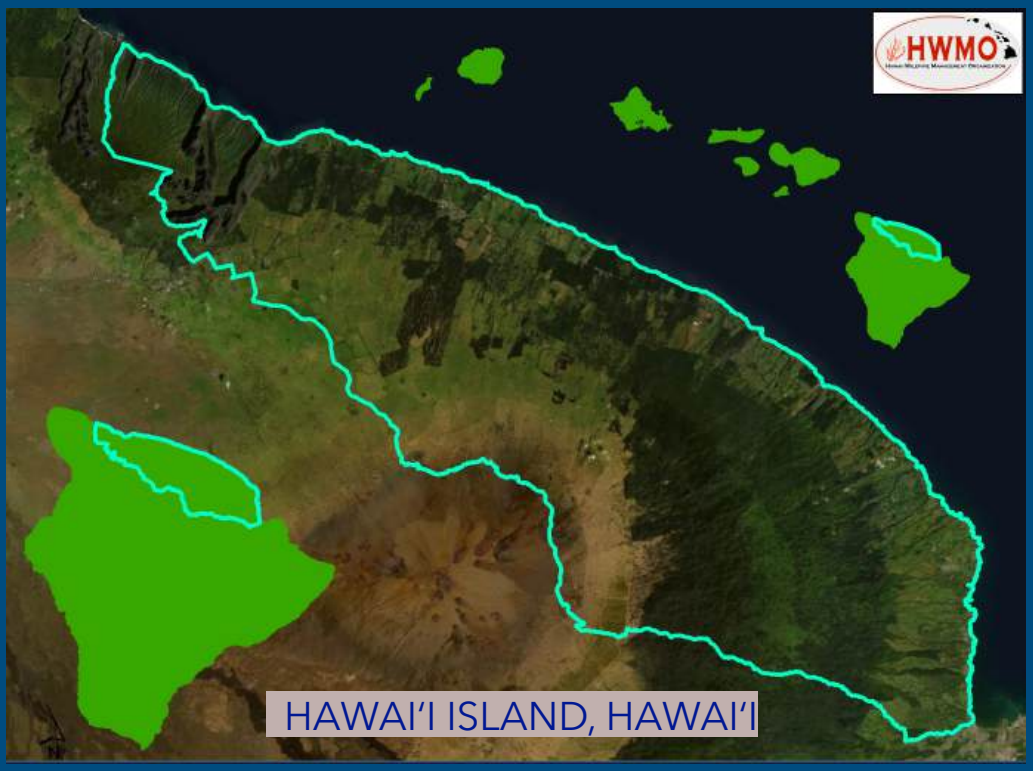
HĀMĀKUA COMMUNITY WILDFIRE PROTECTION PLAN



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 Hāmākua Community Wildfire Protection Plan: State of Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife; Hawai'i Fire Department; and Hawaii County Civil Defense Agency.

This plan:

- Was collaboratively developed by agencies, entities, community members, and individuals with interest or jurisdiction in Hāmākua, Hawai'i Island.
- 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.

Michael Walker

Michael J. Walker, State Fire Protection Forester
Department of Land and Natural Resources
Division of Forestry and Wildlife

Kazuo Todd, Fire Chief
County of Hawai'i
Hawai'i Fire Department

Talmadge Magno
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Talmadge Magno, Administrator
Hawai'i County Civil Defense Agency

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HĀMĀKUA

COMMUNITY WILDFIRE PROTECTION PLAN

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ACRONYMS
DLNR-DOFAW: Department of Land and Natural Resources, Division of Forestry and Wildlife;
HFD: County of Hawai'i Fire Department; **HWMO:** Hawai'i Wildfire Management Organization
USAG-FES-PTA: US Army Garrison Fire & Emergency Services Pohakuloa Training Area.

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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, private resource management entities, community members, and decision makers concerned about wildfire issues in Hāmākua, Hawai'i Island, Hawai'i. State of Hawai'i Department of Land and Natural Resources- Division of Forestry and Wildlife (DLNR-DOFAW) was the primary partner in carrying out this CWPP process.

The Hāmākua 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 several relevant federal programs and grant opportunities.

Stakeholder participants in the development of this plan agree that wildfire threats are imminent and can have widespread damage to Hāmākua watersheds, natural resources, and human communities. The danger of fire is related to high numbers of human-caused fires, dry conditions, steep slopes, high fire potential of vegetation, and challenging firefighting conditions. In the last decade, numerous areas of Hāmākua have burned. While CWPPs serve mainly as a mechanism for assessing, communicating, and preparing for wildfire collaboratively, they are not enforceable or funded. The action plans are voluntary and rely on all parties understanding they play a role in wildfire safety and protection and taking appropriate actions toward risk reduction. A CWPP is a first step toward increased public-private collaboration toward these goals.

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PART I
OVERVIEW

INTRODUCTION

The communities, lands, and waters of Hāmākua, Hawai'i Island, 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 Hāmākua.

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 Civil Defense/ Emergency Management departments to meet federal compliance requisites.

TIMELINE- THE DEVELOPMENT OF THE HĀMĀKUA CWPP

2020 DLNR-DOFAW worked with HWMO to propose the project and to coordinate and complete all contract and administrative components.

2021 An introductory meeting was held with the DOFAW and HWMO, to lay the groundwork for a collaborative all-partner effort, agree on the process and timeline, and establish exact planning area boundaries.

HWMO developed fire weather and other maps for the planning document

Planning discussions were held with Big Island Wildfire Coordinating Group and other relevant parties to:

Reviewed the purpose, intent, and next steps for the CWPP.

Planned a collaborative workshop with relevant agencies, organizations, and community members for discussion of wildfire concerns. Selected dates and times.

Discussed and determined strategies for adapting the process to COVID-19 social distancing and travel restrictions.

Held 2 community workshops to discuss the purpose of the CWPP, to review fire history maps and hazard assessment results, and to collect community input on concerns and priorities, with the intent of developing relationships and catalyzing collective learning and action.

2021-2 Community CWPP input survey was launched and circulated via email.

2022 HWMO completed all background information, research, mapping, and processed workshop input and community survey results.

2023 Release to partners for review and signature was delayed by urgent and necessary shift to tasks related to catastrophic fires.

2024 Multi-year/ongoing and 2024 project lists were completed. Full document provided to agencies for review and signature.

PARTNERSHIPS AND COLLABORATIONS

This CWPP was developed in close collaboration with several stakeholders:
Primary collaborators were:

- County of Hawai'i Hawai'i Fire Department
- County of Hawai'i Civil Defense Agency
- Department of Land and Natural Resources- Division of Forestry and Wildlife
- County Councilperson Heather Kimball
- Hawai'i Wildfire Management Organization
- Big Island Wildfire Coordinating Group

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 fire-prone areas 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, and the consequences of, wildfire.

COVID-19 STATEMENT

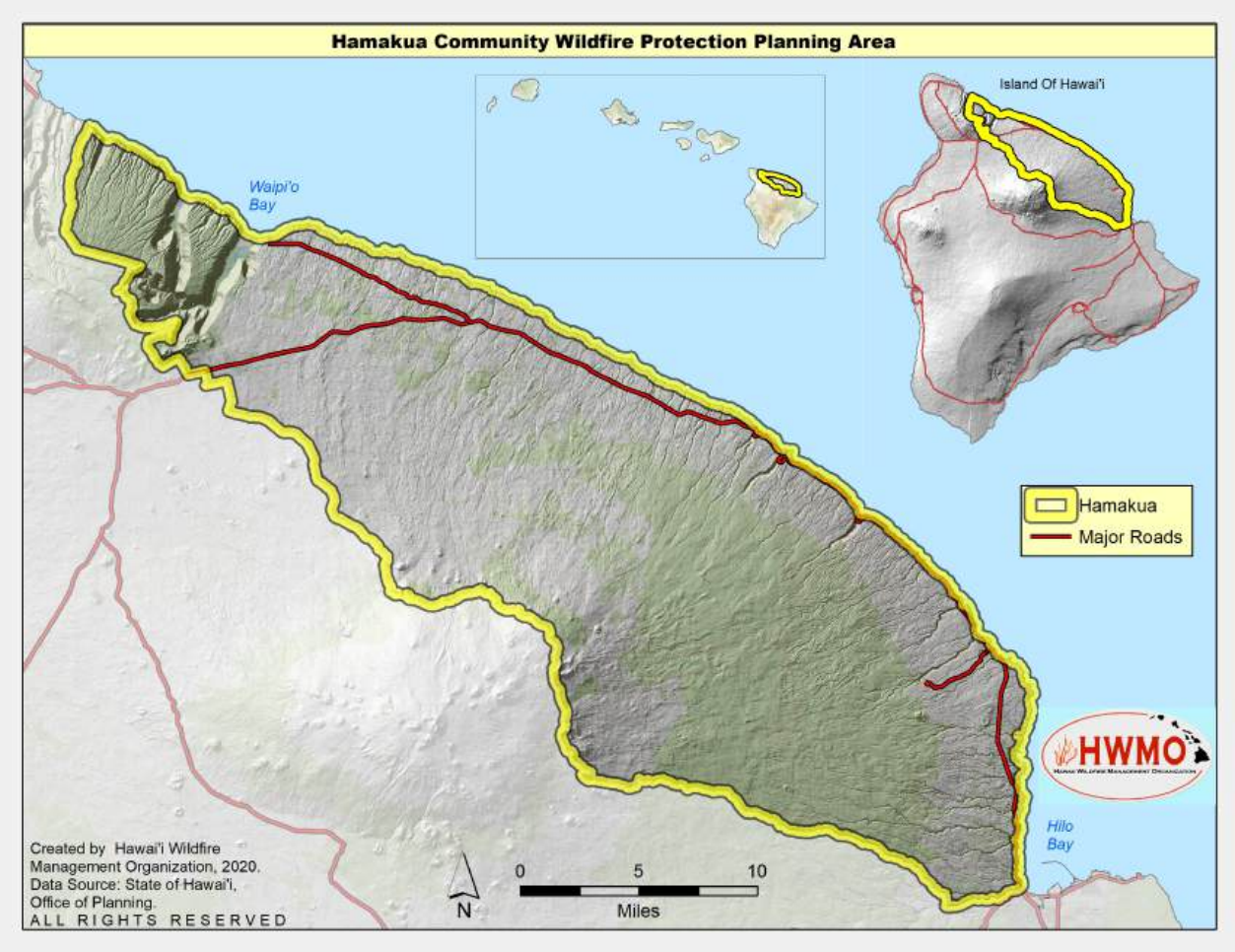
In an effort to maintain a highly collaborative, effective, and safe CWPP process during several variations of social and travel restrictions across the county and state, the majority of this CWPP was using virtual alternatives to in-person activities. To adapt to COVID-19, several virtual workshops were held with agency and community representatives, and a web-based survey went out to those who lived and worked in Hāmākua 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 Hāmākua CWPP (Map 1) is part of a series of CWPPs across the island of Hawai'i. To date, CWPPs have been developed for the following: Ocean View, North West Hawai'i, Ka'ū, Volcano, South and North Kona. The CWPP delineation for the Hāmākua plan follows the boundaries established for x neighborhood boards encompassing a total of 322,855 acres.



Map 1. Hāmākua CWPP Planning Boundaries.

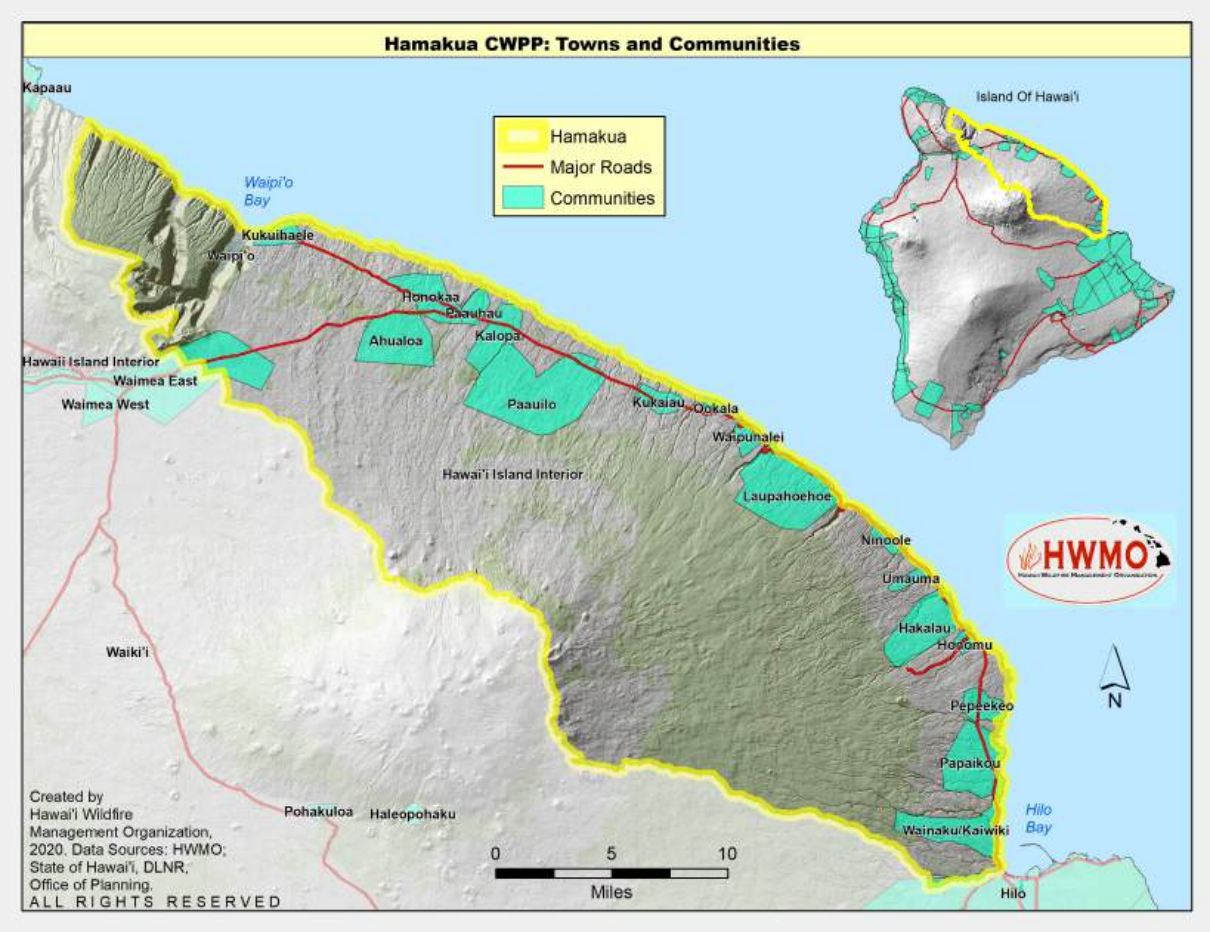
COMMUNITIES AT RISK

Located in one of the most rural, least densely populated parts of Hawai'i Island, Hāmākua is considered at risk of wildfire due to human-caused ignitions which are adjacent to vulnerable portions of the landscape. In addition, limited emergency response and difficult ingress/egress pose wildfire containment challenges than in more developed regions of the island.

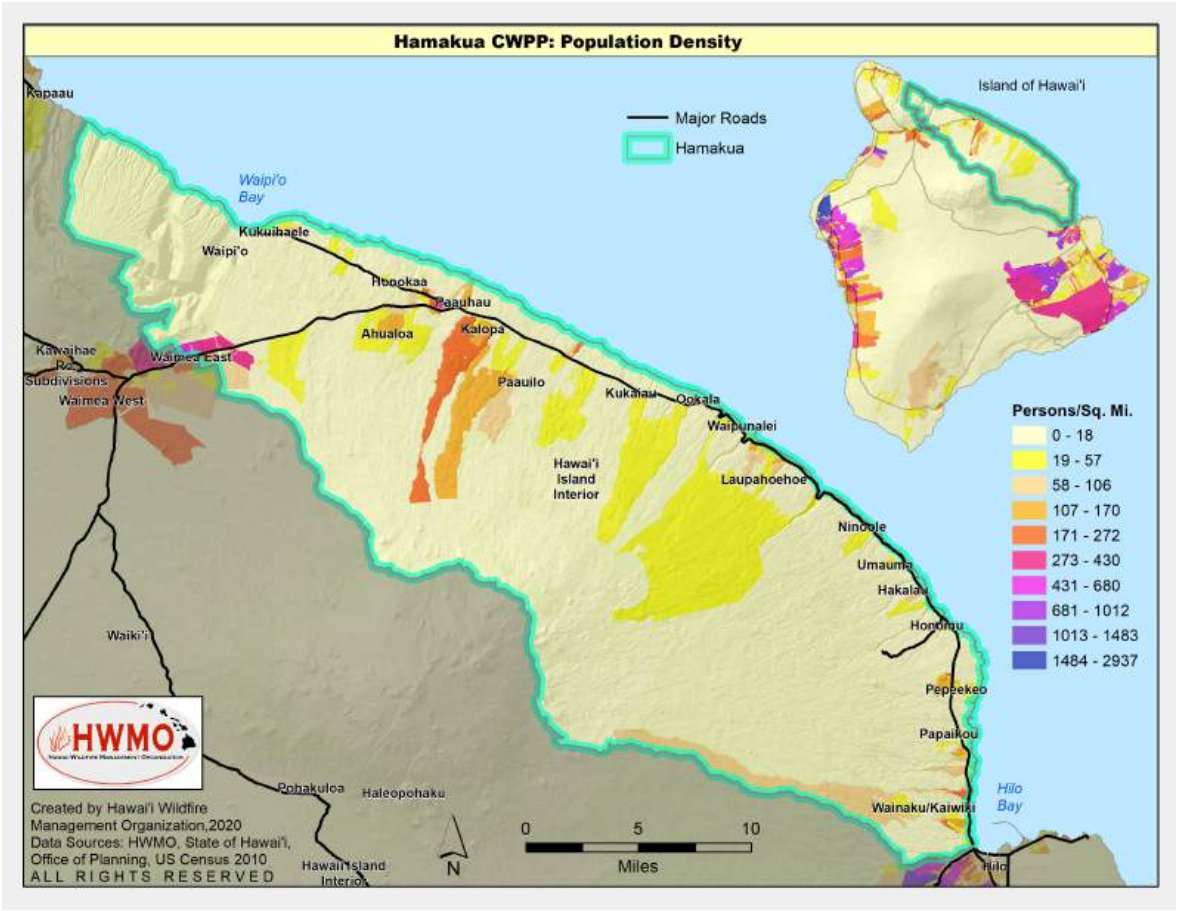
There are 17 residential communities (Map 2) spread across the districts of Hāmākua, North Hilo and portions of South Hilo (collectively referred to as "Hāmākua" in this plan). These combined areas have

a population total of 16,846 (per the 2010 U.S. Census). Located on the northeast flank of Mauna Kea volcano, Hāmākua is situated on the volcano's gentle, verdant slopes which are intersected by deep, u-shaped valleys and bounded by steep sea cliffs. Sparsely populated residential communities, schools, ranches, farms, and parks are spread across the coastline, all within close proximity to streams, lush vegetation, and rocky cliffs.

