Heron's Head

Subarea 4-5

Subarea Description

Subarea 4-5: Heron's Head

Heron's Head (Subarea 4-5) consists primarily of Heron's Head Park, providing public access to the waterfront in the otherwise industrial neighborhood and wetlands offering ecological value.

Despite being zoned as industrial area, and originally created as a rock-fill breakwater to protect the south side of Pier 96, Heron's Head 22-acre park now includes salt marsh habitat, ecosystem restoration activities, walking paths, bird watching, and environmental education and stewardship activities. Key Infrastructure in this subarea include the EcoCenter, an educational community center, and one of PG&E's nine San Francisco substations, the 110 – 161 kilovolt Hunters Point substation.

Heron's Head Park provides open space wildlife habitat, including native plants and a wide variety of birds. More than 100 bird species inhabit Heron's Head Park each year, including two federally-listed endangered species. The park is an education resource and provides recreation for birdwatchers, hikers, students, teachers, and visitors.

The EcoCenter at Heron's Head Park is an educational community center that uses sustainable on-site power, water, and wastewater systems. It is owned and maintained by the Port of San Francisco and operated by San Francisco Recreation and Parks Department. Nearly every feature of this facility is designed to educate the public about renewable energy, pollution and greenhouse gas reduction, wastewater treatment, sustainable building materials, rainwater harvesting, and the green economy. It is the first LEED Platinum - Zero Net Energy Building in San Francisco. It is also a model of community engagement and learning, exemplified by the Youth Stewardship program which offers free environmental education and service-learning field trips to 2nd through 12th graders, and the Greenagers program that engages 9th and 10th grade students who live in the southeast part of San Francisco or Chinatown and are interested in getting involved in their community.

The Port is working on a plan to protect the park with a living shoreline to reduce erosion and address sea level rise through the year 2050. The Port plans to complete the project in 2021, protecting portions of the park from up to two feet of sea level rise.

One of PG&E's nine San Francisco substations, the 110 – 161 kilovolt Hunters Point substation, is in this subarea and is closest to the shoreline. Electric substations are extremely vulnerable to flooding of any type, and flooding could interrupt power service for hours to weeks depending on the extent of damage.

Since 2017, the Port has connected with tens of thousands of community members through the Waterfront Resilience Program. Public feedback collected about Heron's Head underscores the importance of providing spaces for residents to engage in the Bay and its habitats, have waterfront spaces to convene and enjoy, maintain and enhance waterfront access and neighborhood recreation, and protect the shoreline and habitat from rising seas. Further feedback highlights additional community priorities, including opportunities to enhance green space and increase educational and family-friendly activities. Community feedback related to this subarea is included in the Community-Identified section as part of the Review of Landmarks, Assets, and Services listed below and incorporated in the overall POOCC analysis.

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Landmarks, Assets, and Services

Land Use

Zoned as Industrial District, yet home to the 22-acre Heron's Head Park.

Community-Identified

- Heron's Head Park
- EcoCenter
- India Basin Shoreline

Utilities

Water

- Buried water supply pipes

Wastewater

- Buried wastewater and stormwater sewer pipes

Power

- Hunters Point PG&E Substation
- Overhead and buried electric power infrastructure

Communications

- Several telecommunication cell sites (e.g. cells on top of buildings or small cell towers on streetlights) are likely distributed throughout the subarea, but specific locations are unknown

Natural Gas

- (No buried natural gas supply line infrastructure)

Transportation

- Muni Station (Heron's Head)

Open Space and Ecology

Open Space

- San Francisco Bay
- Bay Trail / Blue Greenway
- Heron's Head Park

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Problems, Opportunities, Objectives, Constraints, and Considerations

Problems

- Bay water flooding from rising sea levels could cause damage to public infrastructure and private property, and harm recreational shoreline access.
- Heron's Head Park is entirely located on Bay fill making its EcoCenter vulnerable to strong seismic activity. The PG&E Substation is situated on soil categorized as having Very Low liquefaction susceptibility (see Seismic Section).
- This subarea provides important wildlife and wetland habitat which is highly vulnerable to coastal erosion and both temporary and permanent flooding.

