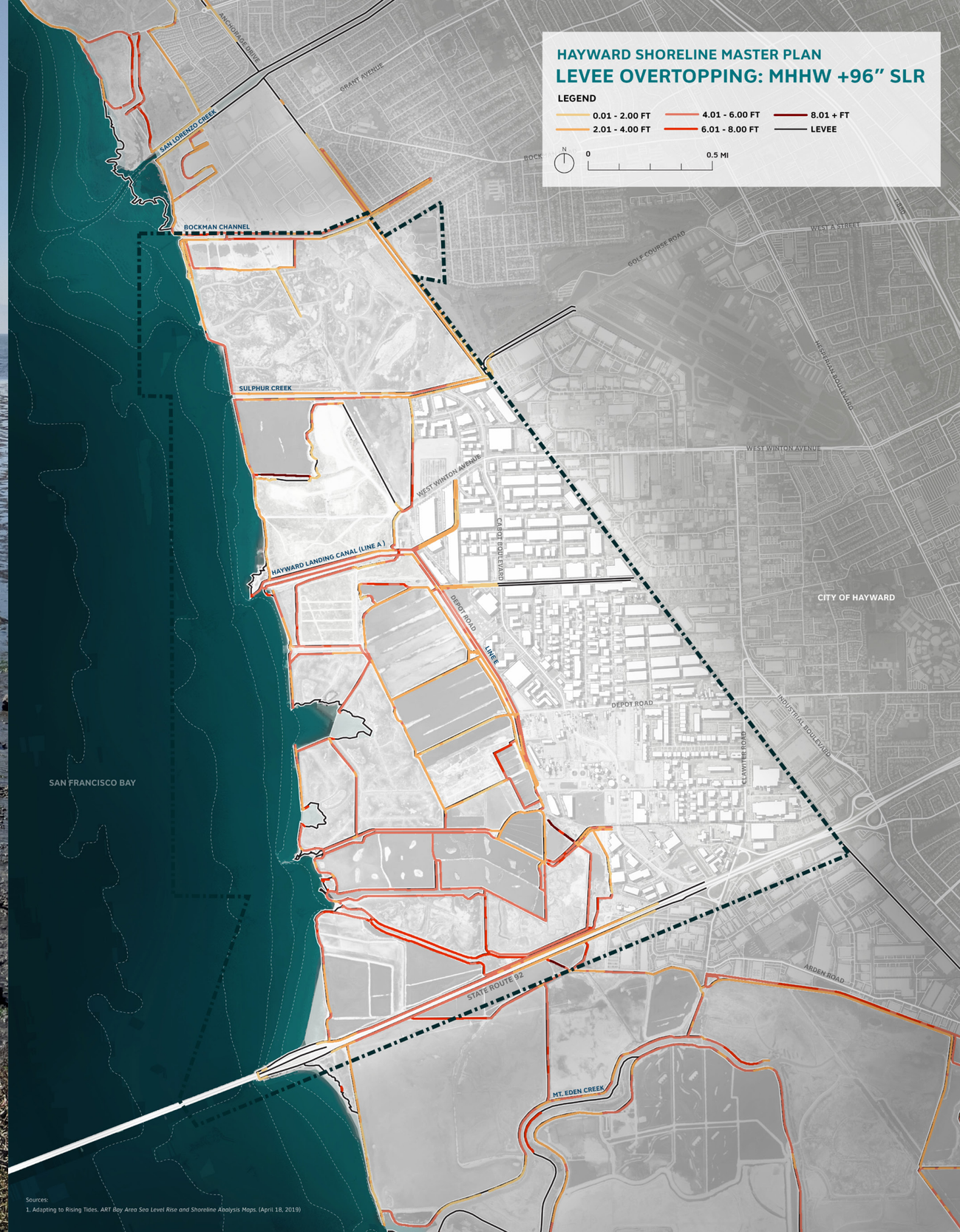
NON-ENGINEERED BERM



WAVE-EXPOSED SECTION

SURFACE CONDITION

LEVEE FAILURE



Sources:
1. Adapting to Rising Tides. *ART Bay Area Sea Level Rise and Shoreline Analysis Maps.* (April 18, 2019)

SHORELINE EROSION

CRITICAL INFRASTRUCTURE

Sources:

1. City of Hayward. *Power Transmission Lines.* (April 1, 2019)
2. Alameda County Flood Control & Water Conservation District. *Pump Stations.* (April 1, 2019)
3. Alameda County Flood Control & Water Conservation District. *Gate.* (April 1, 2019)
4. Alameda County Flood Control & Water Conservation District. *Culverts.* (April 1, 2019)

HAYWARD SHORELINE MASTER PLAN
LAND OWNERSHIP

LEGEND

- ALAMEDA COUNTY FLOOD CONTROL
- CITY OF HAYWARD
- EAST BAY REGIONAL PARK DISTRICT
- HAYWARD AREA RECREATION AND PARKS DISTRICT
- ORO LOMA SANITARY DISTRICT
- PRIVATE LANDS
- STATE LANDS COMMISSION
- STATE OF CALIFORNIA
- FEDERAL LAND

N 0 0.5 MI

OLSD
WCB
EBRPD
HARD
ACFCWCD
CITY OF HAYWARD
EBRPD
SLC
HARD

SAN LORENZO CREEK
GRANT AVENUE
BOCKMAN ROAD
HESPERIAN BOULEVARD
WEST WINTON AVENUE
CARLOS BEE BOULEVARD
DEPOT ROAD
INDUSTRIAL BOULEVARD
HAWLEY ROAD
ARDEN ROAD
MT. EDEN CREEK
SAN FRANCISCO BAY

Sources:
1. City of Hayward. *Land Ownership*. (April 1, 2019)

HAYWARD SHORELINE MASTER PLAN
LAND USE

LEGEND

- BAYLANDS
- INDUSTRIAL
- PARKS + RECREATION
- PUBLIC + QUASI PUBLIC
- RETAIL + OFFICE
- COMMERCIAL / HIGH DENSITY RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL

N 0 0.5 MI

SAN LORENZO CREEK
GRANT AVENUE
HESPERIAN BOULEVARD
WEST WINTON AVENUE
DEPOT ROAD
CARLOS BEE BOULEVARD
INDUSTRIAL BOULEVARD
HAWLEY ROAD
STATE ROUTE 92
MT. EDEN CREEK
SAN FRANCISCO BAY

Sources:
1. City of Hayward. *Hayward General Land use Plan*. (April 18, 2019)

