

# EAST HONOLULU COMMUNITY WILDFIRE PROTECTION PLAN



## COMPLETED: 2024

This document represents the collective efforts of community members, agencies, and stakeholders to reduce wildfire risks and enhance wildfire readiness and resilience. The CWPP establishes a comprehensive framework for wildfire hazard assessment, community values, and recommended strategies for risk reduction.

## INCLUDES: ANNUAL PRIORITY PROJECTS

This CWPP includes a detailed list of priority projects that will be updated regularly, making it a dynamic, living plan that evolves with the community's needs and priorities. The CWPP remains a cornerstone for wildfire risk mitigation, project planning, and funding, ensuring a collaborative and proactive approach to wildfire resilience.



Coordinated and developed by Hawai'i Wildfire Management Organization, in partnership with Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife. Funded by the USDA Forest Service.

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## MUTUAL AGREEMENT SIGNATURE PAGE

The following three entities mutually agree to the final contents of this East Honolulu Community Wildfire Protection Plan: State of Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife; Honolulu Fire Department; and Honolulu Department of Emergency Management.


This plan:

- Was collaboratively developed by agencies, entities, community members, and individuals with interest or jurisdiction in East Honolulu, O'ahu.
- Describes wildfire hazards in the natural and built environment.
- Provides the concerns, recommended actions, and priorities of those who live and work in the area to better reduce wildfire threats, mitigate hazards, improve public safety, and protect natural resources from the impacts of wildfire.
- Is written to appropriately begin and inform wildfire mitigation action planning at the local level, and is not regulatory or binding.


Pursuant to the 2003 Healthy Forest Restoration Act (HFRA), the following signatures represent mutual agreement of the contents of this CWPP.

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Date: 2024.06.25 11:37:05 -10'00'

**Michael J. Walker, Statewide Fire Protection Forester**  
**Hawai'i State Department of Land and Natural Resources**  
**Division of Forestry and Wildlife**

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Sheldon K  
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**City and County of Honolulu**  
**Honolulu Fire Department**

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**City and County of Honolulu**  
**Department of Emergency Management**

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# EAST HONOLULU

## COMMUNITY WILDFIRE PROTECTION PLAN

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### ACRONYMS

DEM: City and County of Honolulu Dept. of Emergency Management; DLNR-DOFAW: Department of Land and Natural Resources, Division of Forestry and Wildlife; HECO: Hawaiian Electric Co.; HFD: Honolulu Fire Department; HWMO: Hawai'i Wildfire Management Organization

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# EXECUTIVE SUMMARY

This Community Wildfire Protection Plan (CWPP) was developed by the Hawai'i Wildfire Management Organization (HWMO) with guidance and support from government agencies and representatives, community members, local organizations, and decision makers concerned about wildfire issues in East Honolulu, O'ahu, Hawai'i. State of Hawai'i Department of Land and Natural Resources- Division of Forestry and Wildlife (DLNR-DOFAW) and City and County of Honolulu Fire Department (HFD) were the primary partners to HWMO in carrying out this CWPP process.

The East Honolulu CWPP focuses on wildfire preparedness and readiness, hazard assessment and reduction, and the wildfire mitigation priorities of those who live and work in the area. The process used to develop this plan engaged a diversity of agencies and individuals concerned with the at-risk area, following the guidelines and requirements of federal programs such as the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation program and the National Fire Plan (NFP).

Stakeholder participants in the development of this plan agree that wildfire threats are imminent and can lead to widespread damage to East Honolulu watersheds, natural resources, and human communities. The danger of wildfire is related to high numbers of human-caused ignitions, dry conditions, steep slopes, high fire potential of vegetation, and challenging firefighting conditions. In the last decade, several areas of East Honolulu have burned.

CWPPs serve mainly as a mechanism for assessing, communicating, and preparing for wildfire collaboratively. They are not enforceable or regulatory. The mitigation actions recommended within the document are intended to inspire and catalyze projects and inform next-step actions. Participation and action are voluntary and rely on all parties understanding that firefighting is the last line of defense and that everyone plays a role in wildfire safety and protection.

A CWPP is a first step toward increased public-private collaboration toward wildfire awareness, preparedness, and proactive hazard reduction.



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# **PART I OVERVIEW**

# INTRODUCTION

*The communities, lands, and waters of East Honolulu, O’ahu, Hawai’i, have been classified as “at high risk” of wildfire occurrence and impacts. The safety of residents, and the protection of private property, community infrastructure, and natural and cultural resources, is a shared responsibility between residents and communities; owners, developers, and associations; private businesses and municipal service operators; and county, state, and federal governments. The aim of this Community Wildfire Protection Plan (CWPP) is to carry out wildfire protection planning and subsequent actions for East Honolulu.*

## THE PURPOSE OF WILDFIRE PROTECTION PLANNING IS TO...

- Motivate and empower local government, communities, and property owners to organize, plan, and take action on issues impacting the safety and resilience of values at risk.
- Enhance levels of fire resilience and protection to the communities and infrastructure.
- Identify the threat of wildland fires in the area.
- Identify strategies to reduce the risks to structures, infrastructure, and commerce in the community during a wildfire.
- Identify wildfire hazards, education, and mitigation actions needed to reduce risk.
- Transfer practical knowledge through collaboration between stakeholders toward common goals and objectives.

## OUTCOMES OF WILDFIRE PROTECTION PLANNING...

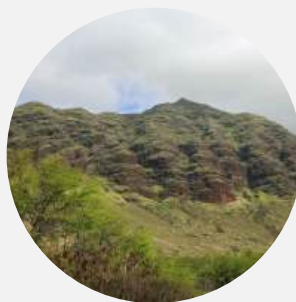
### **1. Improve community safety through:**

- Coordination and collaboration
- Public awareness and education
- Increased wildfire prevention and preparedness
- Widespread hazard reduction efforts
- Improved wildfire response capacity
- Development of long term strategies

### **2. Catalyze efforts to guide planning and sustained implementation of actions toward:**



**FIRE ADAPTED  
COMMUNITIES**



**RESILIENT  
LANDSCAPES**



**SAFE & EFFECTIVE  
WILDFIRE RESPONSE**

## PROCESS- HOW A CWPP IS DEVELOPED

1. The project is launched, partnerships are established, administrative and funding processes are completed.
2. The community risk assessment is reviewed, updated, or performed as necessary.
3. Opportunities are coordinated and offered for interested parties (community members, government agencies, other relevant/concerned individuals and entities) to review wildfire information, discuss concerns, identify strategies, and prioritize recommended actions.
4. Wildfire information and community input results are used to develop the CWPP document.
5. The CWPP is finalized via review and signatures of Fire, Forestry, and Emergency Management departments to meet federal compliance requisites.

## TIMELINE- THE DEVELOPMENT OF THE EAST HONOLULU CWPP

2021	HWMO worked with State Division of Forestry and Wildlife and US Forest Service to initiate the project and complete all contract and administrative components, to include a COVID-19-related extension.
July- Oct 2021	HWMO developed area and fire maps for the planning process, confirming boundaries and goals with partners.
Dec 2021- Mar 2022	DLNR-DOFAW and HWMO worked together to complete a comprehensive hazard assessment for the residential areas within the East Honolulu CWPP area.
Mar 2022	A virtual workshop was held with fire and emergency services agency representatives with jurisdiction and interest in the East Honolulu CWPP area to: review the purpose, intent, and next steps for the CWPP; discuss wildfire concerns for East Honolulu, and collaborate toward holding a workshop with relevant agencies, organizations, and community members.
Mar- May 2022	Virtual workshops were developed, planned, and advertised through neighborhood boards for upcoming agency and community meetings. Representatives from fire, forestry, and natural resource management agencies attended, along with local groups, organizations, and residents.
April 2022	Community CWPP input survey was launched and circulated via email with closing date of August 2022.
Jan 2023	HWMO completed all background information, research, mapping, and processing of agency and community priorities based on input provided during workshops and assessments. Early draft completed in June.
Aug 2023	Release to partners for review delayed by urgent and necessary shift to tasks related to catastrophic fires.
June 2024	Partner review of CWPP was completed. Plan was submitted for signatures.

## **PARTNERSHIPS AND COLLABORATIONS**

This CWPP was developed in close collaboration with many individuals and entities who live and/or work in the East Honolulu area, including residents, community leaders, government agency representatives, and private organizations. However, the primary collaborators were:

City & County of Honolulu Fire Department

Department of Land and Natural Resources, Division of Forestry and Wildlife

Hawai'i Wildfire Management Organization

Ko'olau Mountains Watershed Partnership

University of Hawai'i, Cooperative Extension

Neighborhood Board members and resident-participants from Kaimuki, Hawai 'i Kai, Kuliouou-Kalani Iki, Diamond Head/Kapahulu/St. Louis Heights, and Wai'alae-Kahala.

## **STATEMENT OF LIABILITY**

A CWPP helps communities clarify and refine priorities for the protection of life, property, and critical infrastructure. It is intended to create a foundation of collaboration and communication among diverse parties toward achieving wildfire risk reduction goals.

A CWPP is not a binding, regulatory document. The action plans are voluntary. The process and the associated document are mechanisms for assessing risk, discussing, learning, and planning collaboratively across sectors and neighboring communities. This is not a pre-determined, top-down, outside-expert or single-agency-driven determination of future activities, but rather a compilation of information and priorities to inspire, inform, and guide wildfire preparedness activities. This is in line with the improved understanding across the country that everyone who lives and works in a fire prone area has a role to play when it comes to preventing ignitions, reducing hazards, and ensuring a wildfire-informed, wildfire-ready, and wildfire-resilient community. A CWPP does not provide or guarantee funding but does qualify entities in the area to apply for certain wildfire mitigation funding opportunities.

The activities suggested by this document, the assessments and recommendations of fire experts and officials, and the plans and projects outlined by the community, are made in good faith according to information available at this time. HWMO and DLNR-DOFAW assume no liability and make no guarantees regarding the level of success users of this plan will experience. Despite efforts to prevent or contain wildfires, fires still occur. The intention of all decisions and actions made under this plan is to reduce the potential for wildfires and the impacts when and if they do occur.

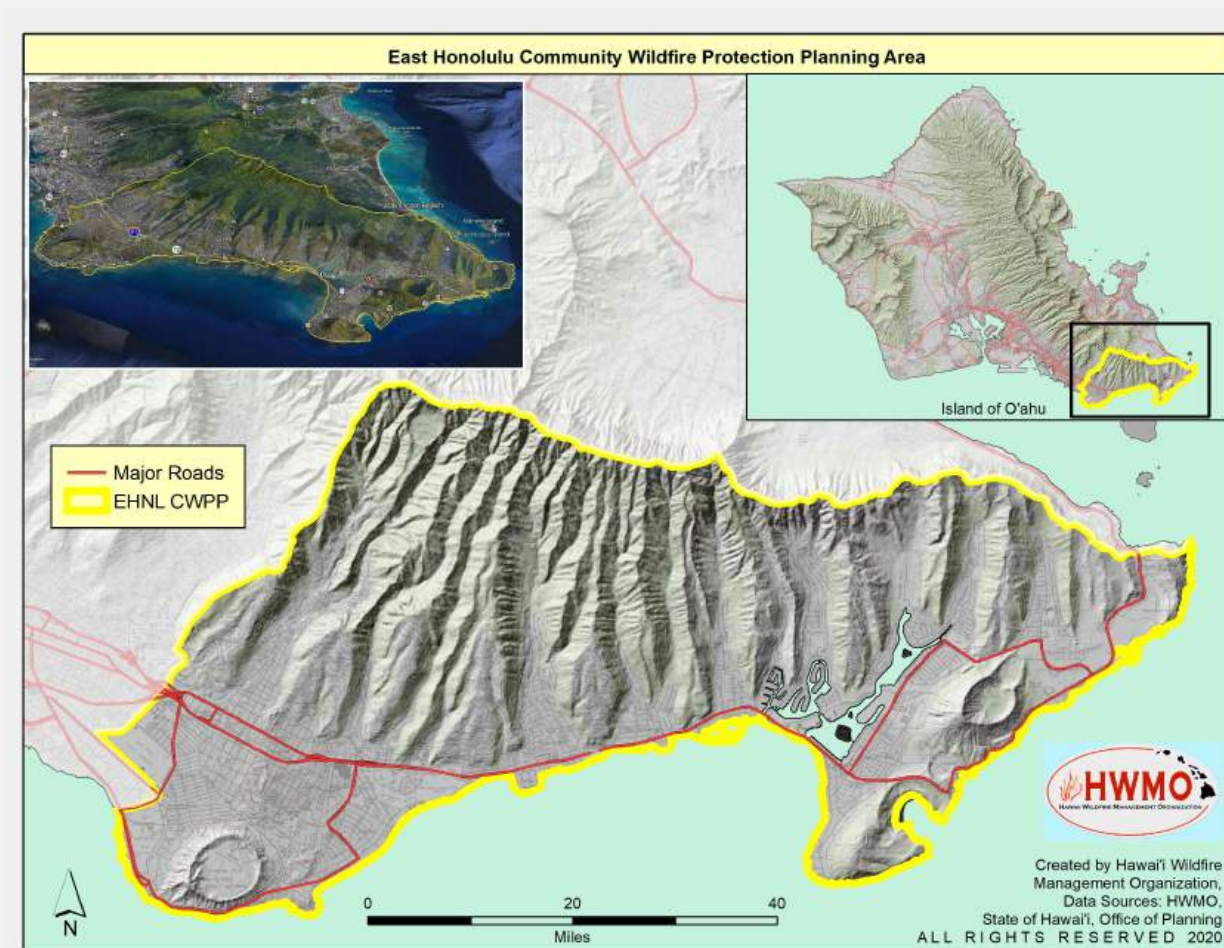
## **COVID-19 STATEMENT**

In an effort to maintain a highly collaborative, effective, and safe CWPP process during several variations of social and travel restrictions across the county and state, the majority of this CWPP was using virtual alternatives to in-person activities. To adapt to COVID-19, several virtual workshops were held with agency and community representatives, and a web-based survey went out to those who lived and worked in East Honolulu for 30 days. Any additional information, community input, and/or action plans generated will be added to this document as updates. The collaborators involved in the development of this CWPP are committed to a long-term process of community engagement and partnership.

# PLANNING AREA

## CWPP BOUNDARIES

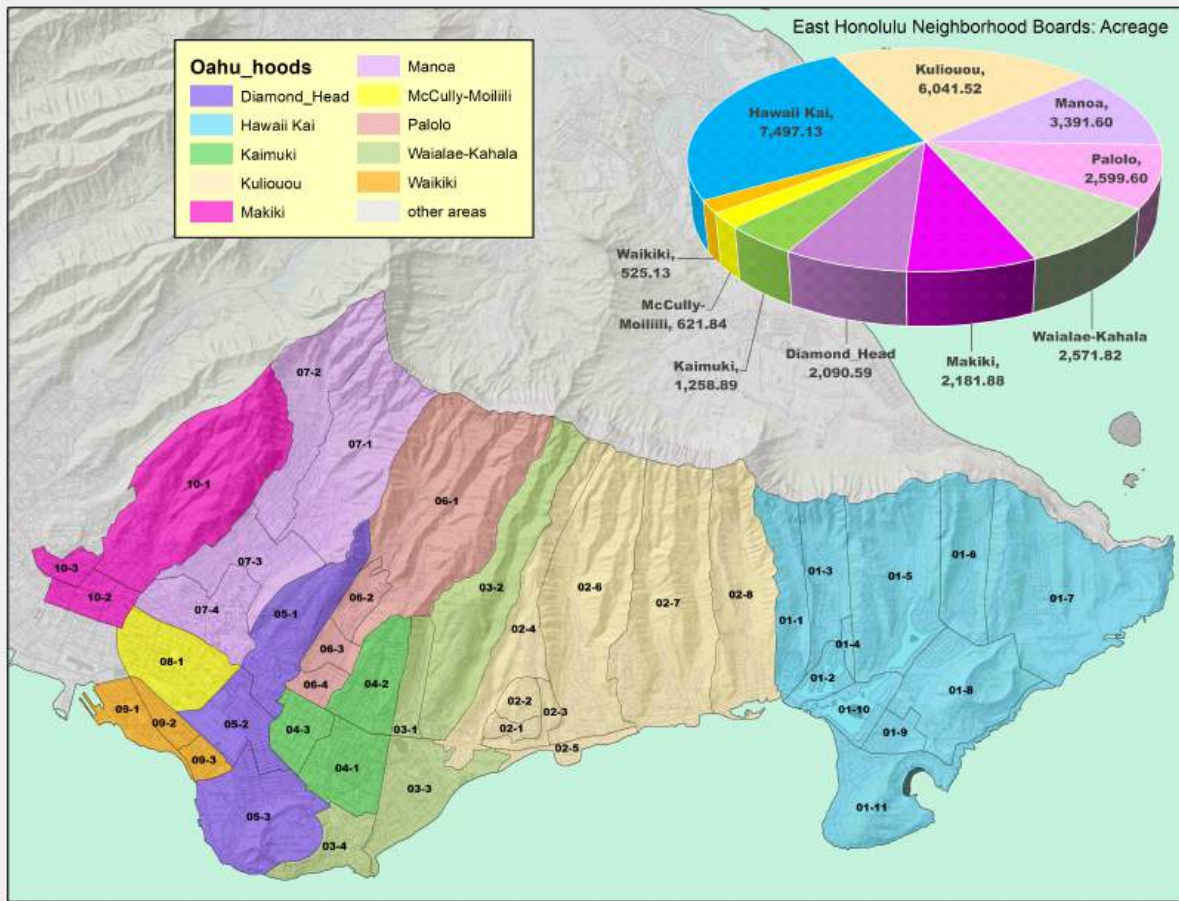
The East Honolulu CWPP (Map 1) is part of a series of CWPPs across the City and County of Honolulu, a land designation that encompasses the entire island of O‘ahu. To date, CWPPs have been developed for western O‘ahu and the East Honolulu. The CWPP delineation for the East Honolulu plan follows the boundaries established for ten neighborhood boards (Map 2), encompassing a total of 22,060 acres.



**Map 1. East Honolulu CWPP Planning Boundaries.**

## COMMUNITIES AT RISK

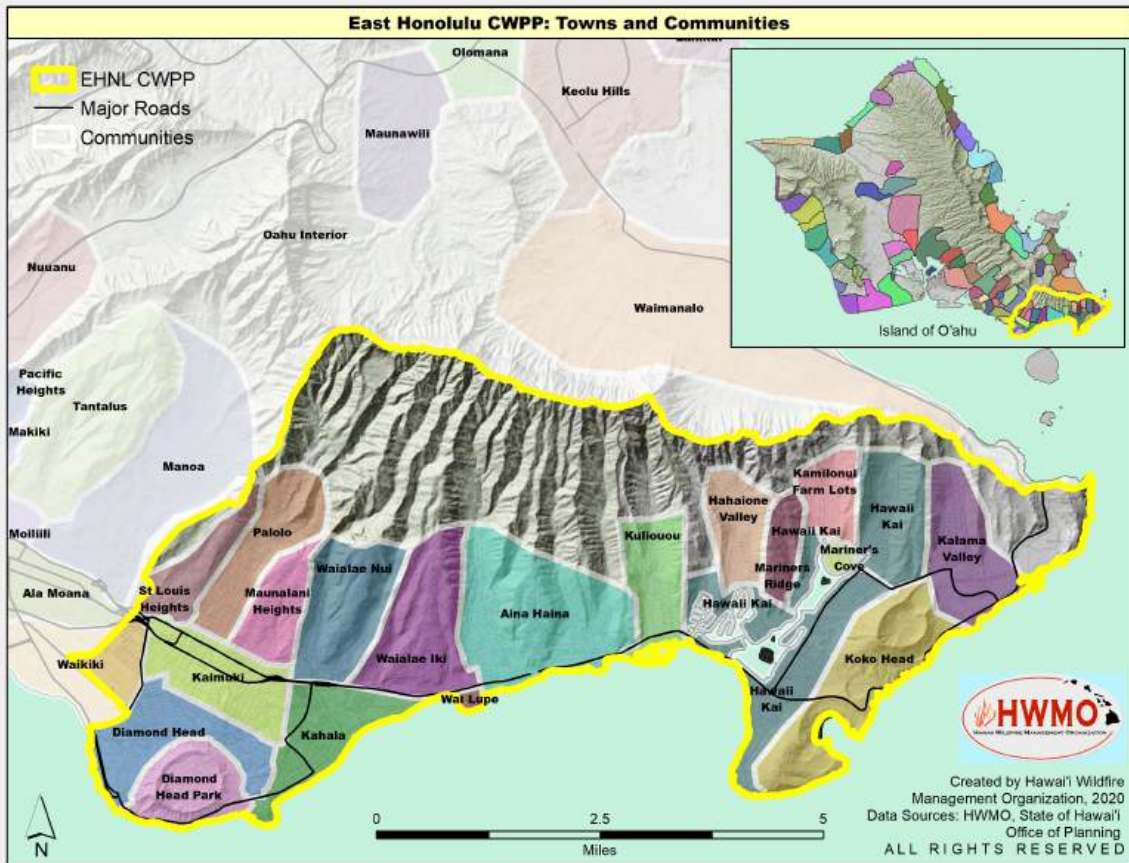
Located in one of the most densely developed areas on O‘ahu, East Honolulu is considered at moderate to high risk of wildfire due to dry, steep portions of the landscape and frequent human-caused ignitions, albeit with faster emergency response times and better ingress/egress than in more rural regions of the island.



