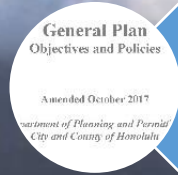


**EAST HONOLULU
SUSTAINABLE COMMUNITIES PLAN
PUBLIC REVIEW DRAFT**



**Community Meeting: March 4, 2019
Koko Head Elementary School**

Presentation Agenda



Overview of General Plan and DPSCPs



Contents of Plan



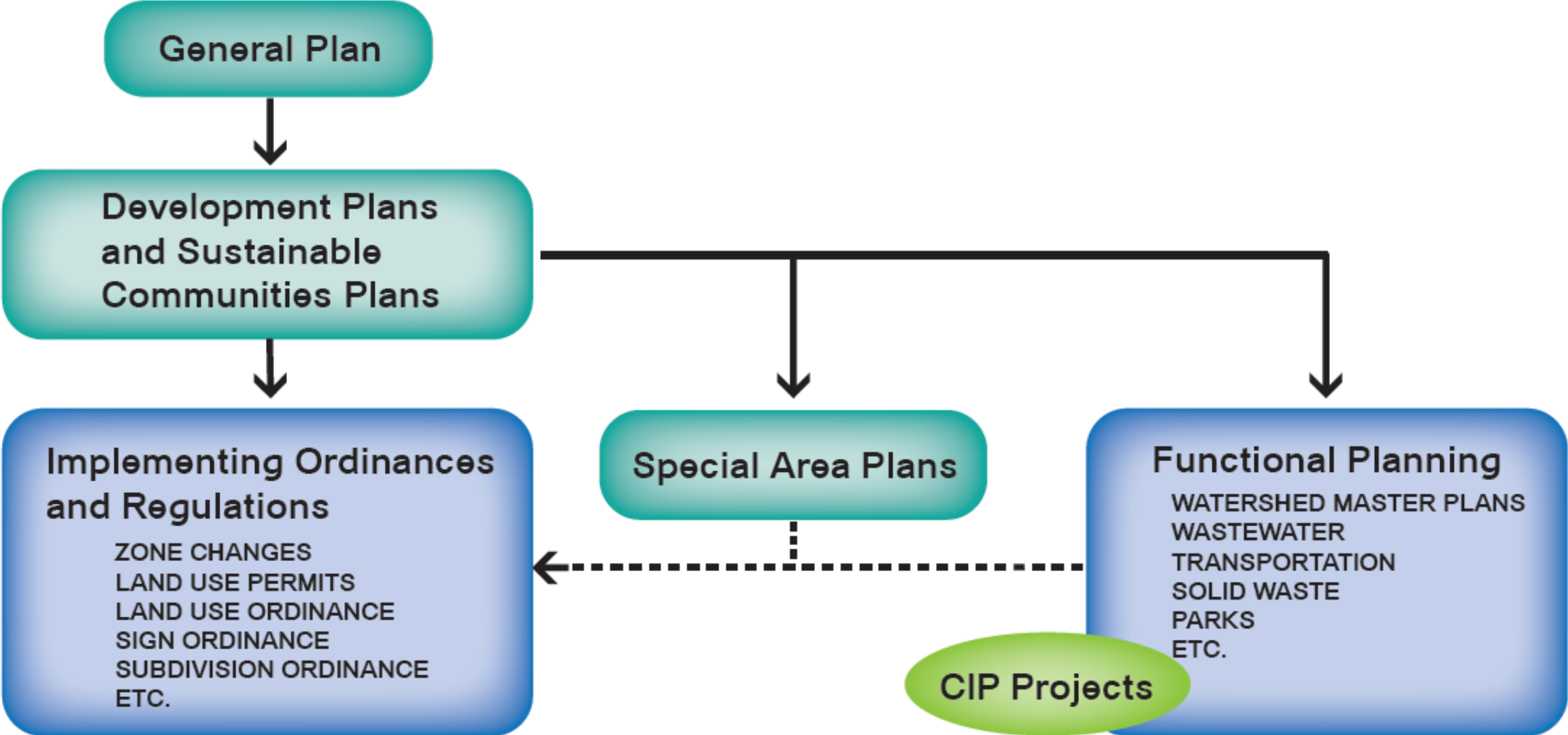
Process Since the 1999 Plan



Current Process



Proposed Significant Changes



East Honolulu's Role in O'ahu's Development Pattern

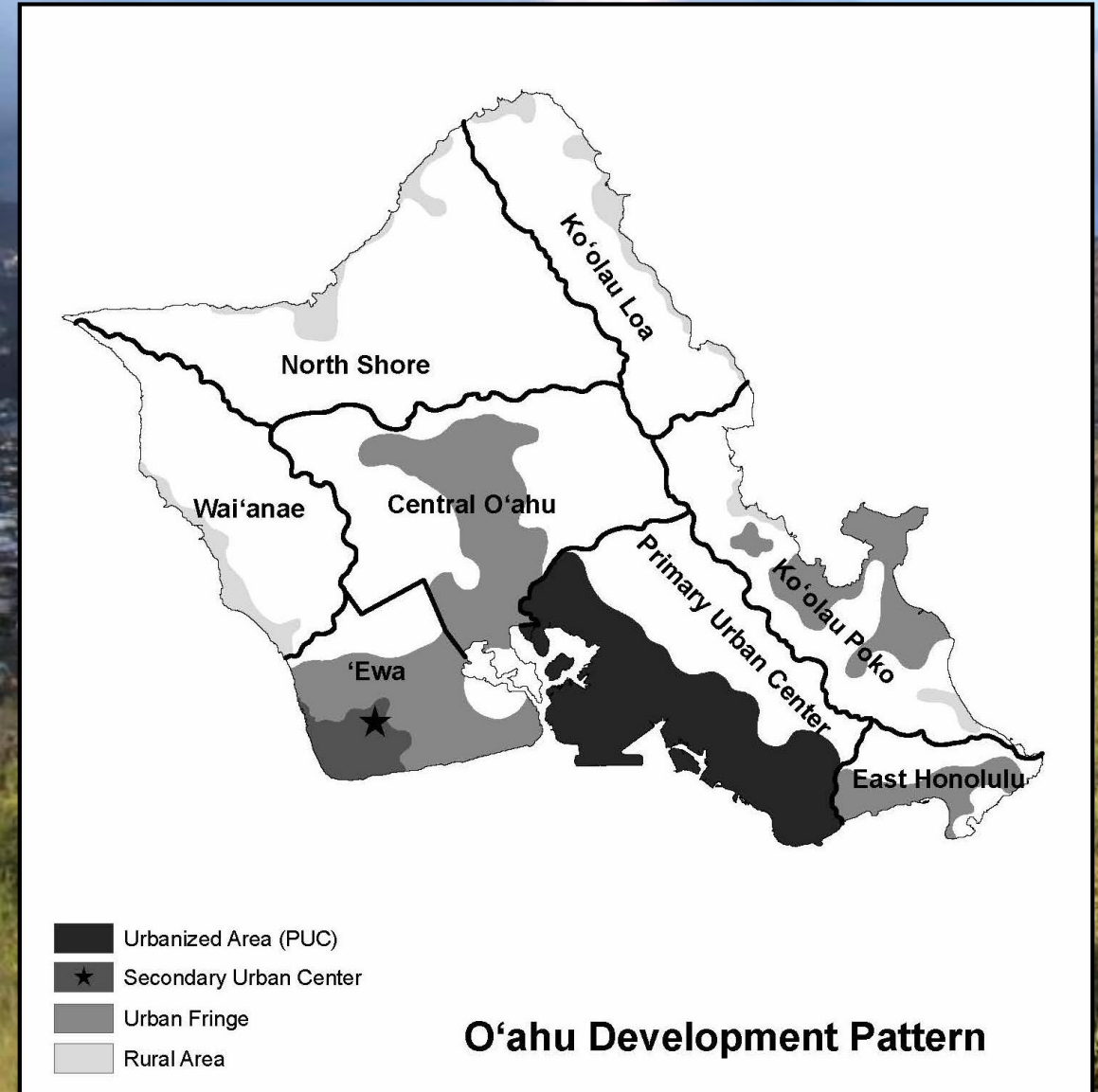
Designated Urban Fringe

Limited development and population growth

Predominantly residential area, generally low-rise

Maintain the existing Community Growth Boundary

Population stabilization around 50,000



Content of the East Honolulu Plan

Chapter 1

- East Honolulu's Role in O'ahu's Development Pattern defines the region's role and identity;

Chapter 2

- The Vision for East Honolulu's Future summarizes the community-based vision for the future of the region;

Chapter 3

- Land Use Policies and Guidelines provides the land use policies needed to implement the vision;

Chapter 4

- Public Facilities and Infrastructure Policies and Guidelines provides the infrastructure policies needed to implement the vision;

Chapter 5

- Implementation identifies the means through which the policies will be applied, including zone changes, and infrastructure budgeting;

Appendix A

- Conceptual Maps

Process Since the 1999 Plan Adoption

Workshop I – January 2005

- Community orientation and outreach

2006-2011

- Research, draft Plan revisions and recommendations

Workshop II – September 2012

- Community outreach restart

Workshop III – Spring 2016

- 3 Climate adaptation workshops

January / February 2019

- **Publication of the Public Review Draft**

Workshop IV – March 4, 2019

- **Announcement of the Publication and Comment Period**

Public Review Process – Going Forward

Public Review Draft and Community Meeting

Neighborhood Board Presentations (Feb. 26, March 21, April 4)

Public Comment Period (June 28)