RECREATIONAL INFRASTRUCTURE

Sources:
1. Metropolitan Transportation Commission. *Regional Bike Facilities*. (April 18, 2019)
2. Metropolitan Transportation Commission. *San Francisco Bay Trail*. (April 18, 2019)
3. AC Transit. *Bus Route GIS shapefiles*. (April 18, 2019)
4. City of Hayward. *Hayward Bicycle Network*. (April 18, 2019)

HAYWARD REGIONAL SHORELINE CLIMATE CHANGE RISKS

SEA LEVEL RISE

HAYWARD SHORELINE MASTER PLAN

INUNDATION MAP: MHHW +24" SLR

LEGEND

- 0 - 1 FT
- 1 - 2 FT
- 2 - 3 FT
- 3 - 4 FT
- 4 - 5 FT
- 5 - 6 FT
- 6 - 7 FT
- 7 - 8 FT
- 8 - 9 FT
- 9 - 10 FT

N 0 0.5 MI

SAN LORENZO CREEK
INGERSOLL DRIVE
GRANT AVENUE
BOCKMAN ROAD
BOCKMAN CHANNEL
SULPHUR CREEK
WEST WINTON AVENUE
CABOT BOULEVARD
HAYWARD LANDING CANAL (LINE A)
DEPOT ROAD
LINE B
CITY OF HAYWARD
SAN FRANCISCO BAY
LAWTON ROAD
INDUSTRIAL BOULEVARD
STATE ROUTE 92
ARDEN ROAD
MT. EDEN CREEK

Sources:
1. Inundation depths raster, *Adapting to Rising Tides*. (2017)

HAYWARD SHORELINE MASTER PLAN

INUNDATION MAP: MHHW +48" SLR

LEGEND

- 0 - 1 FT
- 1 - 2 FT
- 2 - 3 FT
- 3 - 4 FT
- 4 - 5 FT
- 5 - 6 FT
- 6 - 7 FT
- 7 - 8 FT
- 8 - 9 FT
- 9 - 10 FT

N 0 0.5 MI

SAN LORENZO CREEK
INGERSOLL DRIVE
GRANT AVENUE
BOCKMAN ROAD
BOCKMAN CHANNEL
SULPHUR CREEK
WEST WINTON AVENUE
CABOT BOULEVARD
HAYWARD LANDING CANAL (LINE A)
DEPOT ROAD
LINE B
CITY OF HAYWARD
SAN FRANCISCO BAY
LAWTON ROAD
INDUSTRIAL BOULEVARD
STATE ROUTE 92
ARDEN ROAD
MT. EDEN CREEK

Sources:
1. Inundation depths raster, *Adapting to Rising Tides*. (2017)

HAYWARD SHORELINE MASTER PLAN
INUNDATION MAP: MHHW +96" SLR

LEGEND

- 0 - 1 FT
- 1 - 2 FT
- 2 - 3 FT
- 3 - 4 FT
- 4 - 5 FT
- 5 - 6 FT
- 6 - 7 FT
- 7 - 8 FT
- 8 - 9 FT
- 9 - 10 FT

N 0 0.5 MI

ANCHORAGE DRIVE
GRANT AVENUE
SAN LORENZO CREEK
BOCKMAN ROAD
BOCKMAN CHANNEL
SULPHUR CREEK
WEST WINTON AVENUE
CABOT BOULEVARD
HAYWARD LANDING CANAL (LINE A)
DEPOT ROAD
DUNE WAY
CLAWITER ROAD
INDUSTRIAL BOULEVARD
CITY OF HAYWARD
SAN FRANCISCO BAY
STATE ROUTE 92
ARDEN ROAD
MT. EDEN CREEK

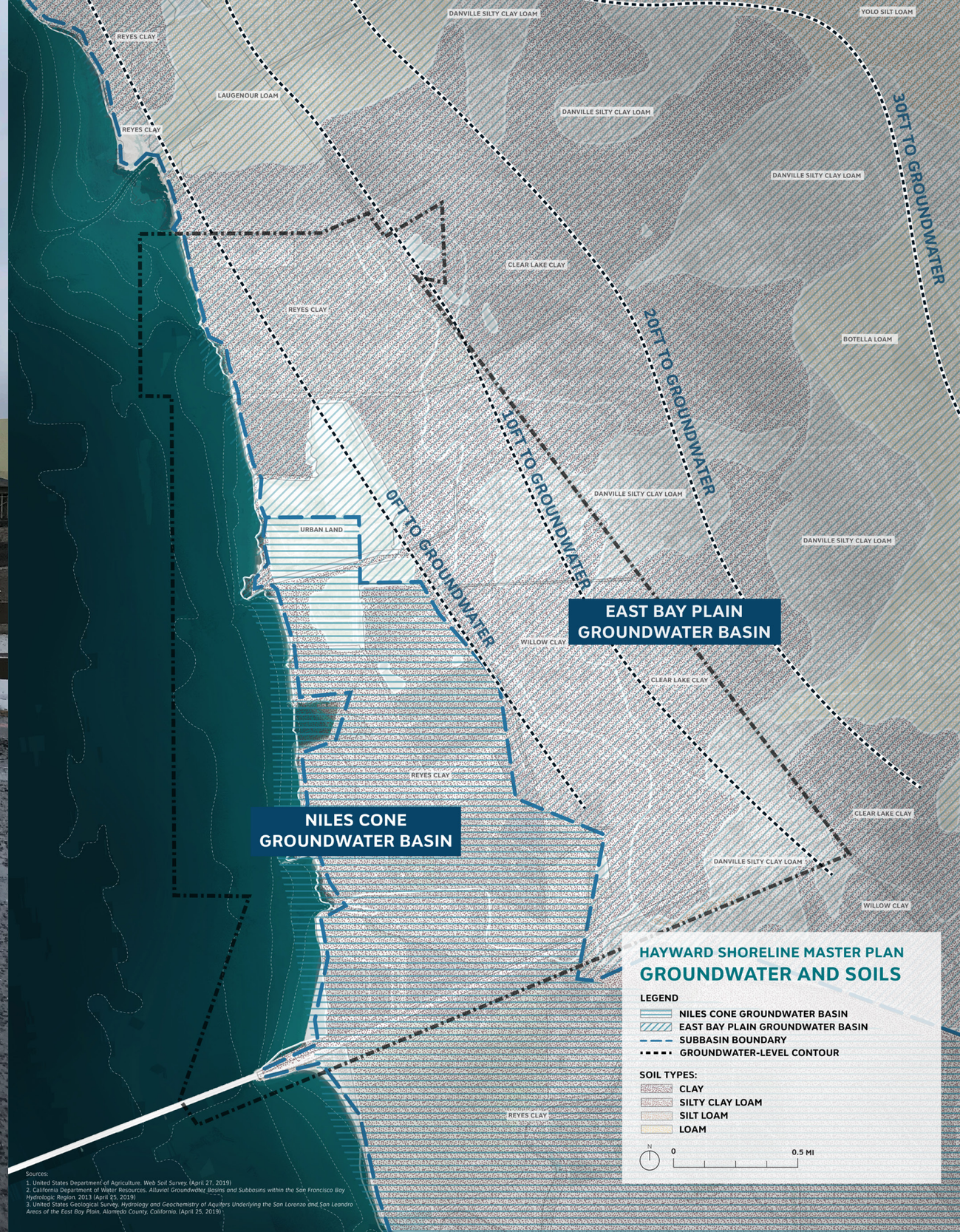
Sources:
1. Inundation depths raster, *Adapting to Rising Tides*. (2017)

