

# What are we dealing with?

The Yosemite Slough is a low-lying area built on porous landfill this makes the neighborhood more vulnerable to sea level rise, emergent groundwater, and stormwater flooding.



San Francisco Shoreline Adaptation Plan (Upcoming in 2026-2027) While the Yosemite Slough Neighborhood Adaptation Plan focuses on sea level rise, the upcoming San Francisco Shoreline Adaptation Plan will address all three sources of flooding.















Stormwater



As the Earth warms, glaciers and polar ice sheets melt and ocean water expands in volume. Both factors are causing sea levels to rise, stormwater flooding, and emergent groundwater. The warmer the planet, the faster the sea levels will rise, including our Bay. When accounting for high tides and more extreme storms, the Bay is expected to rise between 1.0 and 6.6 feet by 2100.

## **STORMWATER FLOODING**

The City's combined sewer system filters stormwater and wastewater before they enter the Bay. Extreme storms can overload this system. This can cause flooding in low-lying areas, backflow into buildings, and untreated discharge to the Bay.

## **GROUNDWATER FLOODING**

Sea level rise can push shallow groundwater upwards. In some places, this can cause flooding from below. Rising groundwater can damage roadways, building foundations, and underground infrastructure, and mobilize underground contaminants.





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The Yosemite Slough Neighborhood Adaptation Plan builds upon decades of climate resilience work in Bayview Hunters Point. In partnership with the community, there are numerous efforts to protect the neighborhood from flooding and increase public benefits. Here are some snapshots of these efforts.

# San Francisco Public **Utilites Commission**

The SFPUC manages the city's watershed. Green Infrastructure can help manage stormwater, easing pressure on sewers while reducing treatment costs, saving energy, and enhancing public spaces.



## **UPPER YOSEMITE CREEK DAYLIGHTING PROJECT**

The SFPUC is daylighting the upper-most portion of Yosemite Creek, which once flowed from McLaren Park near McNab Lake all the way to the San Francisco Bay. The daylighting of this historic Yosemite Creek will mitigate excess stormwater that currently flows along Oxford Street. The project will use innovative green infrastructure to reduce flows into the combined sewer system.















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# **California State Parks**

California State Parks manages the Candlestick Point State Recreation Area, the state's first urban park created through years of advocacy by Bayview Hunters Point residents They have worked to incorporate projected sea level rise into plans to make Candlestick Point State Recreation Area more resilient. Their approach features nature-based solutions, such as the restoration of wetlands that has already been completed on the northern side of Yosemite Slough.

## **YOSEMITE SLOUGH RESTORATION AND PUBLIC ACCESS PROJECT**

California State Parks has worked for years to incorporate projected sea level rise into plans to make Candlestick Point State Recreation Area more resilient. State Parks' approach features nature-based solutions, such as the extensive restoration of wetlands that has already been completed on the northern side of Yosemite Slough.

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# **How might Bayview Hunters** Point be impacted by sea level rise?

These maps show how community and transportation assets identified in the first public workshop could be impacted in future sea level rise scenarios. Without sea level rise adaptation measures in the future, these assets could be temporarily flooded during a large storm event.

# When will this happen?

These maps present the tidal and coastal flooding associated with different sea level rise scenarios.

- 0.8 feet of sea level rise, expected in ~2050 under all scenarios
- 3.1 feet of sea level rise, expected under an intermediate (likely) scenario in 2100
- 6.6 feet of sea level rise, expected under a high (worst-case) scenario in 2100

## NOTE:

The inundation mapping is based on a 2010 digital elevation model which does not include recent redevelopment or sea level rise adaptation improvements that have been implemented in this area. However, we understand how this area has changed since 2010 and we are working to better account for these changes.

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LIVING SEAWALL

# Living Seawall

A seawall with enhancements that create different textures for various sea life and vegetation to live in. Living seawalls reduce waves and provide flood protection.

Top Photo: Source: Smithsonian Environmental Research Cente Bottom Left Photo: Port of SF, Living Seawall Pilot Study. Source: USACE, Abby Mohan Bottom Right Photo: Salmon Swim Along Seattle Living Seawall. Source: Mike Caputo/UW

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Low Cost

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High Cost

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#### **CO-BENEFITS**

- Supports diverse wildlife and plant species
- Improves water quality
- Does not disrupt current activities along the shore

#### **IMPLEMENTATION CONSIDERATIONS**

• Can support a recreational or access path, such as Bay Trail to the top of the seawall

![](_page_3_Picture_20.jpeg)

#### **CO-BENEFITS**

- Supports diverse wildlife and plant species
- Improves water quality
- Improves air quality
- Reduces erosion

#### **IMPLEMENTATION CONSIDERATIONS**

• This is a new strategy, current pilot projects at Terminal 4 in Richmond would help to inform final design

Less than 2 years

2 to 5 years

10 or more years

MAINTENANCE **NEEDS:** 

Low Maintenance

Medium Maintenance

engage • empower • ac

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(C2) **Potential Strategies** 

# Levee

![](_page_4_Picture_3.jpeg)

A raised embankment along the coast, usually made of earth or rock, to hold back water and prevent flooding in nearby areas