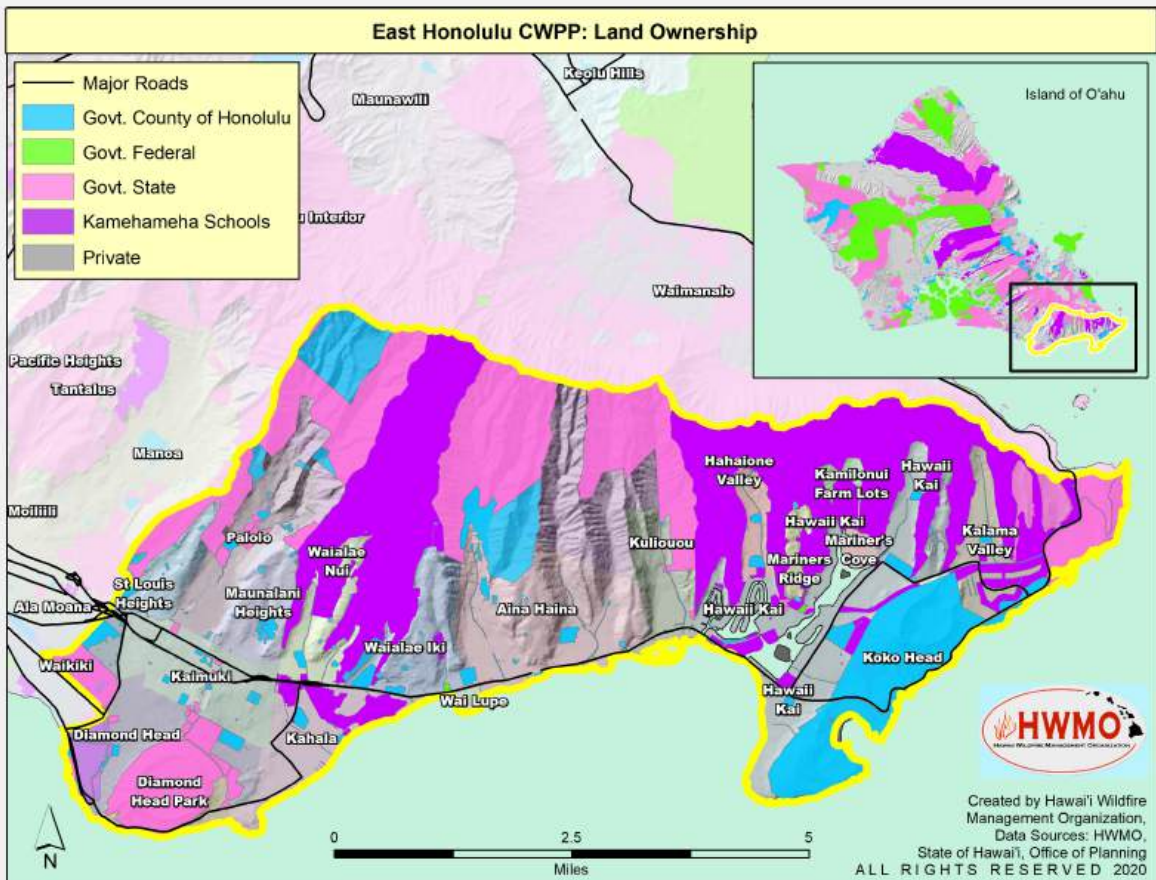
**Map 2. Neighborhood Boards in East Honolulu CWPP Planning Area.**

There are six clusters of residential communities (Map 3) with 50,922 residents in total per the 2020 U.S. Census. The northern border is comprised of the southern Ko’olau mountain range which is characterized by steep, knife-edge ridges and valleys containing remnant native Hawaiian ecosystems as well as rare and endangered species. Densely populated residential communities, schools, recreational areas, etc. are nested within the valleys and the coastline, all within close proximity to mountains, streams, watersheds, windswept coastlines, beaches, and marine sanctuaries.

Nearly three-quarters of the area under consideration in this plan is privately owned (Map 4), mostly consisting of residential lots. The City and County of Honolulu owns about 2,000 acres including various city parks and natural areas such as Koko Crater which is also a tourist destination. Other popular tourist attractions include Hanauma Bay Marine Sanctuary and Diamond Head State Park, both of which (in pre-COVID times) host one million visitors annually. Finally, East Honolulu’s single coastal highway connects densely populated neighborhoods to important shorelines, beaches, remnant fish ponds, and scenic drives such as Kaiwi State Scenic Shoreline, the last undeveloped coastline on the southeastern tip of O’ahu.



**Map 3. Residential community areas in East Honolulu CWPP Planning Area.**



**Map 4. Land ownership in East Honolulu CWPP Planning Area.**



**PART II**

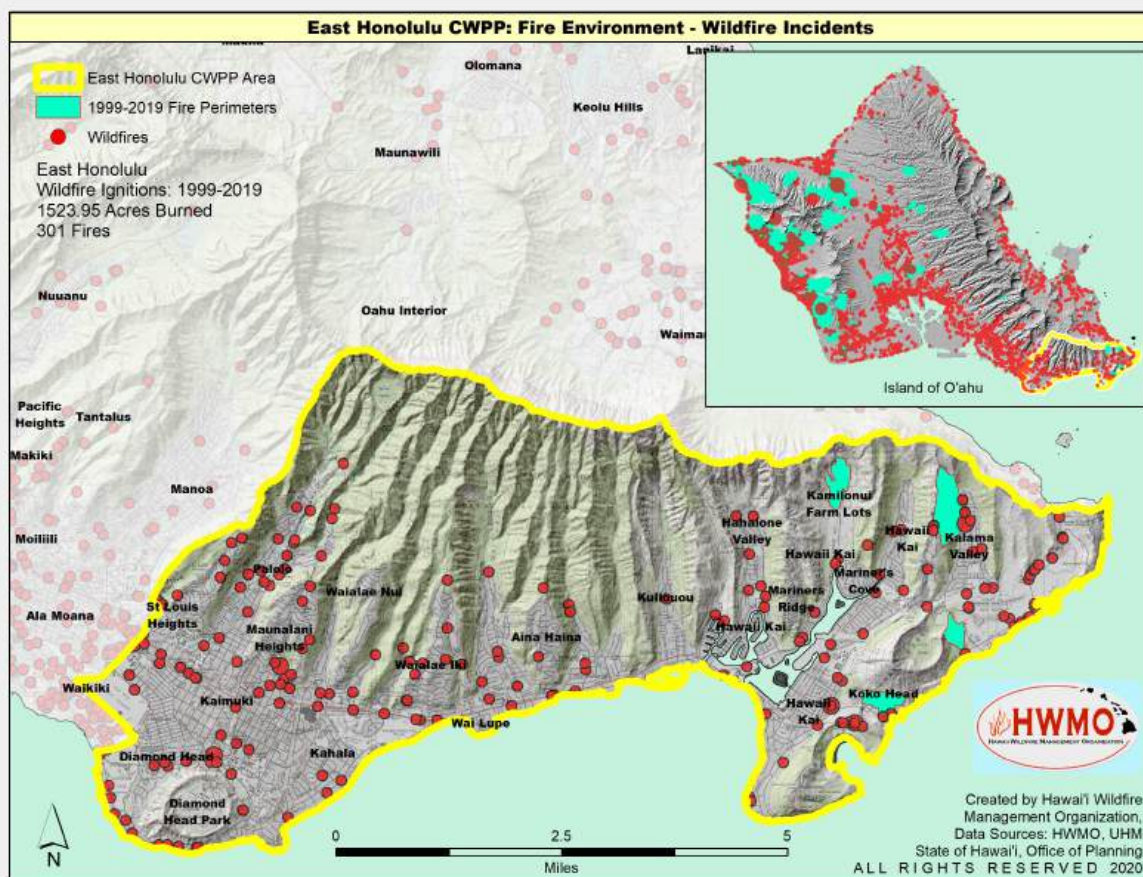
**WILDFIRE CHARACTERISTICS  
AND CONSIDERATIONS**

# FIRE HISTORY

## WILDFIRE OCCURRENCE

The majority of wildfires on O'ahu are caused by human error or arson, especially near developments, power lines right of way, and along roadsides. Additionally, dry non-native grasslands and shrublands surrounding some communities pose fire hazards. Once ignited along the interface, wildfire can spread rapidly through and around residential areas, threatening property, life, critical infrastructure, and both natural and cultural resources.

The fire history (Map 5) below shows individual ignition locations over the past twenty years, including the perimeters of larger fires in the drier, leeward region of O'ahu's eastern end. Areas of high human activity have a high probability of becoming repeat ignition hot spots. Across Hawai'i, humans are the cause of wildfires 99% of the time (only 1% are from natural causes such as lava or lightning). Reducing ignition is a major important component of reducing wildfire occurrence and damages.



**Map 5. Notable fires 1999 - 2019, in East Honolulu CWPP Planning Area.**

## NOTABLE FIRES

Wildfires have repeatedly been a problem in East Honolulu, particularly in Hawai'i Kai which is exposed to trade winds that originate from the north and wrap around the eastern end of the island. In addition, Hawai'i Kai is adjacent to lowland alien-dominated grasslands, shrublands as well as cliffs and ridges which can experience periods of drought. Steep slopes, strong winds, and a large percentage of highly ignitable invasive vegetation characterize portions of eastern O'ahu. This, coupled with warm weather, recurring drought conditions, and a history of human-caused fires puts the area at increased risk of wildfire.



**Photo 1. Kamilo Nui fire in 2017. Photo Credit: KHON2**

Compounding the problem is the high density of residents and tourists alike accessing the various neighborhoods, parks, golf courses, and hiking trails, both along the seashore and in the Ko'olau mountains. More challenging still is that some flammable areas are adjacent to roadways, particularly near the undeveloped state Kaiwi coastline which has seen multiple fires in the past couple of decades.

For example, three intentionally set fires in 2008 and 2011 were set in the Kaiwi area. These damaged endangered plants and also caused a shutdown of the area's sole highway. Likewise, the county's Koko Crater Park has burned repeatedly, causing a highway shutdown and prompting evacuations. Finally, wildfires in the densely populated neighborhoods of Kamilo Nui, Kalama Valley, and Mariner's Ridge areas have come dangerously close to homes, forcing residents to evacuate and seek shelter temporarily. The majority of these fires have been accidental or intentionally set, either by arsonists or in some cases by unattended fireworks.

Table 1 (next page) summarizes the notable fires between 2003-2019.

<b>Location</b>	<b>Date</b>	<b>Size (acres)</b>	<b>Threatened Resources</b>
Kaiwi/ Hawai'i Kai	Jan 2019	4	Threatened shoreline and native plants. No homes threatened.
Hawai'i Kai	May 2017	65	Homes in Kamilo Nui threatened by a dozen or so fires intentionally set in the area
Hawai'i Kai	Feb 2017	60	Koko Head Crater wildfire burned close to houses, impeded traffic and forced the evacuation of two dozen animals from a stable
Hawai'i Kai	July 2010	200	12 fires set by fireworks landing in dry brush threatened \$50 million worth of homes on Kamehame Ridge in Kalama Valley, prompting evacuations of residents
Hawai'i Kai	Nov 2011	50	Abandoned vehicle sets fire in Kaiwi prompting Kalaniana'ole Hwy shutdown
Hawai'i Kai	Mar 2011	10	Downed power line set fire near Mariner's ridge
Hawai'i Kai	July 2008	8	Three intentionally set fires damaged Kaiwi Scenic Shoreline and endangered plants
Hawai'i Kai	Aug 2003	100	Koko Crater burned to the edge of Kalaniana'ole Highway threatening dozen homes and prompting evacuation of Sandy Beach goers

**Table 1. Notable fires 2003 - 2019, East Honolulu Region, O'ahu.**

# FIRE ENVIRONMENT

## WILDFIRE DRIVERS

The factors that contribute to wildfire occurrence and spread are a combination of fuels, topography, climate, and weather conditions during a fire event. In East Honolulu, these can stack up to yield a moderate to high risk of wildfire depending on the severity of the conditions, and lead to rapid fire spread and significant wildfire-caused impacts from summit to sea.

### **TOPOGRAPHY**

Topography influences fire behavior principally by the steepness of the slope. However, the configuration of valleys and ridges can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire rate spread and intensity.

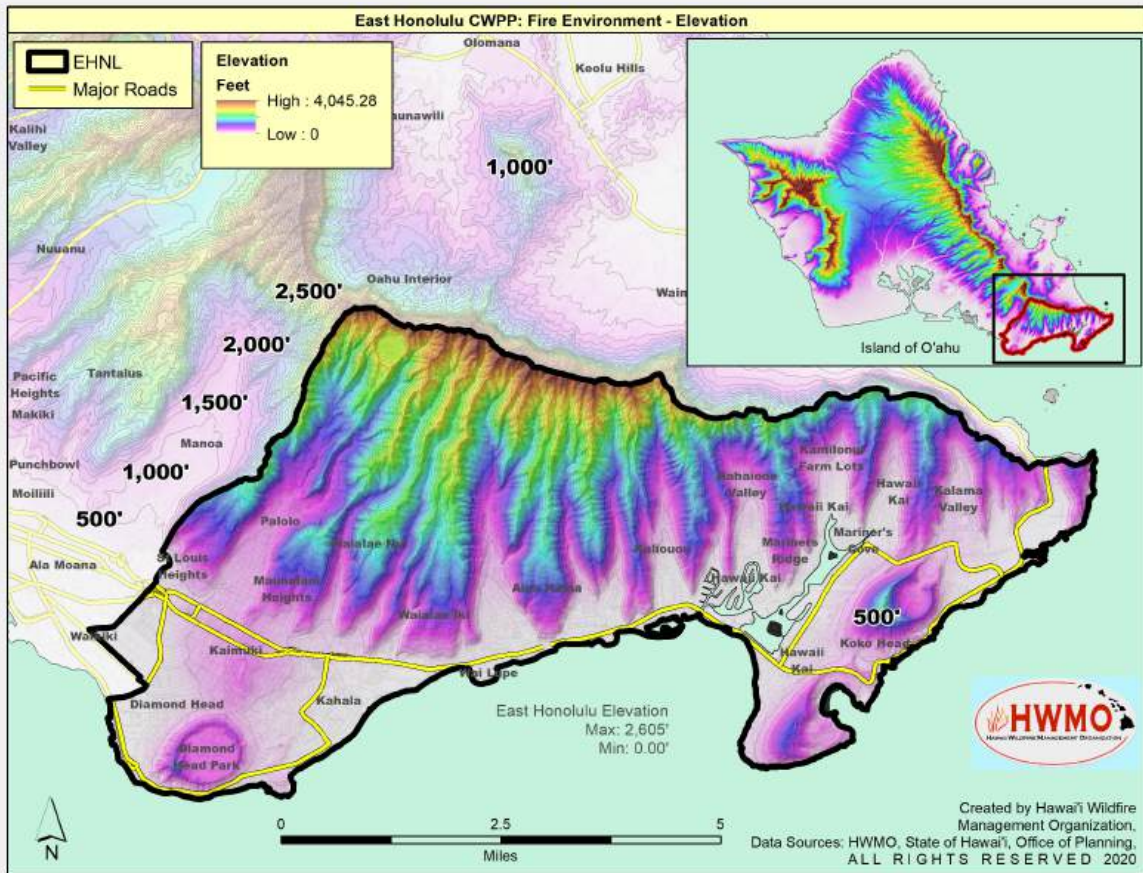


**Photo 2. The south-facing view of the CWPP area includes flat coastal areas dissected by steep ridges and ravines. Source: Google Maps**

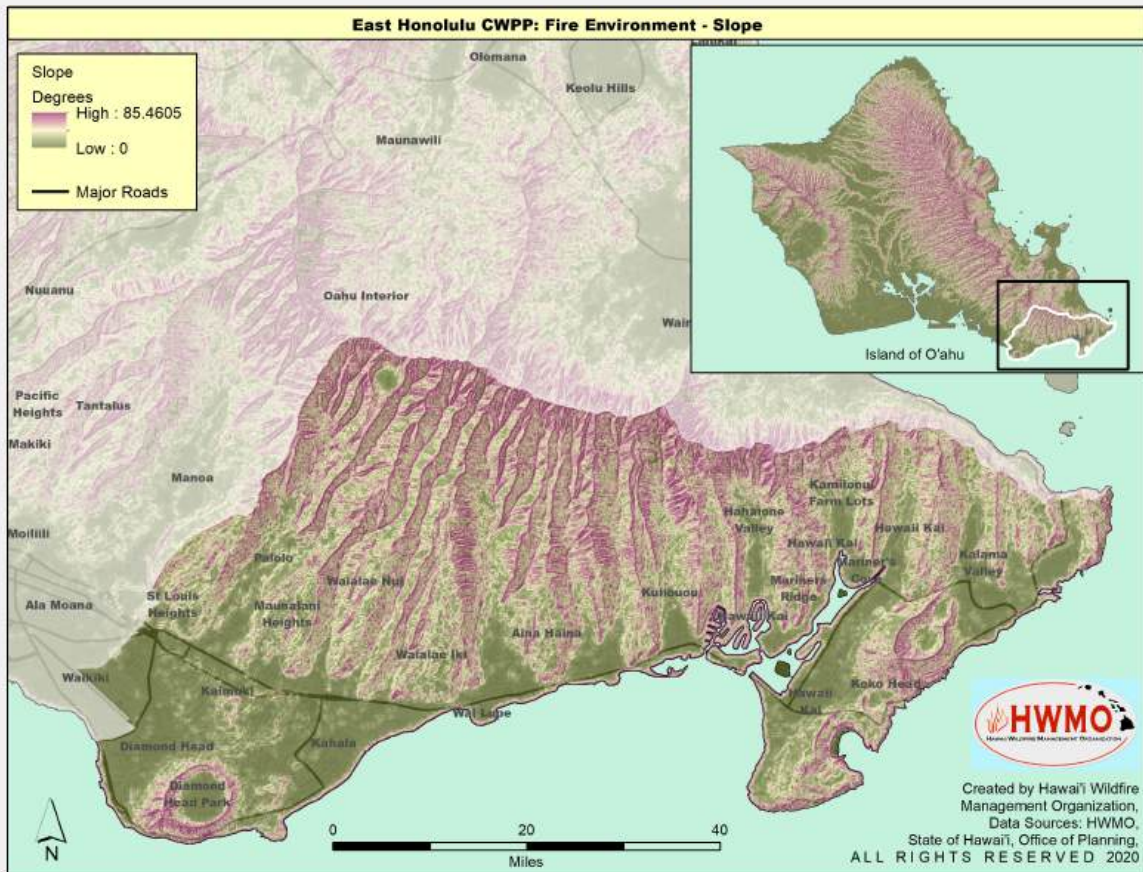
The project area spans coastal flatlands and beaches dissected by steep, knife-edge ridges and valleys of the southern Ko'olau mountains. This mountain range rises abruptly between the leeward and windward coasts and central plains of O'ahu. Within the planning area, the Ko'olau mountains are characterized by rugged, and often inaccessible terrain rising from sea level to approximately 2,500 ft in elevation. Sun-exposed, south-facing slopes (Photo 2 above) will be drier, especially at lower elevations, and burn at a higher intensity than their counterparts on the moisture-laden north side. This topography can create dangerous conditions when wildfires occur since wildfires spread more quickly as they progress upslope.