SEDIMENT/ EROSION

Sources:

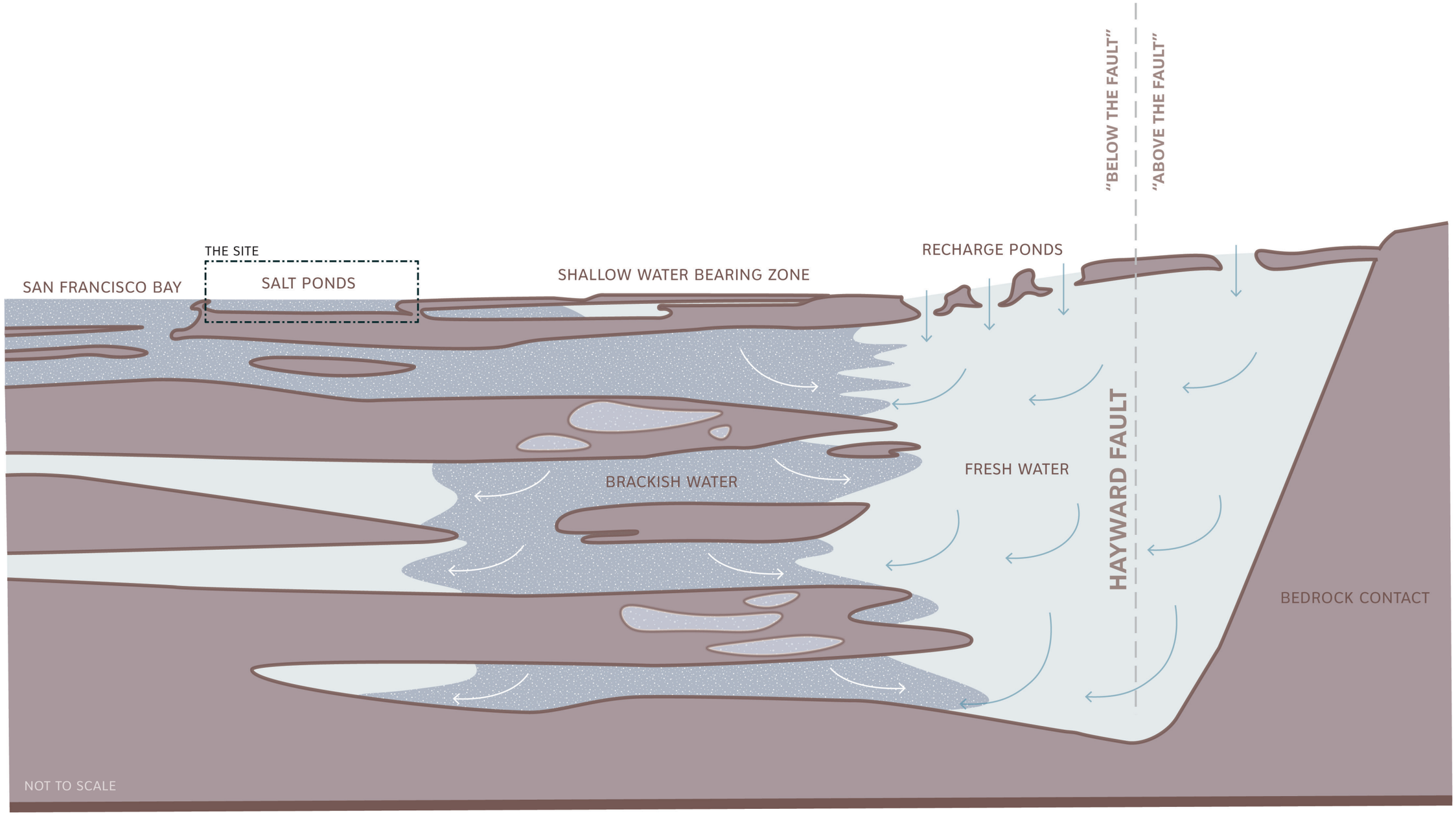
1. San Francisco Estuary Institute and Aquatic Science Center 2015. *California Aquatic Resource Inventory*. (April 18, 2019)