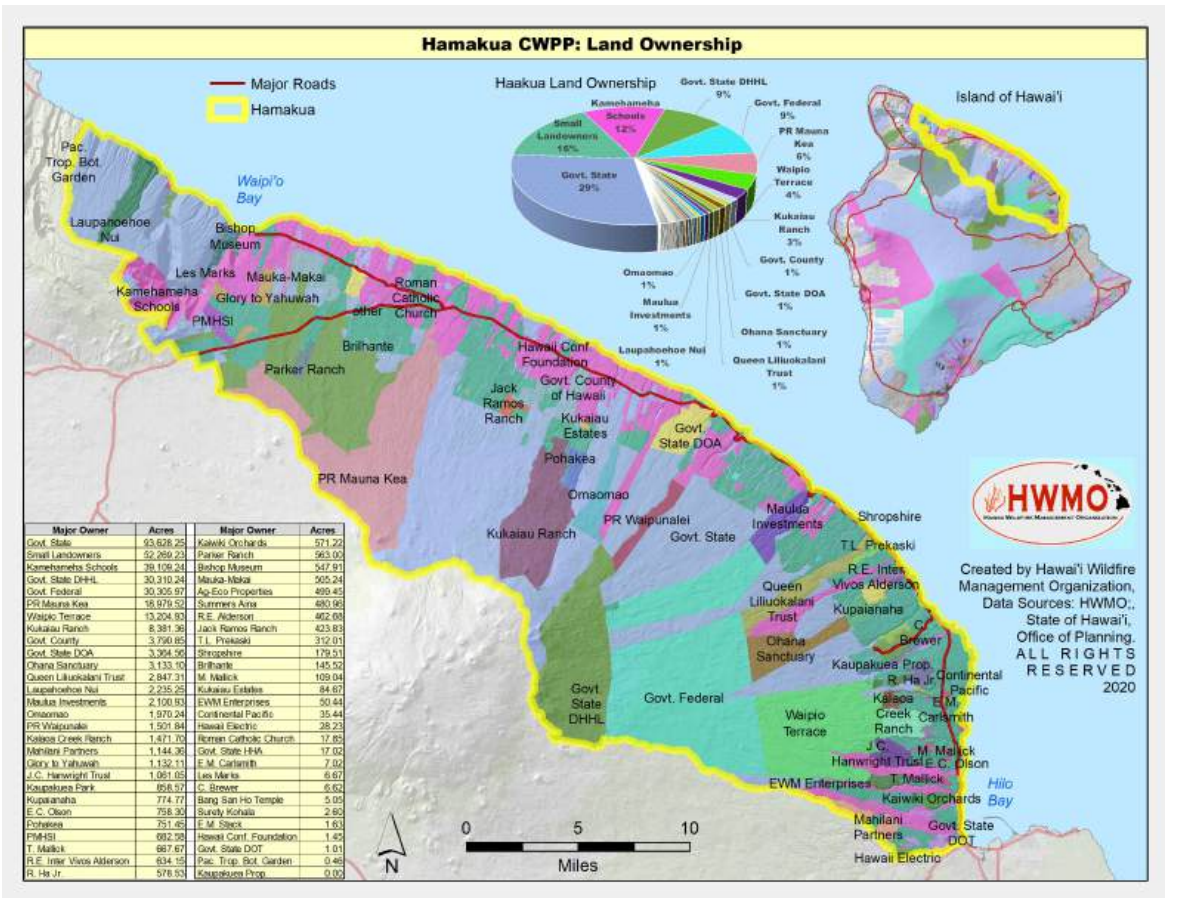
About 38% of the area under consideration in this plan is owned by the state of Hawai'i (Map 3),. This includes the Department of Hawaiian Homelands managed areas and the Department of Land and Natural Resources forest reserves and natural area reserves which are set aside for public hunting and ecological stewardship. Large and small private lands comprise just over a quarter of the land in the CWPP planning area, including Kamehameha Schools which is the single biggest landowner. The Pu'u Mali Restoration Area and the federally managed 30,000-acre Hakalau National Wildlife Refuge are both important ecological sanctuaries for native forest birds. Finally, Hāmākua's single coastal highway connects the 50 mile string of coastal rural communities to important natural areas, shorelines, and streams, as well as the larger towns of Waimea to the northwest and Hilo to the southeast.



Map 2. Towns and Communities in Hāmākua.



Map 3. Population density in Hāmākua, Hawai'i Island.



Major Owner	Acres	Major Owner	Acres
Govt. State	93,628.25	Kaiwiki Orchards	571.22
Small Landowners	52,269.23	Parker Ranch	563.00
Kamehameha Schools	39,109.24	Bishop Museum	547.91
Govt. State DHHL	30,310.24	Mauka-Maka	505.24
Govt. Federal	30,305.97	Ag-Eco Properties	499.45
PR Mauna Kea	18,979.52	Summers Area	480.96
Waipio Terrace	13,204.93	R.E. Alderson	462.68
Kukaiau Ranch	8,381.36	Jack Ramos Ranch	423.83
Govt. County	3,796.85	T.L. Prekaski	312.01
Govt. State DOA	3,304.56	Shropshire	179.51
Ohana Sanctuary	3,133.10	Brilhante	145.52
Queen Liliuokalani Trust	2,847.31	M. Mallick	109.04
Laupahoehoe Nui	2,235.25	Kukaiau Estates	84.67
Maulua Investments	2,100.93	EWM Enterprises	50.44
Omaomao	1,970.24	Continental Pacific	35.44
PR Waipunalei	1,501.84	Hawaii Electric	28.23
Kaleoa Creek Ranch	1,471.70	Roman Catholic Church	17.85
Mahilani Partners	1,144.36	Govt. State HHA	17.02
Glory to Yahuwah	1,132.11	E.M. Carlsmith	7.02
J.C. Hanwright Trust	1,061.05	Les Marks	6.67
Kaupakuea Park	858.57	C. Brewer	6.62
Kupaianaha	774.77	Bang San Ho Temple	5.05
E.C. Olson	758.30	Surety Kohala	2.60
Pohakea	751.45	E.M. Steck	1.63
PMHSI	692.58	Hawaii Conf. Foundation	1.45
T. Mallick	667.67	Govt. State DOT	1.01
R.E. Inter Vivos Alderson	634.15	Pac. Trop. Bot. Garden	0.46
R. Ha Jr.	578.53	Kaupakuea Prop.	0.00

Map 4. Land ownership in Hāmākua, Hawai'i Island.

PART II

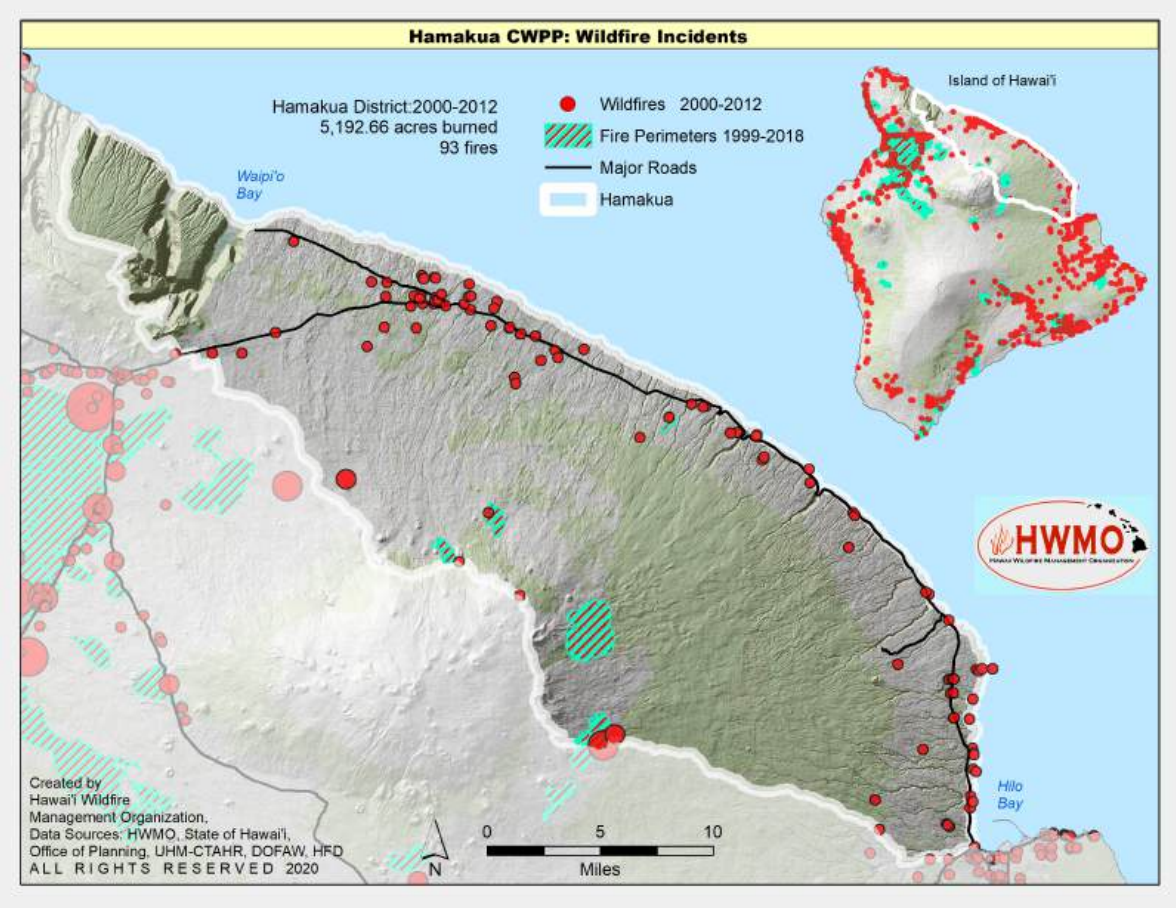
WILDFIRE CHARACTERISTICS AND CONSIDERATIONS

FIRE HISTORY

WILDFIRE OCCURRENCE

The majority of wildfires on Hawai'i Island are caused by human error or arson, especially near developments, power lines right of way, and along roadsides. In Hāmākua, former agricultural lands once cultivated for sugar have been overtaken by fire-prone weeds while non-native grasses near developments and within tree plantations pose additional threats. Large tracts of planted eucalyptus also pose significant risk when conditions are dry. 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 below (Map 5) shows individual ignition locations over the past twenty years, including the perimeters of large fires in the upland regions between 1999 - 2018. Even with relatively high rainfall, areas of high human activity within Hāmākua may become repeat ignition hot spots, especially during dry periods. Across Hawai'i, humans are the cause of wildfires 99% of the time (only 1% are from natural causes such as lava or lighting). Reducing ignition is a major important component of reducing wildfire occurrence and damages.



Map 5. Wildfire Incidents 2000-2012, Hāmākua, Hawai'i Island.

NOTABLE FIRES

Historically, wildfires have repeatedly been a problem in Hāmākua despite its location on the rainy, windward side of the island. Most notably, large-scale, unintended wildfires occurring during the sugar cane era began with the 30,000 acre fire in 1901 which was first intentionally set to clear brush for agriculture but escaped control. The fire was reported to have burned 15 miles long across a 2-4 mile stretch for three months until rains extinguished it. The Hāmākua fire combined with erosion from forest loss due to animal grazing prompted the Hawai'i Territorial government to take into consideration forest conservation and watershed health across all of the islands.

More than a century later, the loss of large-scale sugar cultivation which once dominated the Hāmākua coast has exacerbated the problem because of the transition of former croplands into alien grasslands. More challenging still is that these flammable areas are adjacent to roadways and human habitation. This, coupled with climate drying trends and a history of human-caused ignitions puts the area at increased risk of wildfire.

The closure of Hāmākua Sugar Company in 1995 prompted the sale and/or lease of the company's former 25,000-acre plantation lands to the public. Since then, the Hāmākua coast has seen an increase in both residential development, diversified agriculture, and accompanying infrastructure. This includes various small farms growing food and ornamental plant crops by private landowners and public cooperatives, most notably on lands leased to farmers. This proximity of increased human presence beside unsold or un-leased fallow lots poses an increased fire threat, combined with the historic use of the area for recreation, ranching, and farming.

For example, between 2000 - 2012, more than 5,000 acres burned in 93 wildfires. In 2000, multiple fires threatened the Hakalau Forest Reserve, an important refuge for rare and endangered native Hawaiian forest bird populations, scorching mesic (drier than wet) forest habitat. Likewise, fires started in the upper elevation dry and mesic forests and shrublands (near or on Mana Road) are an ongoing threat to state forest reserves, endangered birds, and plants. Hikers, dirt bikers, and campers are possible ignition sources. In 2021, drought was linked to a large 1,400 acre fire in which 66 personnel were deployed by land and air to protect life and property. The drought had been preceded by a rainy year in which vegetation build-up provided

Image 1. Pau'uilo firefighters back burning in anticipation of a nearing wildfire in June 2021. Photo Credit: DLNR

more potential fuel to burn. As the climate warms and periods of drought become more frequent, wet areas like these will require more vigilant attention in planning for wildfire mitigation.

Table 1 (below) summarizes the notable fires between 2000 - 2023.

Location	Date	Size (acres)	Threatened Resources
Pau'uilo	2022, 2023	<100 acres ea.	Several grass fires in and around Pa'auilo area, contained quickly
Pau'uilo	June 2021	1400	highway closure and 15 homes & 10 structures threatened by fire
Pu'u Mali		1,000 acres?	in mid elevation area
Pau'uilo - O'okala	June 2017	10	wildfire set by vehicle spread to pasture and eucalyptus forests prompting temporary highway closure
Laupāhoehoe Natural Area Reserve	2012	22.2	Waipunalei Fire was probably started from a lightning strike. The fire burned near the koa mill in Waipunalei, between Laupāhoehoe Forest and the Humu'ula section of Hilo Forest Reserve (fuels were mainly kikuyu grass)
Pau'uilo - O'okala	Oct 2011	6-8	wildfire threatened 1 home, destroyed a makeshift abandoned lean-to and swept through an abandoned cemetery
Laupāhoehoe Natural Area Reserve	2008	2800	"Piha fire" burned non-native grasses and koa canopy from Hopuwai Corral above Piha FR across to Laupāhoehoe FR and up to Mauna Kea FR
Hakalau	Aug 2000	200	called the "Piihonua fire", the fire threatened Hakalau Forest Reserve
Hakalau	July 2000	5	called the "Maulua fire" three fires threatened the Hakalau Wildlife Refuge, destroying 5 acres of native mesic forest and threatening rare birds
Hakalau	March 2000	3	called the "Aahuwela II fire", the fire threatened Hakalau Forest Reserve
Hakalau	Feb 2000	1400	called the "Aahuwela fire", the fire threatened Hakalau Forest Reserve

Table 1. Notable fires 2000 - 2023, Hāmākua, Hawai'i Island.

FIRE ENVIRONMENT
WILDFIRE DRIVERS

The factors that contribute to wildfire occurrence and spread on the windward side of the island are a combination of abundant fuels ignited by people and periodic climate conditions favoring drought and high winds. During dry conditions in the Hāmākua region, these can stack up to yield a high risk of wildfire, rapid spread, and significant impacts from summit to sea.

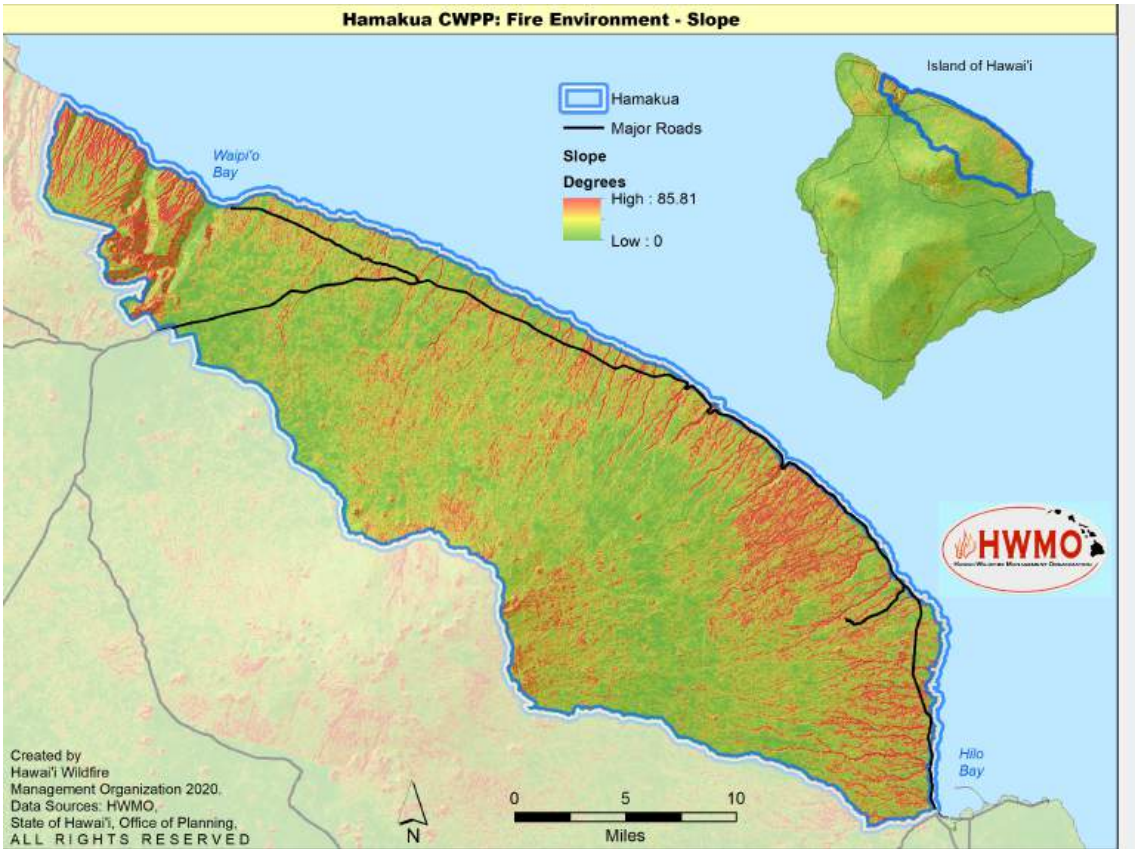
TOPOGRAPHY

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.