The communities of leeward East Honolulu have a coastal east and west egress option along the H-1 Highway which turns from a multi-lane route to a two-lane route on the east end. However, many of the communities nested in valleys and built along ridges from St Louis Heights to Kalama Valley have limited access routes. These constraints may limit emergency response access to the fire-prone, wildland areas behind homes. Once wildfires spread into steep, upland areas, the lack of roads and difficult terrain frequently limit fire response to costly aerial operations (i.e., bucket drops by helicopters), as conditions are often too dangerous to put firefighters on the ground.

Map 6 is the span of elevations while Map 7 depicts the slope across the East Honolulu CWPP area.



**Map 6. Elevation across the East Honolulu CWPP Planning Area.**

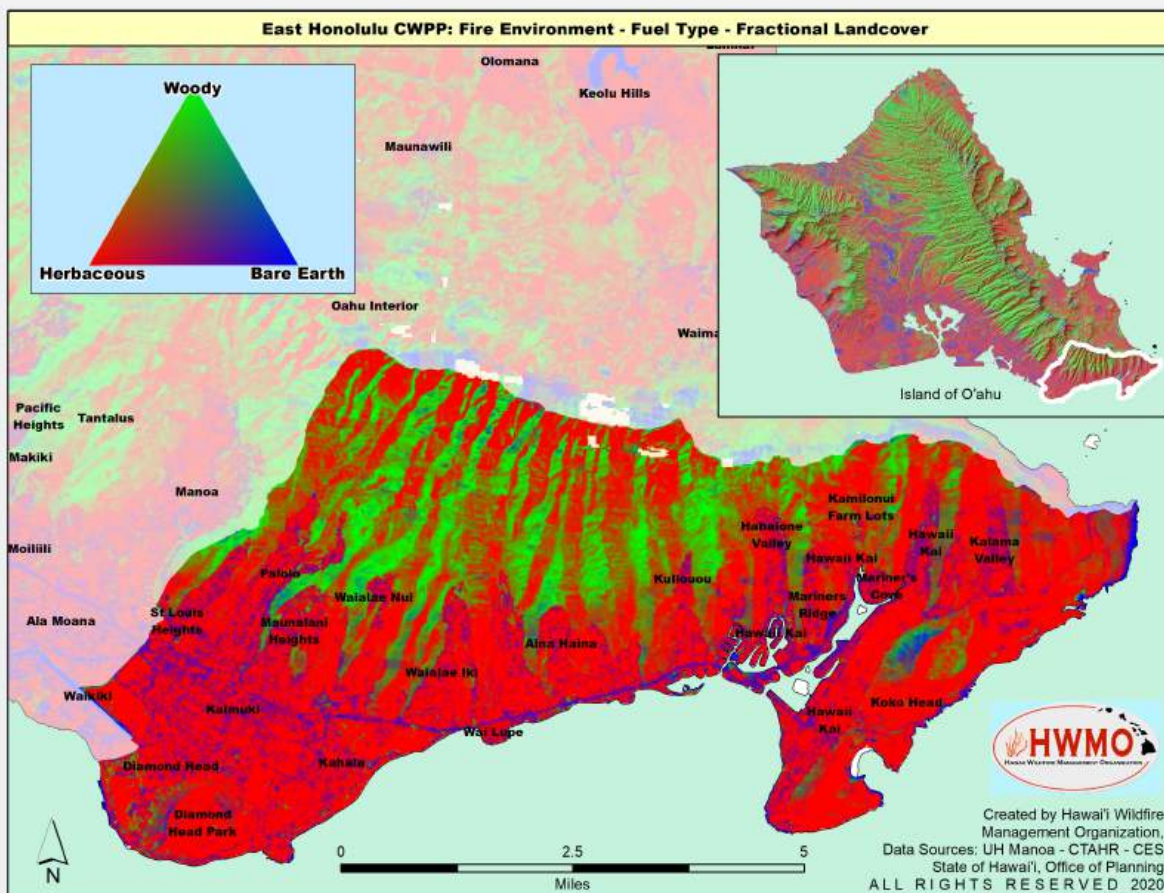


**Map 7. Slope across the East Honolulu CWPP Planning Area.**

## FUEL

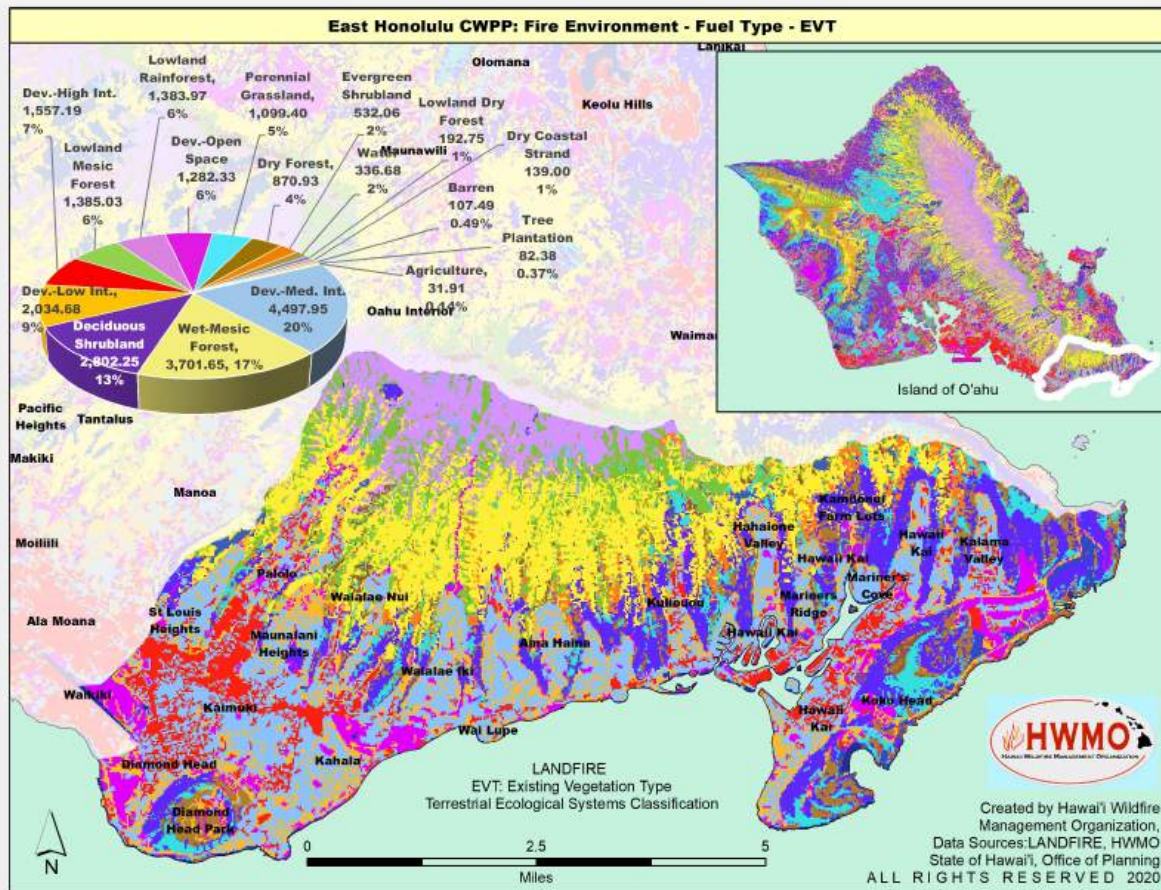
Fine “flashy” fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more abundant and continuous it is, the faster the fire spreads and the higher its intensity. Fine fuels like grasses take a shorter time to burn out than coarser fuels like shrubs and trees.

Since East Honolulu covers various topographic and climatic characteristics from summit to sea, a mosaic of land cover types exists within the area. Map 8 below characterizes fuels in the CWPP area by indicating whether it is grass, woody, or bare ground. While the species also indicate the level of fire hazard, visualizing by class of vegetation such as in Map 8 is useful for understanding how easily fire will ignite. The majority of the dry lowlands’ vegetation is grasses which are flashy, dry easily and ignite readily, dissected by ridges in green with more woody vegetation. In the best case scenario, these patchy or non-contiguous fuels could slow the spread of fire between ridges and valleys and/or provide options for fire control.



**Map 8. Fuel type: Woody/green, herbaceous (grass, shrubs, forbs)/red, and bare earth in the East Honolulu CWPP Planning Area.**

Zooming in to consider the specific vegetation types (Map 9), the lower elevations (< 1,000 ft) are primarily developed urban zones surrounded by patches of non-native grasslands mixed with



**Map 9. Fuel types across across the East Honolulu CWPP Planning Area. Note that all areas are considered high fire hazard.**

deciduous shrublands. This alien-dominated lowland vegetation transitions into both wet and mesic (drier) forests at higher elevations. Although no detailed vegetation survey data exists for the entire planning area, Guinea grass (*Megathyrsus maximus*) and Buffel grass (*Cenchrus ciliaris*) are the dominant alien grass fire threats. Both provide abundant fuels that cure rapidly in dry conditions, are easily ignitable even in humid conditions, and allow fires to spread rapidly, creating dangerous conditions for fire responders. Guinea grass is particularly problematic as it is fast-growing, invades a wide range of ecosystems, and alters the flammability and fuel load of a given area. Natural resource managers have noted that Guinea grass produces extra long flame lengths and generates a lot of heat during wildfires.

Lower elevation forests in East Honolulu contain various non-native tree species most notably Kiawe (*Prosopis pallida*), Koa haole (*Leucaena leucocephala*), and Christmas berry (*Schinus terebinthifolius*). Although fire behavior in these mixed forests is poorly documented, natural resource managers and firefighters have observed certain problematic fire-promoting characteristics. For example, both koa haole and kiawe can form thick, dense stands and are flammable. According to local firefighters, koa haole pods have been known to travel several miles during strong wind events. These pods can act as firebrands and ignite vegetation near houses or other structures directly, as well as ignite new spot

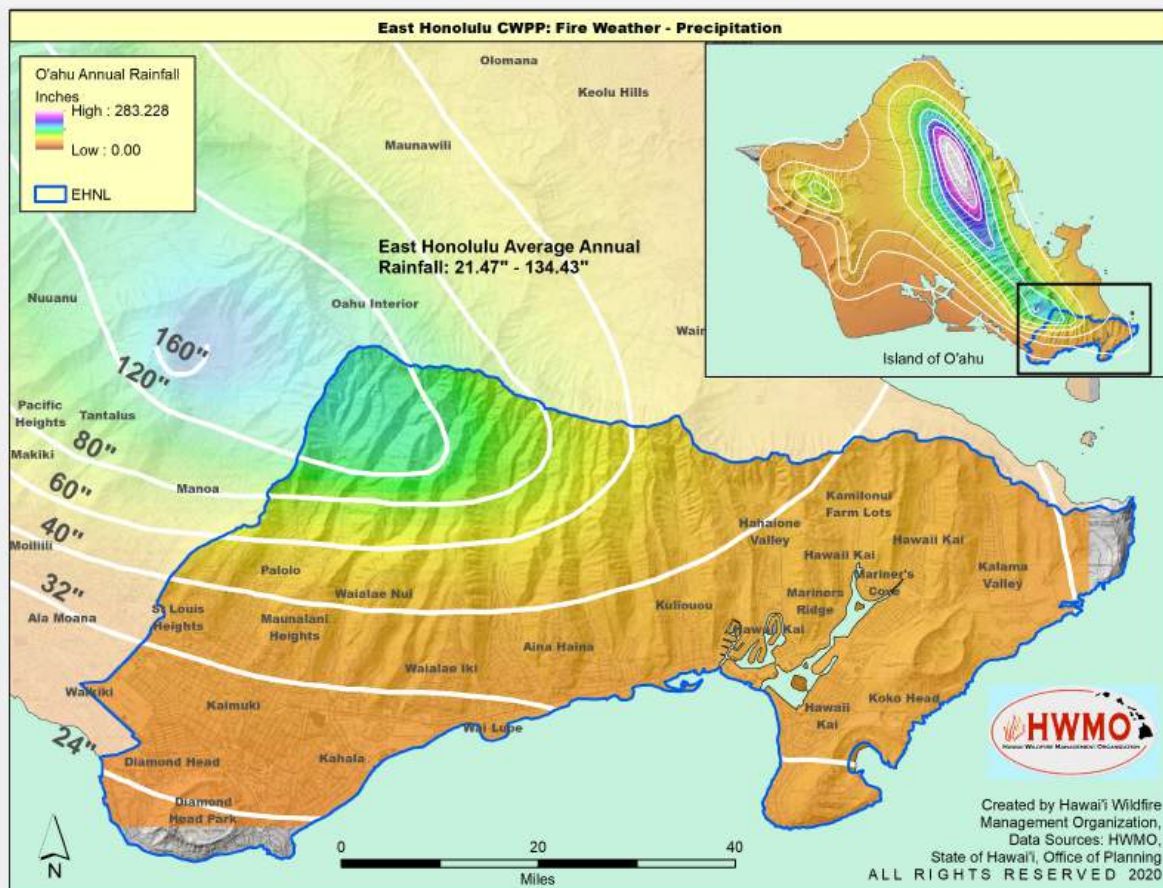


fires during a large wildfire event. Together with exotic grasses, koa haole and kiawe can form a chain of ladder fuels that can be an extreme fire hazard.

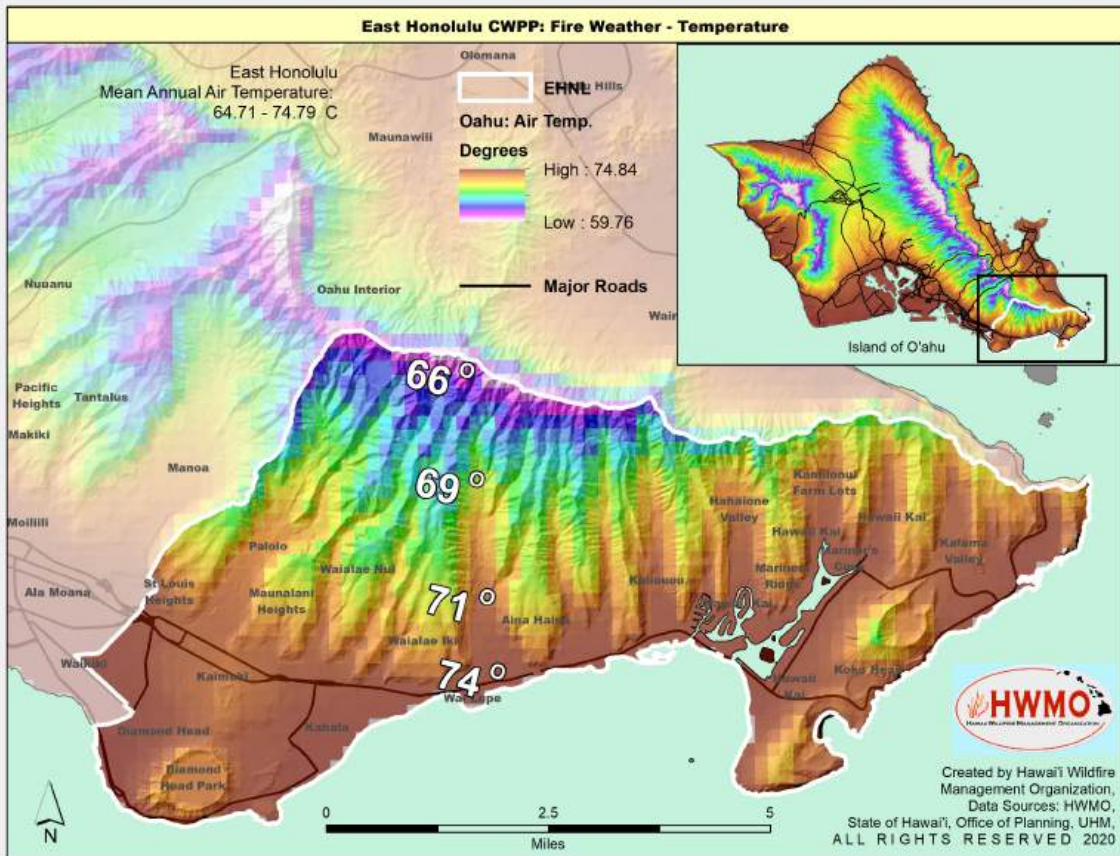
In addition, fuels from lowland grasslands and shrublands can carry a wildfire upslope much more quickly than a flat area due to convection, or the pre-heating of fuels at higher elevations. As a result, recurrent fires in these lower elevation grasslands and shrublands could not only extirpate endangered lowland species but could also effectively 'erode' the edges of upper forested areas. Once replaced by grasses these areas increase the risk of future fires over time. Upper elevation forests in Palolo and Kuli'ou'ou contain important native ecosystems, particularly some of the last remaining rainforests and native forest bird habitat on O'ahu.

## CLIMATE AND WEATHER

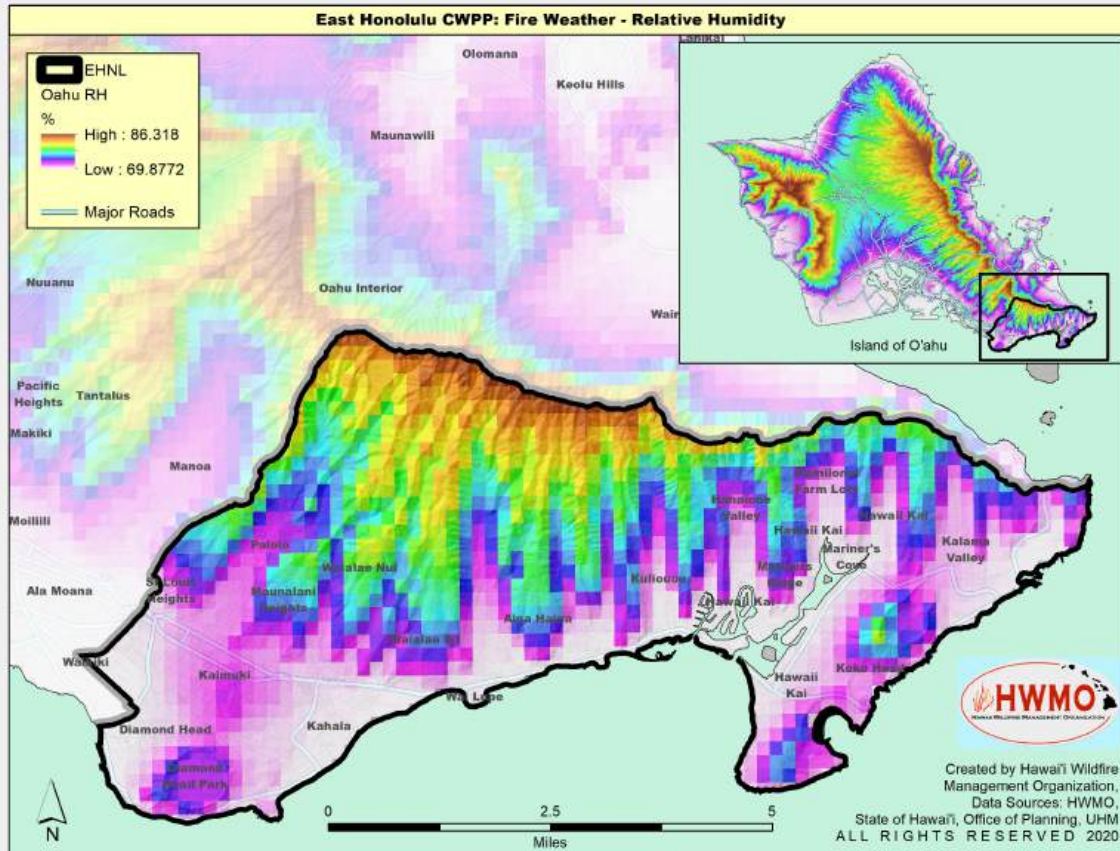
Wildfire occurrence on O'ahu is tied to broad climate patterns, in that more and larger fires typically occur in drier leeward areas. Since the planning area is on the leeward side of the island with south-facing slopes, the conditions are drier at mid and low elevations than on the north-facing slopes along the northern Ko'olau range (Map 10). These conditions make neighborhoods and lands on the leeward coast of O'ahu particularly vulnerable to wildfire starts. Greater sun exposure which in turn produces higher air temperatures and lower relative humidity increases wildfire risk. Maps 11 and 12 illustrate this relationship.