GROUNDWATER

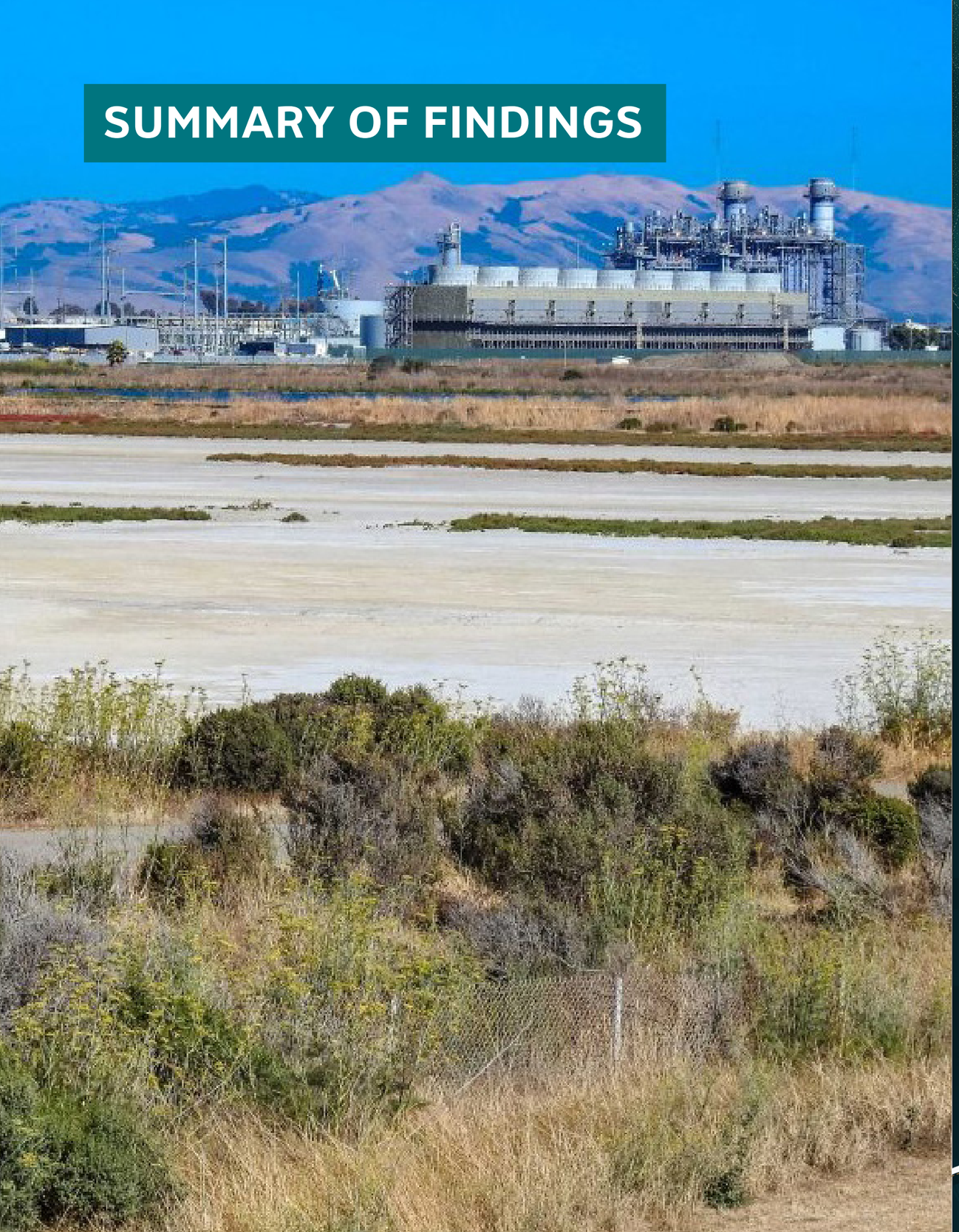


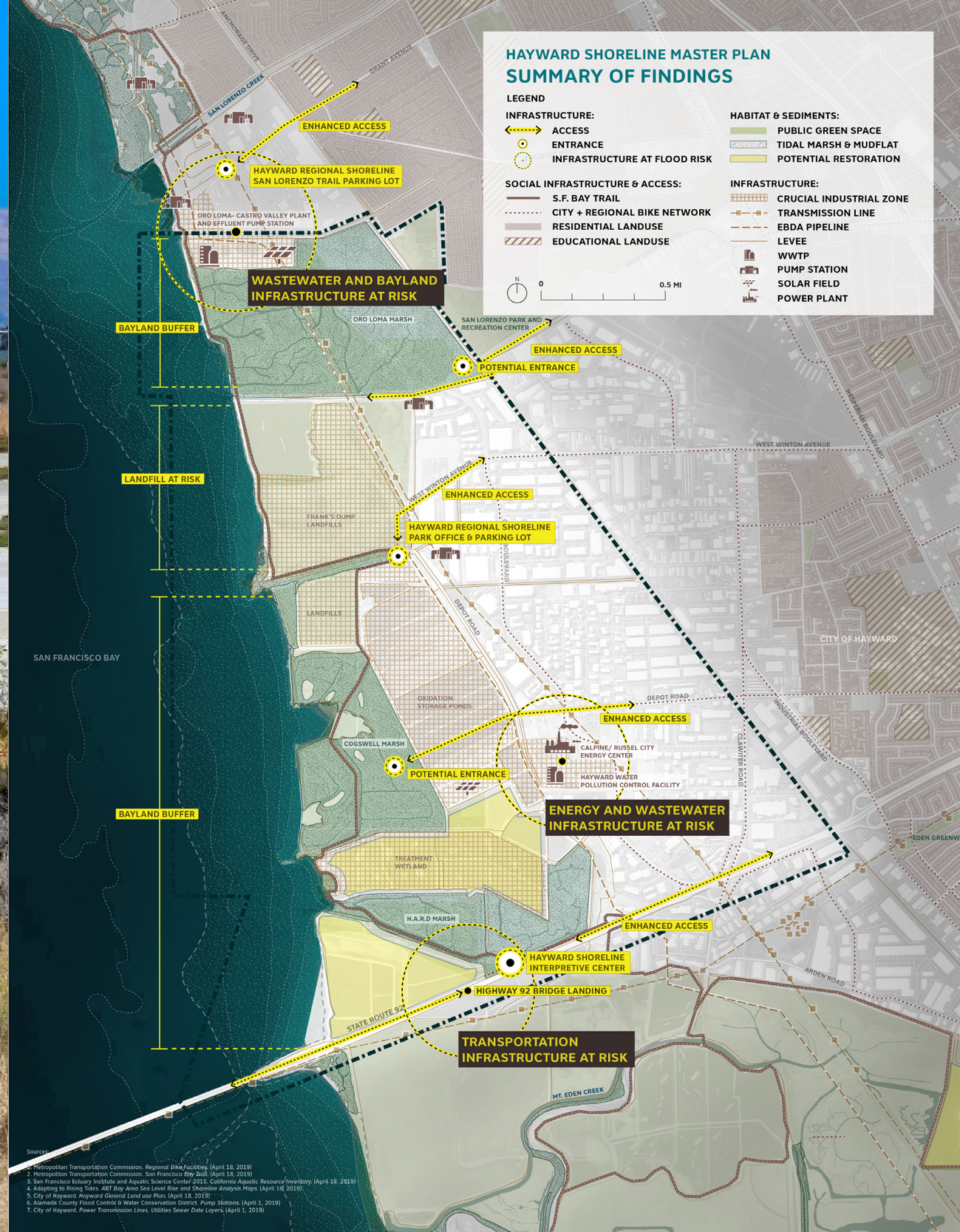
Sources:
1. United States Department of Agriculture. *Web Soil Survey.* (April 27, 2019)
2. California Department of Water Resources. *Alluvial Groundwater Basins and Subbasins within the San Francisco Bay Hydrologic Region.* 2013 (April 25, 2019)
3. United States Geological Survey. *Hydrology and Geochemistry of Aquifers Underlying the San Lorenzo and San Leandro Areas of the East Bay Plain, Alameda County, California.* (April 25, 2019)