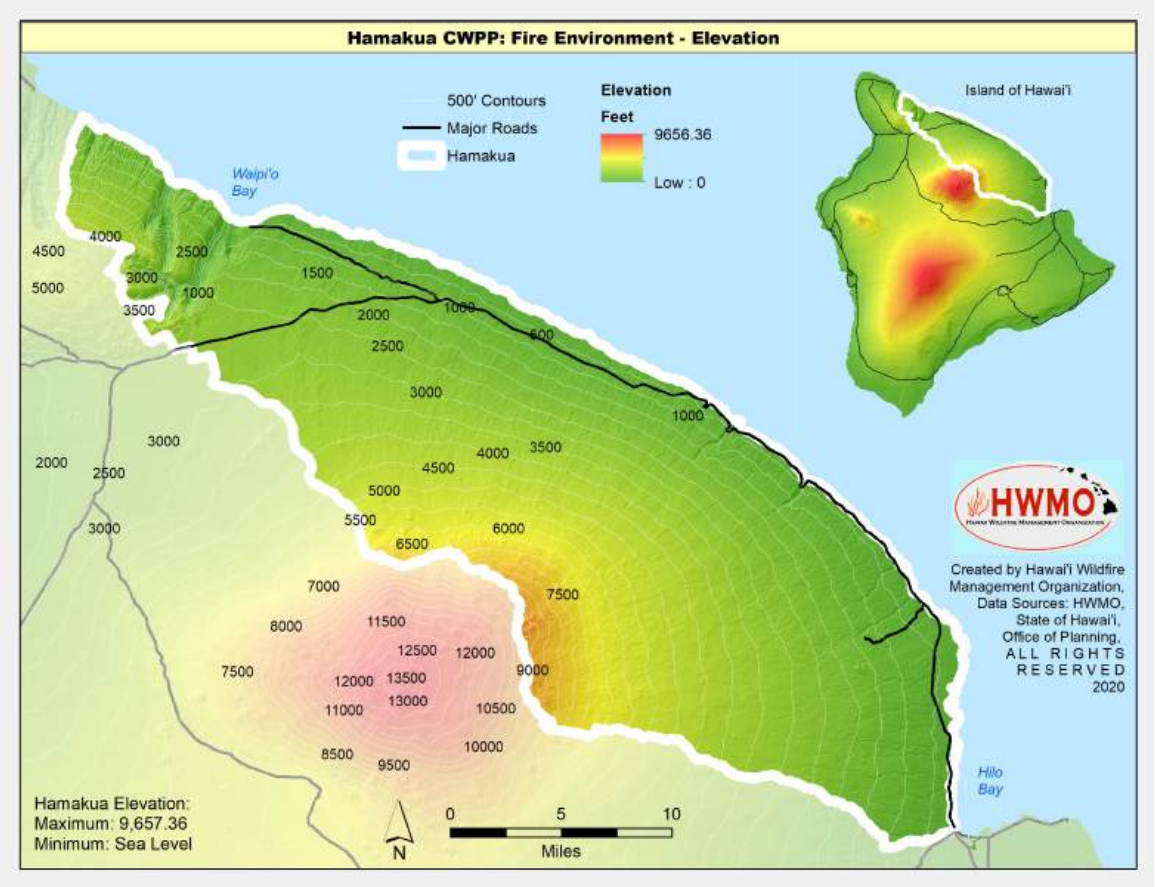
Image 2. The north-facing view of the CWPP area includes Mauna Kea's coastal areas which rise to rain forests and sub-alpine mountain tops. Source: Google Maps

The project area spans coastal sea cliffs and beaches dissected by u-shaped valleys on the northeastern flank of Mauna Kea, a gently sloping shield volcano (Map 6 next page), and the tallest of five on Hawai'i Island. Within the planning area, the coastline is characterized by rugged, and often inaccessible terrain rising from sea level to approximately 9,000 ft in elevation (Map 7 next page). Remote, sub-alpine shrublands at the highest elevations (Photo 1 above) are generally drier than the moisture-laden low-to-mid elevation rain forests which require drought conditions to burn, a more recent phenomenon. However, this topography can create dangerous conditions when wildfires do ignite in the lowlands since wildfires spread more quickly as they progress upslope.

The communities of Hāmākua have a single north-east and north-west egress option along the coastal two-lane Highway 19. Waipi'o Valley is even more isolated since it is four-wheel drive access only. In addition, many of the communities nested in valleys and built along ridges have limited access routes. These constraints may limit emergency response access to the wildland areas adjacent to rural homes, some of which are off-grid. Once wildfires spread into rugged, upland areas, the lack of roads and difficult terrain limit fire response to costly aerial operations (i.e., bucket drops by helicopters), as conditions may prove difficult to deploy firefighters on the ground.



Map 6. Slope across the Hāmākua CWPP planning area.



Map 7. Elevation across the Hāmākua CWPP planning area.

FUEL

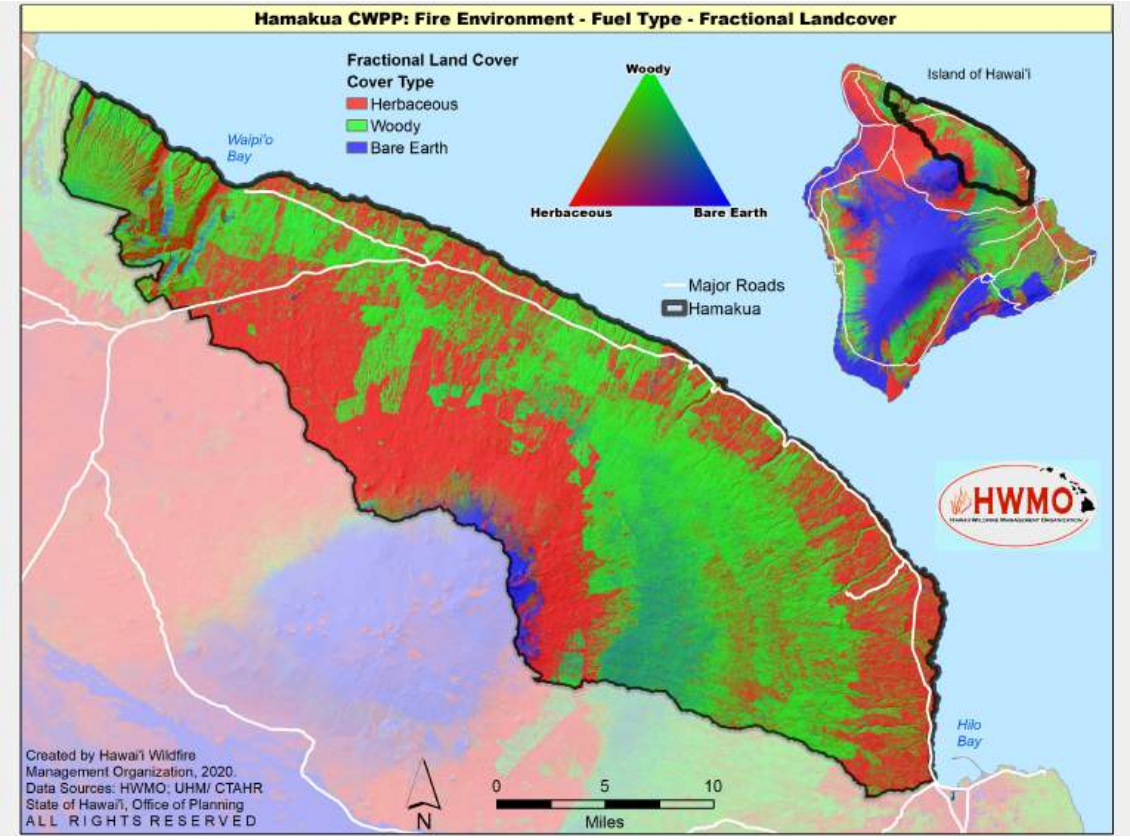
Fine "flashy" fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more abundant and continuous it is, the faster the fire spreads and the higher its intensity. Fine fuels like grasses take a shorter time to burn out than coarser fuels like shrubs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

Since Hāmākua 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 (herbaceous), woody, or bare ground. While the species also indicates 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 lowland vegetation (< 2000 ft) is mostly herbaceous, consisting of non-native grasses and non-woody shrubs. The higher elevation areas consist of a mix of drier native and alien shrublands and grasslands. Under drought conditions in Hāmākua, grasses in particular can become flashy, dry easily, and ignite readily. Rainforest trees and woody vegetation (in green) span from the coast to about 8,000 ft and are less likely to readily burn in Hāmākua. In the best case scenario, patchy or non-contiguous fuel types could slow the spread of wildfire and provide options for fire control. Zooming into consider the specific vegetation types (Map 9), Guinea grass (Megathyrsus maximus), Elephant grass (Cenchrus purpureus), and Kikuyu grass (Pennisetum clandestinum), as well as non-native shrubs such as gorse (Ulex europaeus), are widespread throughout the low to mid-elevations. Although no detailed vegetation survey data exists for the entire planning area, Guinea grass is the dominant fire threat on former plantation lands. It provides 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 Hāmākua contain various non-native tree species most notably (as it relates to wildfire) Eucalyptus grandis plantations, Ironwood (Causurina spp.), and some Silk oak (Grevillea robusta) now colonizing fallow old sugar cane lands. Although fire behavior in these mixed forests is poorly documented, natural resource managers and firefighters have observed certain problematic fire-promoting characteristics. For example, ironwood can be problematic because of the needle litter and duff which burns easily and spreads fire along underground root systems, making suppression efforts difficult. The chemical content in some eucalyptus species' leaves and bark may prevent decomposition, resulting in large and persistent fuel loads beneath live trees. These increased fuel loads can result in high-intensity fires that result in 'torching' or vertical fire spread into tree canopies as has been observed in eucalyptus stands during some wildfires across the state.

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,

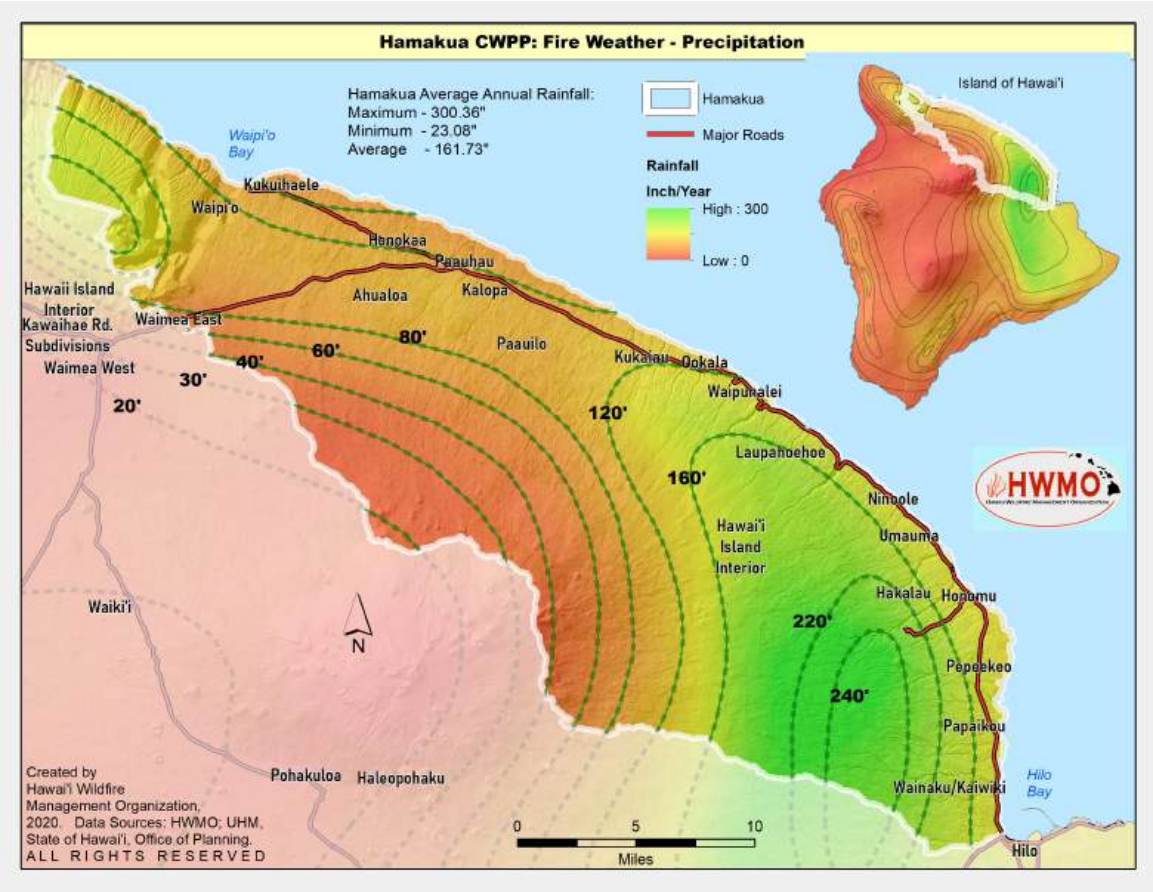
recurrent fires in these lower-elevation grasslands and shrublands could effectively 'erode' the edges of upper forested areas. Once replaced by grasses, these areas increase the risk of future fires over time. Upper-elevation forests contain important native mesic forests, rainforests, and forest bird populations, all of which are directly threatened by ignitable, ungrazed, adjacent pasture lands.



Map 8. Fuel type: Woody/green, herbaceous (grass, shrubs, forbs)/red, and bare earth across

CLIMATE AND WEATHER

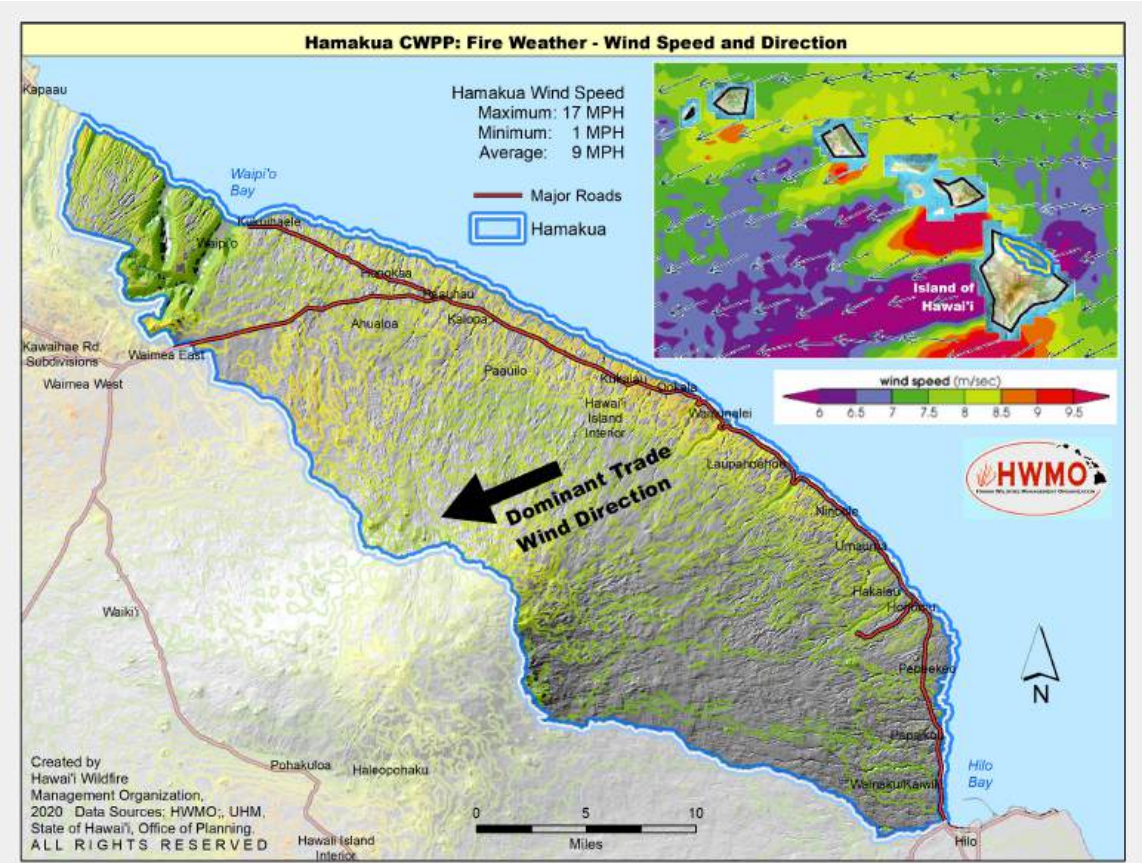
Hāmākua is directly exposed to prevailing moisture-laden northeast trade winds, which are intercepted by the northeast slopes of Mauna Kea. As a result, the majority of the planning area has moderate to extremely high rainfall and humidity, most notably at the eastern end (Map 9). Moderate sun exposure results in cooler air temperatures overall. Maps 11 and 12 (next page) illustrate this relationship.