Proposed Revised Plan and Review Report (Fall 2019)

Planning Commission and Public Hearing (Fall 2019)

City Council (Winter 2019 and beyond)

The Vision to 2040

Protect Community Resources

Adapt to Changing Community Needs

Population remains stable at approximately 50,000

Revitalize existing commercial centers while limiting their expansion

Maintain low-rise, low-density, residential character

Avoid flood damage and slippage from development of slopes

Use capacity of Kalanianaʻole Highway to manage growth

Preserve scenic views

Promote access to mountain and shoreline resources

The Vision to 2040 – New

Become more age-friendly and focus on complete streets

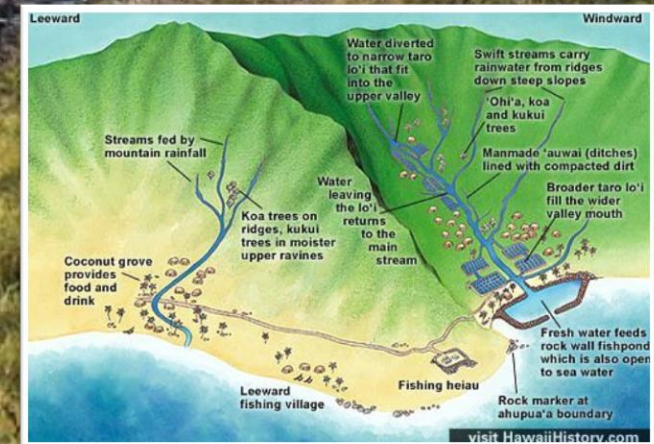
Create resilient, disaster-ready communities

Address, minimize, and adapt to potential impacts of climate change and sea level rise

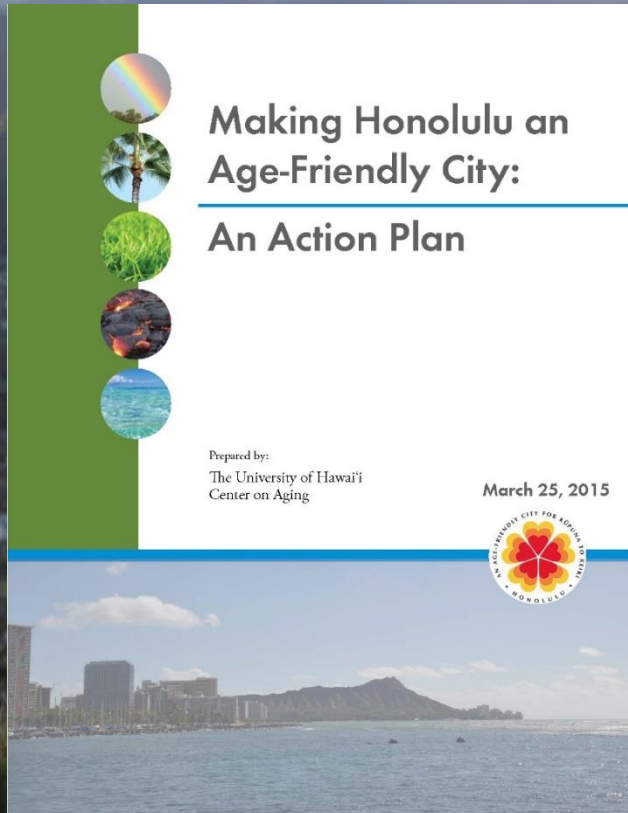
Implement ahupua'a concept and low-impact development standards



Image: Hawaii Bicycling League



Making Honolulu an Age-Friendly City



Adopted as Ordinance 18-36

Percentage 65+	1980	1990	2000	2010	2015	2040
East Honolulu	9.3%	11.7%	18.2%	21.6%	23.5%	37%
All O'ahu	7.3%	10.9%	13.4%	14.5%	16.2%	23.7%

7 Principles of Universal Design

Mixed-Use Development

Accessory Dwelling Units (ADUs)

Complete Streets

Creating a Resilient, Disaster-Ready Community

Protect Community Resources

Limit development of steep slopes

Implement Low-Impact Development (LID) Standards

Incentivize green infrastructure investments

Protect existing preservation lands inside and outside the CGB

Natural improvements and stormwater retention

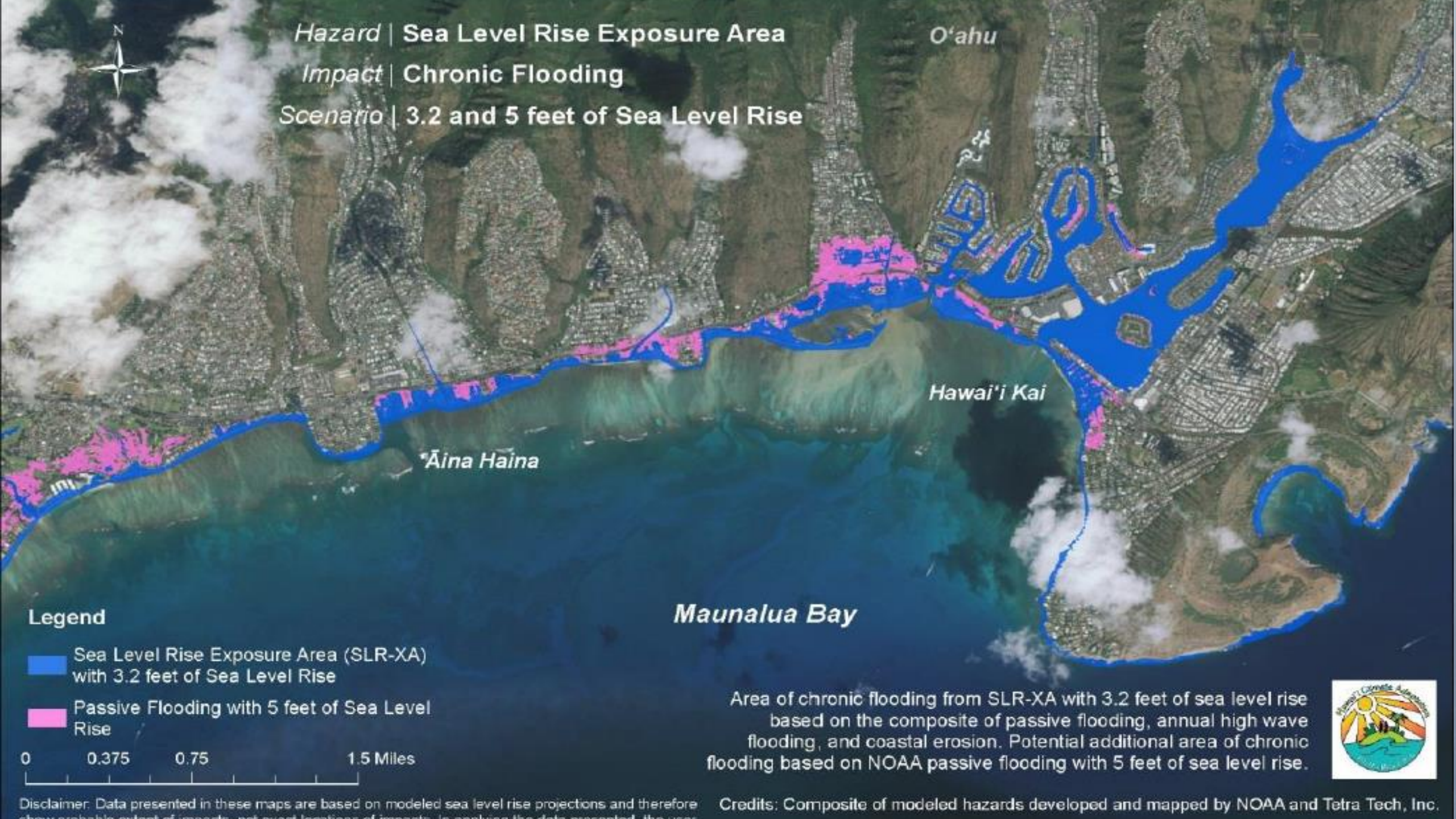
Adapt to Changing Community Needs

Form a community-based redevelopment district

Identify repetitive loss areas

Use current guidance from the City Climate Change Commission and State plans

Protect, adapt, or relocate structures, facilities and resources vulnerable to Sea Level Rise



Hazard | Sea Level Rise Exposure Area
Impact | Chronic Flooding
Scenario | 3.2 and 5 feet of Sea Level Rise



O'ahu

Hawai'i Kai

Āina Haina

Maunalua Bay

Legend

-  Sea Level Rise Exposure Area (SLR-XA) with 3.2 feet of Sea Level Rise
-  Passive Flooding with 5 feet of Sea Level Rise