**Map 10. Precipitation across the East Honolulu CWPP Planning Area (note that two-thirds of the region is less than 60 inches per year).**



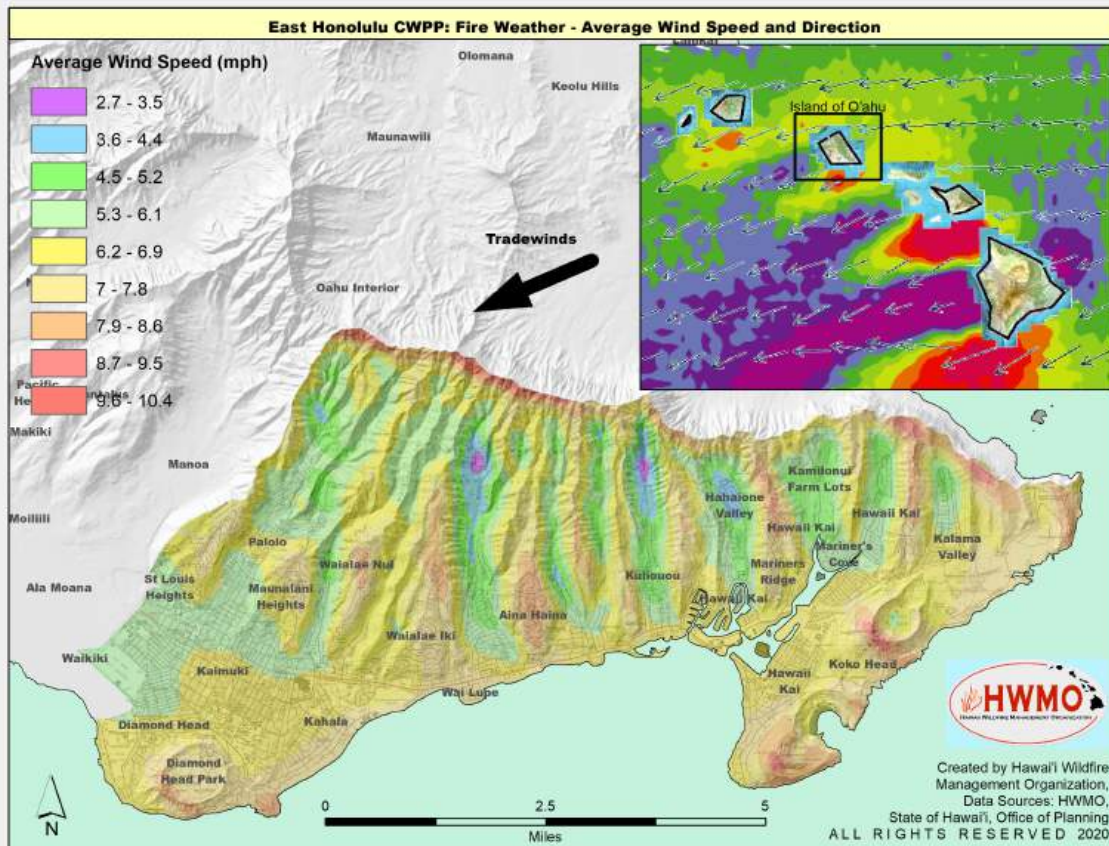
**Map 11. Average Air Temperature across the East Honolulu CWPP Planning Area.**



**Map 12. Relative Humidity across the East Honolulu CWPP Planning Area. Note that in Hawai'i, wildfires can ignite and carry across the landscape even in high humidity.**

Since rainfall is greater in mauka (upland) areas, this typically results in lower fire risk on average in these areas. However, due to more abundant vegetation in the higher elevations, mauka areas may experience an increased wildfire risk during periods of drought. Wet periods will also increase the quantity of available vegetative fuels, leading to an increase both in fire risk and in the frequency that mitigation measures such as firebreaks and fuel reduction need to be applied. Since climate change in the Pacific predicts more extreme weather events such as droughts and floods, this could increase both vegetative fuel loads during rainy periods and the likelihood of wildfires during extended dry conditions.

Other wildfire risk factors include wind speed and direction. The planning area is subject to daily weather patterns including diurnal thermal winds which cause sea breezes during the day as the land warms and land breezes at night as it cools. Wind speeds vary only slightly across East Honolulu (Map 13) depending on whether one is within a gulch, ravine, along the coast, or at higher elevations. For example, in more sheltered, inland areas, the average wind speed hovers between 3 - 5 mph. However, in more exposed locations such as the coastlines and mountain ridges, wind speeds range between 6 - 10 mph, with gusts even higher. As noted earlier, fires that begin in the lowlands can easily be pushed into the upland areas. This is particularly true on the eastern tip of O’ahu which is most directly exposed to more sunlight and stronger northeastern trade winds, and therefore drier conditions.



**Map 13. Dominant wind direction (from the north east) and associated average wind speeds across the East Honolulu CWPP Planning Area.. Winds are driven by the trade wind pattern with localized disruptions due to topography, seasonal anomalies, and storms, often making them erratic.**

# WILDFIRE IMPACTS

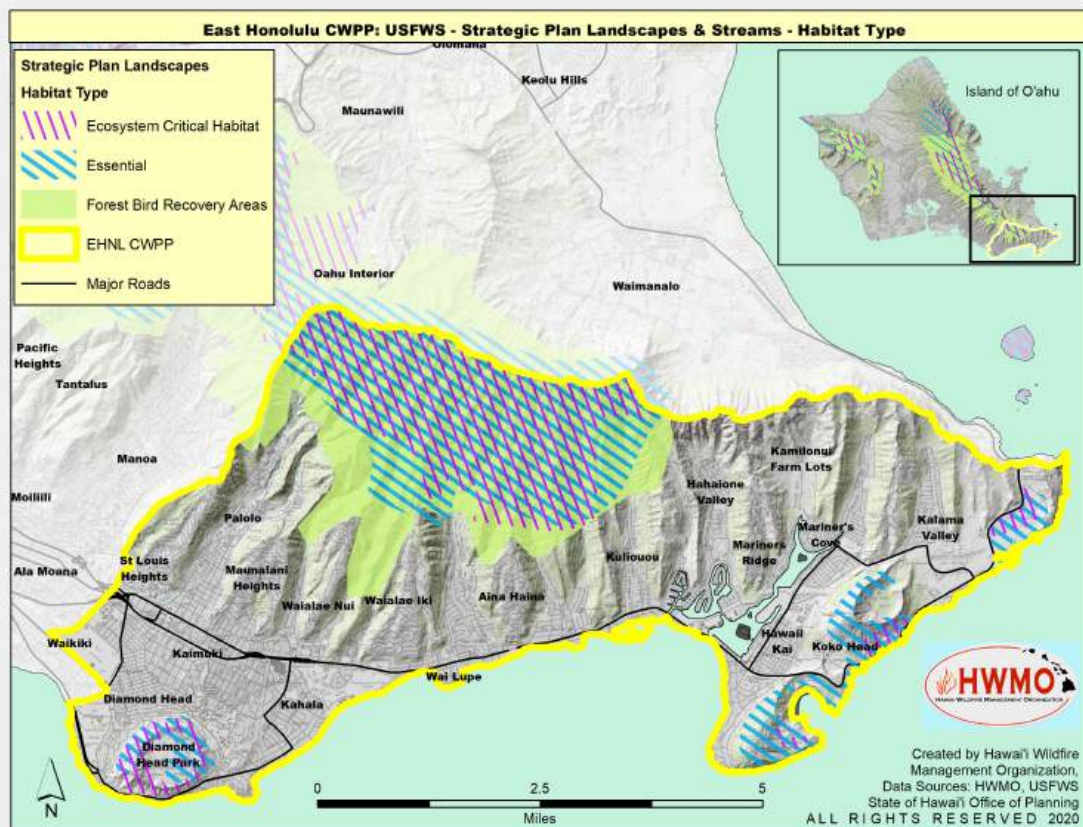
Many of the community, economic, natural, and cultural resources in East Honolulu are exposed to wildfire impacts. These impacts are compounded by the fact that land-based, aquatic, and marine-based natural and cultural resources all lie within close proximity across the region.

## IMPACTS TO NATURAL RESOURCES

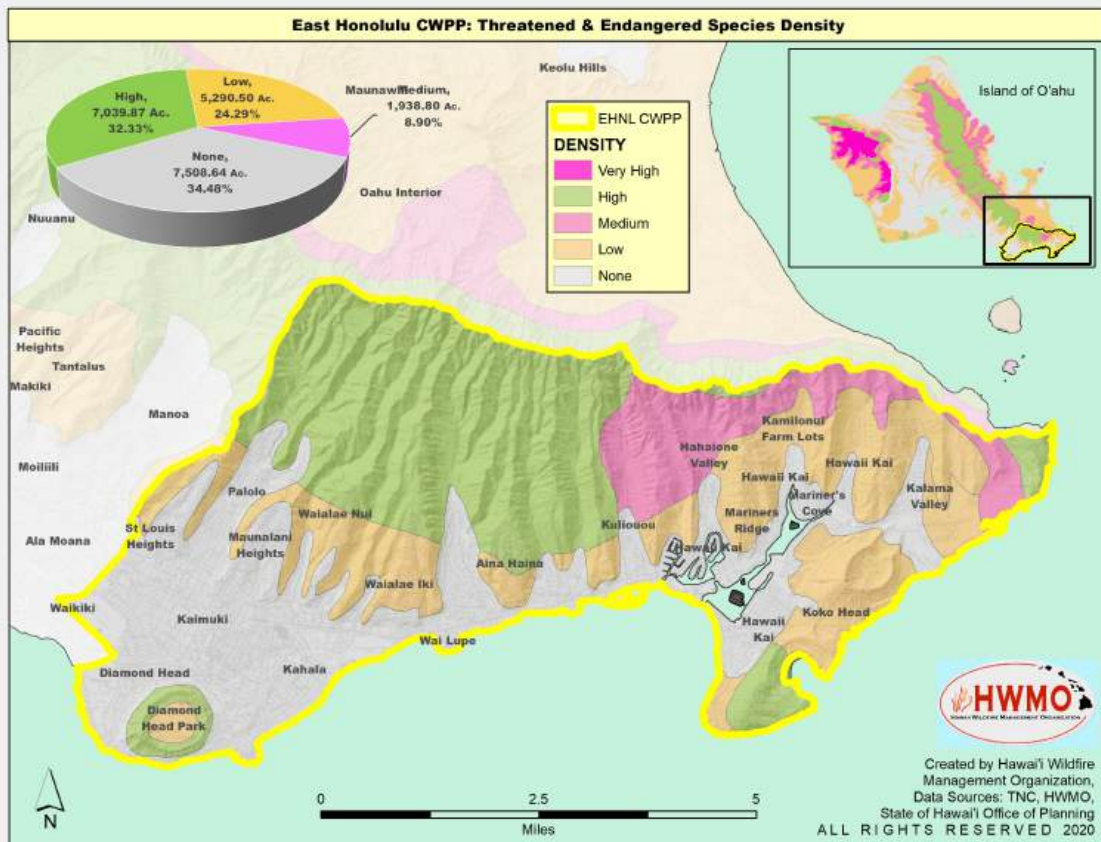
Recurrent wildfires result in the conversion of both native and non-native forested areas to fire-adapted grasslands and shrublands. As a result, these fire-prone ecosystems are expanding in many parts of the state. Wildfire is a major cause of native ecosystem loss and degradation.

Many of the natural and cultural resources across the East Honolulu CWPP area are exposed to wildfire impacts given the high number of human-caused ignitions in densely populated areas and the dominance of highly flammable fuels at lower elevations. These impacts are compounded by the fact that land-based, aquatic, and marine-based natural and cultural resources all lie within close proximity across the region.

The planning area contains important remnant native coastal strands and dryland vegetation, as well as rare and endangered species (Maps 14 and 15), some at critically low numbers—all of which may be in the direct path of future fires. For example, the endangered carnation *Schiedea adamantis* is known historically from a single population on the dry slopes of Diamond Head. The seasonal



Map 14. Critical Habitat within the East Honolulu CWPP Planning Area.



**Map 15 . Density of Threatened and Endangered Plants within within the East Honolulu CWPP Planning Area.**

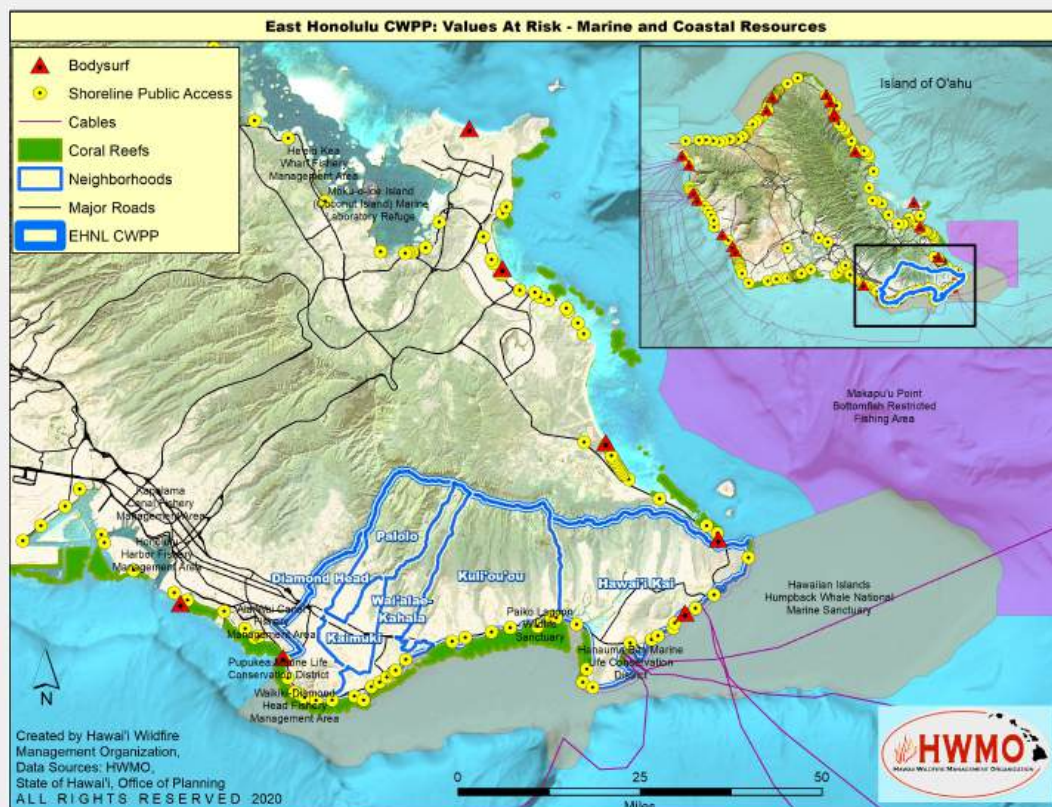
'ihi'ihi fern (*Marselia villosa*) is found at both Hanamuma Bay and Kaiwi, while fragmented, relic dryland Wiliwili trees (*Erythrina sandwicensis*) persist between 200 - 400 ft from Wai'alae Nui to Kamilonui. The Kaiwi coastline is the last undeveloped stretch of land in East Honolulu housing native A'ali'i shrublands (*Dodonaea viscosa*), coastal strand vegetation, and a habitat for the endangered yellow-faced bee (*Hylaeus* species). White-tailed Tropicbirds (*Phaethon lepturus*) are known to nest at both Koko Crater and the cliffs of Kaiwi. While the species is not considered rare, seabird nesting sites in the main Hawaiian islands have been greatly reduced across their former range by predators and development.

The upland areas of the southern Ko'olau mountains house remnants of formerly biologically diverse native ecosystems of O'ahu with pockets of threatened, endangered species and their critical habitats. For example, the CWPP area encompasses Board of Water Supply watershed lands, portions of the Honolulu Watershed Forest Reserve, and the Kuli'ou'ou Forest Reserve, all of which have endangered species (the latter is designated for public hunting and hiking). The CWPP area includes several US Fish and Wildlife Service strategic plan designations due to the protection needs of sensitive species such as the O'ahu 'Elepaio (*Chasiempis ibidis*), a native fly-catcher forest bird endemic to the island. In addition, populations of the O'ahu 'Amakihi (*Chlorodrepanis flava*) can be found in the Ko'olau mountains of East Honolulu and is likely the only surviving species of honeycreeper remaining on the island.

Remnant native species such as those described above are extraordinarily rare in East Honolulu since most of the area has long been altered by human development. These remaining Hawaiian plant and

animal species do not survive and/or recover from wildfires. More generally, the conversion of their habitat to alien grasslands due to fire not only increases the threat of species extinction but also the potential for future and larger fires by expanding the availability of fine fuels.

Wildfire also increases the potential for erosion and sediment delivery from upland to coastal and nearshore areas. The immediate loss of vegetation after a wildfire directly exposes soils to rainfall, which could potentially increase erosion in the watershed. The Ko'olau Mountains watershed is one of the most important on O'ahu, providing a main source of drinking water to a population of 1 million residents. In addition, the CWPP planning area contains six underground water aquifers from Diamond Head to Hawai'i Kai providing an estimated 2 - 6 million gallons of water per day. Loss of vegetation can increase downstream flooding and sediment delivery thereby impacting not only valuable freshwater resources but also the marine environment (Map 16). Specifically, the coastline from Diamond Head extending to Maunaloa Bay and Kaiwi in the east is part of the contiguous south O'ahu humpback whale sanctuary. In addition, Hanauma Bay is designated a marine life state conservation district zone supporting a fragile reef ecosystem and associated marine life. Sediment loading destroys reefs and impacts nearshore fisheries which are an economic driver for tourism as well as subsistence resources to O'ahu families.