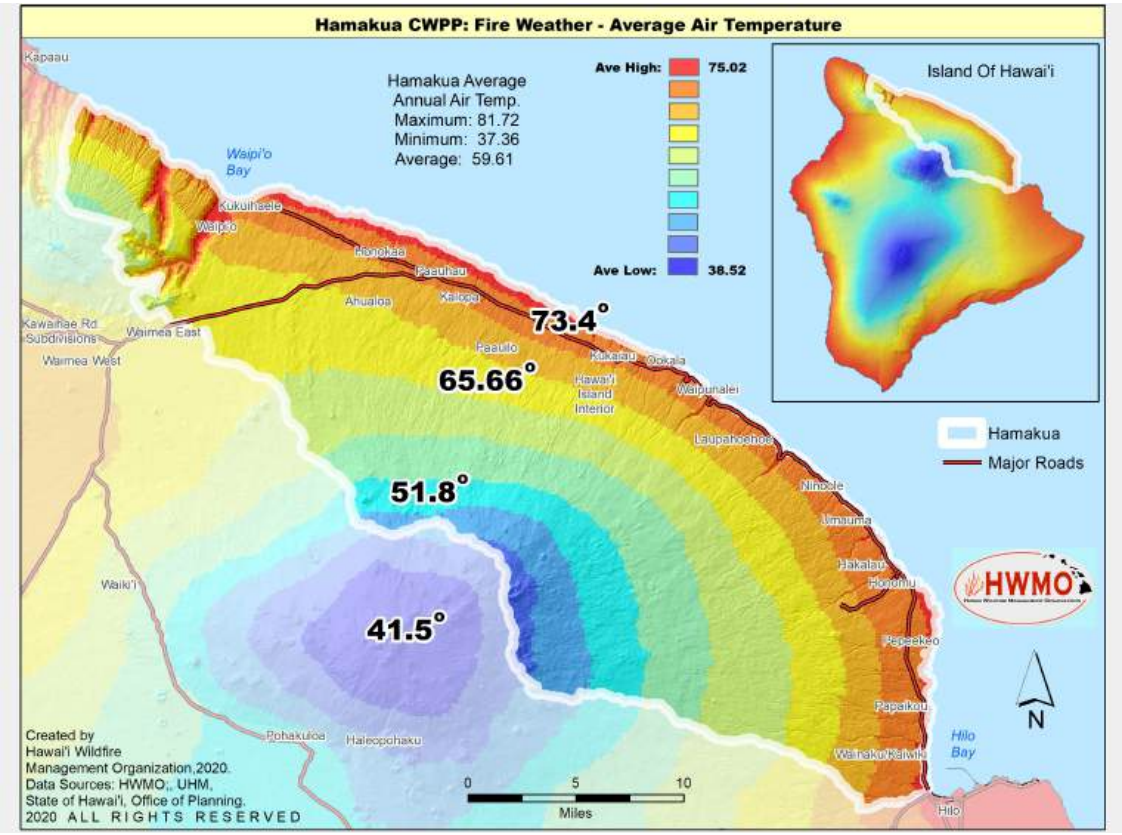
Map 9. Precipitation across the Hāmākua CWPP planning area.

Since rainfall is greater across the planning area than in leeward areas, this typically results in lower fire risk on average for Hāmākua. However, drought conditions can persist and create a potential fire hazard, especially with abundant vegetation as a fuel source. Wet periods such as those seen in 2020 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.

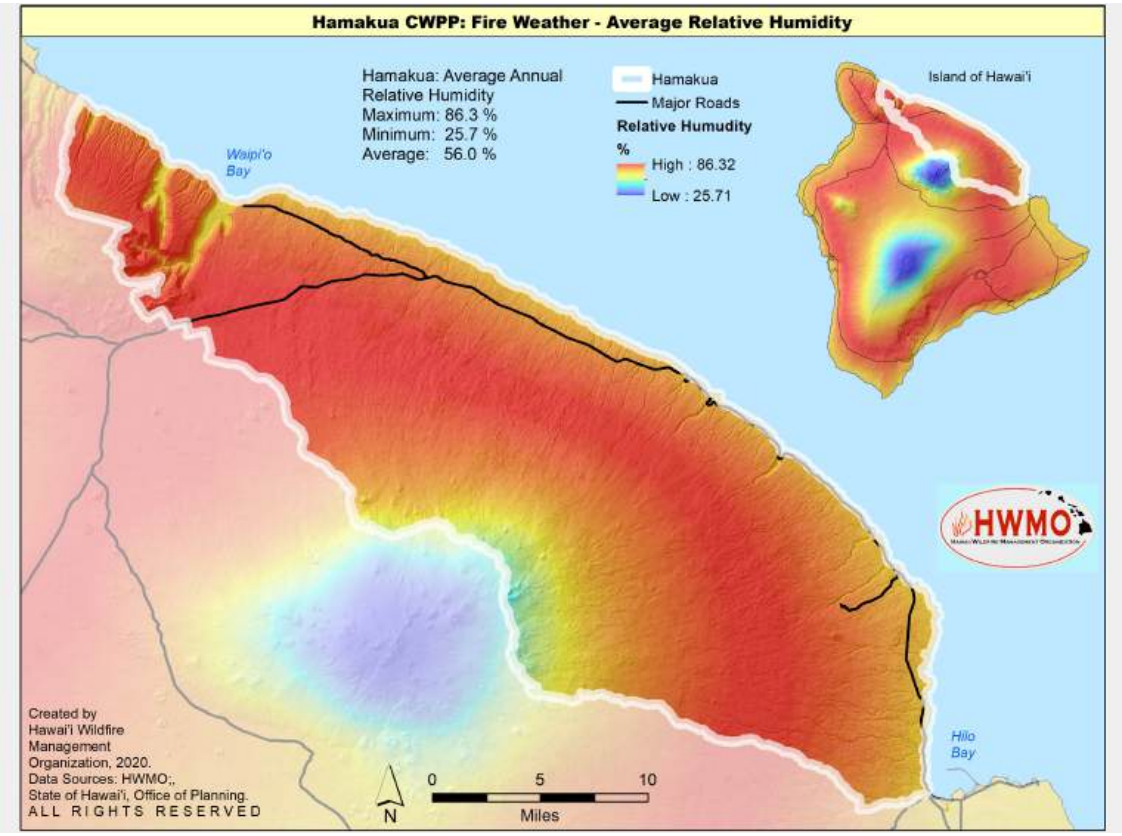
Other wildfire risk factors include wind speed and direction. The planning area is subject to daily weather patterns including diurnal thermal winds which cause sea breezes during the day as the land warms and land breezes at night as it cools. Gentle breezes vary only slightly across Hāmākua (Map 13) 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 2 - 6 mph. However, in more exposed locations such as the coastlines and mountain ridges, wind speeds range between 10 - 16 mph, with gusts even higher. As noted earlier, fires that begin in the lowlands can easily be pushed into the upland areas, particularly if winds are stronger and drier than normal.



Map 10. Wind speed and direction within Hāmākua CWPP planning area.



Map 11. Average Air Temperature across the Hāmākua CWPP planning area.



Map 12. Relative Humidity across the Hāmākua CWPP planning area. Note that in Hawai'i, wildfires can ignite and carry across the landscape even in high humidity.

WILDFIRE IMPACTS

The economic, natural, and cultural resources in Hāmākua are increasingly exposed to wildfire impacts, especially with the predictions of a drying, hotter climate. Although land-based, aquatic, and marine-based natural and cultural resources are spread across the region, wildfire is a direct threat to vulnerable populations of rare species, culturally significant sites (such as Hawaiian trails, shelters, terraces, and platforms) as well as community access to important shorelines, recreation and subsistence hunting and fishing.

IMPACTS TO NATURAL RESOURCES

Wildfire is a major cause of native ecosystem loss and degradation in Hawai'i. Across the state, 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. As temperatures rise in the Pacific, the risk of wildfire to native ecosystems such as those in wet areas of Hāmākua—areas previously considered low risk—must now be considered. To date, Hāmākua has already been impacted by fire given the repeated human-caused ignitions near roads and the dominance of highly flammable fuels at lower elevations.

For example, upland areas including Hakalau Forest Reserve (Map 13) contain expanses of native rain forests dominated by 'Ōhi'a (Metrosideros polymorpha) and Koa (Acacia koa) trees, as well as mesic and dryland forests consisting of both koa and Mamane (Sophora chrysophylla), and associated understory species. Hakalau is a refuge for a superb array of 14 endemic bird species including rare honeycreepers, native waterbirds, raptors, and the endangered Hawaiian hoary bat for which US Fish and Wildlife Service has designated critical habitat (Map 14).

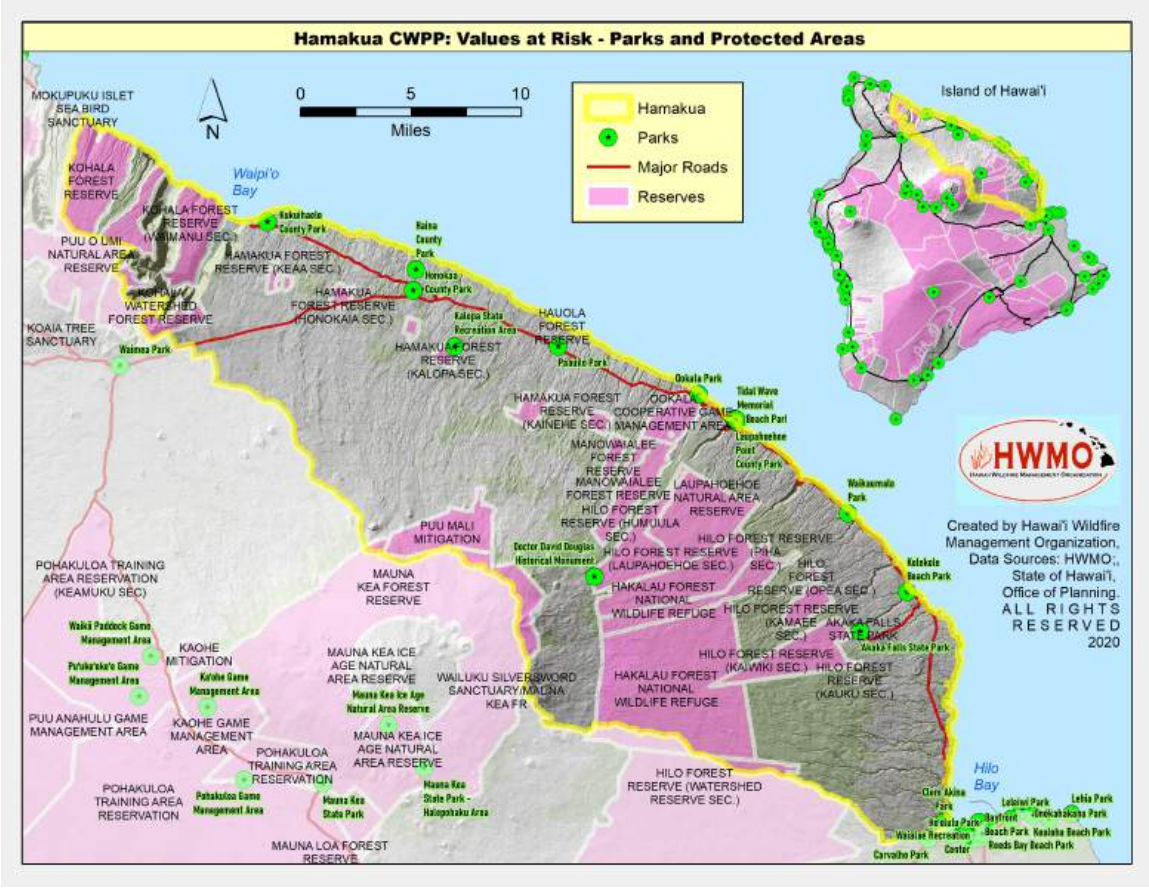
Likewise, neighboring Department of Hawaiian Homelands and Department of Land and Natural Resources (DLNR) forest reserves also provide habitat for these same rare or endangered plants and animals. In addition, DLNR manages five forest reserves across the planning area for multi-use purposes (public hunting and hiking) as well as two designated Natural Area Reserves for special ecological protection and preservation including Laupāhoehoe and Pu'u O Umi. nesting sea birds, plants, and Partulina snails are known from Pu'u O Umi which also contains the native 'Uluhe fern, known to easily burn. The proximity of these sensitive areas to both roads and fallow agriculture lands poses an ongoing wildfire threat.

Higher-elevation, drier native mesic forests, and shrublands are perhaps most likely to be impacted by wildfire. Portions of Mana Road (just south of the CWPP planning area border) wrap around Mauna Kea'and provides access to dirt bikers, camping, and hunting. Wildfire ignitions from campfires and off-road vehicles are an ongoing threat, especially during drought. As a result, fires that begin on Mana Road may burn uphill towards the summit or downhill into the state forest reserves (i.e., the CWPP planning area) and the high-elevation Pu'u Mali mitigation area. The latter serves as a restoration and future re-introduction site for the endangered Hawaiian Palila (Loxioides

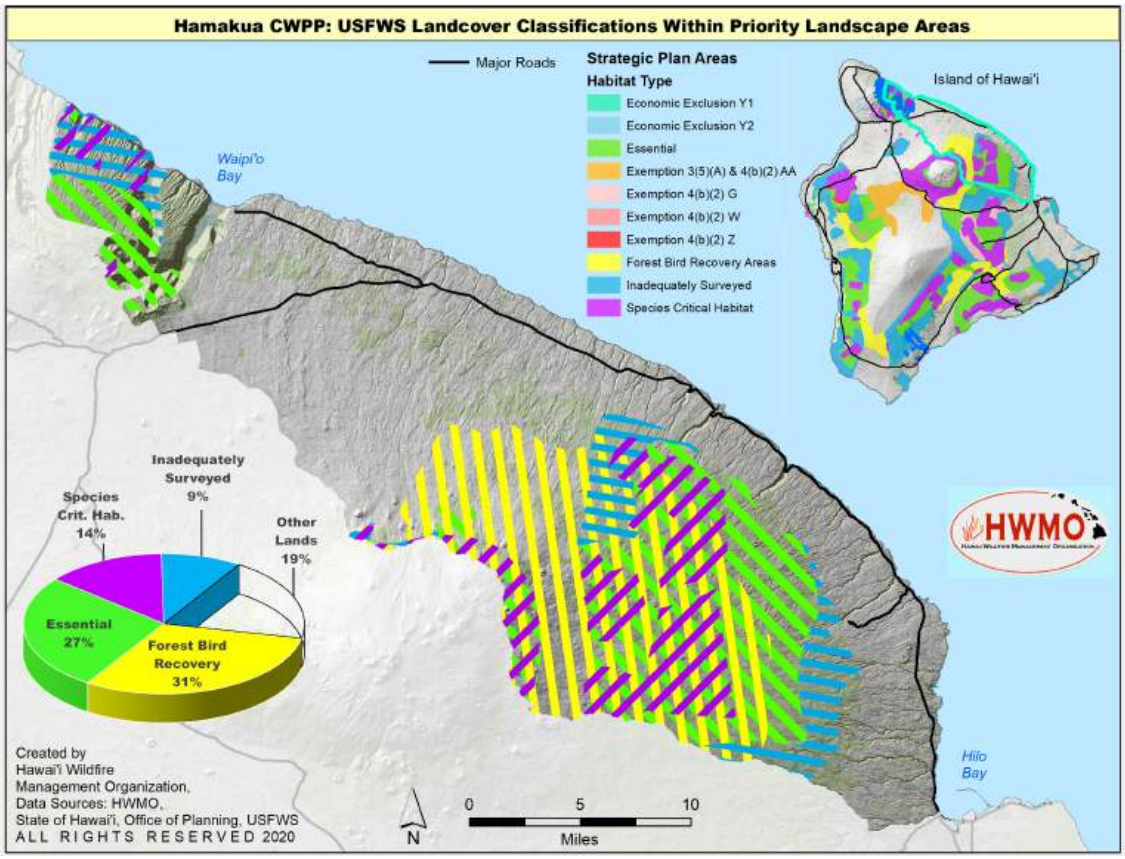
bailleui), a species of honeycreeper found only on Hawai'i Island. In response, the Mauna Kea Forest Restoration (a project of DLNR) is doing extensive koa tree planting and fire mitigation such as mowing fire breaks in anticipation of future wildfires.

The native forests and ecosystems on Hawai'i Island including those in this CWPP represent the largest expanses of native-dominated ecosystems remaining in the islands. However, the habitats for those species described above have been greatly reduced across their respective ranges. These Hawaiian plant and animal species do not survive and/or recover from wildfires. More generally, the conversion of their habitat to alien-dominated ecosystems 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.