0 0.375 0.75 1.5 Miles

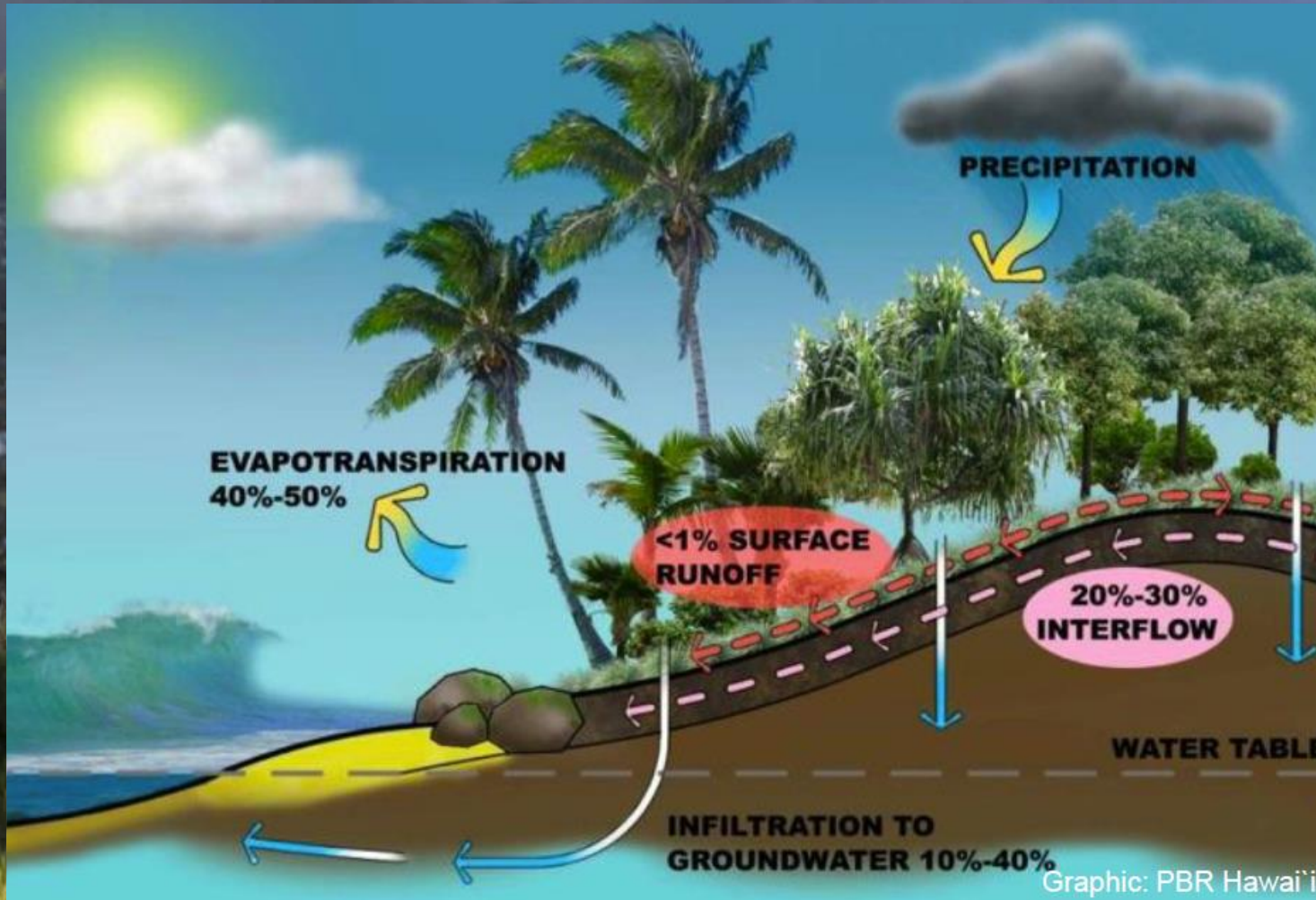
Area of chronic flooding from SLR-XA with 3.2 feet of sea level rise based on the composite of passive flooding, annual high wave flooding, and coastal erosion. Potential additional area of chronic flooding based on NOAA passive flooding with 5 feet of sea level rise.



Disclaimer: Data presented in these maps are based on modeled sea level rise projections and therefore show probable extent of impacts, not exact locations of impacts. In applying the data presented, the user assumes all responsibility.

Credits: Composite of modeled hazards developed and mapped by NOAA and Tetra Tech, Inc.

Ahupua'a Health and Low-Impact Development



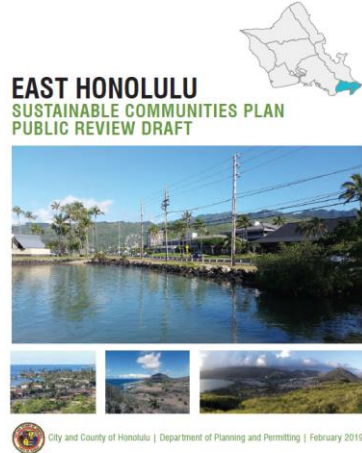
Reduce area of impermeable surfaces

Retain water on-site

Plant more trees

Use park and preservation lands for ecological functions

Contact Information and Timeline



Thomas.Blair@Honolulu.gov
Phone: (808) 763-9054
Fax: (808) 768-6743

Dept. of Planning &
Permitting
650 South King Street, 7th Fl.
Honolulu, Hawaii 96813

Public Comment Period (**June 28**)

Proposed Revised Plan and Review Report (Fall 2019)

Planning Commission and Public Hearing (Fall 2019)

City Council (Winter 2019 and beyond)

East Honolulu Watershed Management Plan

Community Meeting #1

East Honolulu Watershed Profile & Issues

March 4th, 2019 / Koko Head Elementary School

Presentation Agenda

- **Background and Overview of the O'ahu Water Management Plan (WMP)**
- **Overview of East Honolulu Watershed Management Plan (EHWMP)**
- **East Honolulu Watershed Profile**
- **East Honolulu Water Resource Issues**
- **Getting Involved**

O'ahu Watershed Management Plan Overview

STATE WATER CODE

HAWAI'I WATER PLAN

- State Water Projects Plan
- Agricultural Water Use and Development Plan
- Water Quality Plan
- Water Resource Protection Plan
- County Water Use and Development Plans

O'AHU GENERAL PLAN

8 Development Plan (DP)/ Sustainable Communities Plan (SCP)

Legal/Regulatory/Policy Guidance

- Act 152: Watershed Protection
- Waiāhole Ditch Decision
- Ch 30, ROH Water Management
- BWS Sustainability Mission
- CCH Mayor's Climate Change & Sea Level Rise Directive (2018)

O'AHU WATER MANAGEMENT PLAN (BY DP/SCP DISTRICT)

Wai'anae

Ko'olau
Loa

Ko'olau
Poko

North
Shore

'Ewa

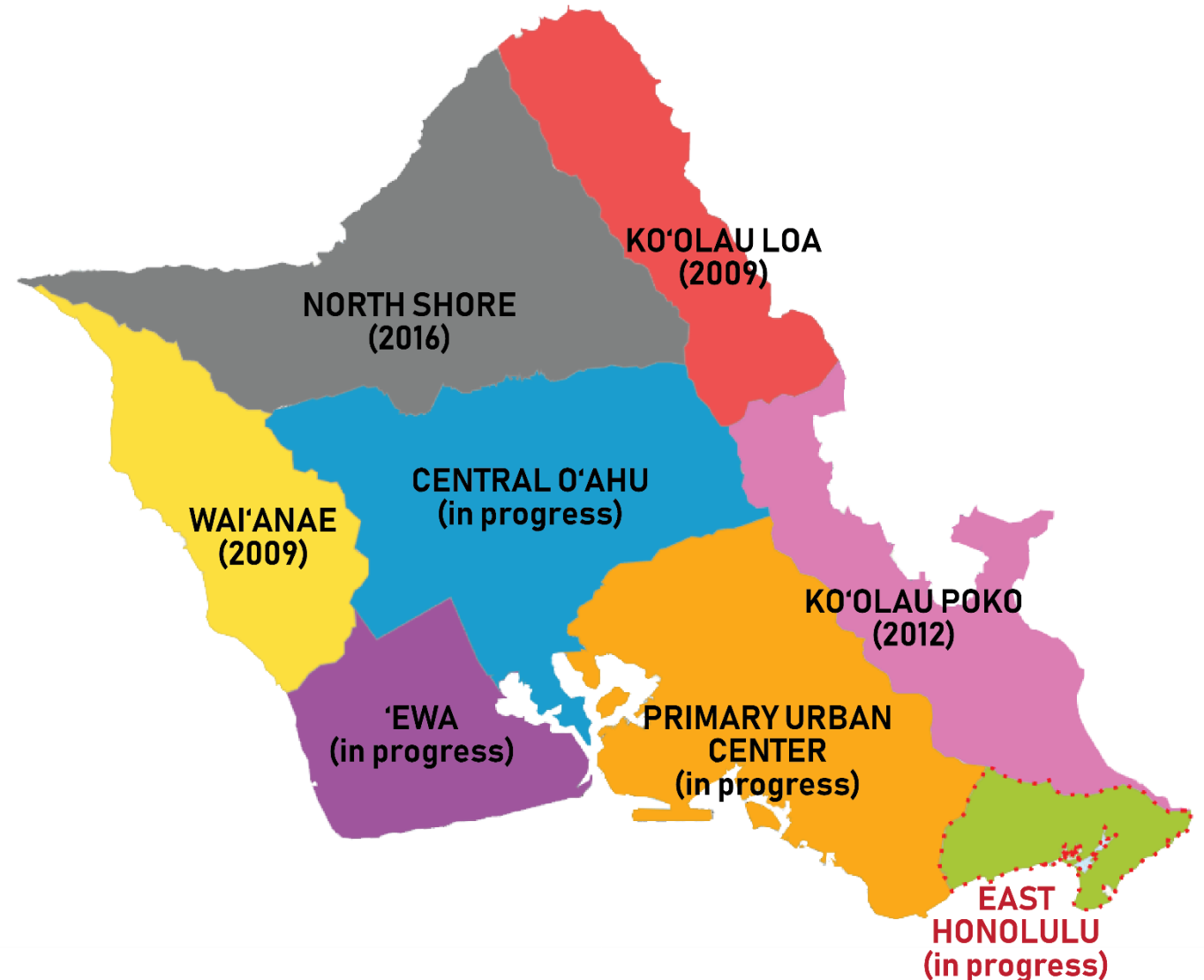
Central
O'ahu

PUC

**EAST
HONOLULU**

O'ahu Watershed Management Plan Status

- 4 WMPs completed (Wai'anae, Ko'olau Loa, Ko'olau Poko & North Shore)
- 4 WMPs in progress (Central O'ahu, 'Ewa, Primary Urban Center & East Honolulu)