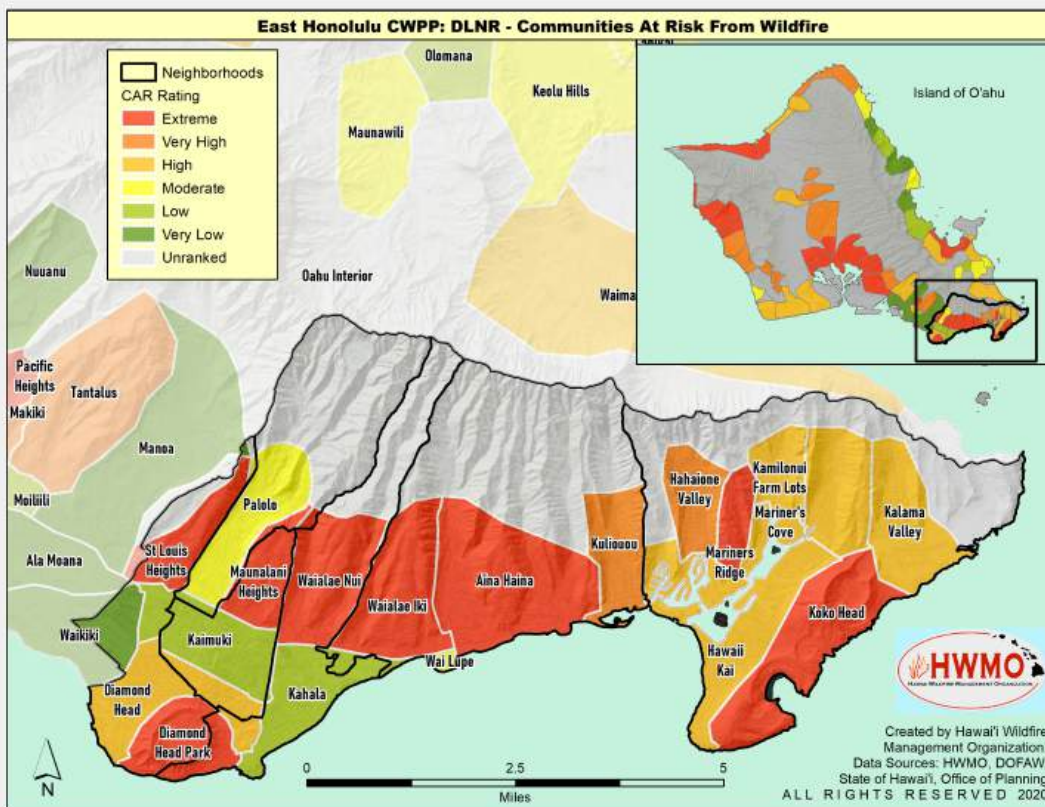
**Map 16. Marine and Coastal resources and designations within the East Honolulu CWPP Planning Area.**

In addition, burned areas can remain closed to the public for days to months due to landslide and tree-fall danger, limiting important public access to areas to a densely urban populace. This includes opportunities for hiking, hunting, gathering plants, and tending cultural sites. Although fire may have limited direct impacts on these resources, suppression efforts, such as water drops can damage

these important landscape features. Frequent fires also impact powerlines, communication infrastructure, and can lead to road closures - exacerbating already congested traffic areas.

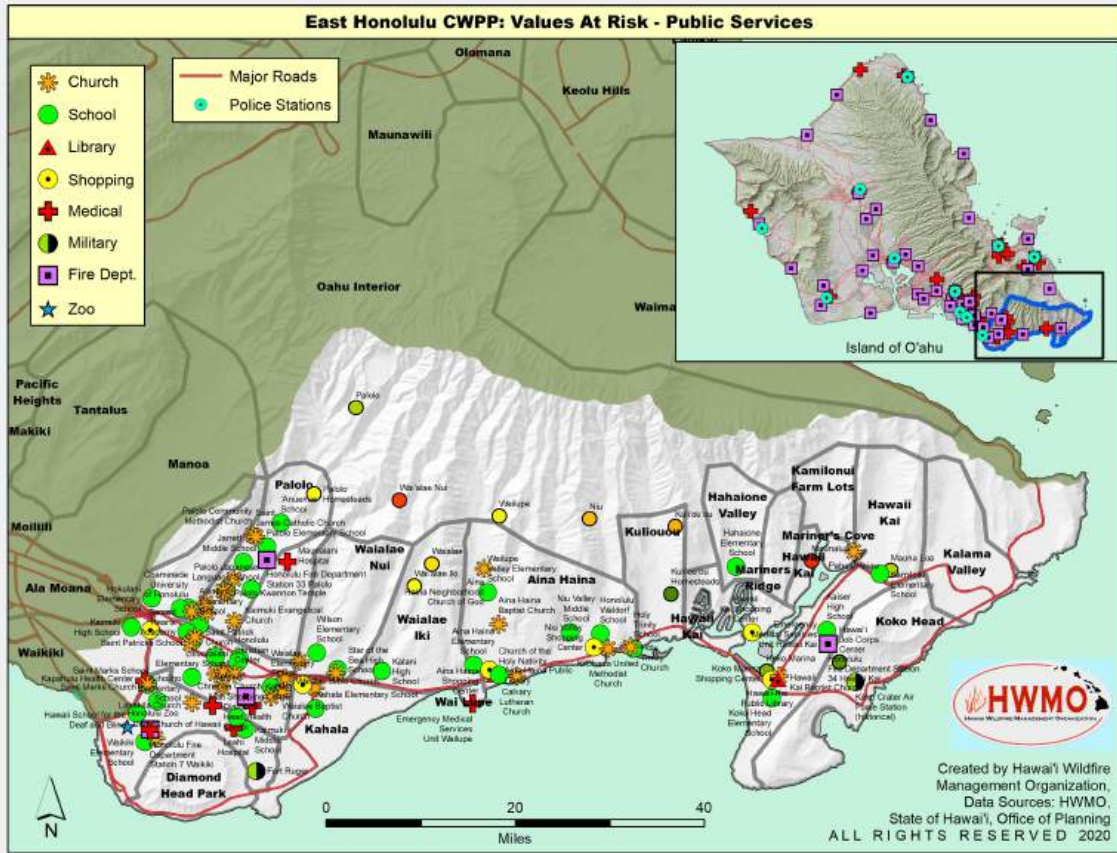
**IMPACTS TO COMMUNITIES AND MUNICIPAL RESOURCES**

Wildfires threaten lives, homes, and human health not only through the potential loss of life, property, and vital infrastructure but also through the degradation of soil, air, and water quality. In the past, fires have prompted highway shutdowns, evacuations of communities and recreational areas. Traffic and road closures during fire events and post-fire flooding can also block access routes and keep people from their homes and work and are costly to local government. This can be especially disruptive in the East Honolulu area which has a high density of both tourists and residents. In total, fourteen of the eighteen residential communities identified in Map 17 are rated at high to extremely high risk of wildfire.

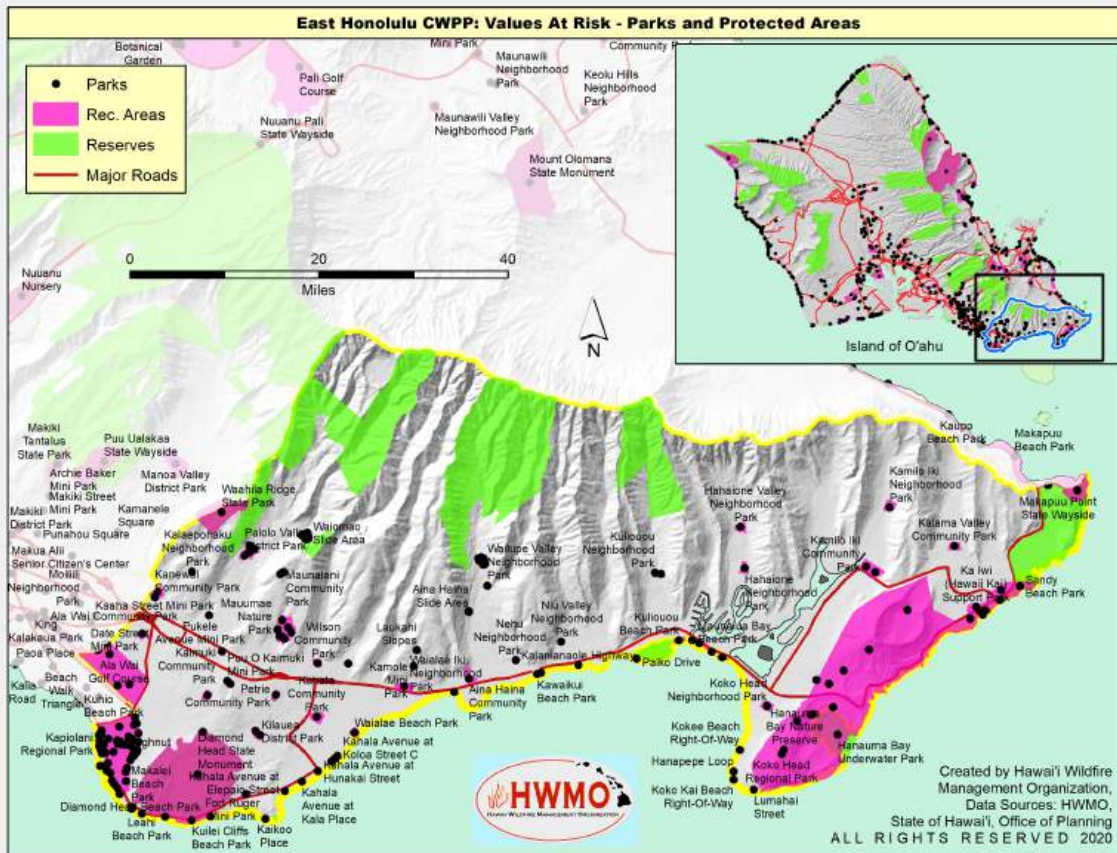


**Map 17. Communities at risk from wildfires within the East Honolulu CWPP Planning Area. Note most are assessed and rated as high risk.**

Even a small fire could have disruptive and damaging effects in East Honolulu. An area spanning ten miles supports about 51,000 residents as well as their public services (Map 18), parks (Map 19), recreational areas, beaches, natural areas, and infrastructures (Map 20). Burned soil from wildfires decreases groundwater recharge, which if widespread could impact both surface and groundwater, specifically in the valuable Ko’olau Mountains watershed, streams, and various underlying aquifers.

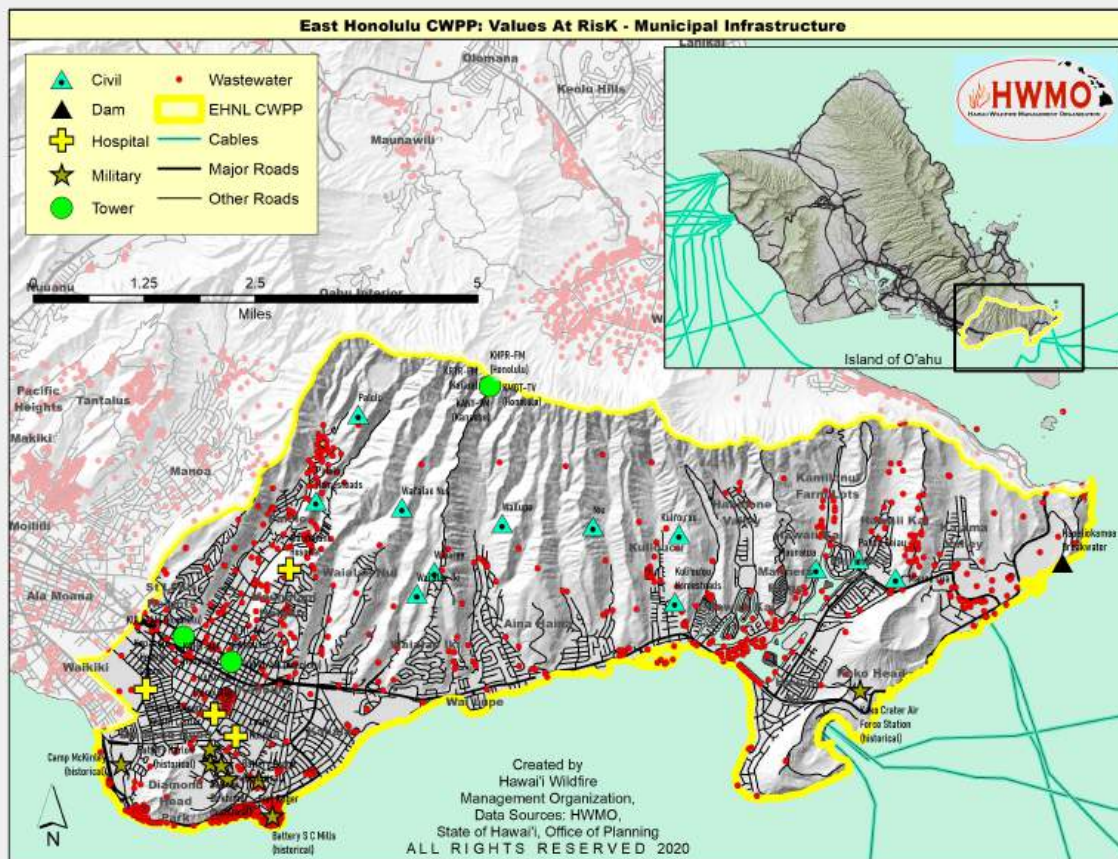


Map 18. Public services at risk of wildfire within the East Honolulu CWPP Planning Area.



Map 19. Parks and protected areas within the East Honolulu CWPP Planning Area.





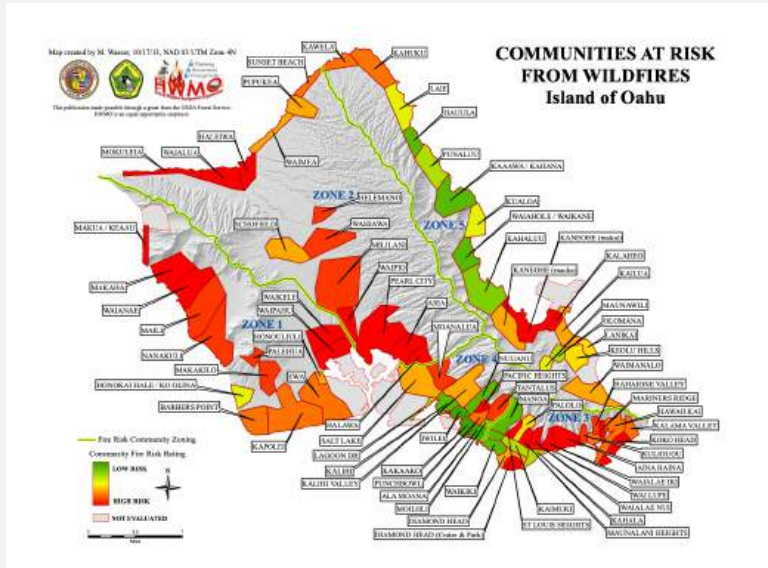
**Map 20. Municipal infrastructure at risk within the East Honolulu CWPP Planning Area.**

As noted earlier post-fire rain events cause erosion that damages nearshore resources, which can have effects on one of the area's primary economic bases—coastal and marine-based tourism—as well as resident and visitor recreational activities.

# HAZARD ASSESSMENT

## COMMUNITIES AT RISK FROM WILDFIRE

For the purposes of assessing hazards and wildfire threats to resources, residential areas within the CWPP planning area were simplified into four "communities" (Map 2). The boundaries depict the areas determined by DLNR-DOFAW to have similar features in terms of wildfire hazard characteristics and have long been the boundaries used in the DLNR-DOFAW's Communities at Risk from Wildfire maps, maps created from comprehensive assessments to depict wildfire threats to developed areas and communities.



Map 21. Map of Communities at risk from wildfire across O'ahu, 2012.

In the 2012 Communities at Risk from Wildfires map (right), which is the most recent of these maps for O'ahu, the majority of communities within East Honolulu are rated as either high or extremely high risk (Map 21). Do note that this map ONLY rates areas where there are residents living, built structures, and neighborhood developments. Gray areas on the map indicate that no humans inhabit the area, and therefore, were not assessed using this method.

## WILDFIRE HAZARD ASSESSMENT

The purpose of the required community risk assessment is to:

- Provide site-specific information to the public to promote wildfire awareness.
- Help identify and prioritize areas for treatment.
- Determine the highest priority uses for available financial and human resources.

The methods for this plan's community wildfire risk assessment followed the guidelines established by the HFRA. The wildfire risk assessment also follows the guidelines and requirements of the FEMA Pre-Disaster Mitigation program and the National Fire Plan. Locally, we have opted to name the effort Wildfire Hazard Assessment, rather than Wildfire Risk Assessment.

In partnership with DLNR-DOFAW, HWMO assessed the communities within East Honolulu using a process that rates 21 wildfire hazard characteristics, which have been further grouped into three categories: Subdivision Hazard, Vegetation Hazard, and Building Hazard.

The purpose of looking in depth at each category and specific hazard is to identify the factors that put each community most at risk, and to enable mitigation action plans and activities that are targeted toward reducing risk in the factors that most need attention per area.

Table 2 below provides the detailed categories assessed within each of the three categories. A weighted calculation determines the final rating for the category. Table 3, which follows, provides the ratings per area per hazard category.

Hazard Category	Individual Hazards Assessed Within Category
<b>Subdivision Hazard</b>	Fire Service Access Home Setbacks Ingress/Egress Private/Landowner Firewise Landscaping and Defensible Space Proximity of Subdivision to Wildland Areas All Season Road Condition Road Maintenance Road Width Street Signs Structure Density Unmanaged, Untended, Undeveloped Land
<b>Vegetation Hazard</b>	Defensible Space: Fuels Reduction Around Homes & Structures Fuel Loading Fuel Structure & Arrangement Proximity of Flammable Fuels Around Subdivision Vegetation Within 300' of Homes
<b>Building Hazard</b>	Siding/Soffits Roofing Assembly Structural Ignitability Under-Skirting Around Decks, Lanai, Post & Pier Structures Utilities Placement: Gas & Electric

**Table 2. Overview of hazard assessment categories and the individual hazards that comprise them within the East Honolulu CWPP Planning Area.**

Hazard Ratings: (Subtotals)	Subdivision	Vegetation	Building
Waikiki	MOD	LOW	LOD-MOD
Diamond Head	MOD	LOW-MOD	LOW-MOD
Diamond Head Park	MOD-HIGH	HIGH	LOW-MOD
Kaimuki	LOW-MOD	LOW	MOD
St. Louis Heights	MOD-HIGH	HIGH	MOD
Palolo	MOD	HIGH	MOD
Maunalani Heights	MOD-HIGH	HIGH	MOD
Wai'alaie Nui	MOD-HIGH	HIGH	MOD
Kahala	MOD	LOW	MOD
Wai Lupe	MOD	LOW	MOD
Aina Haina	MOD-HIGH	MOD-HIGH	MOD
Kuliouou	MOD	MOD-HIGH	MOD
Hawai'i Kai Mauka (North of Hawai'i Kai Rd)	MOD	MOD-HIGH	MOD
Hawai'i Kai Central	MOD	LOW	MOD
Hawai'i Kai Makai (South of Kalaniani'ole)	MOD	MOD	LOW
Mariners Ridge	MOD	MOD-HIGH	MOD-HIGH
Koko Head	MOD	HIGH	LOW-MOD
Kamilo Nui Farm Lots (1rd closed/private land)	HIGH	HIGH	HIGH
Mariners Cove	MOD	MOD-HIGH	LOW
Kalama Valley	MOD	MOD-HIGH	LOW-MOD
Hahaione	MOD	HIGH	MOD

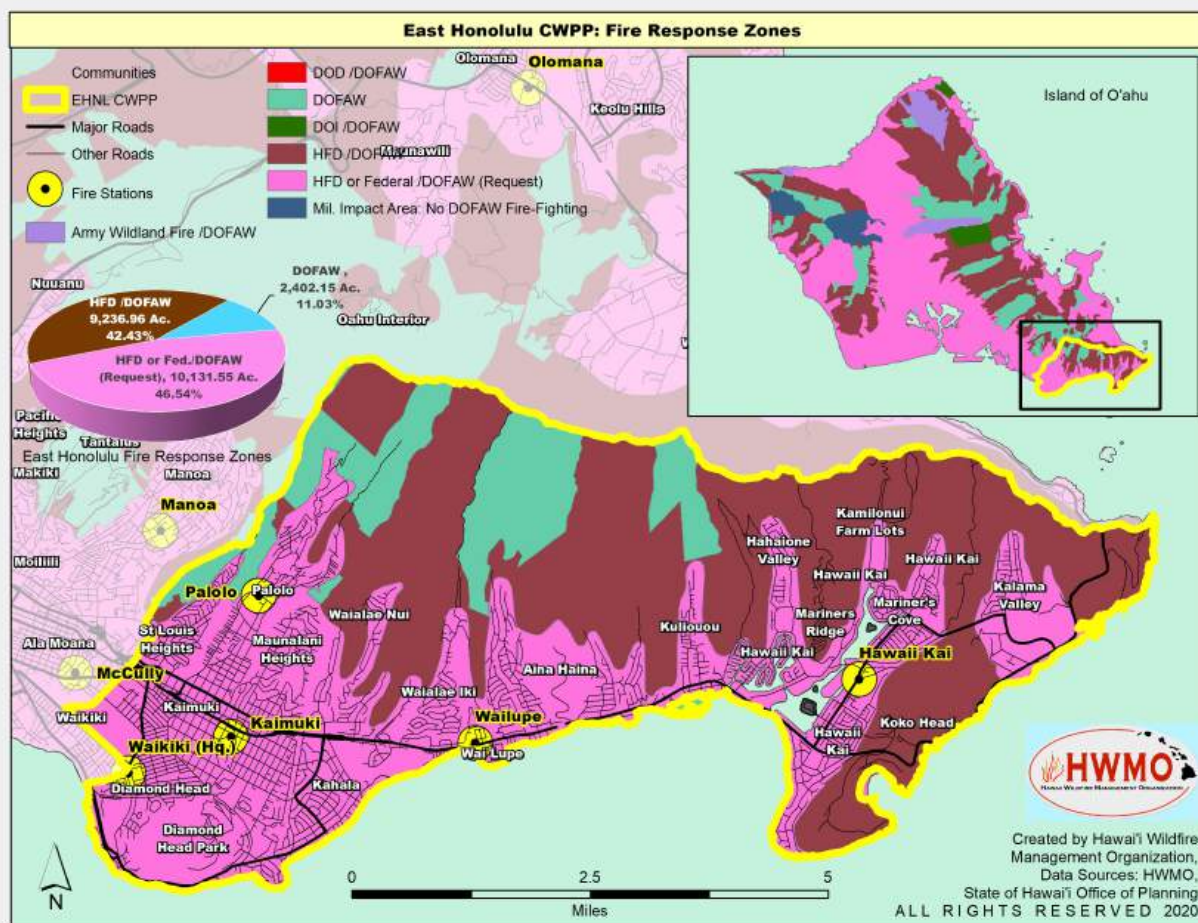
**Table 3. Hazard assessment ratings per subdivision/community area within the East Honolulu CWPP Planning Area. Priority hazards to address are shown in red.**

# EMERGENCY RESPONSE

## FIRE SUPPRESSION

Initial response to the majority of wildfires (as well as all medical and other emergencies) is the responsibility of City and County of Honolulu Fire Department (HFD). State Division of Forestry and Wildlife (DLNR-DOFAW) responds to wildfire events on state lands and provides additional wildland firefighting assistance when state lands are threatened and/or mutual aid agreements are invoked.