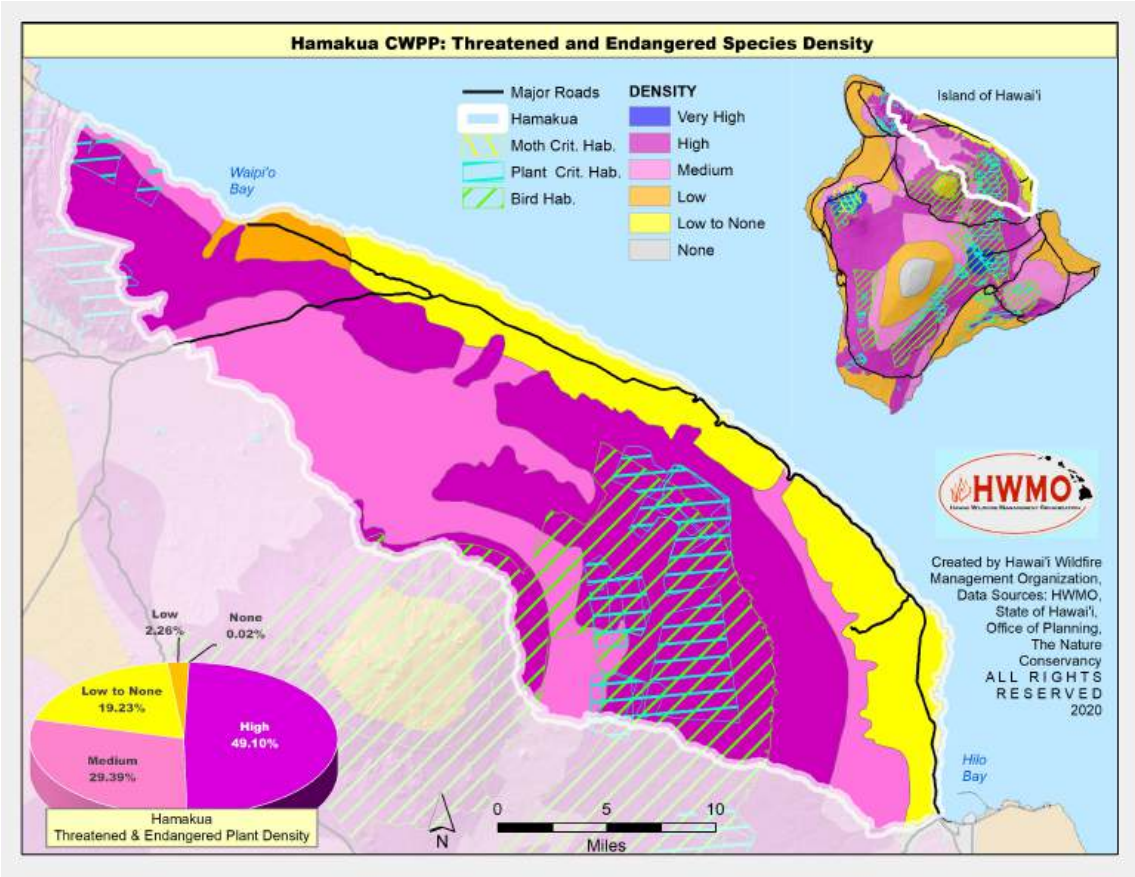
Wildfire also increases the potential for erosion and sediment delivery from upland to coastal and nearshore areas. The immediate loss of vegetation after a wildfire directly exposes soils to rainfall, which could potentially increase erosion in the watershed. Hāmākua contains no less than 123 watersheds, replenishing streams, springs, wetlands, and their aquatic life forms while providing a main source of both surface and ground drinking water (Maps 16, 17). The region is home to a



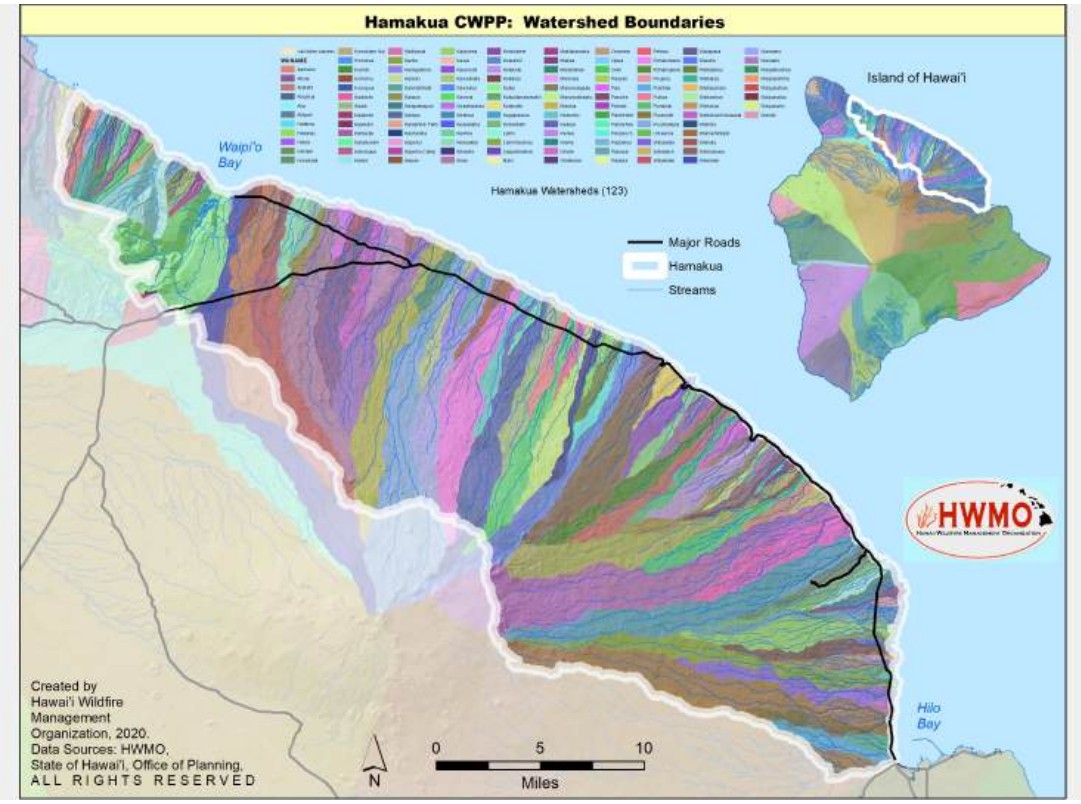
Map 13. Parks and protected areas within the Hāmākua CWPP planning area.



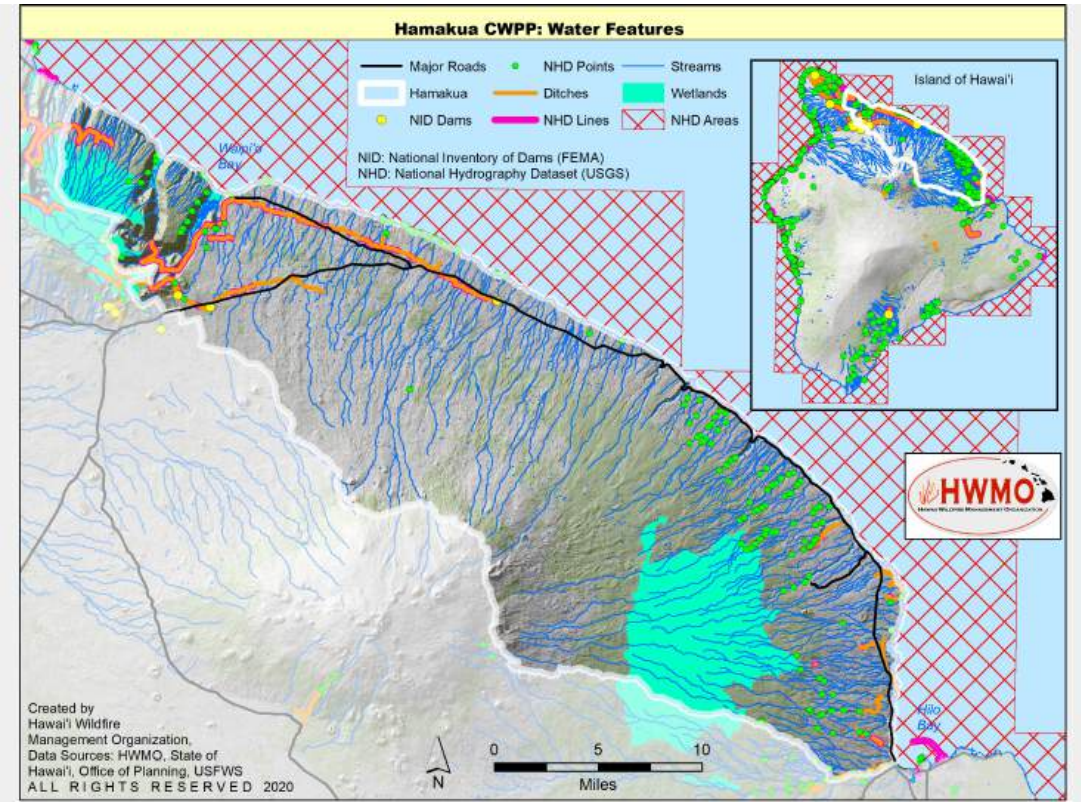
Map 14. Landcover Classifications within the Hāmākua CWPP planning area.



Map 15 . Density of Threatened and Endangered Plants within the Hāmākua CWPP planning area.



Map 16 . Watersheds within the Hāmākua CWPP planning area.



Map 17. Water features within the Hāmākua CWPP planning area.

complex ditch system which delivers an estimated 42 million gallons per day of fresh water. Burned soil from wildfires is also known to decrease groundwater recharge. Loss of vegetation can increase downstream flooding and sediment delivery thereby impacting not only valuable freshwater resources, but also the marine environment. In particular, Hāmākua contains numerous streams, waterfalls, and sea cliffs that empty into bays, valleys, and fishing grounds which are actively farmed and fished. Siltation of these productive land and sea resources not only affects subsistence but also their recreational enjoyment.

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 these areas. 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 and bulldozing can damage these important landscape features.

IMPACTS TO COMMUNITIES AND MUNICIPAL RESOURCES

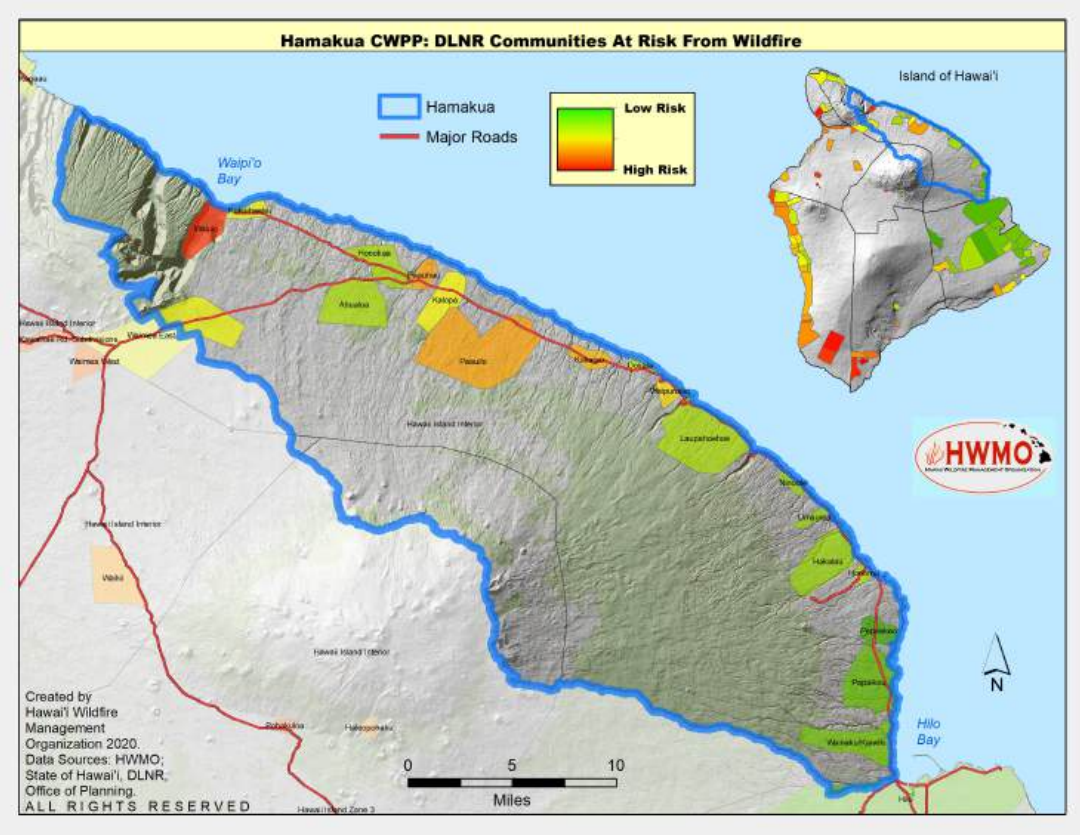
Wildfires threaten lives, homes, and human health not only through the potential loss of life, property, and vital infrastructure but also through the degradation of soil, air, and water quality. In the past, fires have prompted highway shutdowns and evacuations of communities. The communities of Waipio, Pa'auhau, Pa'auilo, and Kukaiau identified in Map 18 are rated at moderate to high risk of wildfire. 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. Frequent fires also impact power lines, and communication infrastructure, which can lead to road closures, cutting off remote communities in Hāmākua from schools, hospitals, and needed provisions (Maps 19 - 20).

HAZARD ASSESSMENT

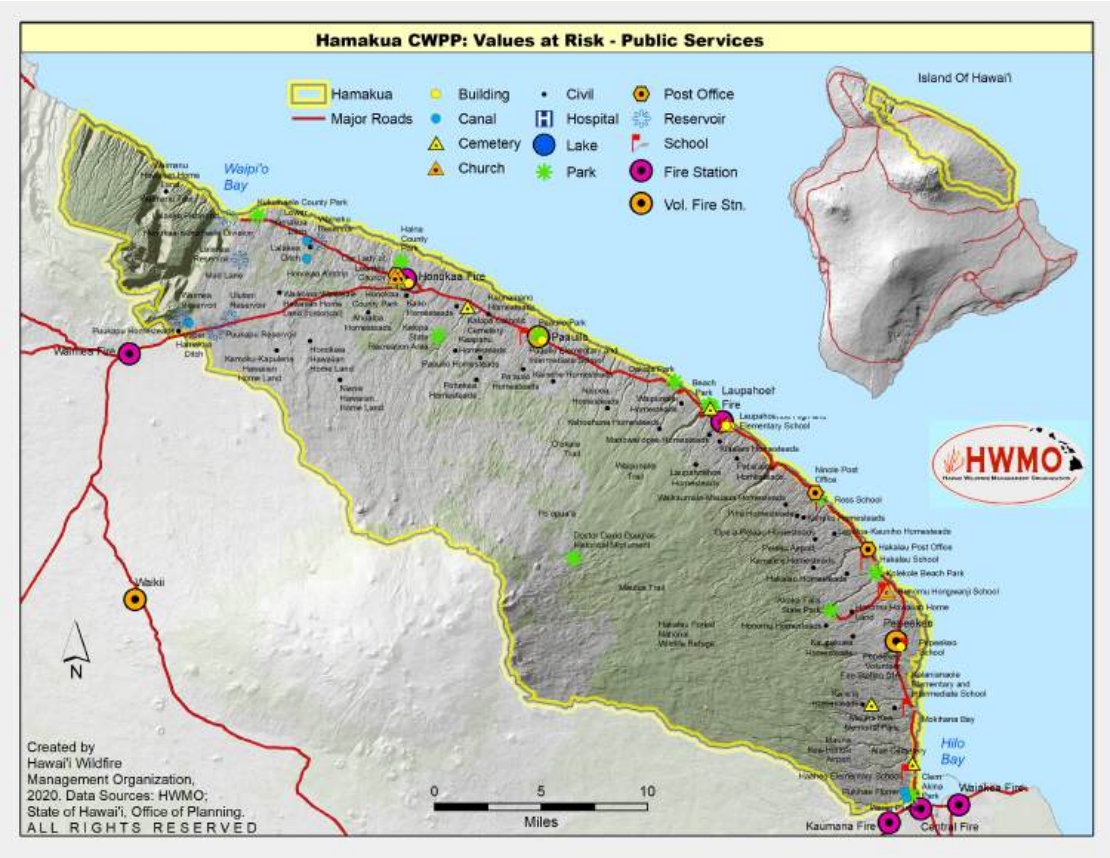
COMMUNITIES AT RISK FROM WILDFIRE

For the purposes of assessing hazards and wildfire threats to resources, residential areas within the CWPP planning area were simplified into seventeen "communities" (Maps 2 and 18). 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.

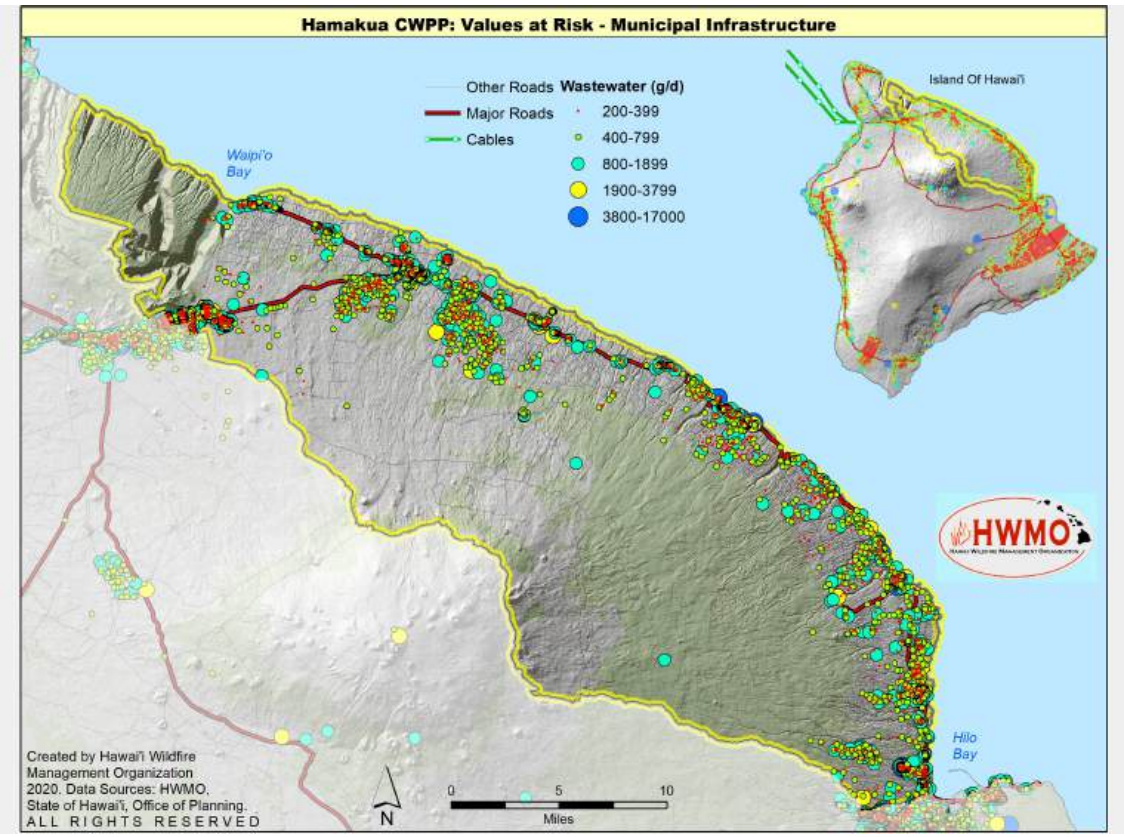
In the 2013 Communities at Risk from Wildfires map (the most recent), the several communities within Hāmākua are rated as high risk (Map18). Please note this map ONLY rates areas where there are residents living in built structures, neighborhoods, and established communities. Gray areas on the map indicate that no humans inhabit the area, and therefore were not assessed using this method.