GROUNDWATER AQUIFER CROSS SECTION



SUMMARY OF FINDINGS





Sources:
1. Metropolitan Transportation Commission. *Regional Bike Facilities.* (April 18, 2019)
2. Metropolitan Transportation Commission. *San Francisco Bay Trail.* (April 18, 2019)
3. San Francisco Estuary Institute and Aquatic Science Center 2015. *California Aquatic Resource Inventory.* (April 18, 2019)
4. Adapting to Rising Tides. *ART Bay Area Sea Level Rise and Shoreline Analysis Maps.* (April 18, 2019)
5. City of Hayward. *Hayward General Land use Plan.* (April 18, 2019)
6. Alameda County Flood Control & Water Conservation District. *Pump Stations.* (April 1, 2019)
7. City of Hayward. *Power Transmission Lines, Utilities Sewer Date Layers.* (April 1, 2019)

ONLINE SURVEY
SUMMARY OF FINDINGS

OVERVIEW

- Completed in Spring 2019
- 23 questions
- 900 responses
- Shared via:
  - Email
  - Newsletters
  - Social media
  - City of Hayward’s website
  - EBRPD’s website

KEY FINDINGS

- Very important or important to be protected against flooding.
- Wetlands are vital to the health of the Bay.
- Recreation creates a bond with ecological resources.
- Shoreline views do not perform in any way to alleviate the impacts of climate change.
- Access is more important than views.

KEY FINDINGS

- Very important to conserve the shoreline's natural environment.

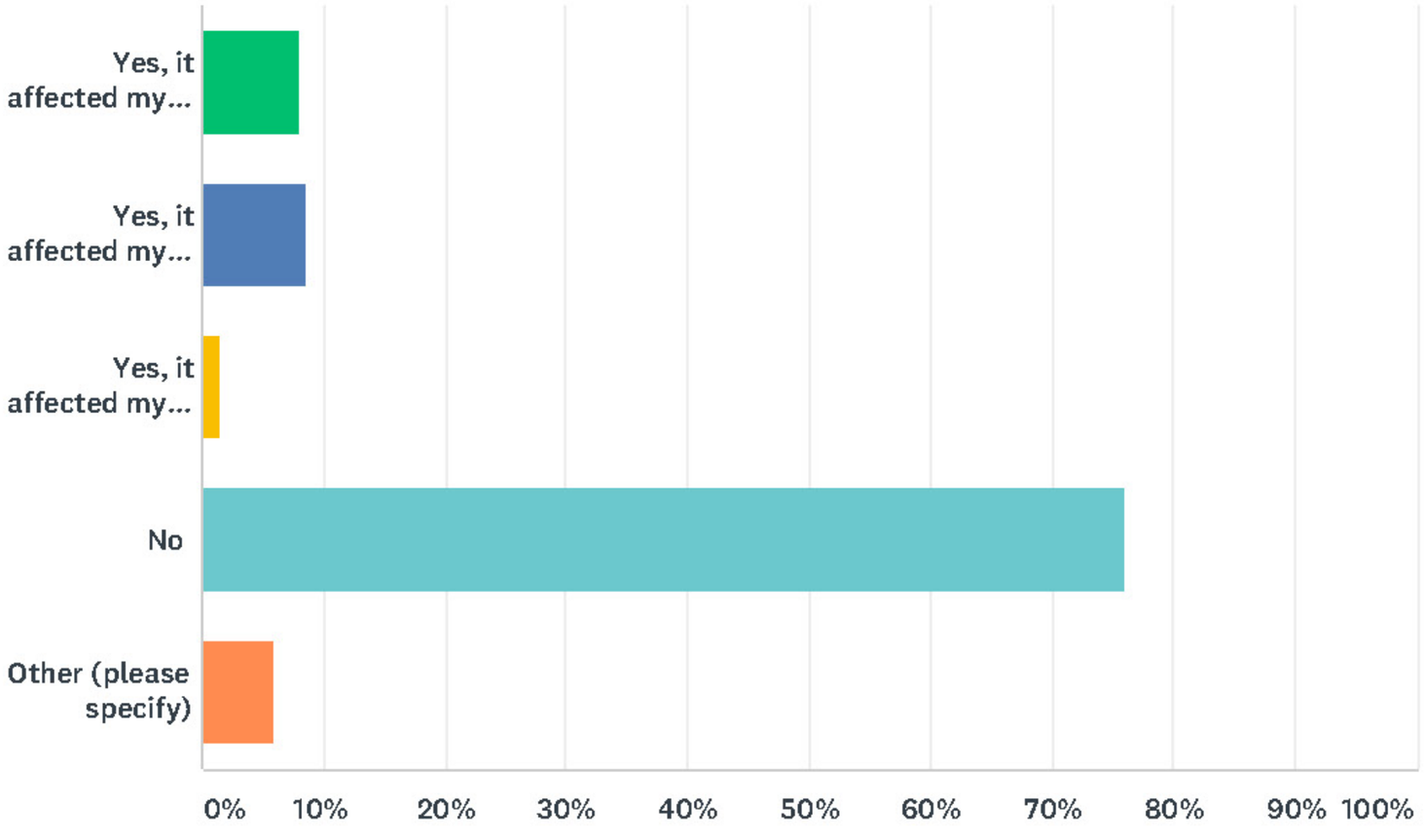
- Biodiversity, in both native plant species and native animals, maintaining natural habitats, preserving the wetlands, and having clean water and air are important for a healthy environment.

- Using landscaping would be a good way to help reduce the impact of sea level rise.

- Relocate at-risk infrastructure to higher ground, or that using vacant land as a place to "store" excess floodwater would be best.