**HFD** has resources and equipment which are spread across the entire island and made available when needed if they are not already in use. HFD has 44 fire stations across O‘ahu, nearly half of which are concentrated in or near Honolulu. There are five fire stations within the CWPP planning area and two additional just outside the CWPP boundaries (Map 22). The HFD suppression force lies



**Map 22. Fire response zones within the East Honolulu CWPP Planning Area. Indicates areas where fires are suppressed by Honolulu Fire Department and/or DLNR-DOFAW.**

within the Fire Operations division of HFD. The Fire Operations division responds to fires, hazardous materials incidents, technical rescues, natural disasters, and emergency medical calls. HFD also participates in many wildfire-relevant nonemergency activities to enhance public safety and maintain

response readiness: commercial and public school fire inspections; pre-incident planning; public education (including prevention); community risk reduction; and code enforcement.

**DLNR-DOFAW** is the primary responder for wildfires on lands managed by the state, which accounts a portion (approx. 11%) of the East Honolulu CWPP planning area. DLNR-DOFAW also co-responds with county and federal fire agencies, which is determined by mutual aid agreements and memoranda of agreement or understanding. In addition to suppression, DLNR-DOFAW manages and protects natural and cultural resources, as well as public use and recreation on lands within DLNR-DOFAW jurisdiction.

**FFD** is a Department of Defense multi-service Fire Department that was consolidated in 1979 from Army, Navy, and Air Force fire departments. On O’ahu, FFD now provides fire protection and emergency medical services to all Department of Defense military installations (198 square miles), and provides mutual aid to the City and County of Honolulu (396 square miles) upon request.

**Army Fire** is specialized toward wildland fire management, and responds to wildfires within its designated and mutual response jurisdictions on behalf of the U.S. Army. While active in the protection of life and property from fire, the U.S. Army also works toward the protection of the state’s endangered plant and animal species through numerous prevention and protective initiatives.

### ***EMERGENCY MANAGEMENT DOCUMENTS AND OTHER PLANS***

The CWPP is non-regulatory and cooperative in nature. The plan provides (1) a foundation for increased communication, coordination and collaboration among agencies and the public, (2) identification and prioritization of areas for hazardous fuel reduction projects and wildfire mitigation actions, and (3) assistance meeting federal and state planning requirements and qualifying for assistance programs. The CWPP is designed to work in conjunction with other county and state plans, operational policies, assessments, and programs, etc., including but not limited to:

#### ***City and County of Honolulu:***

[The Multi-Hazard Pre-Disaster Mitigation Plan for the City and County of Honolulu \(2020\)](#)  
[City and County of Honolulu Drought Mitigation Strategies](#)  
[Board of Water Supply East Honolulu Watershed Management Plan](#)

#### ***State of Hawai’i:***

[State Drought Plan \(2017\)](#)  
[State of Hawai’i Hazard Mitigation Plan \(2023\)](#)  
[State Division of Forestry and Wildlife Operational Policy for Wildfire Control](#)  
[DLNR Forest Action Plan \(2016\)](#)

#### ***Preparedness Guides***

[Ready, Set, Go! Wildfire Action Guide, Wildfire & Drought Lookout!](#)  
[Homeowner’s Handbook to Prepare for Natural Disasters \(University of Hawai’i, Sea Grant\)](#)  
[Hawaiian Electric Emergency Preparedness Handbook](#)

## ***MULTIPLE-AGENCY AGREEMENTS***

Memoranda of Agreement, Memoranda of Understanding, and/or Mutual Aid Agreements are in place among HFD, DLNR-DOFAW, FFD, and Army Fire. These agreements identify the suppression responsibilities of each party as well as other fire management activities such as joint participation in prevention, training, and equipment acquisition. Fire response zones are delineated in Map 23.

## ***EVACUATION PROTOCOLS AND NEEDS***

Evacuation protocols for neighborhoods and areas in East Honolulu have been determined for natural hazards such as tsunamis, and can be found in the documents listed below. However, fire safety zones for all neighborhoods and areas of East Honolulu are yet to be determined, and are a priority action determined by the public as part of this CWPP process. Currently, the HFD Incident Commander determines the need for evacuation and works with HPD and DEM depending on the size of the area that needs to be evacuated? Evacuation orders are issued by the on-scene incident commander and where necessary disseminated using the Integrated Public Alert and Warning System and the all-hazards outdoor siren system.

The following resources are available for disaster planning and preparedness:

- City and County of Honolulu Department of Emergency Management website
- State Emergency Operations Plan #4: Firefighting
- Tsunami Evacuation Zones
- Pacific Tsunami Warning Center
- National Weather Service Central Pacific Hurricane Center

## ***STATE FIRE CODE***

The Hawai'i State Fire Code is adopted by the State of Hawai'i according to Chapter 132 of the Hawai'i Revised Statutes, with modifications to the 2018 National Fire Protection Association 1 Fire Code. The Fire Code of the City and County of Honolulu is adopted with modifications from the State Fire Code. For more information on City and County of Honolulu and Hawai'i State Fire Codes, visit <https://fire.honolulu.gov/fire-code/>

## ***WILDFIRE PREVENTION***

Several agencies are working both independently and collaboratively on wildfire prevention activities in the East Honolulu CWPP area.

**HFD Fire Prevention Bureau** works toward saving lives and property and protecting the environment by promoting fire prevention and other public safety education programs. HFD Fire Prevention Bureau administers the fire prevention program for the City and County of Honolulu; plans and develops rules, regulations, and procedures in the enforcement of fire codes; assists in the formulation and revision of the State Fire Code and the Fire Code of the City and County of Honolulu; administers fire safety and education programs; administers plans reviews; develops and

conducts a fire inspection program; and conducts fire investigations to determine the origin and cause of fires within its jurisdiction.

**DLNR** is statutorily mandated to take measures for the prevention of wildland fires within DLNR-DOFAW managed lands and to cooperate with county and federal fire agencies in developing plans and programs for prevention assistance of wildfires on lands not managed by DOFAW. **DLNR-DOFAW** is involved with and committed to the following community risk reduction initiatives: supporting the development and action plans of Community Wildfire Protection Plans, locally administering the U.S. Forest Service Wildland-Urban Interface grant program, serving as the state liaison for the Firewise USA™ community risk reduction program (in partnership with HWMO), and administering State Legislature Grant-In-Aid awards given to local organizations who are working on wildfire-related projects (in 2021, these include HWMO and Ka'ala Farm, Inc.)

**HWMO** is a nonprofit organization founded in 2000 to focus on wildfire prevention and risk reduction activities. The organization serves as a hub of wildfire information, mitigation, and project assistance across Hawai'i. HWMO supplements and complements agency wildfire efforts, aims to meet community hazard reduction needs, and coordinates/leads multi-jurisdictional and multi-partner wildfire projects. HWMO develops and offers educational wildfire prevention, preparedness, and planning workshops for diverse audiences and stakeholder groups; leads the development of Community Wildfire Protection Plans and fire management plans; serves as the community liaison for the Firewise USA program (in partnership with DLNR-DOFAW), assisting communities with their applications, renewals, and offering learning and connecting opportunities among the 15 Firewise-recognized communities across Hawai'i; leads multi-partner wildfire collaboration projects and groups; and implements cross-boundary fuels management projects. HWMO also collaborates closely with the Cohesive Wildland Fire Management Strategy, Western Region and the Fire Adapted Communities network, liaising with and sharing best practices between Hawai'i and national partners. HWMO works together with the University of Hawai'i to implement the Pacific Fire Exchange project, a fire science communication project that develops, collates, and shares best available wildfire information on behalf of a broad partnership that includes DLNR-DOFAW, USDA Forest Service, County Fire Departments, and other forestry and fire entities.

**University of Hawai'i at Mānoa College of Tropical Agricultural and Human Resources (UHM-CTAHR)** has several researchers, extension specialists, and some graduate students who synthesize and develop new information on topics pertaining to wildfire. Faculty expertise includes range management, forestry, ecology, social science, and fire science which has contributed to a range of wildfire-related products such as fuels data, maps, risk models, and other information. HWMO and UHM-CTAHR Cooperative Extension partner to implement the Pacific Fire Exchange project (PFX). PFX is a fire science communication project that works to improve the availability and sharing of fire science relevant to the Pacific Island region to support and inform the wildfire mitigation work of land managers and emergency responders.

Together, **all of the above entities** participate in and support the multi-agency statewide *Wildfire and Drought Lookout!* awareness and preparedness campaign each year; conduct wildfire hazard



assessments (often in partnership with each other); and collaborate whenever possible to protect life, property, and natural resources from the impacts of wildfire.

**PART III**  
**WILDFIRE ACTION**  
**PRIORITIES**

# WILDFIRE ACTION PRIORITIES

## NATIONAL COHESIVE WILDLAND FIRE MANAGEMENT STRATEGY



The ***National Cohesive Wildland Fire Management Strategy*** (subsequently referred to as Cohesive Strategy) encourages communities to develop a dynamic approach to planning for, responding to, and recovering from wildland fires. It provides a framework for wildfire-related discussions, efforts, and goals across the United States. The overarching national strategy is further divided into three regions for tighter collaboration and coordination in each area. Hawai'i falls into the Western Region. The three categories are Fire-Adapted Communities; Resilient Landscapes, and Safe and Effective Wildfire Response. ***Considering each and addressing all three is necessary for effective wildfire preparedness and protection.***

Public and government agency participants identified hazard reduction priorities for East Honolulu within the Cohesive Strategy categories, after first having an opportunity to learn more about each category of wildfire preparedness and safety challenges and goals. This participant input was collected via two live virtual workshops and a web-based survey. The live workshops were facilitated toward the discussion and recording of wildfire-related concerns, priorities, and recommended actions per category. Additional focused conversations were also facilitated per residential area, to capture each area's unique wildfire issues and next-step priorities. A web-based survey followed the format of the live workshops, asking participants who were unable to attend the workshops for their highest priority wildfire-related concerns per category, along with suggested actions for addressing those concerns.

Both live-workshop and web-survey input have been combined and integrated into the discussion and priorities provided below for addressing wildfire in East Honolulu. An independent summary of data from the web-based survey is provided in Appendix C.

## **RESILIENT LANDSCAPES**

### DISCUSSION

Across East Honolulu, vegetation is dense, dry, and very flammable. Workshop participants discussed the need for sustained reduction of fuels and an increased capacity to manage vegetation for the long-term. Upland native ecosystems, the Kaiwi coastline and endangered species in Diamond Head State Park were considered vulnerable to fire and in need of vegetation management (alien grasses).

### GOALS

Landscapes (natural and culture resources) across all jurisdictions and land ownerships must be supported to become resilient to fire-related disturbances in accordance with management objectives. This includes the following:

1. Risk of wildfire occurring and impacting lands and waters is diminished.
2. Pre-fire hazards are managed and mitigated (reducing ignitions/managing vegetative fuels).
3. Sensitive resources are minimally or not damaged during wildfire events by the firefighting effort.
4. Post-fire recovery, rehabilitation, and restoration are supported.

### ACTION PRIORITIES

- Mitigate threats to aquatic and terrestrial natural resources (wetlands, forests, endangered species)
  - Areas of concern include Diamond Head State Park (habitat for endangered species) and invasive fountain grass found there
  - Native ecosystems adjacent to Kailua and Kaneohe are also of concern and contain important forests and wetlands
  - Prevent the spread of invasive species (fountain grass which promotes fires)
  - Protect rare plants and animals (O'ahu 'Elepaio) habitat from fire
  - Plant native species to prevent erosion after fire
- Reduce vegetation fuels buildup
  - Areas of concern include Kaiwi coastline where people, roads, and vegetation intersect to create fire hazards
  - Weed whack/remove non-native grasses and use grazing (goats/sheep) to reduce vegetation
  - Install fuel breaks
- Mitigate vulnerable fire-prone zones
  - Kokohead park (shooting range) is an area of concern where ignitable vegetation exists behind firing range
  - Community groups (such as Kamilo Nui) can help identify these and other areas for possible outreach and education among users

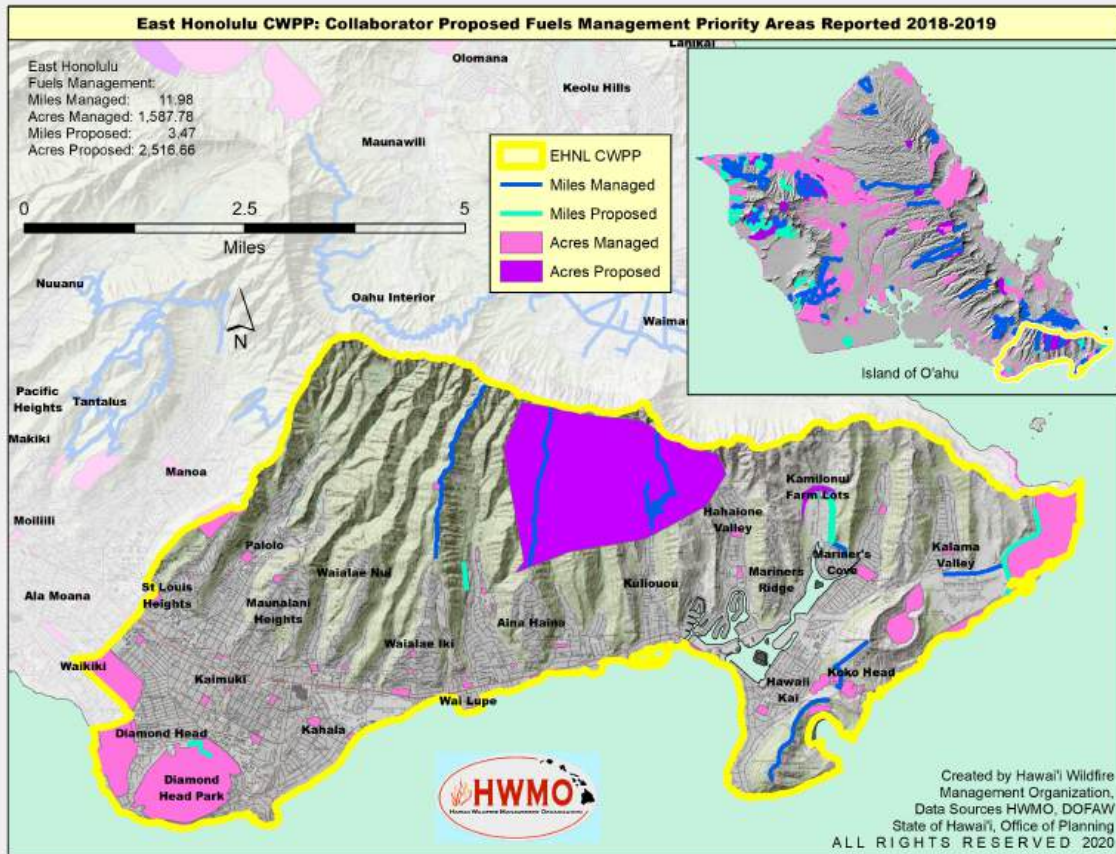
Additionally, a CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure. Based on the fuel hazard ratings acquired during the hazard assessment, recommendations for the type and method of vegetative fuel reduction treatments for high fuel hazard areas are listed in Table 4 below.

<b>Resource, Structure, or Value at Risk</b>	<b>Fuel Hazard Rating</b>	<b>Type of Treatment</b>
<b>Mauka forest lands, parks, reserves</b>	High or Extreme if unmanaged and weather conditions dry	Mechanical, hand labor, chemical, fuels conversion, animals if strategically managed
<b>Gentle sloping grasslands and scrublands</b>	High or Extreme if unmanaged and weather conditions dry	Mechanical, hand labor, chemical, fuels conversion, animals if strategically managed
<b>Homes, structures with large lots or heavy vegetation, and historical sites</b>	Moderate to Extreme	Firewise strategies around the home/structure ignition zones. Reduce fuel along property boundaries and roadsides. Weedwhip, hand-pull, mow, grazing, herbicide, trim branches. Clear debris piles. Convert fuels to drought-tolerant, fire-resistant (preferably native) plants. Reduce ladder fuels. Complement vegetation management strategies with home hardening (replace ignitable/burnable materials with non combustible materials).
<b>Roadsides</b>	Moderate to Extreme (depending on location and weather conditions)	Conduct roadside fuels treatments at frequency that matches fuel growth (keep low), maximize width of roadside reduction areas. Develop a grazing corridor/buffer for long-term fuels management. Convert roadside fuels to fire-resistant plants that require little or no maintenance and are less ignitable.
<b>Unmaintained Agricultural lands</b>	Moderate to Extreme (depending on location and weather conditions)	Mechanical, animal, chemical, re-establish active agriculture.

**Table 4. Hazardous fuels treatments for the East Honolulu CWPP Planning Area.**

In 2018, land managers across Hawai'i contributed to a fuels management mapping project, wherein those who chose to participate indicated areas that have some level of active fuels management occurring. The project was coordinated by HWMO, also the coordinator and writer of this CWPP. Participants in the mapping project also indicated areas additional areas they believe would be necessary to address with fuels management activities to achieve optimal fire mitigation. While participation was voluntary, and therefore, not a complete representation of all that is occurring and

needed in East Honolulu, it does provide a starting point for discussion and fuels management project planning (Map 23).