Opportunities

- Pilot-project and research opportunity with the living-shoreline project at Herons Head Park, to demonstrate how natural infrastructure can reduce erosion, adapt to sea level rise, and improve ecological function of the shoreline. Careful evaluation and results of the project would inform other shoreline protection interventions.
- Strengthen and maintain rare salt marsh wetlands and bird habitat.
- Strengthen and maintain public and recreational access to the waterfront.

Objectives

- Reduce the risk to public safety (including loss of life) and public health from Bay storms and rising water levels.
- Reduce the risk to critical public infrastructure from rising bay water levels.
- Retain and improve public access when developing project features.
- Remove environmental risks and improve the natural environment (water quality/soil) and ecological value.
- Develop multi-benefit green infrastructure to address erosion and sea level rise adaptation, such as living shorelines, where feasible.

Constraints

- Must not increase the unmitigated risk of flooding from any source (bay, creek, or surface waters) outside of the subarea.
- Ensure no loss of existing flood protection.
- Avoid and minimize impacts to transit and the Bay and coastal ecosystem.
- Consider environmental challenges (hazardous materials) and communities of concern.
- Must not cause an increase in response time from emergency responders.
- Must comply with all applicable federal, state, and local laws and policies.

Considerations:

- **Stakeholder engagement:** Ongoing public outreach by the Port and additional efforts has generated many location specific comments from the community. Feedback highlights availability of affordable housing, waterfront access, neighborhood recreation, and protecting the shoreline and habitat from rising seas as community priorities.
- **Equity:** The surrounding neighborhood has been subjected to significant historical and environmental injustices, and has high social vulnerability, with high poverty, crime, unemployment, and hospitalization rates relative to San Francisco. Most of the surrounding area is included within MTC's communities of concern analysis.

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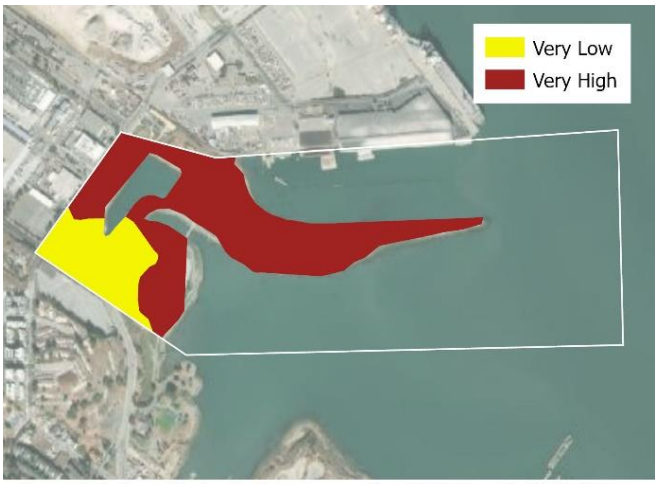
- **Environmental challenges:** Hazardous waste, solid waste, and impaired water are environmental concerns.
- **USACE Environmental Operating Principles:** Incorporate as part of the planning process.

Seismic Summary

The seismic hazard and vulnerability within Heron's Head (Subarea 4-5) is currently being evaluated through the Initial Southern Waterfront Seismic Study, therefore comprehensive accounting of liquefaction and lateral spreading hazards cannot currently be provided.

From a regional perspective, USGS provides a high level rating of seismic hazard in Heron's Head (Subarea 4-5) as an VIII on the Modified Mercalli intensity (MMI) scale. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally – total destruction – on a scale of I (not felt) to X (extreme).



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

An MMI of VIII (severe) could cause slight damage in specially designed structures, considerable damage in ordinary substantial buildings including partial building collapse, and major damage in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls are likely, and heavy furniture may be overturned.

Subarea 4-5 includes areas with Very High and Very Low susceptibility to liquefaction. The scale considers historical liquefaction occurrences, geotechnical analyses of limited borehole data, and the estimated depth to the shallow groundwater table. The susceptibility ratings are based on existing conditions and do not consider potential increases to the groundwater table that may occur with sea level rise and climate change.

Our understanding of seismic hazard and vulnerability in this subarea will continue to be refined with the completion of the Initial Southern Waterfront Seismic Study and used to develop appropriate risk mitigation measures as part of the Waterfront Resilience Program.