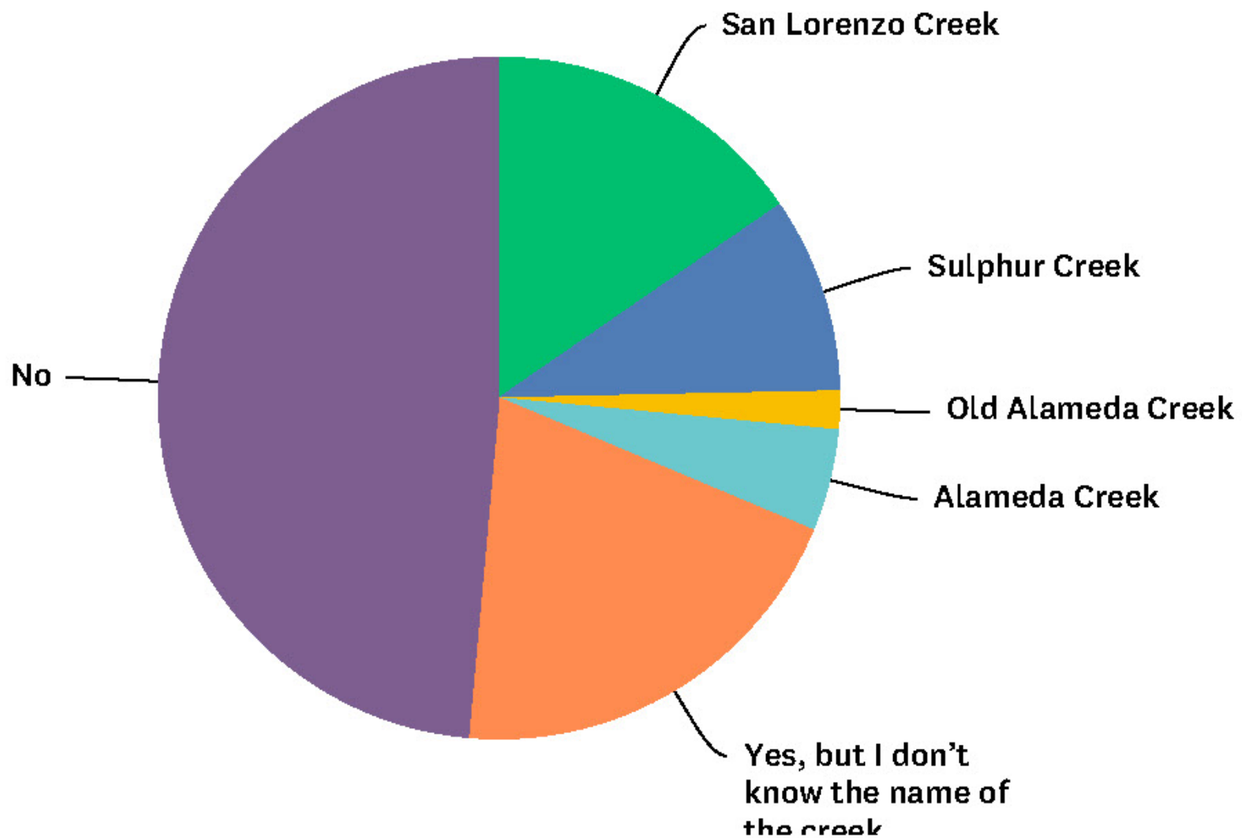
Q4 Have you or anyone close to you ever been personally affected by a flood, either here or elsewhere?

Answered: 775 Skipped: 38



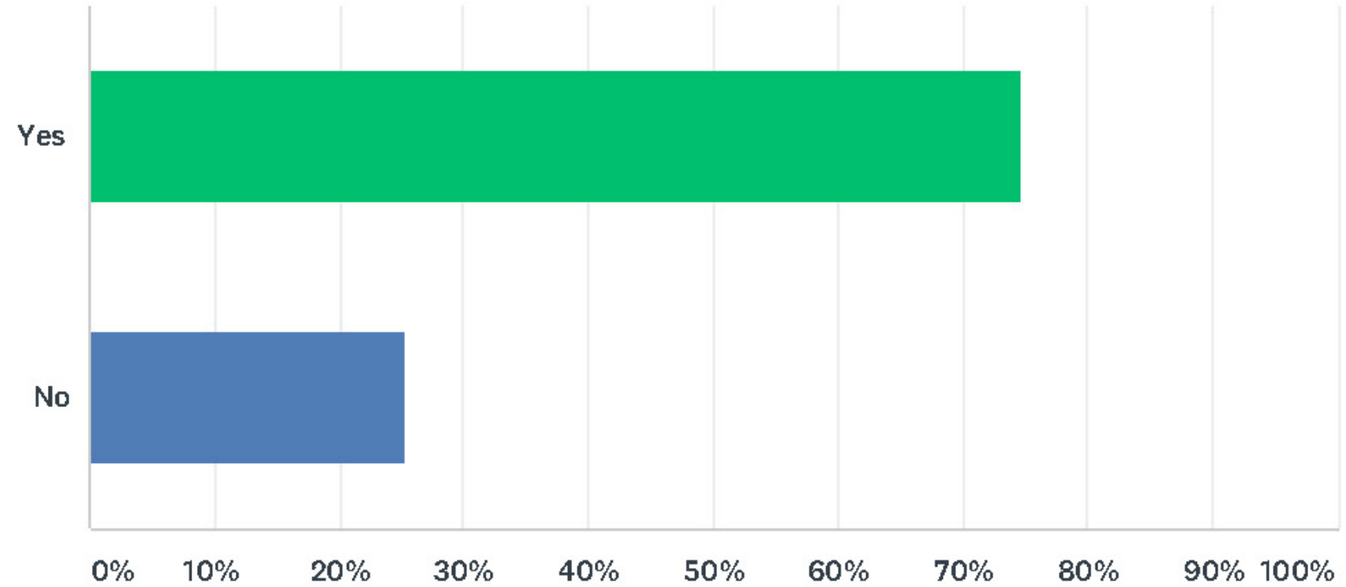
Q3 Do you live or work near any of the major creeks or channels in the area?

Answered: 766 Skipped: 47



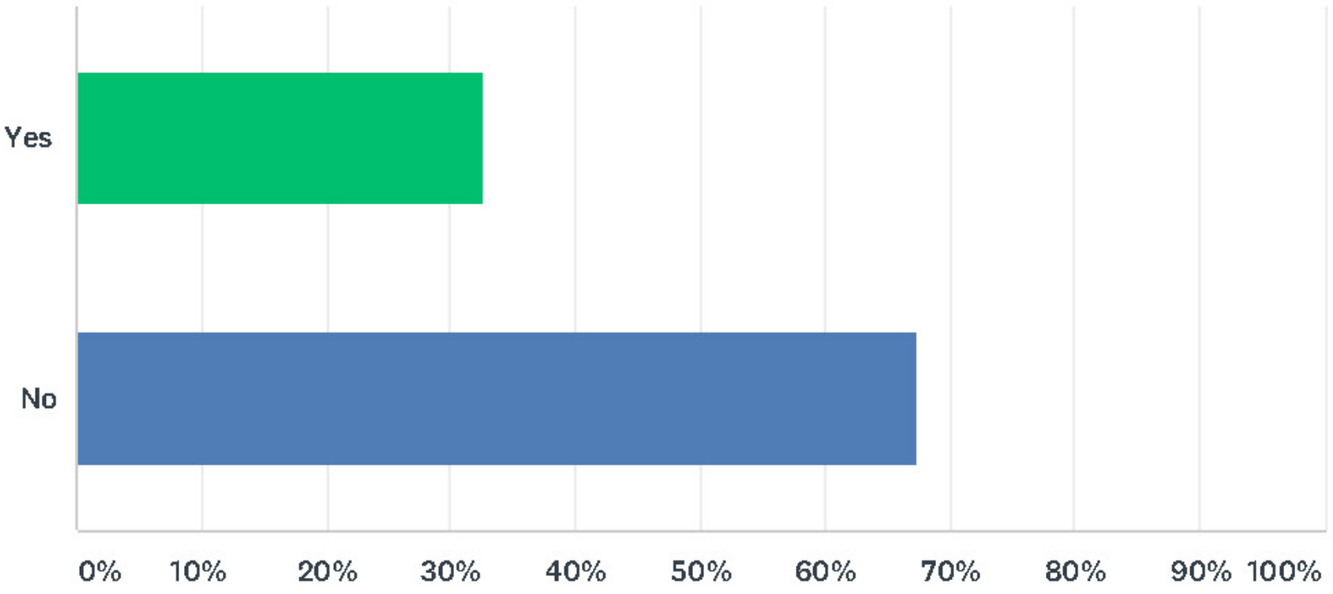
Q15 Are you aware of rising sea level in the San Francisco Bay?