**Map 23. 2018 - 2019 fuels management activities as identified by East Honolulu participants and partners.**

***FIRE ADAPTED COMMUNITIES***

DISCUSSION

Despite past fires, some residents in East Honolulu are not as informed, engaged, or active in wildfire preparedness and hazard reduction as is necessary for optimal safety and prevention. Community outreach and education programs, technical assistance, opportunities, and capacity-building are needed. Abandoned vehicles and rubbish are building up in certain areas. Some places are not designed for safe and effective firefighting.

GOALS

Human populations and infrastructure must be able to withstand wildfires without loss of life or property. Communities must become as prepared as possible to endure, respond to, and recover from wildland fire. Everyone must know they play a role in prevention and safety and must do their part. This includes the following:

1. Roles and responsibilities established in all jurisdictions and across all communities and landownership for mitigating fire threats and impacts.
2. People accept and act upon their responsibility to prepare families and properties.
3. Risk to community areas and resources, including municipal resources, is diminished.
4. Effectiveness of activities is monitored and shared and is relevant to local mitigation and other plans.

### ACTION PRIORITIES

- Improve neighborhood (roads) and wildfire suppression (water) infrastructure
  - Install wide fire breaks, 2-ways in/2-ways out; turnarounds, and restrict parking to one side of the road
- Reduce human-caused ignitions from fireworks, encampments and improperly disposed debris
  - Specifically, abandoned trash and vehicles in Kalama Valley, Waimanalo, and Ka`iwi coastline are a problem
  - Clear vegetation and install firebreaks, roads & paths
  - Reduce the threat of illegal fireworks (increase enforcement and consider pilot program to increase inspections of cargo/containers)
- Increase awareness of wildfire prevention among residents and businesses
  - Campaigns targeted towards schools, neighborhood boards, businesses
  - Encourage participation in Firewise program and early reporting (see something, say something)
  - Ensure coordination between community members and the Honolulu Fire Department
  - Encourage Provide information, and pursue outreach and education programs for residents and area managers to treat structural ignitability of homes and buildings.\*
- Have community wildfire preparedness standards and messaging
  - Ensure Firewise Communities have the same level of interest/concern and stay alert to threats
  - Consider outreach efforts via conservation groups, social media, and email campaigns
  - Establish volunteer sign-up networks to clear the vegetation and clean up trash

\* *Strategies for treating structural and home/yard ignitability in Hawai'i have been established through the Hawai'i version of the Ready, Set, Go! Action guide. This informational resource is included as Appendix A of this document and should be used by residents in East Honolulu to treat structural, home, and yard ignitability.*

## **SAFE AND EFFECTIVE WILDFIRE RESPONSE**

### DISCUSSION

Despite the urban nature of East Honolulu, some residential areas are not adequately set up for wildfire response. The most pressing issues are limited ingress/egress for ridge communities, lack of water, and vacant lots or unknown landowners with unwanted vegetation.

### GOALS

All jurisdictions will continuously work together toward making and implementing safe, effective, efficient risk-based wildfire management decisions to ensure that:

1. Injuries and loss of life for the public and firefighters are diminished.
2. Adequate infrastructure and capacity: water, access, equipment, training.
3. Pre-fire multi-jurisdictional planning occurs.
4. Response, esp. when jurisdiction is shared, is efficient and effective.

#### ACTION PRIORITIES

- Adequate wildfire suppression (water) infrastructure
  - Ensure access to water for out-planting, maintaining animals for grazing & fuels reduction, and fire fighting operations (dip tanks)
  - Develop alternative fire fighting resources means (resident's pools for dip sources, rain collection systems, etc.)
  - Develop a system of water tanks and cisterns for use by firefighters, for both ground and aerial operations.
- Prepare community emergency/evacuation plan(s)
  - Ensure plans have the most up-to-date maps of access roads for community evacuation
  - Engage with neighborhood boards and neighboring communities for evacuation planning
  - Designate meet-up points and escape routes
  - Coordinate with the Honolulu Fire Department for private property access
- Incentivize hazard reduction, especially in lots where the owner is unknown (or not present)
  - Determine land ownership and attempt to contact absentee property owners to remove unwanted vegetation
  - Amplify lobbying for county ordinances regulating hazard removal
  - Pursue financial support for hazard mitigation programs and personnel within the fire department.
  - Develop a reporting system for the community to become aware of problem areas
- Increase firefighting access around community-wildland interfaces via fuel breaks to prevent fire spread into wildland areas above low-elevation communities, and to prevent fire spread from fuels on slopes beneath hill and ridge-top communities into residential areas on the perimeters.



# CWPP IMPLEMENTATION AND MAINTENANCE

HFRA requires that the City & County of Honolulu Fire Department (HFD) and Department of Emergency Management (DEM), and Hawaii Division of Land and Natural Resources- Division of Forestry and Wildlife (DLNR-DOFAW) all agree on the final contents of the East Honolulu CWPP. The plan is signed by each agency in order to meet HFRA and FEMA requirements.

Across the state and country, there is a changing understanding and paradigm related to wildfire: reducing wildfire occurrence and impacts takes the participation and action of all who live and work in an area. There is a role for everyone to play to reduce risk, enhance preparedness, and ensure the safety and integrity of our community and natural resources. Firefighting is the last line of defense, with much to also be done ahead of time to reduce fire's ability to ignite and spread and to prepare homes and people to withstand wildfire.

It is for these reasons that the East Honolulu CWPP was developed: to collaborate, co-determine priorities, and encourage participation by all parties. ***Because of the non-regulatory nature of the CWPP, the relevance and effectiveness of the East Honolulu CWPP will rely heavily upon the initiative and involvement of individuals, groups, organizations, elected officials, and government agencies in the East Honolulu area.***

Partners involved in developing this document intend to provide technical support, identify and coordinate funding when possible, and serve as resources for wildfire risk reduction efforts in East Honolulu. Together, representatives of HFD, DEM, DLNR-DOFAW, HWMO, and others can identify sources of funding for projects, document the successes and lessons learned from those projects, and evaluate and update the CWPP as needed and as possible. Area residents are urged to contribute time and effort toward creating defensible space, reducing structural ignitability, and working at the community level to initiate and maintain wildfire protection projects. Decision makers and elected officials are encouraged to support these efforts through appropriate budgets and policies.

Additionally, as Hawai'i's community liaison to the national Firewise program, and in partnership with HFD, DEM, and DLNR-DOFAW, HWMO will work with any community in East Honolulu that is interested in undergoing the Firewise USA® recognition process. This includes forming a local Firewise committee and action team, completing a comprehensive hazard assessment specific to their subdivision, and sustaining neighborhood-level action toward risk reduction. Kamilonui-Mariner's Cove is already a recognized Firewise USA® community and has kept its recognized status through successful mitigation efforts for several years now, with no anticipated change in that effort. At the time of writing, several additional communities in the area have either started the process of national recognition or have expressed interest in the program. There is a statewide network of such communities available for inspiration, the sharing of lessons learned, and next-level learning.

Many East Honolulu CWPP action items will require continuing support for wildfire risk projects. This will involve actively pursuing funding for projects, staying informed and in contact with one another, and updating this CWPP regularly so that it remains a "living" document.

**Updated project priorities and additionally identified priorities will be added as appendices to this foundational document whenever possible, in an effort to keep the plan current and to support ongoing collaborative learning, planning, and implementation of projects.**

All who have been involved in the development of this CWPP are committed to building community awareness of these issues so that East Honolulu will continue to make progress toward the goals of having Fire Adapted Communities, Resilient Landscapes, and Safe and Effective Wildfire Response in East Honolulu.

**EAST HONOLULU COMMUNITY WILDFIRE PROTECTION PLAN**

**APPENDIX**

**APPENDIX A:**

**READY, SET, GO! HAWAI'I VERSION WILDFIRE ACTION GUIDE**

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# APPENDIX A

## READY, SET, GO! HAWAI'I VERSION

### WILDFIRE ACTION GUIDE

Includes the following key information:

#### **Wildfire in Hawai'i Overview**

##### **Ready:**

- 🏠 Firewise Landscaping Recommendations
- 🏠 Home Hardening

##### **Set:**

Situational Awareness

##### **Go!:**

Family Emergency Evacuation Planning  
Evacuation

🏠 *Items with this symbol fulfill the CWPP requirement for strategies to reduce structural ignitability.*

# APPENDIX B

## COMMUNITY MEETING INPUT

### BACKGROUND

Input was gathered from community members as to their highest priority concerns related to wildfire, along with suggested actions for addressing those concerns. Responses were solicited in each of the National Wildland Fire Management Strategy categories- **Fire Adapted Communities**, **Safe & Effective Firefighting**, and **Resilient Landscapes** to correspond to, and mimic, the discussion that took place during virtual workshops for seamless integration of all participant input. HWMO held two meetings with key community contacts and leaders on November 9, 2021.

### RESULTS

Overall, 43 community members of the East Honolulu area attended. These included agricultural operators/farmers/ranchers; representatives of a community group or nonprofit organization; private company/business representatives; residents, government agency representatives; and natural resource/forestry/soil managers. Their concerns, comments, and recommended actions are as follows:

Fire Adapted Communities	
Concern	Specific comment and/or recommended actions
Human-caused ignitions from fireworks, encampments and improperly disposed of debris	<ol style="list-style-type: none"> <li>1. Lots of trash and abandoned vehicles in Kalama Valley (previously) which the community needs help removing. Also, concern with dry grass and trash from homeless, abandoned vehicles.</li> <li>2. Abandoned vehicles can be a problem (Waimanalo) on occasion, but the problem gets resolved pretty quickly.</li> <li>3. Kaiwi coast &amp; golf course have homeless encampments which could be a cause of ignitions (but residents are sensitive to their situation).</li> <li>4. Install firebreaks, roads &amp; paths.</li> <li>5. Clear the vegetation.</li> <li>6. Clean up the trash.</li> <li>7. Continue to connect the people living there with resources and help .</li> <li>8. Need to continue to work to ban fireworks, and work on illegal fireworks problem: banning, enforcement.</li> <li>9. Consider a pilot program to increase inspections cargo/containers for fireworks.</li> </ol>

<p>Lack of education and awareness in wildfire prevention among residents and businesses</p>	<ol style="list-style-type: none"> <li>1. Be proactive: empower communities to be active and find ways they can be involved before fire happens.</li> <li>2. Target the following: <ul style="list-style-type: none"> <li>- School programs</li> <li>- Neighborhood boards</li> <li>- Other parts of the island</li> <li>- Businesses (have table in malls, shopping areas, etc. to increase outreach and exposure)</li> </ul> </li> <li>3. Encourage participation in Firewise program.</li> <li>4. Encourage early reporting (see something, say something).</li> <li>5. Educate public on HFD priorities: LIP - Life Safety, Incident Stabilization, Property Conservation.</li> <li>6. Ensure communities know that HFD may be able to support a community-hosted event (they have materials).</li> </ol>
<p>Inconsistent community wildfire preparedness standards and messaging</p>	<ol style="list-style-type: none"> <li>1. Regardless of community (including Firewise Communities), not all communities have the same level of interest/concern.</li> <li>2. Firewise Communities need to stay alert to threat and keeping up level of activity.</li> <li>3. Need to educate the public through nonprofits, conservation/native plants focus.</li> <li>4. Use social media to get exposure.</li> <li>5. Email campaigns (meet, get a native plant) use as a way to generate awareness.</li> <li>6. Establish volunteer sign up networks for different communities to clear the vegetation and clean up trash.</li> <li>7. Distribution network email list for volunteer prevention measures, etc.</li> </ol>
<p>Lack of neighborhood infrastructure to help with firefighting</p>	<ol style="list-style-type: none"> <li>1. Problems with ingress/egress (specifically for Kunia areas in Hawai'i Kai) where ridges have only one way in/out.</li> <li>2. Install fire barriers (breaks) where vegetation is removed 30-50 ft wide.</li> <li>3. Install 2-ways in/2-ways out; turn-arounds.</li> <li>4. Restrict parking to one side of road (city ordinance).</li> </ol>

## Safe & Effective Firefighting

Recommendation	Specific comment and/or recommended action
<p>Inadequate fire suppression infrastructure (water)</p>	<ol style="list-style-type: none"> <li>1. Lack of access to water is a concern as well as increasing drought.</li> <li>2. Need to have water for:               <ul style="list-style-type: none"> <li>- restoration activities (out-planting)</li> <li>- maintaining animals for grazing &amp; fuels reduction</li> <li>- fire fighting operations (dip tanks)</li> </ul> </li> <li>3. Consider a pilot program: rain barrels for water collection. Maybe state/county parks? \$40 rebate for 200 gal rain barrels sponsored by Board of Water Supply.</li> <li>4. Consider dipping out of pools.</li> <li>5. Concern that when wildfires do occur, we are using potable water (possible impact on precious resource).</li> <li>6. Consider salt water as a fire fighting resource (although not necessarily the best for equipment or native vegetation).</li> <li>7. Fire hydrants regularly blocked (need to enforce parking rules)</li> </ol>
<p>Lack of community emergency / evacuation plan(s)</p>	<ol style="list-style-type: none"> <li>1. Create and conduct an evacuation plan.</li> <li>2. Develop up-to-date maps of access roads trails within and surrounding communities and share these with fire companies.</li> <li>3. Citizens and residents determine/mark safest paths up hills (behind homes).</li> <li>4. Get neighborhood boards to plan escape routes.</li> <li>5. Create a flyer/guide to help with planning.</li> <li>6. Coordinate with neighboring communities - eg. ridge tops and valley bottoms.</li> <li>7. Designate meet-up spot for roll-call, etc.</li> <li>8. Be receptive to firefighters coming through yards to respond.</li> </ol>
<p>Lack of incentives for hazard reduction and unknown land tenure</p>	<ol style="list-style-type: none"> <li>1. How do we figure out who the land owners are? If it's city and county, then it might be easier. If it's private land, then it could be challenging to contact them.</li> <li>2. How to get landowners to manage fuels? Are there any regulations (ordnance) to prevent vegetation buildup in developments? If not, consider passing ordinances.</li> <li>3. Pursue financial resources for hazard mitigation (based on public or private land tenure).</li> <li>4. Consider county resolutions to maintain barriers around communities (note that policy exists, but is non-regulatory).</li> <li>5. Updates to land use ordinance (city council level); reach out to local leadership.</li> <li>6. Have a reporting system for the community to become aware of problem areas..</li> </ol>

## Resilient Landscapes

Concern	Specific comment and/or recommended action
<p>Threats to aquatic and terrestrial natural resources (wetlands, forests, endangered species)</p>	<ol style="list-style-type: none"> <li>1. Concern for threatened and endangered species, and specifically taking measures to prevent the forests and wetlands from burning.</li> <li>2. The native forests fringing the residential areas of Kailua and Kaneohe are very important for O’ahu Elepaio and other birds, tree snails, and dozens of endangered plant species.</li> <li>3. Importance of native forest vegetation to stabilize the soil to prevent siltation of the streams and coral reefs (there are endangered damselflies in the streams and threatened and endangered waterbirds in the marshes and lakes).</li> <li>4. Areas of concern include Diamond Head (habitat for endangered species) and invasive fountain grass found there (It has been detected as far as Wai’alae Nui ridge and it is in Kahala).</li> <li>5. Protect endangered species habitat.</li> <li>6. Prevent spread of fountain grass.</li> <li>7. Plant native plants to reduce erosion.</li> </ol>
<p>Vegetation fuels buildup</p>	<ol style="list-style-type: none"> <li>1. Kaiwi is a problem area: road infrastructure + people + wild vegetation (native/non-native) = more fires.</li> <li>2. Weed whack non-native grasses to prevent native forests fires.</li> <li>3. Grazing (goats/sheep) as an option to reduce vegetation.</li> <li>4. Fuel breaks could be put into Hawai’i Kai Golf course.</li> </ol>
<p>Vulnerable fire-prone zones</p>	<ol style="list-style-type: none"> <li>1. Concern for mountain regions adjacent to where flares might go off.</li> <li>2. Areas of concern: shooting range at Kokohead park.</li> <li>3. Partner with Kokohead shooting range to deal with the vegetation right behind targets.</li> <li>4. Near Marina (not necessarily have the “spark” points in this but have hazards been identified? For example, boats with fuels.</li> <li>5. Kamilo Nui group can help identify these zones and hazards.</li> </ol>



# APPENDIX C

## COMMUNITY SURVEY RESULTS

Questions	Responses
Please check this box to confirm that you are representing the East Honolulu region as either a resident or other stakeholder group.	Yes
How knowledgeable are you about wildfires in Hawai'i?	Somewhat
Select the stakeholder group(s) that best describes you. Select all that apply.	Land landowner and/or resource manager
Describe a concern around "fire-adapted communities" and recommended action(s) to address this concern.	A significant portion of lands vulnerable to wild fire are in a conservation district zone
Describe a second concern around "fire-adapted communities" and recommended action(s) to address this concern.	The conservation districts are a "boundary" area that currently have provisions within there regulations for wildfire protection buffers. Those buffers are NOT obligatory, encouraged, enforced or evident of any implementation anywhere ... so why are they not employed?
Describe a third concern around "fire-adapted communities" and recommended action(s) to address this concern.	The Honolulu Urban Core is equally if not more vulnerable to wildfire yet there is no group for this... are any planned? Is there any community interest? Is there a contact person that could assist in spearheading a group for that area of the island?
Describe any additional concerns around "fire-adapted communities" and recommended action(s) to address these concerns.	A "pilot project" or "demonstration site" would be most beneficial for the residents and the fire department staff to "see and test" current strategies for wildfire protection. (Specific to O'ahu)
Describe a concern around "resilient landscapes" and recommended action(s) to address this concern.	I do not have sufficient experience or applied knowledge in this area to be able to make substantive recommendations or courses of action other than as previously mentioned "some test / example" plots / sites.