Map 18. Communities at risk from wildfires within the Hāmākua CWPP planning area. Note Waipio, Pa'ahau, and Pau'uilo are all assessed and rated as high risk.



Map 19. Public services at risk by wildfire within the Hāmākua CWPP planning area.



Map 20. Municipal infrastructure at risk within the Hāmākua CWPP planning area.

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

Hazard Category	Individual Hazards Assessed Within Category
Subdivision Hazard	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
Vegetation Hazard	Defensible Space: Fuels Reduction Around Homes & Structures Fuel Loading Fuel Structure & Arrangement Proximity of Flammable Fuels Around Subdivision Vegetation Within 300‘ of Homes
Building Hazard	Siding/Soffits Roofing Assembly Structural Ignitability Under-Skirting Around Decks, Lanai, Post & Pier Structures Utilities Placement: Gas & Electric

Table 2. Hazard assessment ratings per subdivision/community area within the Hāmākua CWPP planning area. Priority hazards to address are shown in red.

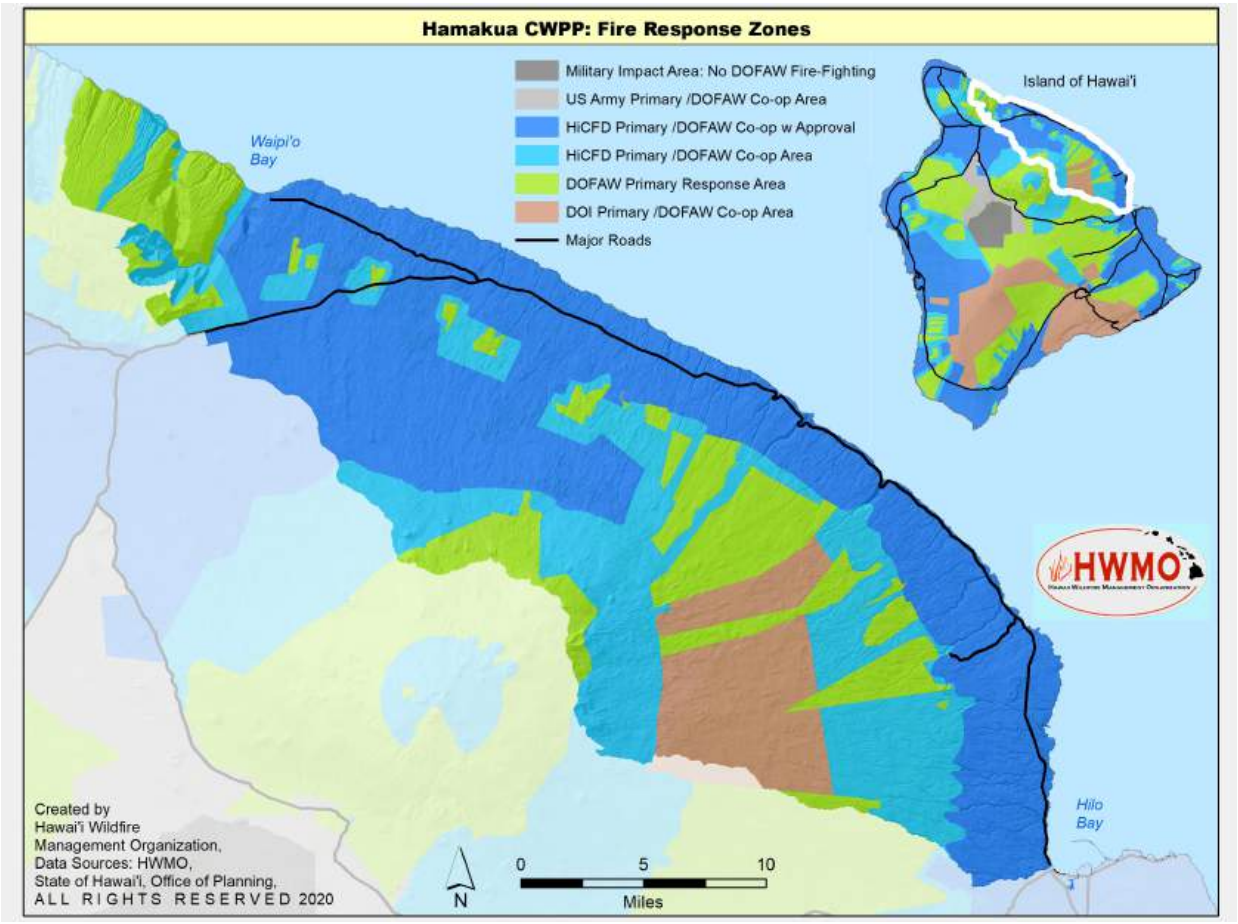
Hazard Ratings: (Subtotals)	Subdivision	Vegetation	Building
Kukuihaele	MOD	HIGH	MOD-HIGH
Honokaa	MOD	HIGH	MOD
Kukaiau	MOD	MOD-HIGH	LOW-MOD
Paauilo South *Near Danna's Cookies - 6 lots	MOD-HIGH	HIGH	MOD
Paauilo (South Mauka) (incl. homesteads+ranches)	MOD-HIGH	HIGH	LOW
Paauilo (Mauka) *Close to hwy enclave plus near school	MOD	MOD-HIGH	LOW-MOD
Paauilo (Makai)	MOD-HIGH	HIGH	MOD-HIGH
Lakeland*	LOW-MOD	LOW-MOD	MOD
Ahualoa	MOD-HIGH	MOD-HIGH	MOD-HIGH
Ookala	MOD-HIGH	HIGH	MOD-HIGH
WaiPunalei	HIGH	HIGH	MOD-HIGH
Laupahoehoe (Mauka)	MOD-HIGH	HIGH	MOD
Laupahoehoe (Makai)	HIGH	HIGH	MOD-HIGH
Ninoole	MOD-HIGH	MOD-HIGH	MOD
Umauma	MOD	HIGH	MOD
Hakalau	MOD	MOD-HIGH	LOW-MOD
Honomu	MOD	MOD	LOW-MOD
Pepeekeo	MOD-HIGH	MOD-HIGH	LOW-MOD
Papaikou	MOD-HIGH	MOD	LOW-MOD
Wainaku	MOD-HIGH	MOD	LOW-MOD

Table 3. Overview of hazard assessment categories and the individual hazards that comprise them.

EMERGENCY RESPONSE

FIRE SUPPRESSION

Initial response to the majority of wildfires (as well as all medical and other emergencies) is the responsibility of Hawai'i 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. Federal partners, such as U.S. Army Garrison Fire & Emergency Services, and the Department of Interior (National Park Service and US Fish & Wildlife Service) respond to fires on their lands and provide assistance via mutual aid requests.



Map 21. Fire Response Zones within the Hāmākua CWPP planning area. Indicates areas where fires are suppressed by Hawai'i County Fire Department and/or DLNR-DOFAW.

HFD has resources and equipment that are spread across the entire island and made available when needed if they are not already in use. Within the CWPP planning area, there are two staffed fire stations (and an additional volunteer fire station in Pepe'ekeo) as well as one in Waimea and three in Hilo just outside the CWPP boundaries. The HFD suppression force lies 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 for 29% of the Hāmākua CWPP boundaries. DLNR-DOFAW also co-responds with the county 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.

USAG-FES-PTA responds to wildfire incidents on their property and mutual aid requests. 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.13 The CWPP is designed to work in conjunction with other county and state plans, operational policies, assessments, programs, etc., including but not limited to:

County of Hawai'i:

County of Hawai'i Drought Mitigation Strategies
County of Hawai'i Multi-Hazard Mitigation Plan and Hazard Mitigation Plan Update (draft)
County of Hawai'i Water Use and Development Plan Update
Hawai'i Island General Plan

State of Hawai'i:

State Drought Plan (2017)
State of Hawai'i Multi-Hazard Mitigation Plan
State Division of Forestry and Wildlife Operational Policy for Wildfire Control
DLNR Forest Action Plan (2016)

MULTIPLE-AGENCY AGREEMENTS

On Hawai'i Island, there is a coordinating group established to deal with and discuss wildfire issues, mitigation, and response. The Big Island Wildfire Coordinating Group (BIWCG) was established to coordinate the programs of the participating federal, state, and local fire agencies and non-governmental organizations on Hawai'i Island and provide a forum for leadership, cooperation and

the exchange of information. Additionally, it serves to further inter-agency cooperation, communications, and coordination, and to implement directions and standards for various incident management activities. By pooling the resources of the various agencies, the combined strength and efforts would afford the people of the Island of Hawai'i more extensive and effective protection of lives, property, natural and cultural resources. The BIWCG provides a forum for leadership to coordinate programs, exchange ideas, and develop consistent policies by establishing an interagency approach to fire management programs.

Core members include Hawai'i Fire Department, Hawai'i County Civil Defense Agency, Dept. of Land & Natural Resources - Division of Forestry and Wildfire, National Park Service, U.S. Fish & Wildlife Service,U.S. Army, Hawai'i Community College, Hawai'i Wildfire Management Organization, University of Hawai'i, and Dept. of Transportation -Airports Div., Hawai'i District.

Additionally, all agencies have cooperative agreements in place to promote, enable, and coordinate mutual aid for fire suppression purposes.

EVACUATION PROTOCOLS AND NEEDS

Evacuation protocols for neighborhoods and areas in Hāmākua 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 Hāmākua are yet to be determined and are a priority action determined by the public as part of this CWPP process.

The following resources are available for disaster preparedness information:

- County of Hawai'i Island Civil Defense Agency Website
    - Sign up page for County Civil Defense Emergency Alerts
- Guidance for Disaster Preparedness in Hawai'i
- Hurricane Information and Tips
- Tsunami Maps, Information, and Tips

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 County of Hawai'i is adopted with modifications from the State Fire Code.

The State Fire Code that took effect most recently (January 19, 2021) can be found at:
https://labor.hawaii.gov/wp-content/uploads/2021/02/2018-NFPA-1-Amendments-Jan_20_21.pdf

All county fire departments have two years from this date to adopt the State Fire Code as their county fire code and may amend this code as it applies to their jurisdiction.

WILDFIRE PREVENTION

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

HFD Fire Prevention Branch The Fire Prevention Branch responsibilities include code enforcement, plan review and inspections, public education, and fire investigation. The Fire Prevention Branch office in Hilo and Kona is not staffed at all times during normal business hours, so the public is asked to call for an appointment. HFD Fire Prevention personnel work closely with Hawaii Wildfire Management Organization (HWMO, described below) to provide wildfire prevention education and support for risk reduction.

DLNR-DOFAW 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 additional lands. 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 the 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 wildfires. 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 Hāmākua 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 Hāmākua. An independent summary of data from the web-based survey is provided in Appendix B.

RESILIENT LANDSCAPES

DISCUSSION

Across Hāmākua, vegetation is dense, dry, and very flammable during dry conditions. CWPP workshop participants discussed the need for sustained maintenance of fuels and an increased capacity to manage vegetation for the long term. A critical lack of water in higher-elevation areas impacts firefighting. The area is remote, with long distances to travel along a lone highway, impacting fuel management, firefighting response time, and creating a challenging combination of illegal dumping and the abandonment of cars without consistent enforcement or regulation.

GOALS

Landscapes (natural and cultural 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

- Implement fuel reduction projects to reduce ignition and spread, including all methods where appropriate: mechanical, chemical, animal, by hand, etc. Priority areas are at the interface between residential areas and eucalyptus woodlands; around sensitive natural resources, such as Hakalau Wildlife Refuge and Pu'u Mail State Forest Reserve; and in targeted areas to strategically prevent post-fire erosion.
- Mitigate roadside/highway fuels, especially by grazing.
- Support increased grazing for sustained fuel management.
- Pursue projects that increase/improve water availability for grazing, farming, and firefighting use, especially by establishing tanks, cisterns, and other water resources in rural areas.
- Add animal husbandry projects/operations in strategic places, such as grassland areas near roads and the 17 community areas. Projects can include goats, fencing, ranching, etc.
- Develop, maintain, and prioritize the creation of fuelbreaks, especially those made during fires.
- Develop clear fuel reduction corridors that also serve as firefighting access.
- Establish green breaks where appropriate.
- Implement fuel conversion projects to reduce wildfire risk and support native plant restoration and ecosystem function in both lower and upper-elevation areas.
- Work among partners and landowners to design and implement cross-boundary fuels management corridors at the landscape scale to reduce fire spread and provide firefighting access.
- Conduct collaborative planning and mapping of firefighting resources, infrastructure, sensitive areas, water resources, access, fuelbreaks, etc.
- Develop a fire management plan for the area.

- Develop and implement ignition and fuel reduction programs, including abandoned car removal, green waste removal, and dumping.
- Improve deteriorating infrastructure that inhibits firefighting on the landscape.
- Address fire fuels build up on fallow lands.
  - Remove vegetation empty lots, especially on former sugar cane land;
  - Reduce eucalyptus and grass cover by planting diverse trees;
  - Provide a fire break (that is free of eucalyptus) next to the highway;
  - Explore livestock grazing while understanding that fencing & infrastructure are needed to maintain animals;
  - Reference existing plans for dealing which outline establishing greenbreaks while dealing with weeds (such as gorse).
- Improve community infrastructure and create defensible space.
  - Consider opening up overgrown plantation roads and grazing around homes;
  - Ensure access to Kamehameha school lands for fire prevention/suppression purposes (e.g., dip tanks);
  - Monitor roads and address weight limitations for bridges to allow fire engines and dozers.
- Prevent human-caused ignitions from improperly disposed debris.
  - Remove abandoned cars;
  - Provide signage and education for community debris removal;
  - Take preventive measures to limit the spread of invasives (i.e., little fire ant, two-line spittlebug) during collaborative disposal.

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:

Resource, Structure, or Value at Risk	Fuel Hazard Rating	Type of Treatment
Homes, structures with large lots or heavy vegetation, and historical sites	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).

Resource, Structure, or Value at Risk	Fuel Hazard Rating	Type of Treatment
Roadsides	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.
Mauka forest lands, parks, reserves	High or Extreme if unmanaged and weather conditions dry	Mechanical, hand labor, chemical, fuels conversion, animals if strategically managed
Gentle sloping grasslands and scrublands	High or Extreme if unmanaged and weather conditions dry	Mechanical, hand labor, chemical, fuels conversion, animals if strategically managed
Unmaintained Agricultural lands	Moderate to Extreme (depending on location and weather conditions)	Mechanical, animal, chemical, re-establish active agriculture.

Table 4. Hazardous Fuels Treatments

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 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 Hāmākua, it does provide a starting point for discussion and fuels management project planning (Map 22).

FIRE ADAPTED COMMUNITIES

DISCUSSION

Despite frequent fires, many residents across Hāmākua 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 remote areas. Many areas are not designed for safe and effective firefighting.

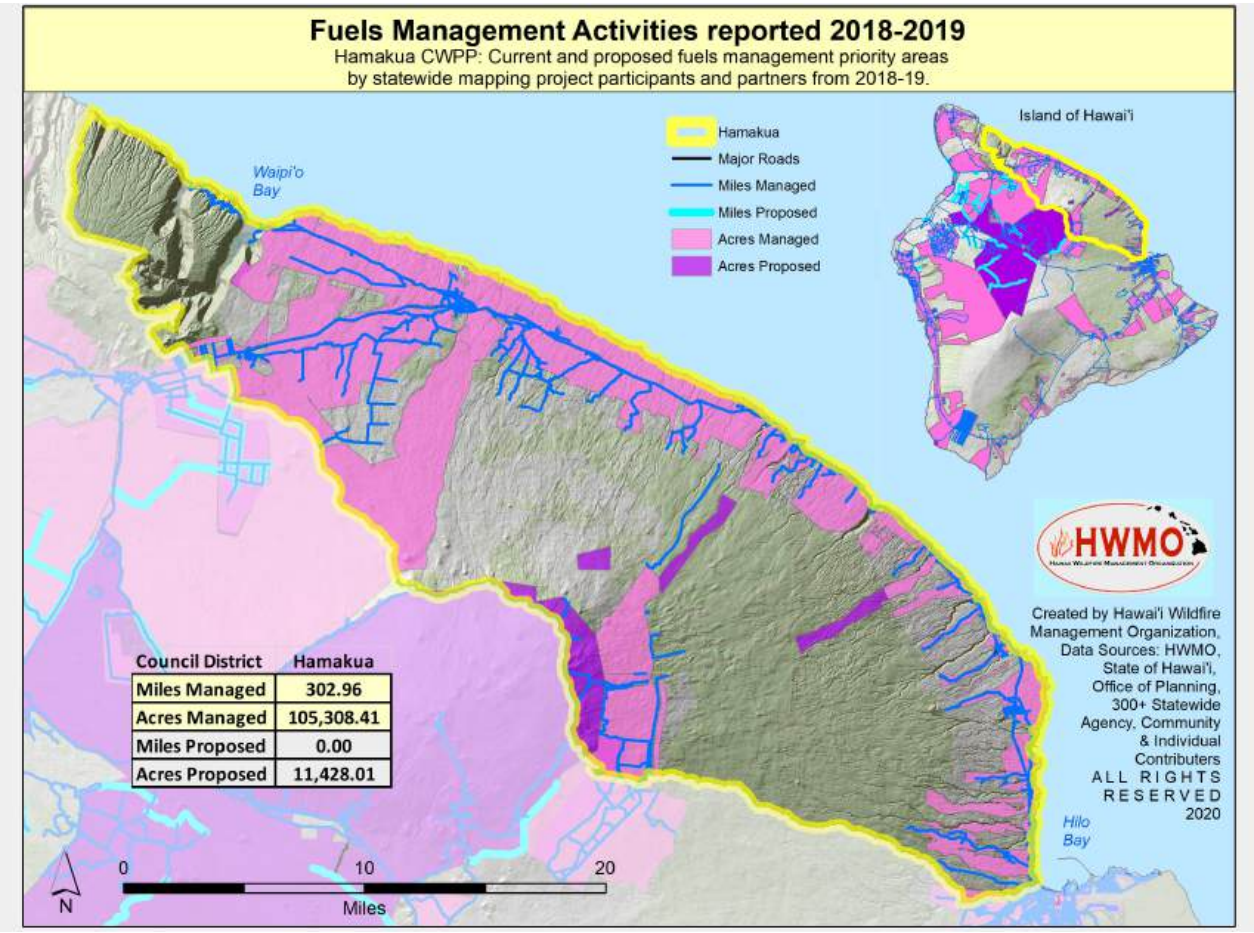
GOALS

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 fires. 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 education in wildfire prevention among Hāmakua residents.
  - Target information towards new residents;
  - Include pamphlets in a welcome package;
  - Encourage community leaders to reach out directly to their neighbors;
  - Engage networks of community associations to hold in-person workshops;
  - Include information about what to do around home and yard, what to do during a fire, what different levels of evacuation mean;
  - Wildfire preparedness could tie into hurricane season safety campaigns.
- Improve neighborhood infrastructure to help with firefighting (see Wildfire Response section).
  - Establish access to water resources to support firefighting operations;
  - Ensure proper fittings for firefighting on existing water resources and catchment tanks, can be done individually;



Map 22. 2018 - 2019 fuels management activities as identified by Hāmākua participants and partners.