Answered: 646 Skipped: 167



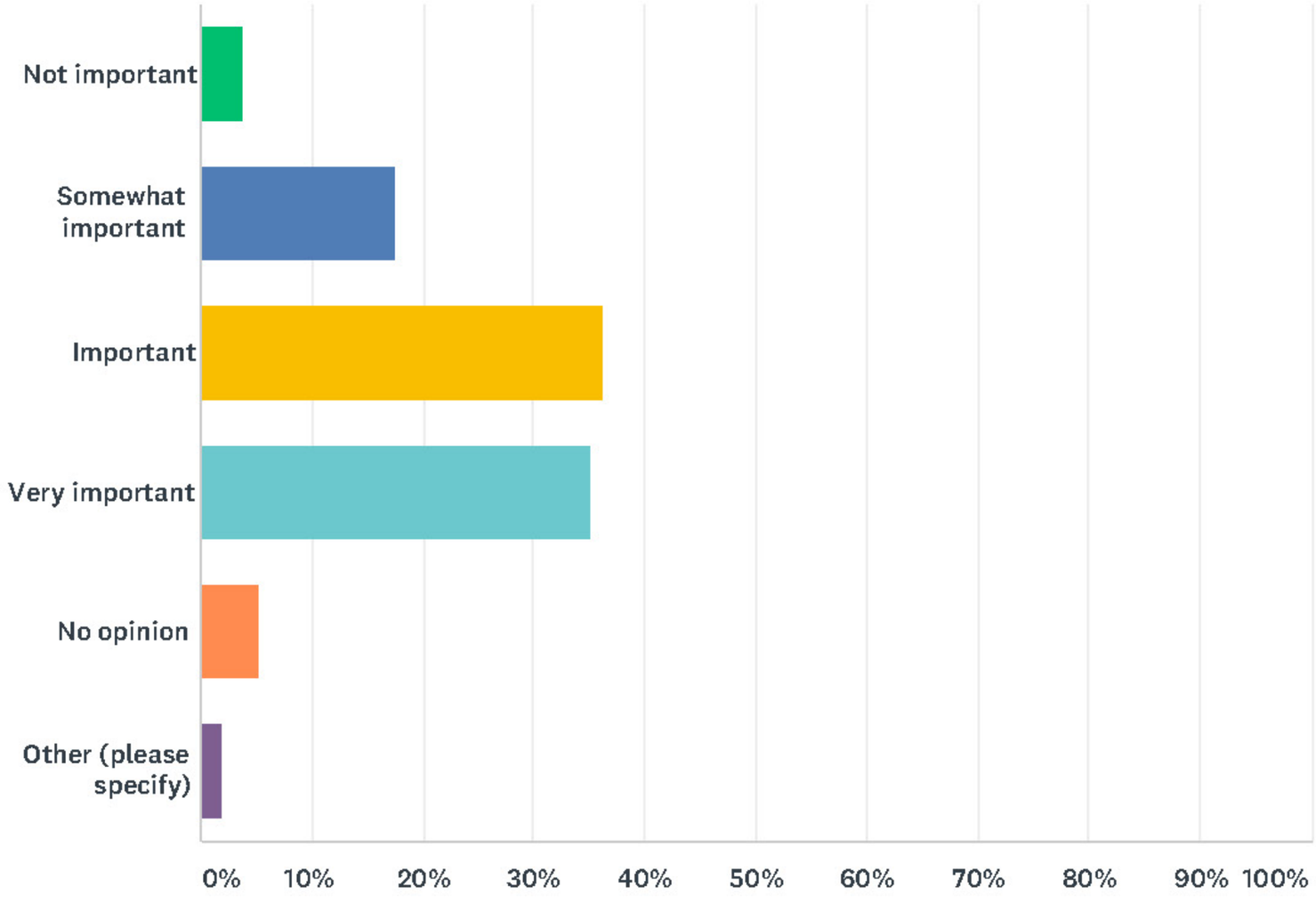
Q18 Are you aware of any infrastructure in this area (such as levees, tide gates, pump stations) to help reduce flooding?

Answered: 639 Skipped: 174



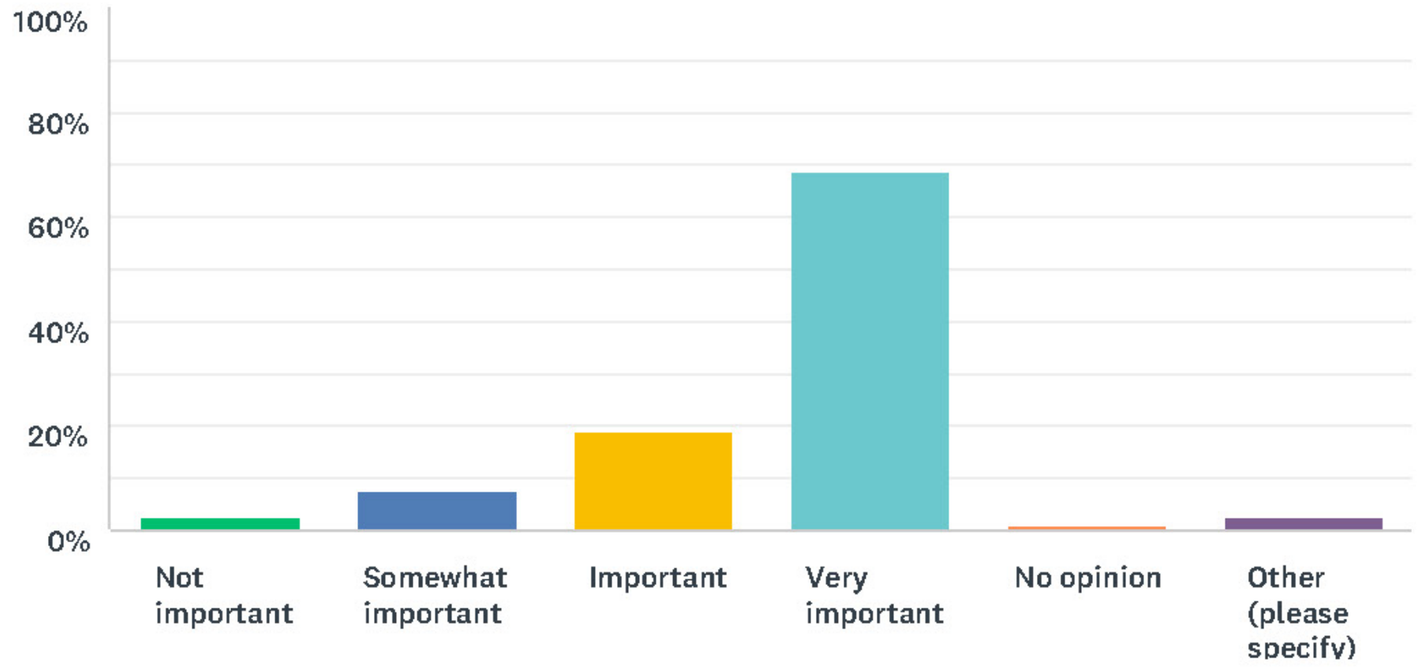
Q9 How important is it for people to take part in shoreline recreation?