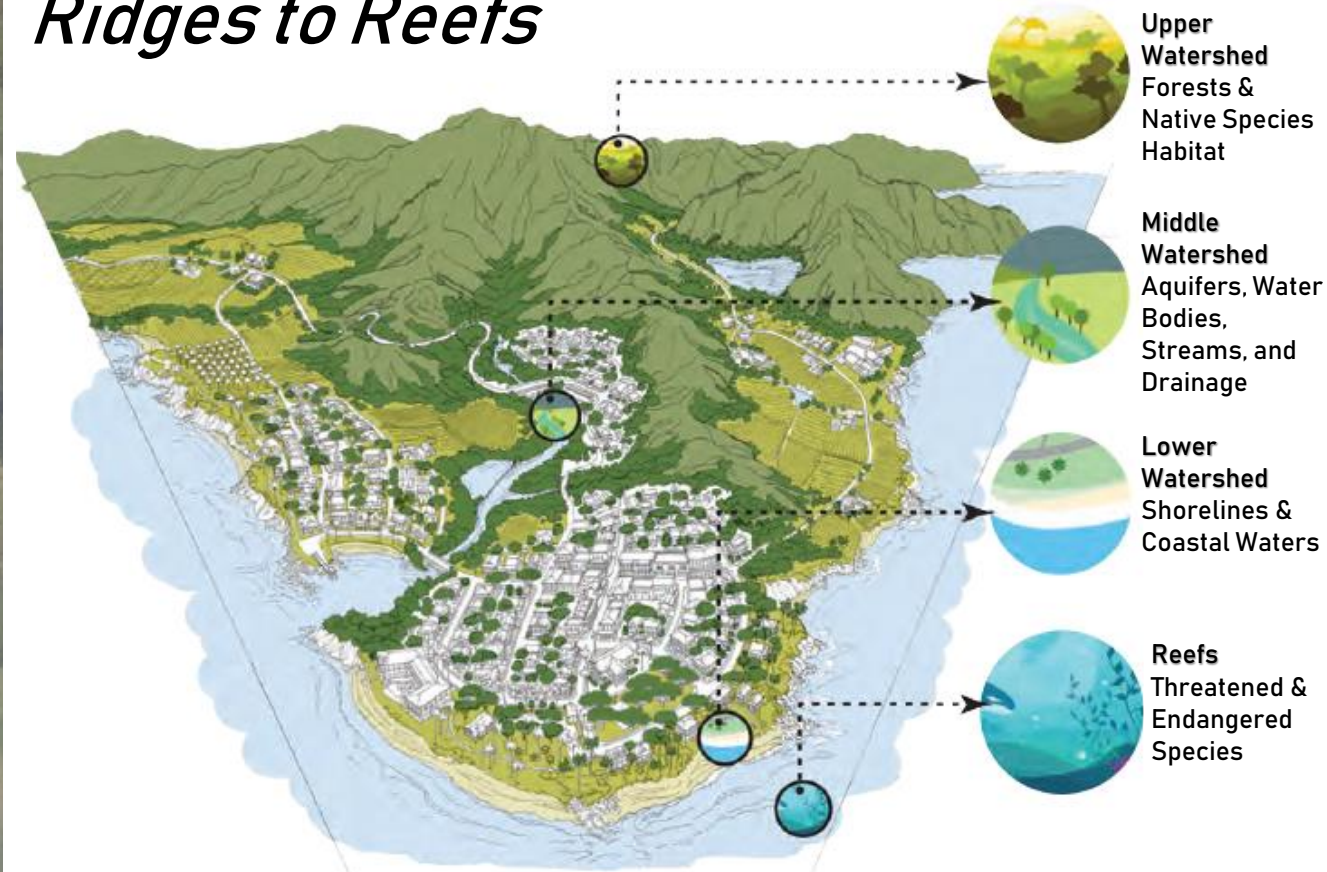


Ahupua'a Model

Planning concept based on Native Hawaiian systems-thinking, emphasizing:

- Watershed health
- Holistic resource management
- Self-sufficient and sustainable communities
- Inter-relationship of mauka and makai resources
- Stewardship and kuleana of land, people, and culture

Ridges to Reefs

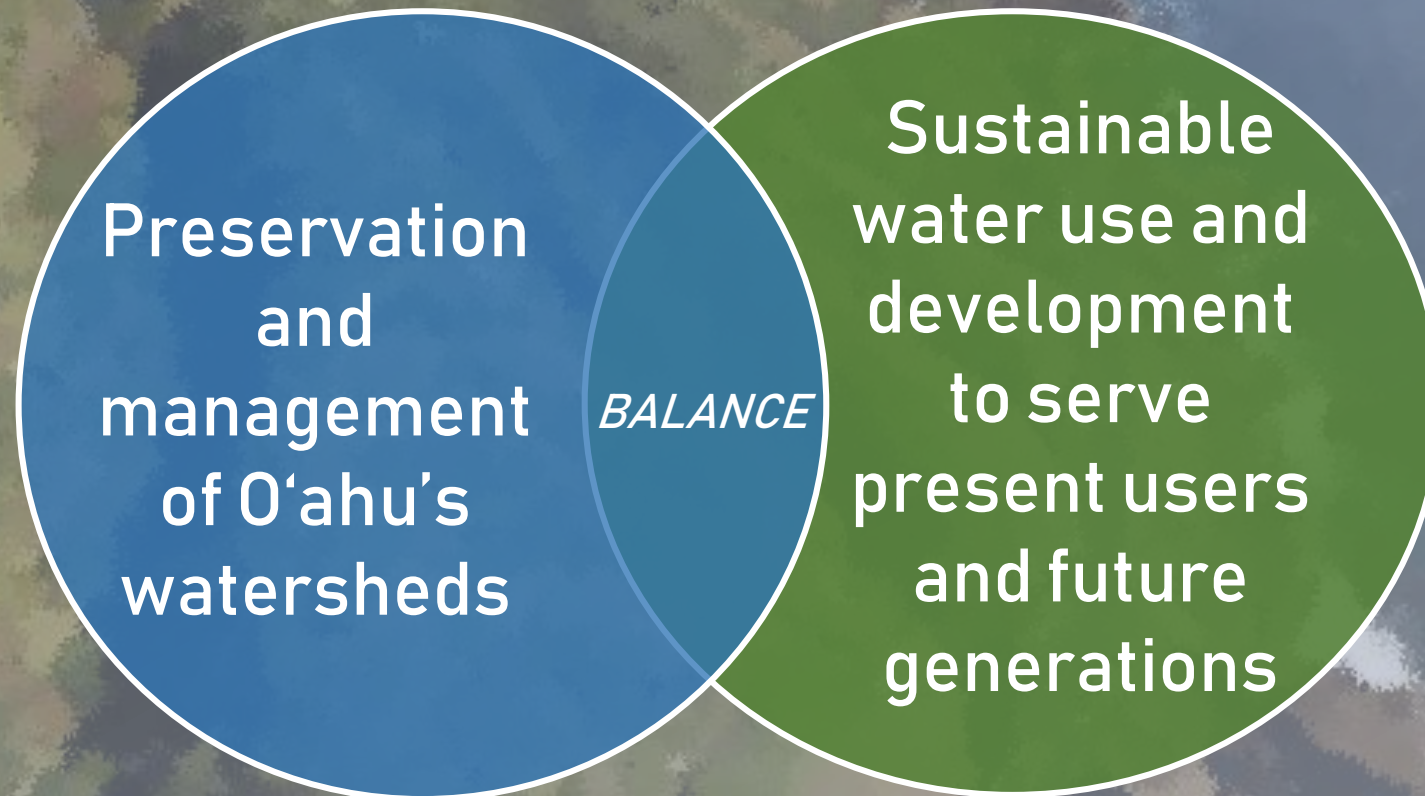


One Water Approach



O'ahu Water Management Plan Goal

To formulate an environmentally holistic, community-based, and economically viable watershed management plan that will provide a balance between:



O'ahu Watershed Management Plan Objectives

1. Promote sustainable watersheds

2. Protect and enhance water quality and quantity

3. Protect native Hawaiian rights and traditional and customary practices

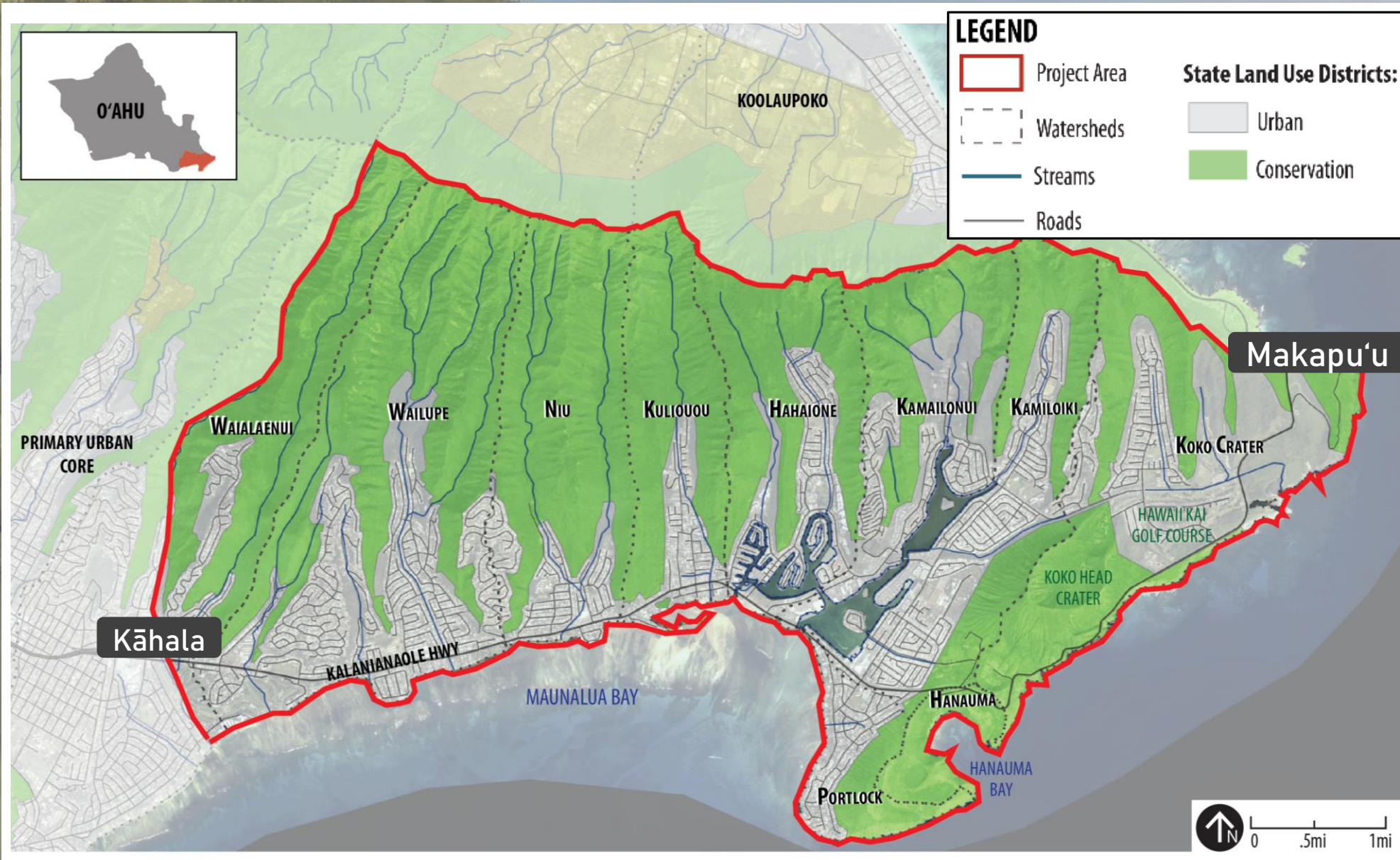
4. Facilitate public participation, education, and project implementation

5. Meet future water demands at reasonable costs

EHWMP Overview



East Honolulu Planning District Kāhala to Makapu'u



EHSCP/WMP Nexus

EHSCP

- Provides the vision, implementing policies, and guidelines for the planning district
- Guides City land use approvals, infrastructure improvements, and private sector decisions
- Establishes growth projections & policies to manage growth over the next 20 years

NEXUS

Both plans provide policies to address:

- Water supply and demand
- Water conservation (e.g., water recycling, rain barrels)
- Stormwater runoff (e.g., low impact development, street landscaping)
- Climate change & sea level rise impacts
- Mauka & makai access issues (e.g., trail management, beach access)
- Watershed management

EHWMP

- Manages and protects watershed health from a holistic, mauka to makai perspective
- Recommends policies, strategies and project, ensure adequate and sustainable water supply for East Honolulu for the next 20 years with an ultimate 2100 scenario
- Provides an implementation plan

EHWMP Planning Process

Research & Identify Key Water Resource Issues



Preliminary Watershed Analysis &
Water Demand Forecasting



Water Supply Options & Watershed
Management Policies, Projects & Strategies



Preliminary & Public Review Draft EHWMP



Final EHWMP

Community
Input



EHWMP Schedule



	2019				2020				2021			
Year Quarter	1	2	3	4	1	2	3	4	1	2	3	4
Stakeholder Consultation												
Watershed Profile												
Water Demand Analysis												
Projects, Policies & Strategies												
Implementation Plan												
Public Review Draft												
Final EHWMP & Approvals Process												

East Honolulu Watershed Profile

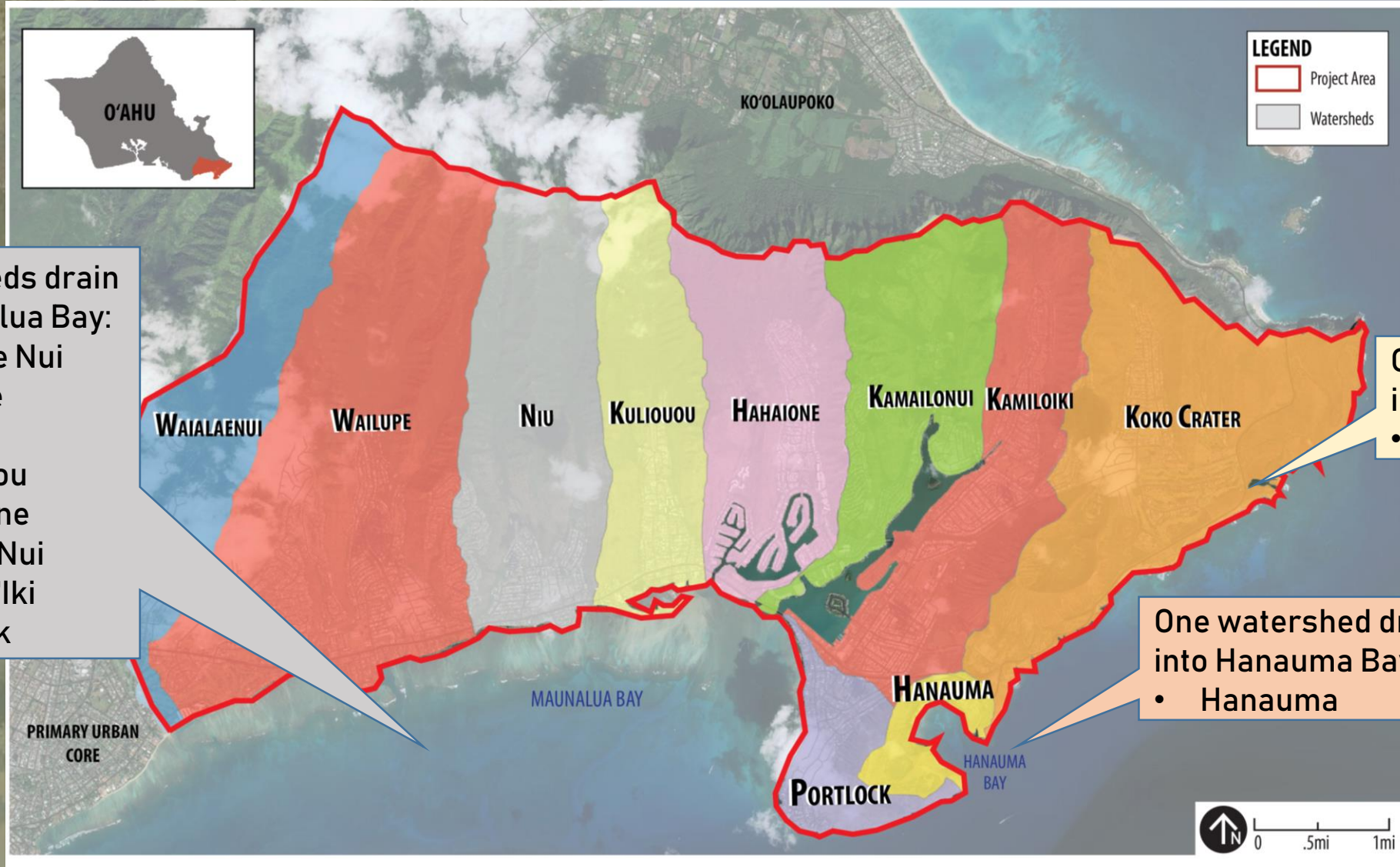


East Honolulu Planning District Overview



- Land Area: 15,042 sq acres
- Population: 48,100 (2010)
- ~60% of EH is Conservation Land
- ~40% of EH is Urban Land
- 10 Watersheds
- 2 Ahupua'a
- 3 Neighborhood Boards
- Strong presence of community organizations

10 Watersheds in East Honolulu



8 watersheds drain into Maunaloa Bay:

- Wai'alaenui
- Wailupe
- Niu
- Kuli'ou'ou
- Haha'ione
- Kamilo Nui
- Kamilo 'Iki
- Portlock

One watershed drains into the Ka Iwi Coast:

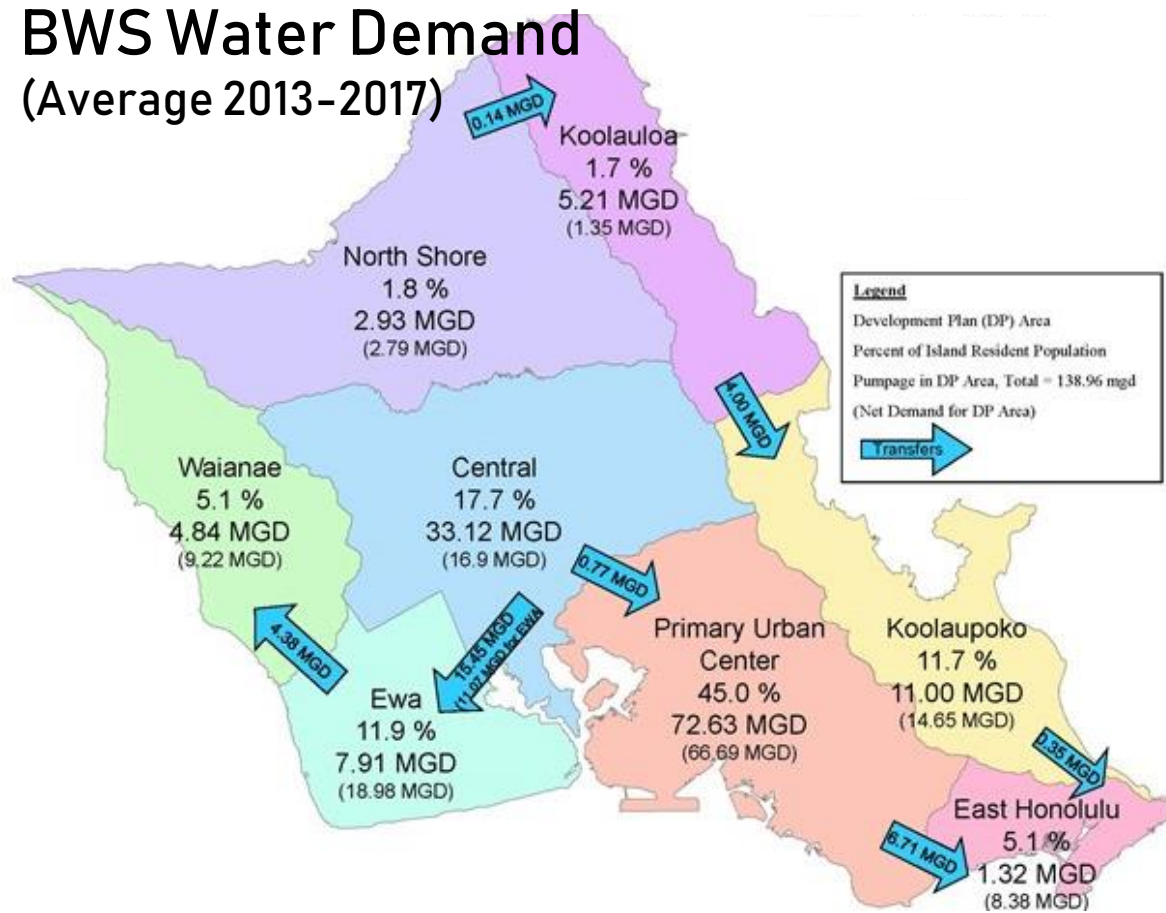
- Koko Crater

One watershed drains into Hanauma Bay:

- Hanauma

East Honolulu Water Supply & Demand

BWS Water Demand (Average 2013-2017)



mgd= millions of gallons per day

- East Honolulu relies upon Urban Core & Ko'olaupoko aquifer sources to meet its demand of appx. 8.5 mgd
- Water demand is projected to decrease due to conservation programs
- Water supply is expected to be affected by climate change

East Honolulu Water Resource Issues



Preliminary Water Resource Issues & Concerns

Climate Change

Sea Level Rise

Nearshore
Water Quality

Water
Conservation
Efforts

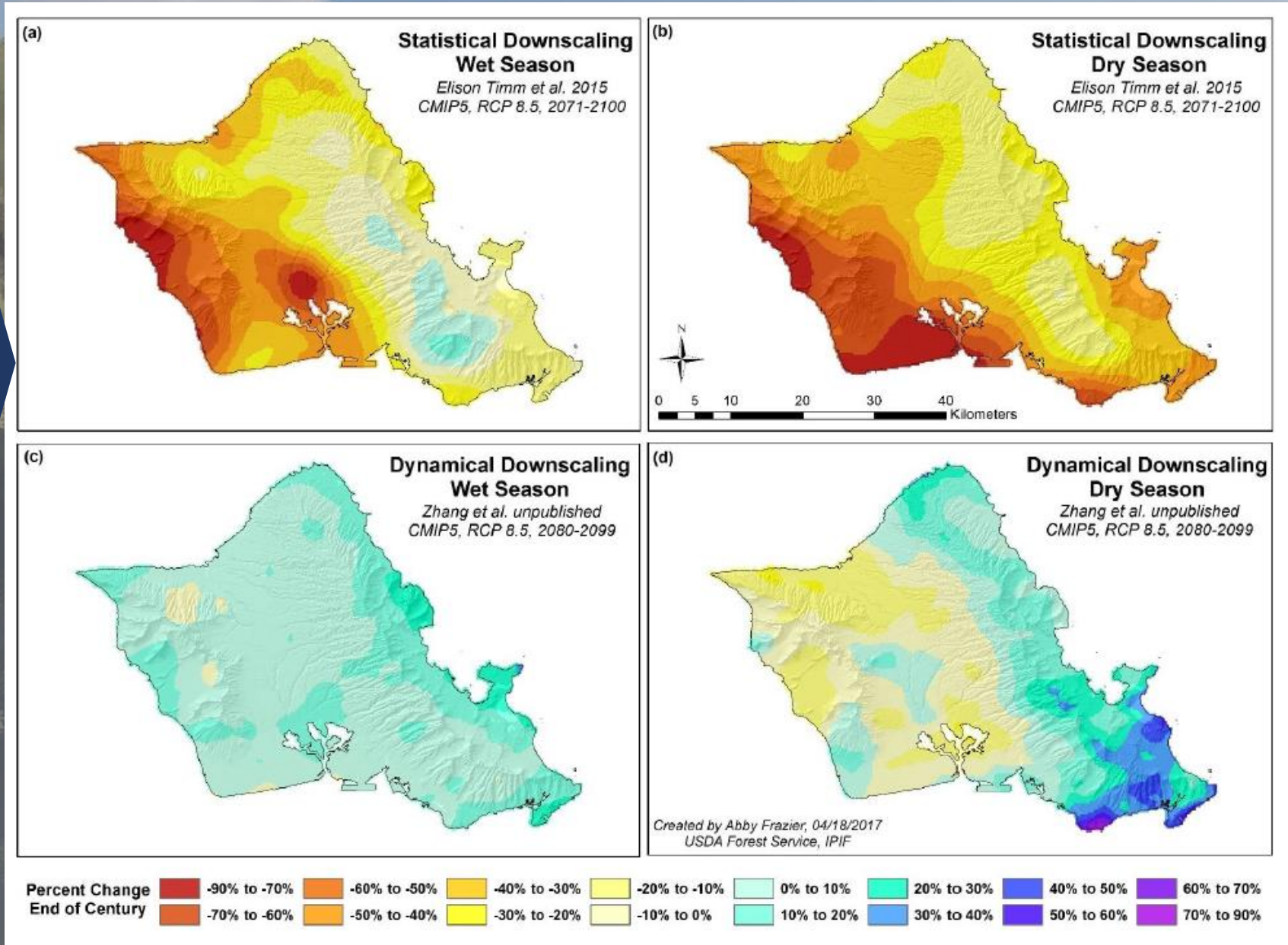
Maintaining
Traditional &
Customary
Practices

Flooding &
Drainage

Access to
Mauka &
Makai Areas

Wildfires

Issue:
Climate Change
Areas of Concern:
 -Amount of rainfall & impacts on drinking water supply
 - More frequent & intense storms