    - Expand volunteer firefighting opportunities.
- Establish community wildfire preparedness standards.
    - Encourage communities to become a Firewise certified;
    - Prepare community plans specific to wildfire safety for each neighborhood while ensuring plans most accurate, up-to-date data on community and community communication status;
    - Document and conduct home assessments to assess pre-fire risks;
    - Improve neighborhood infrastructure to help with firefighting.*

* 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 Hāmākua to treat structural, home, and yard ignitability.

SAFE AND EFFECTIVE WILDFIRE RESPONSE

DISCUSSION

Due to the remoteness of the area and the limited infrastructure throughout, many residential areas are poorly set up for wildfire response. The most pressing issue is a lack of water, but long response times due to distance, ingress/egress issues, inadequate road signage for location homes, and an increasing number of lots being developed contribute to firefighting challenges.

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.

<u>ACTION PRIORITIES</u>

- Establish communication protocols between emergency responders and communities.
    - Improve methods of getting the word out (social media, web-based applications);
    - Ensure basic information is communicated: where is the fire, where is it going, and who is being recommended for evacuation.
- Ensure community emergency / evacuation plan(s) are complete and up-to-date.
    - Have written evacuation plans that reference exiting preparedness and hazard mitigation plans;
    - Determine chain of command and information flow;
    - Know who will cut locks, and fences in the event of an evacuation;
    - Work with large landowners for access (Kamehameha Schools);
    - Determine evacuation routes and make available public shelters.
- Improve firefighting infrastructure & wildland fire response by response agencies.
    - Exempt fire trucks from weight limits on bridges (or improve their load capacities);
    - Consider air water drop support from Air-1;

- Consider establishing east-west connecting road infrastructure;
- Consider widening one-lane roads;
- Create turnarounds and pull-outs;
- Prioritize fire response by the Hawai'i County Fire Department in Hāmakua.

- Ensure the continuity, training, and coordination among Community Emergency Response Teams (CERTs).
  - Establish clear roles and responsibilities between County police, CERT, HFD, and Civil Defense and advocate for funding to support positions (such as a County PIO);
  - Establish a volunteer firefighting force, especially in remote areas;
  - Provide supplemental ICS and CERT training focused on wildfire;
  - Assess if personal equipment is available to create and maintain fuel breaks and buffer zones.

CWPP IMPLEMENTATION AND MAINTENANCE

HFRA requires that the HFD, Hawai'i County Civil Defense Agency, and DLNR-DOFAW all agree on the final contents of the Hāmākua 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 Hāmākua 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 Hāmākua CWPP will rely heavily upon initiative and involvement by individuals, groups, organizations, and government in the Hāmākua area.***

HWMO and DLNR-DOFAW intend to provide technical support, identify and coordinate funding when possible, and serve as a centralized resource for wildfire risk reduction efforts in Hāmākua. Together, representatives will 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 and DLNR-DOFAW, HWMO will work with any community in Hāmākua 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.

Many Hāmākua CWPP action items will require continuing support for wildfire risk mitigation 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 Hāmākua will continue to make progress toward the goals of having Fire Adapted Communities, Resilient Landscapes, and Safe and Effective Wildfire Response across Hāmākua.

APPENDIX

APPENDIX A:

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

APPENDIX B:

HĀMĀKUA COMMUNITY MEETING INPUT

APPENDIX C:

MULTI-YEAR & ONGOING PRIORITY PROJECTS

APPENDIX D:

SINGLE-YEAR LISTS OF PRIORITY PROJECTS & ACTIONS

APPENDIX A

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

Includes the following key information:

- Wildfire in Hawai'i Overview
- 🏠 Firewise Landscaping Recommendations
- 🏠 Home Hardening
- Family Emergency Planning
- Situational Awareness
- Evacuation

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

APPENDIX B

HĀMĀKUA 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, 27 community members of the Hāmakua area attended workshops. 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**
Lack of education in wildfire prevention and evacuation among residents	1. Newer residents do not have an understanding of risks, actions, and/or wildfire response limitations. Action: develop and distribute information for new residents via pamphlets in a welcome package. 2. Need to support and encourage community leaders to reach out directly to their neighbors and make sure they have information. 3. Community associations have widest networks of people and can hold in-person workshops. 4. Information to residents could include: what to do around home and yard, what to do during a fire, what different levels of evacuation mean. 5. Wildfire preparedness could tie into hurricane season.
Lack of community wildfire preparedness standards	1. Encourage communities to become a Firewise certified (for example, Ahualoa). 2. Prepare community plans specific to wildfire safety for each neighborhood. 3. Document and conduct home assessments to assess pre-fire risks (with pictures & local knowledge). 4. CWPP need to have most accurate, up-to-date data on community and community communication status.

Lack of neighborhood infrastructure to help with firefighting	1. Communities throughout (both mauka and makai) may have restricted vehicular access which in turn limits access to water resources in the event of a fire. 2. Need to establish (re-establish access via the county) water resources to support fire fighting operations. 3. Need to establish proper fittings for firefighting on existing water resources and catchment tanks, can be done individually. 4. Improve road infrastructure: for example, Pa'auilo Community Assn & HFD need to explore what can be done to get people out of areas, especially where there are dead-end roads. 5. Consider establishing east-west connecting road infrastructure. 6. Consider widening one-lane roads (such as Kahana area). 7. Create turn-arounds and pull-outs. 8. Identify hotspots in remote areas and how they can be addressed.
Lack of defensible space	1. Concern for homes in and around Pau'uilo and Honoka'a which are close to individual stands of trees. 2. Community needs better access to Kamehameha schools lands for fire prevention/suppression purposes (e.g., dip tanks). 3. Need to consider grazing around homes.

Safe & Effective Firefighting	
Recommendation	**Specific comment and/or recommended action**
Lack of continuity, training and coordination among Community Emergency Response Teams (CERTs)	1. Establish clear roles and responsibilities between CERT, HFD and Civil Defense. For example: (a) know that HFD does make the call on evacuation and informs CD, (b) IC on scene runs info up to FD chief, then to EOC, EOC disperses through web, media. 2. Request HFD budget include wildland lead and PIO for wildfire incidents. 3. Establish a volunteer firefighting force, especially in remote areas (mauka of the road) which is closely tied into existing Fire Stations (Honoka'a) and police (note that Laupahoehoe has one currently). 4. Designate a point of contact for each CERT team. 5. Provide supplemental ICS and CERT training focused on wildfire (e.g., task book certifications). 6. Assess personal equipment (e.g., bull dozers & operators) to make fuel breaks and buffer zones.
Lack of community emergency / evacuation plan(s)	1. Have written evacuation plans (Refer to Hāmakua 'Ohana Preparedness Plan and the 2020 Hawaii County multi-hazard mitigation plan)-who makes the decision and how is the information flow. 2. Know who will cut locks, fences in the event of an evacuation. 3. Work with large landowners for access in the event of an emergency (Kamehameha Schools).
Slow and unclear communication between emergency responders and communities	1. Need more public information during a fire event (e.g., what's going on?), particularly from a designated county PIO. 2. Need improved methods of getting the word out (i.e., NextDoor or similar). For example, FD has facebook and Instagram account to disperse information. 3. Hawaii County Civil Defense could assist in instantaneous communications: where is fire, where is it going, who is being recommended for evacuation. 4. Determine where to go during an evacuation (e.g., Laupahohoe school?) and work to figure out the liability issues/concerns so that schools and other public facility areas can be used.
Lack of firefighting infrastructure & slow wildland fire response	1. Fire trucks need to be exempt from weight limits on bridges. 2. Establish emergency muster and triage points. 3. Prioritize brush fire response by Hawaii County Fire Department (not only structural fires) in Hāmakua, since the perception remains that wet conditions doesn't necessitate the same level of response. 4. Consider air water drops support from Air-1.

Resilient Landscapes	
Concern	**Specific comment and/or recommended action**
Fire fuels, fallow lands and recent fires (e.g., 2021 fire in Pau'uilo)	1. Old Pau'uilo airstrip has lots of vegetation and airstrip was on fire. In places where trees were harvested, there was more grass. 2. Need vegetation removal in adjacent, empty lots, specifically reduce eucalyptus and grass cover by planting diverse trees. 3. Focus on removal of eucalyptus within a distance from the belt highway to prevent disruption of power lines, and to provide a fire break for the highway. 4. On former sugar cane land, it would be valuable to work with that landowner to increase livestock grazing (no commercial ventures yet, but there was one person with goats). There might be producers who are interested in pursuing that, but it requires fencing & infrastructure. 5. Refer to `Āina Mauna Legacy Plan (Dept of Hawaiian Homelands) for dealing with gorse and establishing greenbreaks.
Human-caused ignitions from improperly disposed of debris	1. Abandoned cars can be a source of ignitions. 2. Need resources and education for community debris removal. 3. Need to be aware that collaborative disposal could lead to spread of invasives (i.e., little fire ant, two line spittle bug).
Deteriorating infrastructure	1. Current status of roads is unknown or questionable (lack of monitoring). For example: roads (which are only one in/out) are privatized. 2. Certain bridges have weight limitations for fire suppression (fire engines) and brush abatement (dozers) 3. Consider opening up overgrown plantation roads.

APPENDIX C

MULTI-YEAR & ONGOING PRIORITY PROJECTS

Project	Anticipated Costs	Anticipated Project leads and partners
Fuels management and/or perimeter fuelbreaks around high risk subdivisions throughout the Hamakua 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), Water and Power Utilities, 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, County of Hawai'i, 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, Civil Defense Agency
Community Mitigation & Defensible Space- vegetation removal projects and home hardening mini-grants	$200K/year	At-Risk or Firewise Communities, DLNR-DOFAW, HWMO, HFD, Civil Defense Agency
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, Civil Defense Agency
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), Water and Power Utilities, Watershed Partnership, Hawaiian Electric

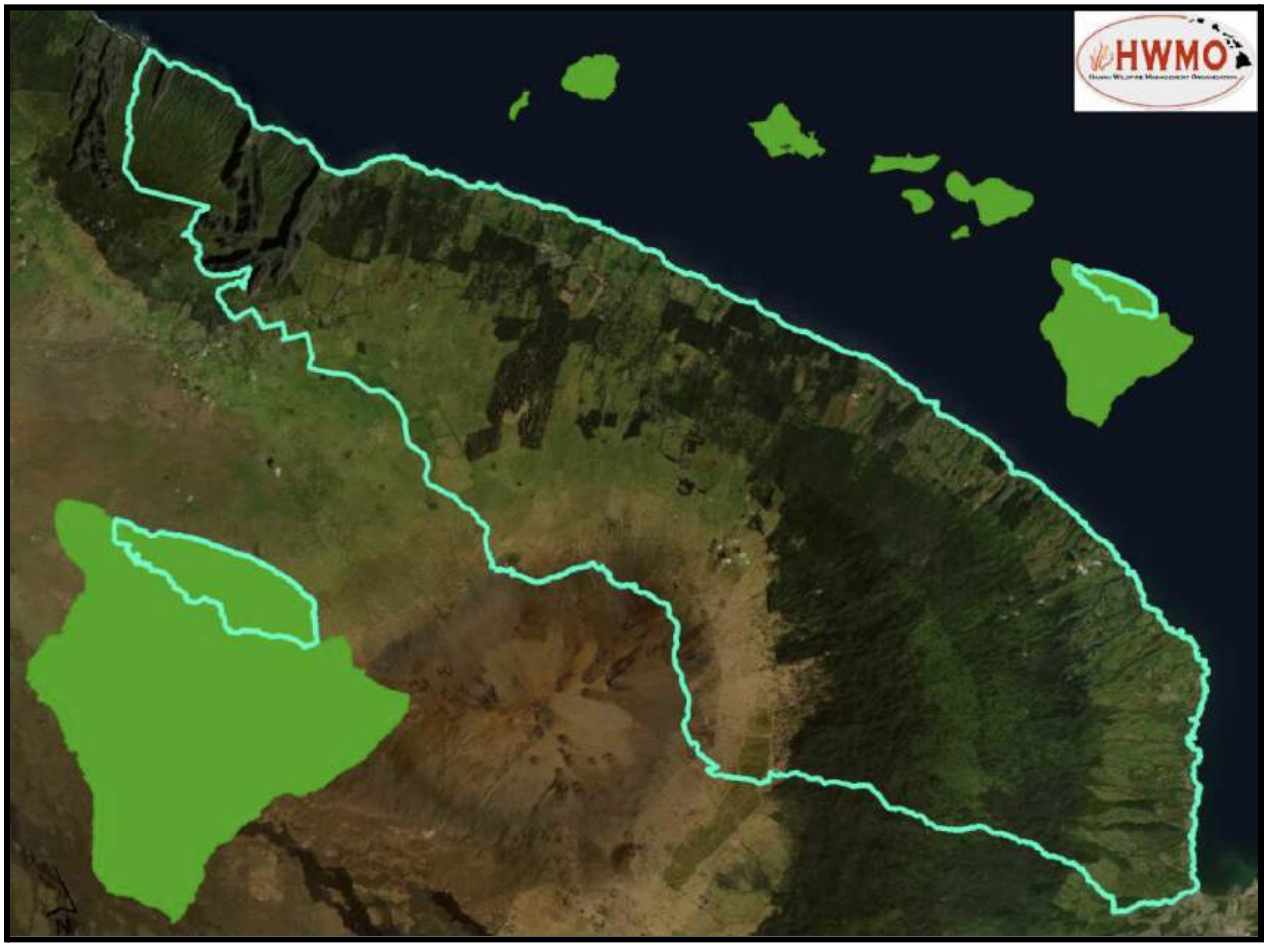
Project	Anticipated Costs	Anticipated Project leads and partners
Evacuation planning per community	Cost TBD	At-Risk Communities, HWMO, Firewise Communities, HFD, DLNR-DOFAW, Dept. of Hawaiian Homelands (DHHL), Water and Power Utilities, Watershed Partnership, Hawaiian Electric
Develop secondary egress and/or safety zones for communities with limited ingress/ egress	Varies per community, per method. TBD per project. Ranges $50K– $20M	Civil Defense Agency, 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), Water and Power Utilities, 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), Water and Power Utilities, 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), Water and Power Utilities, 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), Water and Power Utilities, 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), County PONC lands and 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 County park and other lands	Cost TBD	Agency leadership, facilities managers, communities at risk, DLNR-DOFAW, HFD, HWMO

APPENDIX D:

2024 LIST OF PRIORITY PROJECTS AND ACTIONS HAMAKUA, HAWAII ISLAND

2024 LIST OF PRIORITY PROJECTS AND ACTIONS



Hamakua, Hawaii Island
State of Hawaii

Drafted by Hawaii Wildfire Management Organization, in cooperation with the Department of Land and Natural Resources - Division of Forestry and Wildlife, Hawaii Fire Department, and Hawaii County Civil Defence

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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

Project Name: Fire Adapted Hawaii County	
Communities and Neighborhoods that will benefit from this project: Waikoloa Village, Kailua, Honaunau-Napoopoo, Kealakehe, Pahala, Waiohinu	
Affiliation: Hawaii Wildfire Management Organization (HWMO)	**Project Lead:** HWMO **Partners:** DLNR-DOFAW, Hawaii Fire Department
CWPP Area: Hamakua, Hawaii Island	**Cost:** $1,395,297

Project Description:
The proposed project is for HWMO to lead the following two programs for Hawaii County:

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

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.

This work will be implemented in close partnership with fire and forestry agencies.

The August 2023 fires on Hawaii Island and Maui 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. Hawaii County's infrastructure is not designed or built with wildfire safety in mind, nor are its ecosystems adapted to fire. Every CWPP in Hawaii County has prioritized community and/or land manager education and vegetation management in and around at-risk communities and WUI boundaries. This project supports both.

These programs address several CWPP priorities at once. CWPP priority actions that are addressed via the proposed Firewise Communities program are as follows:

NW Hawaii Island CWPP 2016 Update action items: (from Waikoloa, Puako, & North Kohala Action Tables, pgs 47-49, 51): Support financial and logistical assistance programs that assist residents; Develop neighborhood action items and programs to educate and assist with risk reduction; Increase HWMOs ability to be present in the area, support part of staff time to dedicate to this areas awareness and education, and Firewise leadership; Share in cost of container for private green waste disposal days; Develop and/or support community programs and workdays for fuels management and reduction of fire prone vegetation; Hold residential/neighborhood green waste removal and chipper days; Support Firewise program to help communities through Firewise process; Education and outreach via HWMO and Firewise program.