<p>Describe a concern around "safe &amp; effective firefighting" and recommended action(s) to address this concern.</p>	<p>Access for fire department crew should be reviewed and commented on by their more experienced and professional fire suppression teams... including a review of fire suppression water sources specific to each access point for fire suppression. Specific to the "undeveloped conservation district lands adjacent the urban / residential areas.</p>
<p>What types of wildfire-related information and/or technical assistance do you think your community needs? (Examples: We need more public outreach about defensible space around homes. We need more understanding about current perceptions of wildfire risks. We need more opportunities to connect with our fire agencies/departments.)</p>	<p>I would hope to see or have a "contact person" at the DLNR / OCCL specifically assigned to help coordinate concerns regarding "urban boundary areas" bordering the Conservation District interface.</p>
<p>What specific ideas and/or additional details can you provide regarding any or all of the items you listed above?</p>	<p>I would hope to be contacted regarding some of these specific concerns expressed so that further clarifications might be gleaned on how our Honolulu Urban Core boundary with the Conservation District areas might addressed further.</p>

# APPENDIX D

## MULTI-YEAR & ONGOING PRIORITY PROJECTS

Project	Anticipated Costs	Anticipated Project leads and partners
Fuels management and/or perimeter fuelbreaks around high risk subdivisions throughout East Honolulu CWPP area, at the WUI interface, to reduce ignition and rapid fire spread risks and to provide firefighting access and/or additional egress options	Varies per community, per method. TBD per project. Ranges \$30K- \$4M	At-Risk Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric
Defensible Space Inspection Program for large land parcels and subdivisions in high risk areas	\$Up to \$2M per year depending on number of inspectors and area covered by program	HFD, City & County of Honolulu and other partners
Firewise Communities Program Coordination for area- to support communities pursuing or maintaining Firewise recognition, and to offer educational programming and mitigation assistance	\$100K/year	DLNR-DOFAW, HWMO, HFD, DEM
Community Mitigation & Defensible Space-vegetation removal projects and home hardening mini-grants	\$200K/year	At-Risk or Firewise Communities, DLNR-DOFAW, HWMO, HFD, DEM
Wildfire Resilient Landscapes Program Coordinator for area- to support mitigation projects and activities, provide technical guidance and trainings, coordinate multi-partner project implementation	\$100K/year	HWMO, DLNR-DOFAW
Wildfire preparedness education via community workshops and educational campaigns (PSAs, printed materials, etc.)	\$100K/year	DLNR-DOFAW, HWMO, HFD, DEM
Community mitigation projects for defensible space	Varies per community, per method. TBD per project. Ranges \$30,000- \$4M	At-Risk Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric

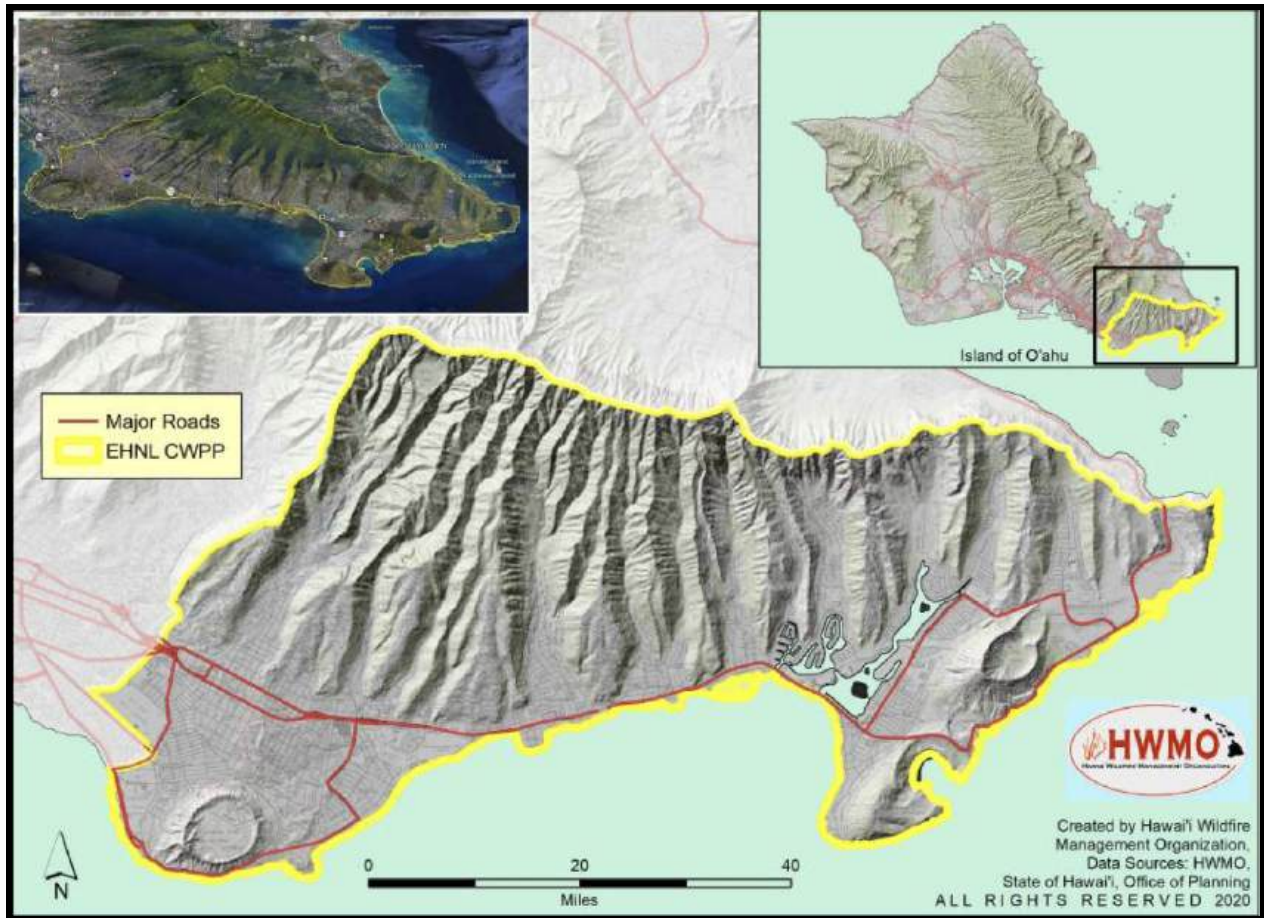
Project	Anticipated Costs	Anticipated Project leads and partners
Evacuation planning per community	Cost TBD	At-Risk Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric
Develop secondary egress and/or safety zones for communities with limited ingress/egress	Varies per community, per method. TBD per project. Ranges \$50K– \$20M	DEM, DLNR-DOFAW, HWMO, HFD, at-risk communities
Fuels management and/or perimeter fuelbreaks auto protect sensitive natural resource areas	Varies per community, per method. TBD per project. Ranges \$30K- \$10M	Impacted Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric
Install fencing and water infrastructure to support grazing of fire prone grassland areas	TBD per project. Ranges \$50K- \$4M	Impacted Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric
Install water cisterns, helicopter dipatnks, or other water resources to improve suppression capacity	TBD per project. Ranges \$50K- \$10M	HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric, HWMO
Harden electrical infrastructure, make grid more resilient, enhance community educational programs, minimize impacts of power shutoffs through micro gridding and back up power options for sensitive municipal and medical operations	\$10-\$50M	Hawaiian Electric, in partnership with agencies and communities
Establish a fuels management partnership for All Hands All Lands approach to reducing fire fuels	\$100K/year	HWMO, DLNR-DOFAW, Univ. of Hawaii
Fuels conversion through reactivating agricultural production/operations or through ecological restoration on fire prone unmanaged landscapes	Varies per project. Ranges \$25K- \$4.5M	At-Risk Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Board of Water Supply, Watershed Partnership, Hawaiian Electric

Project	Anticipated Costs	Anticipated Project leads and partners
Establish a fire weather forecasting coordinating group, weather stations, and a technological system to increase fire weather monitoring and red flag warning resolution. Develop necessary technology and data collection/analysis.	Some costs TBD. Coordination and planning costs \$150K. Research costs TBD. Technology and weather station costs TBD.	Univ. of Hawaii, NOAA-NWS, HFD, DLNR-DOFAW, HWMO, HECO,
Establish wildfire mitigation plans for City and State Lands not managed by DOFAW, to include Department of Education (all campuses), Department of Hawaiian Homelands (DHHL), City Parks, etc.	Cost varies per site and project	Agency leadership, facilities managers, communities at risk, DLNR-DOFAW, HFD, HWMO
Implement mitigation plans and projects on DHHL lands and Homestead Communities	\$500K/year	Agency leadership, facilities managers, communities at risk, DLNR-DOFAW, HFD, HWMO
Implement mitigation plans and projects on school campus	Cost TBD	Agency leadership, facilities managers, communities at risk, DLNR-DOFAW, HFD, HWMO
Implement mitigation plans and projects on State and City parks	Cost TBD	Agency leadership, facilities managers, communities at risk, DLNR-DOFAW, HFD, HWMO

**APPENDIX E:**

**2024 LIST OF PRIORITY  
PROJECTS AND ACTIONS  
EAST HONOLULU, OAHU**

# 2024 LIST OF PRIORITY PROJECTS AND ACTIONS



## East Honolulu, Oahu State of Hawaii

Drafted by Hawaii Wildfire Management Organization, in cooperation with the Department of Land and Natural Resources - Division of Forestry and Wildlife, Honolulu Fire Department, and City and County of Honolulu - Department of Emergency Management.

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## I. INTRODUCTION

Community Wildfire Protection Plans (CWPP) are a great community planning tool and have become a prerequisite for receiving federal funding for wildfire protection projects. A CWPP assists a community in identifying and prioritizing areas for hazardous fuel reduction treatments and supports communities in taking action. The plans assess values at risk, such as safety, natural resource protection, recreation, scenic values, and economic assets. Through a collaborative process involving input from community members, resource management and firefighting agencies, and various other interested parties, CWPPs help bring wildfire hazard information and planning and action opportunities to all parties. These plans are increasingly important in Hawaii, which faces unique wildfire threats that are becoming more challenging due to increasing ignitions, drought episodes, and land use changes.

In order to keep the CWPPs current and relevant, this Appendix to the CWPP serves as a repository for annual updates to the list of priority projects and actions. These project and action updates are designed to keep the CWPP actionable and aligned with the community's current needs and opportunities for wildfire mitigation. In this appendix, you will find a list of projects and actions that help at-risk communities to protect their citizens, homes, and resources from the destruction of catastrophic wildfires in the wildland-urban interface (WUI).

This approach was mutually agreed upon and affirmed through the signatures at the front of this document, ensuring collective commitment to maintaining the CWPP as a living and evolving tool. By focusing on shovel-ready priority projects, we enable more effective planning, resource allocation, and funding efforts. Each update reflects the collaborative efforts of stakeholders and represents the best available information for advancing wildfire risk reduction.

Readers are encouraged to refer to these updates in conjunction with the foundational elements of the CWPP. Together, they provide a comprehensive framework for understanding wildfire risks and implementing effective mitigation strategies.

## II. TABLE OF PROJECTS AND ACTIONS

<b>Project Name:</b> Fire Adapted Oahu	
<b>Communities and Neighborhoods that will benefit from this project:</b> Waianae, Nanakuli, Makaha, Makaha Valley, Mokuleia, Waialua, Helemano	
<b>Affiliation:</b> Hawaii Wildfire Management Organization (HWMO)	<b>Project Lead:</b> HWMO <b>Partners:</b> DLNR-DOFAW, Honolulu Fire Department
<b>CWPP Area:</b> East Honolulu, Oahu	<b>Cost:</b> \$1,395,296
<p><b>Project Description:</b> The proposed project is for HWMO to lead the following two programs for Oahu's CWPP-covered areas (Western Oahu and North Shore, combined population approx. 98,600).</p> <p>1- The Firewise Communities (FC) program, which leads resident education, aids communities through the Firewise hazard assessment and recognition process. It also supports defensible space and risk-reduction efforts for at-risk, underserved communities via vegetation removal/transport assistance; and</p> <p>2- The Wildfire Resilient Landscapes (WRL) program, which provides education and technical support for land managers, policymakers, emergency responders, and others. The WRL program provides education via in-person and virtual workshops, facilitates collaboration by facilitating ongoing working groups toward sustained multi-partner planning and cross-boundary mitigation, and provides area-specific and onsite technical mitigation and planning guidance.</p> <p>This work will be implemented by HWMO, in close communication and partnership with Hawaii Dept. of Land and Natural Resources, State Division of Forestry and Wildlife (DLNR-DOFAW), Honolulu Fire Department (HFD), and others.</p> <p>Hawaii's August 2023 fires were spread by heavy winds and through unmanaged lands heavily invaded by fire-prone grasses that entered the built environment, causing substantial damage to life and property. These wildfires were the most devastating and publicized fires in Hawaii's history in terms of the number of lives and structures lost. However, wildfire size and frequency has been growing over the past few decades with broad and long-lasting impacts, especially in Oahu's western (leeward) region and northern shore area, where infrastructure is not designed or built with wildfire safety in mind, and ecosystems are not adapted to fire.</p> <p>The CWPPs for these areas prioritize community, land manager, and decisionmaker education, and vegetation management in and around at-risk communities and WUI boundaries. This project supports both and will be implemented in the areas covered by CWPPs.</p> <p>CWPP priorities met by this project: Specifically, 38% of Western Oahu CWPP participant input was related to the need to work toward fire awareness, readiness, prevention, and general fire-adaptation by communities and residents (page 50). There was an urgency and emphasis of participant concerns regarding the general lack of awareness of the threats and</p>	

impacts of wildfire among all community members from residents to decision makers. (page 53). This project addresses the #1 and #3 priorities from the Western Oahu CWPP: Increase community awareness; and Improve planning efforts (of many types and scales) and to include community wildfire prevention and risk reduction (page 51).

Many North Shore CWPP participant input priorities are concurrently being addressed by this project:

Resilient Landscapes Education (p. 48, 50-51): Reach out to community members, those who lease agricultural lots, and elected officials about the critical need to address vegetative fuel hazards. Engage community members more intentionally and regularly about preventing fire ignitions in wildland areas; Formalize local wildfire coordinating groups in each area; Plan and implement the reduction of fire prone vegetation across ownership areas to increase capacity and engagement of a broader set of land managers and residents, and make whole areas safer

Community Education and Action: (p. 51-52): Increase homeowner awareness and preparedness: Offer programs that build community awareness, group mentality/culture, and attitudes toward wildfire prevention and preparedness; Provide best practices education and assistance for homeowners to establish defensible space around homes; Provide information, and pursue outreach and education programs for residents and area managers to treat structural ignitability of homes and buildings; Grow engagement and action of those who own and manage larger lots and agricultural lands; Provide education toward the need and responsibility to address fire risk on fallow lands; Support/engage large landowners in taking action, establishing and maintaining firebreaks; Create a way to coordinate and communicate among landowners and land managers in each area.

The project also supports the updated goals of the Cohesive Wildland Fire Management Strategy (CWFMS, 2023). By providing the opportunity for people to work together to reduce fire risk the project will support the goal of creating fire-adapted communities. By engaging practitioners to inform, learn and work toward climate-smart land and fire management, the project will support the goal of creating resilient landscapes by prioritizing management actions to safeguard and restore landscapes.

The project also supports the new wildland fire critical emphasis areas of:

(1) community resilience, and (2) diversity, equity, inclusion and environmental justice in creating fire-adapted communities. There is a strong emphasis in the project for prioritizing low income communities for assistance with vegetation removal projects in the Firewise Communities program.

This need for community risk reduction education and fuels management is also highlighted in the Hawaii Forest Action Plan (<https://dlnr.hawaii.gov/forestry/files/2013/09/Hawaii-Forest-Action-Plan-2016-FINAL.pdf>) as Issue # 3: Wildfires: Priority 1.a. Prevention education: Reduce the threat from wildfires to native ecosystems, forests, watersheds, and threatened and endangered species as well as communities within WUI areas through established fire prevention programs; and Priority 2.c Pre-suppression fuels management: Mitigate the impacts of wildfires on natural and built environments.

By bringing together a diverse group of agencies, organizations, and the public, the two proposed programs also support the State of Hawaii Forest Action Plan (FAP) by providing an opportunity to address wildfire issues in Hawaii by strengthening collaborative partnerships through the partner-heavy implementation of the FC program, and by facilitating collaborative learning and project planning across jurisdictional and land ownership boundaries through the WRL program.

The full set of programs will operate throughout Oahu's CWPP covered areas, focusing on the communities with the highest fire threat, all of which are identified as Communities at Risk by the State Division of Forestry and Wildlife and Hawaii Wildfire Management Organization. Wildfire on Oahu poses threats to many communities on the island, however many of our communities at highest risk of wildfire are also socioeconomically vulnerable, underserved, and/or low-income, particularly Hawaiian Homestead Lands, which are designated as underserved Tribal areas in the CWDPG tool.

**Importance:** These two programs have been key to Hawaii's progress toward wildfire preparedness and risk reduction thus far, but support is needed to carry forward the programs at the county level for all CWPP-covered areas. The request for participation in these two programs has increased 1,500% since our recent devastating fires. People have become both scared and motivated. This proposal will meet those emotions and motivations with meaningful programming, sound information, and sustained technical support and risk reduction project assistance, carried out at the county level instead of at the existing, albeit limited, statewide level. Supporting implementation of the two programs will provide higher quality education and technical support for individuals and communities (via FC program) and for others who influence fire outcomes (land stewards, large landowners, policymakers, and more, via the WRL program) in this new era when capacity, not complacency, has become our biggest obstacle.

**Project Name:** Dedicated Risk-Reduction Support for Native Hawaiians

**Communities and Neighborhoods that will benefit from this project:**  
All DHHL Homestead Communities

**Affiliation:** Department of Hawaiian Home Lands (DHHL)

**Project Lead:** Richard Hoke

**CWPP Area:** East Honolulu, Oahu

**Cost:** \$150,000 annually per firewise coordinator, plus annual mitigation funds

**Project Description:** DHHL homesteaders are Native Hawaiians who receive land leases from DHHL to build homes and establish sustainable communities. Many face socioeconomic challenges, including lower income levels and limited access to essential resources. While DHHL will provide financial assistance for community mitigation efforts, grant funds will directly support the hiring of a dedicated Firewise Coordinator for these vulnerable communities, enabling unified efforts in wildfire preparedness and mitigation.

As a central point of contact, the Coordinator will support three groups: those interested in wildfire preparedness (Firewise-interested sites), those needing assistance to meet Firewise requirements (emerging sites), and those already in the Firewise program seeking advanced

guidance (existing sites).

Firewise-interested sites will receive resources and participate in workshops aimed at increasing knowledge around wildfire risks and mitigation best practices. Emerging sites will benefit from social and technical support to meet Firewise criteria, including forming a team, completing a hazard assessment, developing an action plan, and executing a risk-reduction project. Emerging and existing sites will receive technical assistance for mitigation planning and implementation, as well as access to the broader community of Firewise sites across the state (HI-Firewise Network).

Mitigation projects to be designated by this Firewise assessment process.

**Importance:** We are committed to investing millions in fuel breaks & land management activities to enhance the health/safety of the lands & communities we steward. However, achieving this vision requires the cooperation & active participation of our beneficiaries/homesteaders. Our primary aim is to target the enabling factors that will empower them to take proactive risk-reduction actions, while DHHL simultaneously mitigates risks on surrounding lands. This initiative will assess the impact of coordination support for our homestead communities and the availability of funds for their risk-reduction projects. Targeting both residential areas and DHHL-owned lands fosters a cohesive approach to wildfire management. This strategy encourages collaboration among neighboring communities and with DHHL, effectively reducing overall risk across the landscape. Additionally, this initiative aligns with broader wildfire management strategies, contributing to a unified regional response. As communities implement their mitigation plans and achieve Firewise recognition, we will establish a network of prepared landscapes and neighborhoods. This collaborative effort will collectively reduce wildfire hazards and promote sustainable, long-term risk reduction strategies.

**Project Name:** Queen's Gate II Evacuation Plan

**Communities and Neighborhoods that will benefit from this project:**

**Affiliation:** Queen's Gate II - Firewise Site

**Project Lead:** Cliff O'Donnell  
**Partners:** Hawaii Kai Golf Course

**CWPP Area:** East Honolulu, Oahu

**Cost:** \$1,000

**Project Description:** An evacuation plan will be developed to allow Queen's Gate homeowners to evacuate in case of a fire. Four evacuation routes have been identified for homeowners to exit via the Hawaii Kai Golf course. Eight signs are needed to show the location of the evacuation routes. The anticipated cost is for the signs. Once the signs are in place, homeowners will be notified by website, email, and a newsletter.

**Importance:** Currently there is only one way in or out of Queen's Gate. That way could be blocked by a fire. Our Firewise Hazard Assessment Report and Action Plan stated our top priority was to develop an evacuation plan with alternative exits in case of a fire.

The following county, state, and federal representatives have a high level of interest in the protection of the East Honolulu area from wildfire, and have reviewed and support this Community Wildfire Protection Plan.

State Department of Land and Natural Resources- Division of Forestry and Wildlife  
Kalanimoku Building  
1151 Punchbowl St. Room 325 Honolulu, HI 96813

City & County of Honolulu Fire Department  
636 South St, Honolulu, HI 96813

City & County of Honolulu Department of Emergency Management  
650 S King St, Honolulu, HI 96813

For inquiries related to the development of this plan, to add action plan projects, or for printed copies, please contact:

Hawai'i Wildfire Management Organization  
65-1279 Kawaihae Rd. Ste 211, Kamuela, HI 96743  
Email: [admin@hawaiiwildfire.org](mailto:admin@hawaiiwildfire.org)  
Website: [hawaiiwildfire.org](http://hawaiiwildfire.org)

Funding for this project was provided by USDA Forest Service- Cooperative Fire.



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