Answered: 750 Skipped: 63



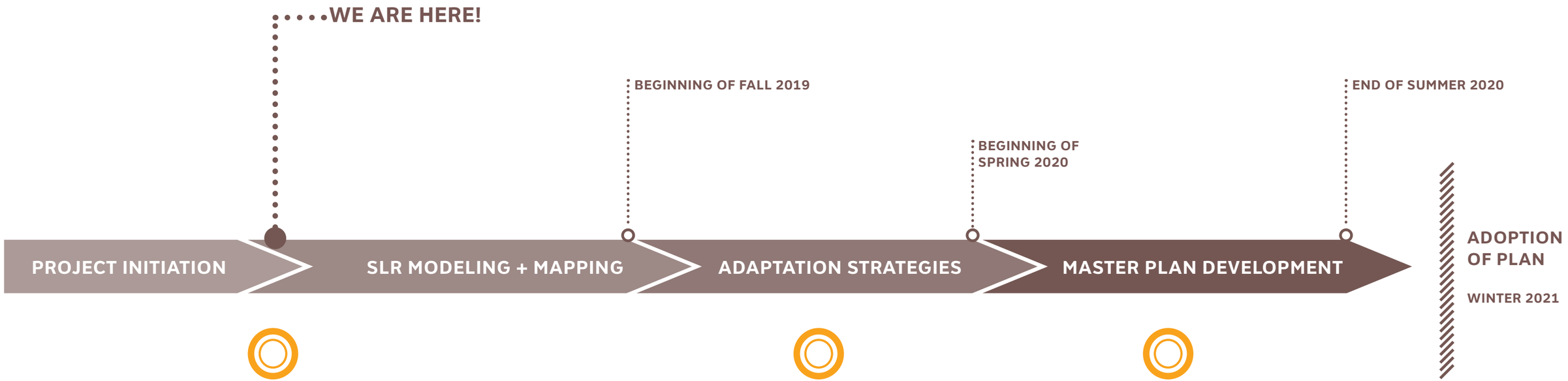
Q11 How important is it to conserve the shoreline's natural environment?

Answered: 750 Skipped: 63



NEXT STEPS

NEXT STEPS



- BACKGROUND REPORT ON EXISTING CONDITIONS
- STAKEHOLDER OUTREACH PLAN

- **SEA LEVEL RISE AND GROUNDWATER MAPPING ANALYSIS**
- **ONLINE DISPLAY OF SLR MAPS AND ASSOCIATED RISKS**

- GOALS AND POLICIES
- ADAPTATION STRATEGIES AND IMPLEMENTATION ACTIONS

- SHORELINE MASTER PLAN CONCEPT
- DESIGN ALTERNATIVES
- IDENTIFY FUNDING SOURCES
- MASTER PLAN (DRAFT AND FINAL)

TODAY’S WORKSHOP

WORKSHOP

- 1 hr: Breakout Session with Stakeholders
  - +Ecology
  - +Infrastructure
  - +Recreation
- 15 min: Report Back
- Refreshments and Sunset Viewing!

OVERALL QUESTIONS:

- What are your aspirations for the Hayward Regional Shoreline Master Plan?

- When do you foresee sea level rise becoming an issue along the Hayward Regional Shoreline?

- What are the most critical elements of the shoreline at risk?

- How can the Master Plan balance ecological assets, infrastructural assets, and recreational assets?

- How can the Master Plan create adaptation strategies that can be replicable opportunities for other sites around the bay?

ECOLOGY QUESTIONS:

- What are the biggest ecological threats to the shoreline? For example, shoreline erosion, limited marsh migration space, low sediment supply.

- Are there opportunities for the Master Plan to not only protect built assets, but enhance the ecology along the shoreline?

- Should the Master Plan prioritize soft (marshes and mud flats) or hard (levees and sea walls) to mitigate the effects of sea level rise? Or should there be a combination?

- Are there opportunities for expanded ecological connectivity along the shoreline? If so, where?

- Should we be planning for today's ecosystems or for ecosystems projected to exist in the future? Or should we consider some hybrid?

INFRASTRUCTURE QUESTIONS:

- What infrastructural assets are most at risk from sea level rise? For example, the State Route 92 bridge approach, engineered drainage channels, non-engineered shoreline levees, and stormwater channels.

- What infrastructural assets along the shoreline need to remain in place?

- What infrastructural assets have the flexibility to adapt with sea level rise?

- Have there been any infrastructural failures along the Hayward Regional Shoreline? If so, where?

- Have any plans been developed for the adaptation of critical infrastructures?

RECREATION QUESTIONS:

- What are the most popular recreational activities along the Hayward Regional Shoreline? How can they be enhanced?

- How is recreation currently impacted on along the shoreline during extreme tide events?

- What features of the current Bay Trail alignment are critical to preserve? Could some portions be realigned over time?

- Are there other Bay Trail alignments that can facilitate the same recreational experience while mitigating the impacts of sea level rise?

- Are there opportunities to add additional access points along the shoreline? How can these additional access points connect back to the Hayward Community?

- Are there opportunities to enhance connectivity between the shoreline and the city of Hayward?

THANK YOU!