2100 O'ahu Rainfall Scenarios

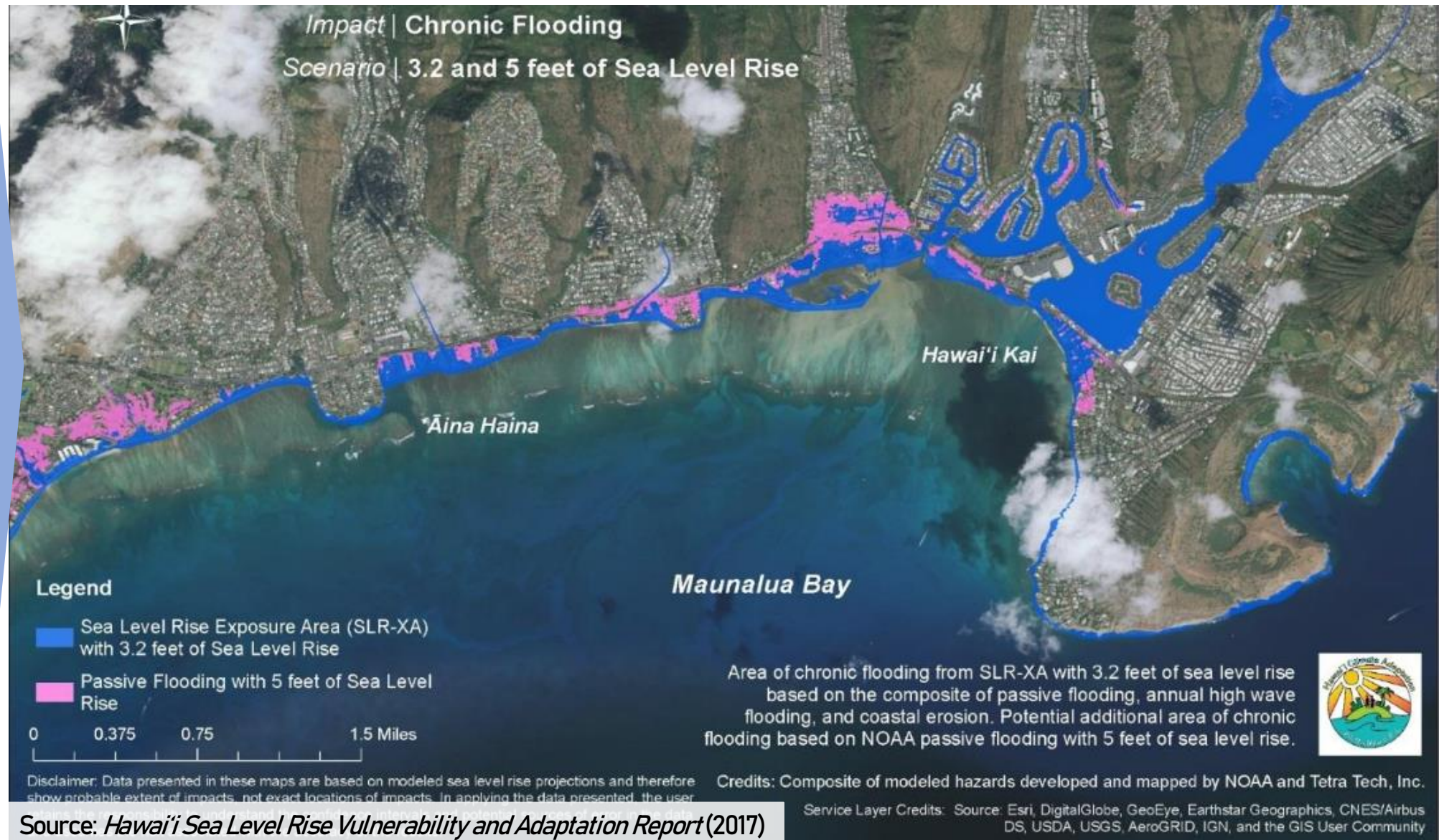
Source: Zhang et al. (unpublished)

Issue:
Sea Level
Rise

**Areas of
Concern:**

- Coastal areas (mostly makai of the highway)
- Areas near Kuapā Pond
- Salt water intrusion

East Honolulu Sea Level Rise Exposure Area



Issue:

Nearshore Water Quality

Areas of Concern:

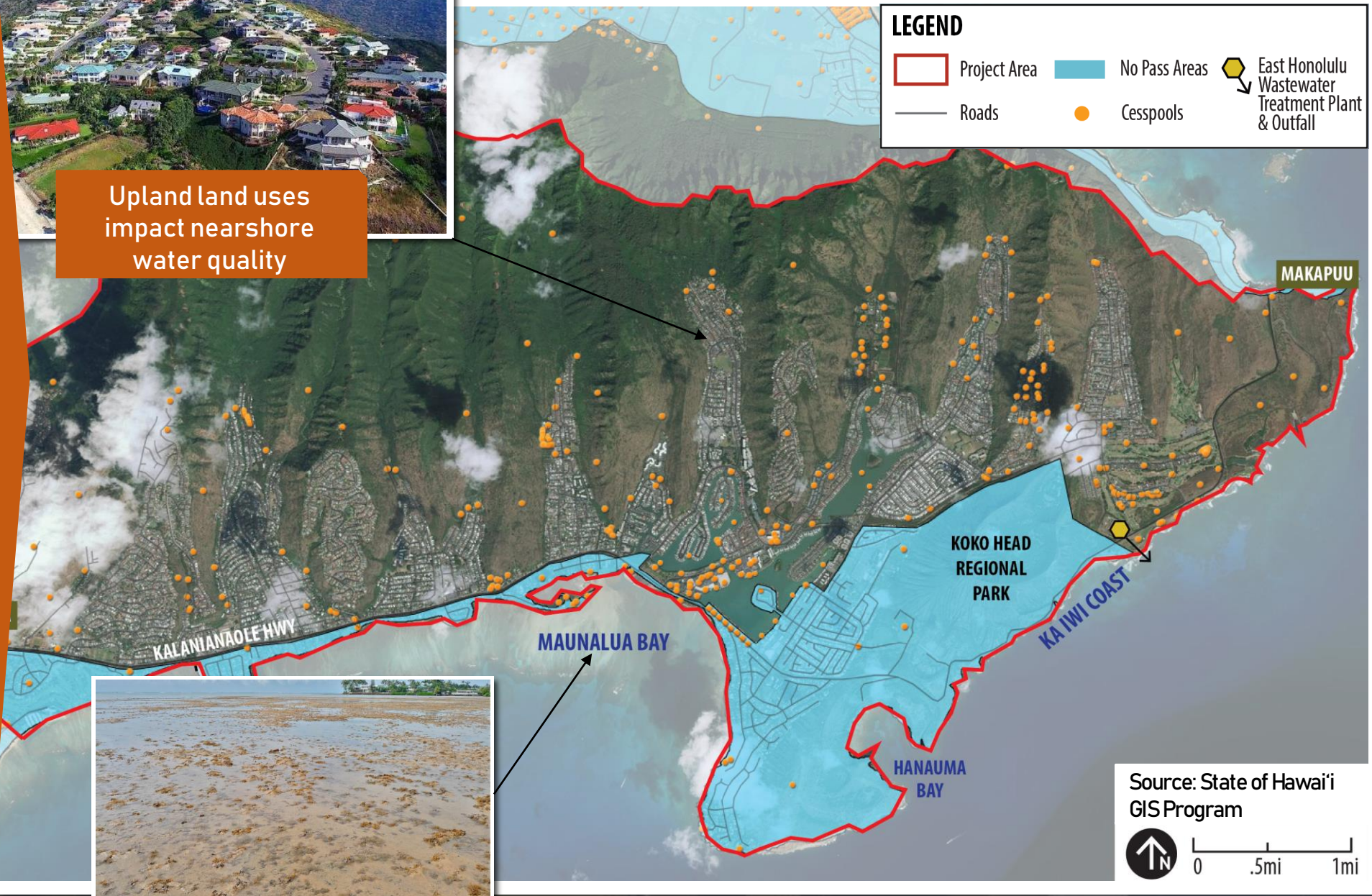
- Erosion from upland areas
- Runoff from development
- Sewage spills & cesspools
- Invasive species



Upland land uses impact nearshore water quality



East Honolulu Wastewater



Issue:

Water Conservation Efforts

Areas of Concern:

- Wai'alaie & Hawai'i Kai Golf Courses
- Large single family home development
- Commercial development
- Agricultural uses



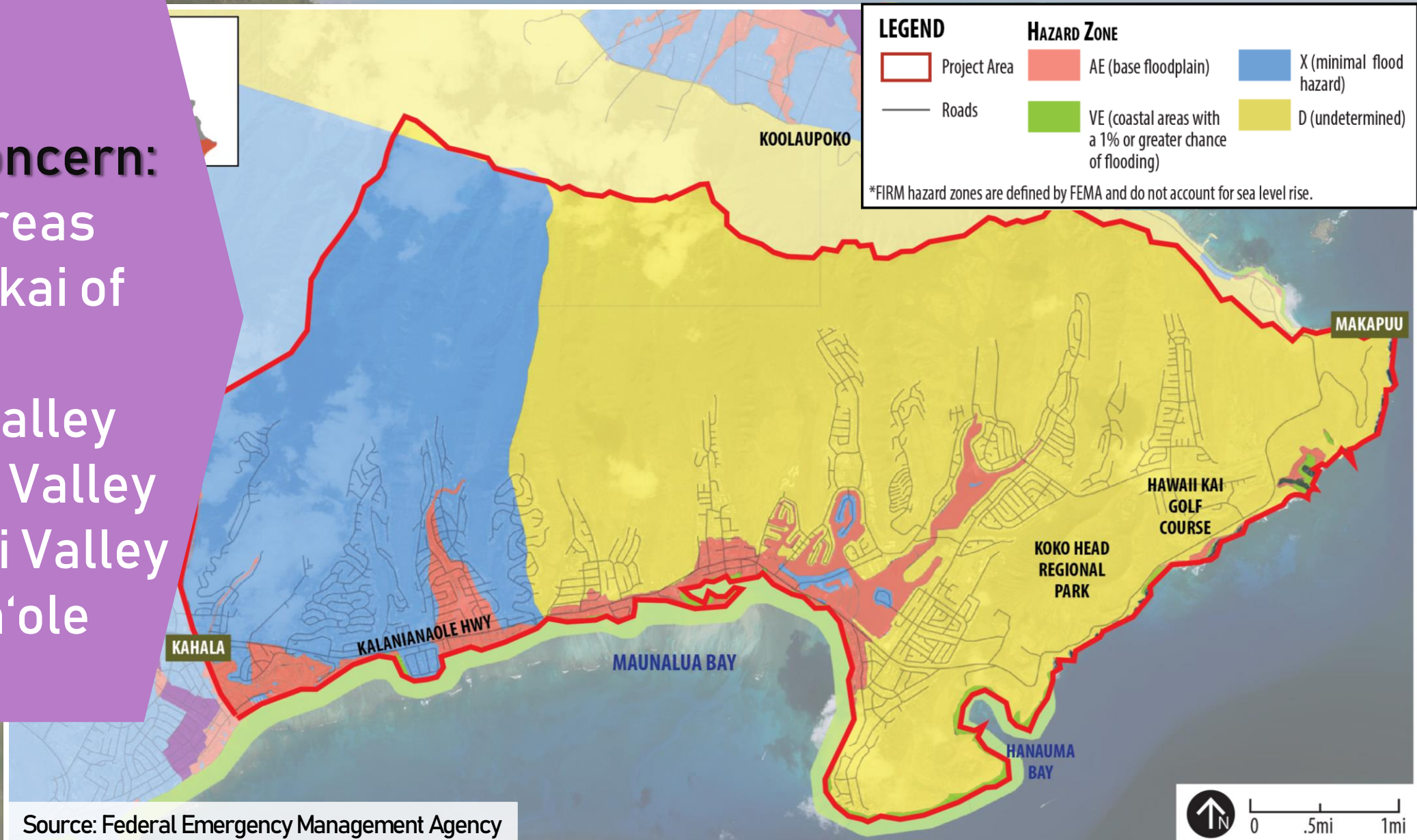
East Honolulu Flood Insurance Rate Map

Issue:

Flooding & Drainage

Areas of Concern:

- Coastal areas (mostly makai of the hwy)
- Wailupe Valley
- Kuli'ou'ou Valley
- Kamilo 'Iki Valley
- Kalaniana'ole Hwy



Source: Federal Emergency Management Agency

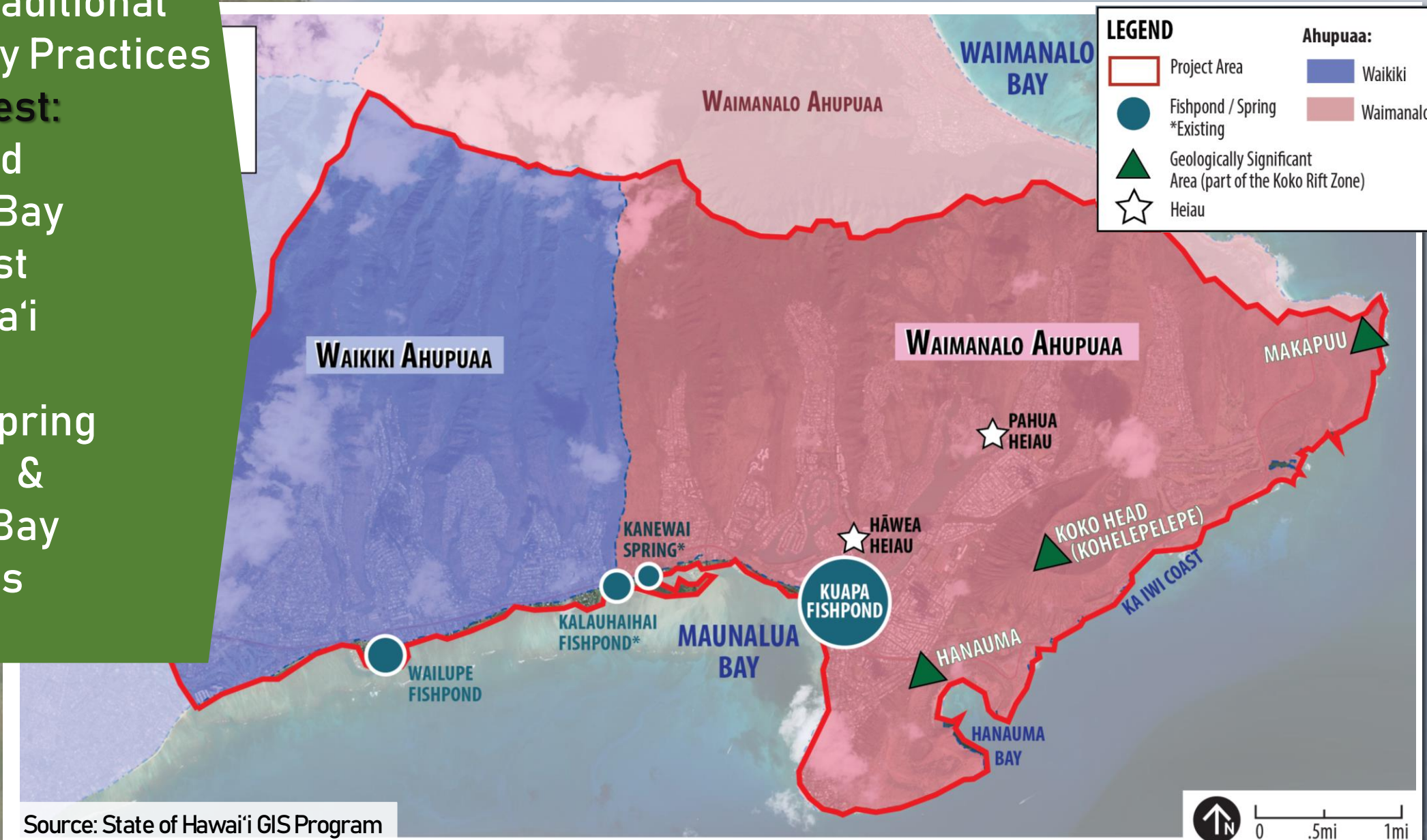
East Honolulu Ahupua'a + Historic Fishponds

Issue:

Maintaining Traditional and Customary Practices

Areas of Interest:

- Kuapā Pond
- Maunalua Bay
- Ka Iwi Coast
- Kalauha'īha'ī Fishpond
- Kānewai Spring
- Koko Head & Hanauma Bay
- Mauka sites



Issue:

Access to Mauka
+ Makai Areas

Areas of Concern:

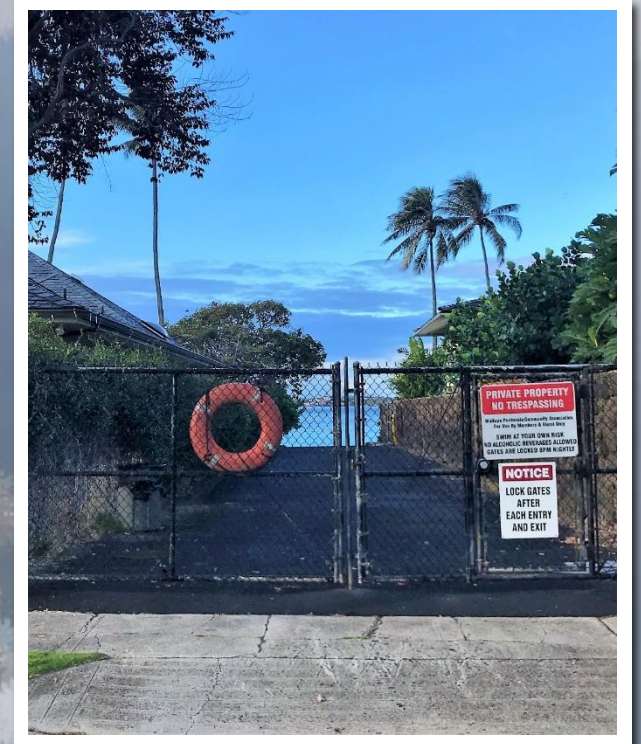
- Upland trail management (for erosion / invasive species / ungulates control)
- Beach access



Kamilo Iki Ridge Trail



Kuliouou Ridge Trail Stairs



Wailupe Beach Access

Issue:

Wildfires

Areas of

Concern:

- Upland forests
- Kamilo Nui Valley (Mariner's Ridge)
- Ka Iwi Coast



Photo Source: Hawai'i News Now



2018 Kamilo Nui Fire

Stay Connected



East Honolulu Stakeholder Outreach

Stakeholder
Consultations



Neighborhood
Boards / Elected
Officials Meetings



4 Community
Meetings

Stakeholder Outreach as of March 2019:

Community Organizations:

- Maunalua Watershed Hui
- Livable Hawai'i Kai
- Aloha Aina O Kamilo Nui
- Mālama Maunalua Bay
- Hui o Ko`olaupoko
- UH Sea Grant
- Ka Iwi Coast Coalition

Agencies:

- CCH Office of Climate Change, Sustainability & Resiliency
- CCH Dept. of Facilities Maintenance
- DLNR Division of Forestry & Wildlife
- DLNR Nā Ala Hele Program
- Ko'olau Mountains Watershed Partnership

Neighborhood Boards / Elected Officials:

- Hawai'i Kai (NB District #1)
- Kuliouou-Kalana Iki (NB District #2)
- Wai'alaie-Kāhala (NB District #3)
- Stanley Chang (HI Senate District #9)
- Gene Ward (HI Rep. District #17)
- Mark Hashem (HI Rep. District #18)
- City Council

EHWMP Community Meetings

We Are Here

Community Meeting #1
MARCH 2019

East Honolulu
Overview &
Water
Resource
Issues

Community Meeting #2
JULY 2019

East Honolulu
Water Use &
Future Water
Demand

Community Meeting #3
OCTOBER 2019

East Honolulu
Watershed
Projects &
Strategies

Community Meeting #4
DECEMBER
2020

EHWMP Public
Review Draft

Stay Connected



Honolulu Board of Water Supply

Barry Usagawa
808-748-5900
busagawa@hbws.org



Melissa White
808-628-5861
mwhite@ssfm.com

For more information, please visit:
<http://www.boardofwatersupply.com/water-resources/watershedmanagement-plan/east-honolulu>

An aerial photograph of a coastal road. The road is paved and curves along a rocky coastline. To the right of the road, there is a parking lot with several cars parked. The ocean is visible in the background, with white waves crashing against the dark rocks. The word "QUESTIONS?" is written in large, white, sans-serif capital letters on a dark, semi-transparent rectangular background that is centered over the middle of the image.

QUESTIONS?