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Top Photo: Palo Alto. Source: Magali Gauthier **Bottom Photo:** Novato, Source: Ellen Plane

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#### **CO-BENEFITS**

• Adds to recreation and open space access

**IMPLEMENTATION CONSIDERATIONS** 

- Can support a recreational or access path, such as Bay Trail to the top
- May disrupt some shoreline activities since the footprint is wide

OVERALL (\$) (\$) (\$)

## **CO-BENEFITS**

- Supports diverse wildlife and plant species
- Improves water quality
- Improves air quality
- Improves aesthetics
- Adds recreation and open space access

#### **IMPLEMENTATION CONSIDERATIONS**

- Requires a change in land use
- Can be combined with wetlands and ecotone levee to expand habitat and connect to the planned wetland restoration in Candlestick Point State Recreation Area

**100 YEAR FLOOD** HIGH TIDE MEAN SEA LEVEL LOW TIDE and

> 2 to 5 years

 $\bigcirc \bigcirc \bigcirc \bigcirc$ 10 or more years

MAINTENANCE **NEEDS:** 

Low Maintenance

Medium Maintenance

engage • empower • act

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2 2 2 High Maintenance

**ADAPTABILITY TO CHANGING COASTAL CONDITIONS** 

Difficult to Adapt

Medium Adaptation

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sfplanning.org/ysnap

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Low Cost

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CONSTRUCTION TIMELINE:

 $(\bigcirc)$ Less than 2 years

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CONSTRUCTI TIMELINE

## **CO-BENEFITS**

- Supports diverse wildlife and plant spe
- Improves water quality
- Improves air quality
- Improves aesthetics
- Adds recreation and open space acce

## **IMPLEMENTATION CONSIDERATIONS**

- Requires change in land use
- Compatible with enhanced wetlands
- Can support a recreational or access Trail to the top
- Provides space for habitats to migrate

2 to 5 years  $\bigcirc \bigcirc \bigcirc \bigcirc$ 10 or more years MAINTENANCE **NEEDS:** 

Low Maintenance

Medium Maintenance

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2 2 2 High Maintenance

**ADAPTABILITY TO CHANGING COASTAL CONDITIONS** 

Difficult to Adapt ® ® Medium Adaptatio

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# **Ecotone Slope** Enhancement

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Gentle slope with vegetation connecting water areas to land area to further protect from flooding and reduce waves.

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## **CO-BENEFITS**

- Supports diverse wildlife and plant species
- Improves water quality
- Improves air quality
- Improves aesthetics
- Creates recreation and open space access

## **IMPLEMENTATION CONSIDERATIONS**

- Appropriate ecotone slope already exists just needs vegetation enhancement
- Can add recreational or access path, such as Bay Trail to the top
- Provides space for habitats to migrate with sea level rise

![](_page_6_Picture_25.jpeg)

CONSTRUCT TIMELINE

## **CO-BENEFITS**

• Does not disrupt shoreline activities

#### **IMPLEMENTATION CONSIDERATIONS**

- Some flood proofing is temporary and by the building owner in the event of
- Compatible with other strategies, but needed if the other strategies are imp

MAINTENANCE **NEEDS:** 

Low Maintenance

Medium Maintenance

engage • empower • act

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# Wetlands Restoration

![](_page_7_Picture_3.jpeg)

**Restoration or improvement of** existing coastal tidal wetlands to bring back natural water flows to areas that were previously filled or developed.

Top Left Photo: Yosemite Slough North Side Wetlands Restoration. Source: Jeremy Shaw Top Right Photo: Mill Valley, California. Source: Marin County Bicycle Coalition Bottom Photo: San Pablo Baylands Restoration Project. Source: SFBRA

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## **CO-BENEFITS**

- Supports diverse wildlife and plant spectrum
- Improves water and air quality
- Improves aesthetics
- Adds opportunities for bird watching
- Reduces erosion

#### **IMPLEMENTATION CONSIDERATIONS**

- Constrained by available space
- Can add recreational or access path
- Needs appropriate soils for wetlands
- Supported by Candlestick Point Gene
- It takes time for habitat to establish

OVERALL (\$) (\$)

**CONSTRUCTI** TIMELINE

#### **CO-BENEFITS**

- Can support diverse wildlife and plant
- Can improves water quality
- Can improves air quality
- Can improve aesthetics

#### **IMPLEMENTATION CONSIDERATIONS**

- Must coordinate with SFPUC
- Compatible with all other strategies
- Can use "gray" or "green" stormwater

MAINTENANCE **NEEDS**:

Low Maintenance

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Less than 2 years

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**CO-BENEFITS** 

• Does not disrupt shoreline activities

## **IMPLEMENTATION CONSIDERATIONS**

• Compatible with other strategies, it wo placed on top of the levee or other stra

 $\bigcirc \bigcirc \bigcirc \bigcirc$ 2 to 5 years

 $\bigcirc \bigcirc \bigcirc \bigcirc$ 10 or more years

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	MAINTENANCE NEEDS	ADAPTABILITY TO COASTAL CHANGES
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ADAPTABILITY TO CHANGING **COASTAL CONDITIONS** 

ØØ **Difficult to Adapt** 

Medium Adaptation ® ® ® Easy to Adapt

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