North Kona CWPP 2016 Action Plan Items (page 60-62): Assist interested communities in completing Firewise certification process; Green waste removal and recycle programs; Increase outreach to community associations; Provide wildfire education for decision makers;

South Kona CWPP 2015 Update, Concern #3 (page 21): Education/Outreach: Conduct outreach to landowners (page 21). Action Item #4 (page 24): Continued fire prevention education and outreach (page 23).

Kau CWPP Update: Wildfire Concern #1: Outreach and Education (page 20). Projects #1, 2, and 5: Wildfire education, community awareness programs; fuels management via community volunteer work days; and community chipper days as incentives/educational programs. Action Item #1 Wildfire Education- (Support) community awareness programs.

The CWPP priority actions that are addressed via the proposed Wildfire Resilient Landscapes portion of the program are as follows:

NW Hawaii Island CWPP 2016 Update (pgs 50-51): Work with property managers-education and facilitation of better collaborations; Develop and implement longer term strategy, such as grazing corridors or re-planting of less fire-prone plants; Work with DOT to understand what is already covered and how often, fill in gaps; Develop protocol for mitigation/fuels reduction in a culturally sensitive way.

North Kona CWPP 2016: Action Plan Items (page 60-62): Develop pre-fire mitigation and fire management plans for reserves and large landholdings; Work with large landowners to encourage fuels/access management.

South Kona CWPP 2016 Concern # 1, 2: Fuels Management: Overgrown large properties; Adjacent landowners not managing fuels; Action items: Conduct outreach to landowners, farmers, lessees, CTAHR, agricultural groups, and developers; Fuels Management legislation, education (page 21, 23).

The project 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.

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 Hawaii County, 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 in Hawaii County 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 in leeward Hawaii County, which are designated as underserved Tribal areas in the CWDG 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. The request for participation in the programs has increased 1,500% since our recent devastating fires. People across Hawaii County 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 county-level 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: Hamakua, Hawaii Island	**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: Tree mitigation at Scouting America, Aloha Council's Camp Honokaia in Honokaa, HI	
Communities and Neighborhoods that will benefit from this project: Honokaa, Paauhau, Ahualoa, Kalopa, Paauilo, Kukuihaele	
Affiliation: Scouting America, Aloha Council Camp Honokaia on the Hamakua coast of Hawaii Island	**Project Lead:** Becky Holt (professional arborist) as primary contact. John Landers (Firewise Certified, Landscape certified). District Associate Mavis Lo Hum- District Associate to help with oversight of the project. Blake Parsons- to keep updated on progress and provide valuable information for other camps. **Partners:** Mother Earth Tree Services
CWPP Area: Hamakua, Hawaii Island	**Cost:** $1,000,000.00

Project Description:
Tree Removal and Clearing: The first phase of the project will involve the removal of dangerous Eucalyptus trees and the clearing of deadwood and other potential fire hazards. This will not only prevent falling branches but also reduce the camp's overall fire risk. Becky may add more detail to this.
Professional Expertise: We are partnering with Mother Earth Tree Services, a trusted local company with specialized knowledge in large-scale tree removal and fire mitigation. Their certified arborists will assess the trees, safely remove hazardous materials, and ensure the work is completed in an environmentally responsible way.
Timeline and Execution: When the Project Will Occur: Once funding is secured, we anticipate starting the project as early as Mother Earth has availability. The work will be conducted in phases to minimize disruptions to camp activities, with completion expected by May 2025. (Before a summer camp program and definitely before a Sportsman Challenge if possible.
Who Will Be Doing the Work: Mother Earth Tree Services and their team of arborists will be leading the efforts. Their expertise ensures that this critical work will be done safely and efficiently, with careful attention to preserving the health of the remaining forested areas.

Importance:
Safety First: The Eucalyptus trees at Honokaia Scout Camp have grown extremely tall, with branches that frequently break and fall. This creates dangerous conditions for Scouts and campers, especially in areas where activities are held. Addressing these trees is a critical safety measure.
Fire Mitigation: The accumulation of dead and dry wood throughout the forested areas significantly increases the risk of wildfires, particularly during dry seasons. Removing this combustible material will reduce fire hazards and help protect both the camp and the surrounding ecosystem.
Environmental Stewardship: Responsible tree management will also contribute to a healthier, more sustainable forest. This aligns with our commitment to preserving the natural beauty of Honokaia Scout Camp for future generations.

Project Name: Hawaii Fire Department Curbside Chipping Program	
Communities and Neighborhoods that will benefit from this project: Waikoloa Village, Kailua, Honaunau-Napoopoo, Kealakehe, Pahala, Waiohinu	
Affiliation: Hawaii Fire Department	**Project Lead:** Hawaii Fire Department **Partners:** COH Dept of Public Works, COH Dept of Environmental Managements Solid Waste Division, Office of the Mayor, DLNR-DOFAW, HWMO, and others
CWPP Area: Hamakua, Hawaii Island	**Cost:** $3,039,232

Project Description:
Unmanaged fuels and inadequate defensible space within and around community areas were a contributing factor to the four concurrent wildfires that occurred across Hawaii Island in August 2023. These wildfires resulted in mandatory evacuations, structure loss, and damage to hotel and residential properties along with ecosystem impacts. Unprepared agencies and communities are now eager to change behavior and practices to catch up to the current and growing wildfire risks faced by island communities and landscapes, including the more widespread adoption of creating buffers (defensible space) around homes and neighborhoods for mitigation and firefighter access/safety purposes. Major sticking points to defensible space progress (voiced by island homeowners after receiving home assessments) are the dearth of available and affordable mitigation contractors, lack of financial resources to complete mitigation recommendations, and lack of defensible space information and resource offerings from the Fire Department.

Hawaii Fire Department (HFD) needs a minimum of $2,482,579 over 5 years to provide curbside chipping services and coordination/planning support to at-risk neighborhoods across Hawaii County. Community projects eligible to receive the services will include community-level defensible space projects (e.g. clearing of common areas, roadsides, fire/fuel breaks), residential-level defensible space projects (e.g. min. 15 households completing defensible space actions on their private lots), and defensible space projects that span land ownership to include larger lands adjacent to at-risk communities. The curbside chipping service will be available once per month during months 6-12 and twice per month during years 2-4. Months 1-6 will consist of program planning and coordination, equipment purchasing, and promoting the services to at-risk communities.

The funds will be used to purchase two 15 Vermeer BC1500 brush chippers and two Ram 5500 trucks/cabs with chip boxes (one set for each side of the island), one support truck (for moving/storing supplies and small hand-tools) with an attached trailer unit (for hauling green waste), and a Morbark 950 tub grinder and a Kubota KX080-4 compact excavator (for loading debris into the tub grinder and that will be

hauled by a DPW truck) for larger-scale chipping projects. Funds will also be used to pay personnel to operate the curbside chippers and to contract a trusted community-based nonprofit partner to help promote the program, support the at-risk communities, and track outcomes. Personnel will come from either the County Fire Department or the County Department of Public Works (DPW). Only personnel that are trained to safely operate the machinery and are familiar with the equipment will be used. The County will be responsible for storing and maintaining the equipment when not in use, and HFD will work with DPW and other departments to develop a plan for using this equipment when not in use to further the county's work in reducing fire fuels on county-owned lands adjacent to at-risk communities.

This project will reduce the structural ignition potential of 60 homes (yr1)/300 homes (yrs2-5) (1,260 homes total), reduce the wildfire risks in and around 26 at-risk WUI communities by removing 4,612.5 cubic yards of hazardous fuels per year (generating 1,153.1 cubic yards of chipped debris), and build community and HFD capacity towards improved wildfire outcomes through community partnership.

The curbside chipping services will be available for free to at-risk neighborhoods that work together to plan and coordinate community defensible space projects. Each neighborhood that enrolls will have a pile registration deadline and all participating residents within that neighborhood (including the adjacent large landowners) must register their physical address, # hrs spent cutting, dragging and making the piles (to serve as an in-kind matching contribution), and other information on/before deadline date. Online pile registration forms will be built using Google forms. For residential-level defensible space projects, all participating households will be required to have a home assessment completed ahead of time and to indicate on the registration form the date in which the home assessment was completed. Free assessments can be requested on HWMOs website (www.hawaiiwildfire.org/home-assessments).

During community events, chips will be piled or broadcast on site depending on the participants choice on the registration form, or will be hauled away to the County's Solid Waste Facility for a $25 haul fee (or to a common area pre-determined by the neighborhood). For chipped debris that remains on site for piling or broadcasting, education will be provided around the ideal location (where needed for water retention, erosion control, and landscaping) and the not-ideal location (within the first 5 feet from structures).

Public education/outreach and community engagement will be key to this project's success. HFD will work with the Firewise USA Communities and Home Assessment Programs to promote the program, as well as with the broader wildfire mitigation and education work being conducted in partnership with the Big Island Wildfire Coordinating Group (government emergency management and forestry agencies, Hawaii Wildfire Management Organization, and Hawaii Community College Fire Science Program).

Contracted work will include a contractor that will help promote the program, provide assistance/support to communities planning/coordinating community mitigation events, manage the on-line registration portal that accepts requests for participation (including an option for registering over the phone for residents who don't have access to the Internet), liaise and coordinate logistics between HFD and neighborhood, and track in-kind contributions (number of hours spent making the piles) and the amount of chipped debris generated.

CWPP Priority: This program strategically addresses several CWPP priorities at once. CWPPs were written to specifically address the goals and tenets of the Cohesive Strategy so the priorities concurrently represent both our CWPPs and the Cohesive Strategy because that was the foundational framework for CWPP development. The priorities addressed are as follows:

NW Hawaii Island 2016 update, Priorities #2, 3, 4: Controlling vegetation: Enforce brush abatement codes, Enforce unmaintained vegetation on private property and developer lands; Address vegetation management in gulches and unmanaged vegetated areas; Develop neighborhood action items and programs to educate and assist with risk reduction.

South Kona CWPP Fire Adapted Communities Priorities #1, 2, 3 (page 21): Address overgrown large properties and large lands adjacent to communities who aren't managing fuels through fuel abatement legislation and enforcement, maintenance responsibility, and by conducting outreach to landowners.

North Kona CWPP: Every priority provided by meeting participants throughout North Kona in the Resilient Landscapes Category of goals except for one pertains to vegetative fuels management (page 50-51), with top concerns including: Debris around homes, Undeveloped acres ringed by houses, Lots of hazardous brush next to homeowners, and similar (Page A-2)

Kau CWPP Fire Adapted Communities Priorities (Page 20) # 1, 2, 3: Education, Fuels Management on Private Land, and Fuels Management of guinea grass.

The project 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; and it will support the goal of creating resilient landscapes by prioritizing management actions to safeguard and restore landscapes and by engaging members of the community who can contribute their traditional ecological knowledge (TEK) to inform climate-smart land and fire management.

The low-income and socially vulnerable communities of Hawaii Island are traditionally underserved. The project also supports the CWFMS new critical emphasis areas in resilience and diversity, equity, inclusion and environmental justice in creating fire-adapted communities. This program will provide added assistance to these

communities so that their residents have the social and technical support needed to organize their communities around community- and residential-level defensible space projects and the planning and coordination that is required of them. For participating residents that prefer to have their chipped debris hauled off site the $25 haul fee will be waived. For participating residents that have access and mobility needs, HWMO will assist them in addressing their defensible space needs through their partnership with Team Rubicon who has trained sawyers available for socially vulnerable resid

Importance: The overall goal of this program is to help at-risk communities/residents create defensible space in and around their neighborhoods to minimize loss of life and property due to the increasing occurrence of devastating wildfires in the wildland-urban interface in Hawaii County.

Project Name: Hawaii Fire Department Defensible Space Inspection Program	
Communities and Neighborhoods that will benefit from this project: Waikoloa Village, Kailua, Honaunau-Napoopoo, Kealakehe, Pahala, Waiohinu	
Affiliation: Hawaii Fire Department	**Project Lead:** Hawaii Fire Department **Partners:** Hawaii County Civil Defence, DLNR-DOFAW, HWMO, and others
CWPP Area: Hamakua, Hawaii Island	**Cost:** $5,344,342

Project Description: Every CWPP in Hawaii County has prioritized vegetation management and enforcement. This proposal represents HFDs increased commitment to reducing wildfire risk ahead of events by building internal capacity to conduct education and inspections, and by shifting local culture regarding vegetation management to one of knowledge and accountability.

HFD is requesting $4,823,612.48 over 5 years to provide a year-round workforce of 1 captain level fire management officer, 4 Inspectors, and support for a collaborative program for defensible space educational home assessments. This combined workforce of HFD inspectors who carry out inspections and enforcement, and community-based educators/ home assessors at the residential level will provide a solid foundation upon which to build a comprehensive Defensible Space Inspection (DSI) program to adequately address the growing number of parcels in high fire risk areas of Hawaii County that are not in compliance.

This project falls under the Wildfire Prevention and Mitigation Education/Outreach project type in the NOFO as Property inspections and/or assessments and/or Adoption, implementation, enforcement, and training of [NFPA] or [ICC], or similar codes.

Background: Lack of defensible space is a major factor in our fires, and has contributed to the majority of our destructive fires for more than two decades. HFD has been unable to address this issue because of a lack of capacity, too few inspectors, and no HFD fire management officer to focus on wildland fire issues.

While HFD is the primary response and initial attack agency for wildfires in Hawaii County, it is also responsible for ambulance/medical response, structural fires, hazmat, ocean safety, and more, making large wildfire events a challenge for response when resources are stretched extremely thin to also maintain daily operations. As an island-county, we are limited to the resources we have on-island for suppression. HFD is prioritizing education, code inspection, and enforcement as an essential pathway toward reducing risk and the likelihood of the extreme fire behavior we are increasingly experiencing.

Overall Strategy: HFD will implement a comprehensive DSI program for high-risk areas, that is capable of inspecting 100% of complaint driven inspection requests (upward of 200 annually), and 80% of the large-acreage parcels that threaten communities in the target area. Comprehensive follow up enforcement activities will be completed on the 35 or so large land parcels each year that remain non-compliant after the inspectors make multiple attempts to work with the property owner.

Community-based educational home assessments will also be conducted for 1000 residential parcels over the 5-year period through a contracted partner program.

HFD leadership will oversee the entire DSI effort, including the supervision and direction of the DSI personnel, ensuring documentation and records are completed properly, and determining which parcels will be referred for further follow up and possible legal action. The contracted community program will coordinate the educational home assessments program.

Inspection Details: The DSI program personnel will conduct initial and follow-up property evaluations on both a proactive and complaint-driven basis. The Inspectors will engage owners of non-compliant properties in a constructive, education-focused process to bring the parcel into compliance. Voluntary compliance is, by far, the primary objective of this program. Those parcels that remain non-compliant after multiple on-site assessments will be evaluated by the fire management officer and fire chief on a case-by-case basis for referral through the legal enforcement process as governed by Hawaii revised Statutes Duties of the Fire Chief, which govern the enforcement process.

As we implement the DSI program, we will track gaps and sticking points in enforcement and/or codes and use that information to inform and modify our next fire code adoption to better meet our wildfire risk reduction and vegetation management needs.

There is political will and an appetite for this DSI program and for ongoing improvement of it in order to improve fire outcomes across Hawaii County.

Education and Public Engagement: The DSI program personnel and cooperators will engage residents during community events, one-on-one discussions, and other outreach opportunities, providing education regarding defensible space, fuel reduction, and techniques to harden their property and improve their property's chance of surviving a wildfire. Some examples of community events include community and HOA meetings, hazard preparedness events and planning meetings, CWPP meetings and working groups, and local festivals.

The DSI program strategically addresses several CWPP priorities at once. Our CWPPs are actually written to specifically address the goals and tenets of the Cohesive Strategy, so the priorities concurrently represent both our CWPPS and the Cohesive Strategy because that was the foundational framework for CWPP development. The priorities addressed are as follows:

NW Hawaii Island 2016 update, Priorities #2, 3, 4: Controlling vegetation: Enforce brush abatement codes, Enforce unmaintained vegetation on private property and developer lands; Address vegetation management in gulches and unmanaged vegetated areas; Develop neighborhood action items and programs to educate and assist with risk reduction.

South Kona CWPP Fire Adapted Communities Priorities #1, 2, 3 (page 21): Address overgrown large properties and large lands adjacent to communities who aren't managing fuels through fuel abatement legislation and enforcement, maintenance responsibility, and by conducting outreach to landowners. Work to develop HFD enforcement capability for fuel abatement violations

North Kona CWPP: Every priority provided by meeting participants throughout North Kona in the Resilient Landscapes Category of goals except for one pertains to vegetative fuels management (page 50-51), with top concerns including: Debris around homes, Empty lots and unmanaged fuels, Adjacent properties that have unmanaged fuels need penalties, Undeveloped acres ringed by houses, Lots of hazardous brush next to homeowners, and similar (Page A-2)

Kau CWPP Wildfire Response Priority #3 (page 19) Fire inspection to address wildfire hazard violations; and Fire Adapted Communities Priorities (Page 20) # 1, 2, 3: Education, Fuels Management on Private Land, and Fuels Management of guinea grass.

Specific to the Cohesive Strategy itself, this project supports the Creating fire-adapted communities factor, along with the guiding principle that Rigorous wildfire prevention programs are supported across all jurisdictions and the outcome goal of "Individuals and communities accept and act upon their responsibility to prepare their properties for wildfire".

This need for community risk reduction education and fuels management is also highlighted in the Hawaii Forest Action Plan 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 through fuel assessment, modeling, reduction, and management.

The full defensible space program will operate throughout Hawaii County, 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, as shown on page 104 of the Forest Action Plan. Wildfire in Hawaii County poses threats to a diversity of 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 in leeward Hawaii County, which are designated Tribal areas.

Importance: The overall goal for this program is to launch and carry out a Defensible Space Inspection program in Hawaii County to educate property owners about defensible space and wildfire risk reduction, conduct defensible space inspections and enforcement, and promote a culture of personal responsibility and accountability for fuels management across our county.

The following county, state, and federal representatives have a high level of interest in the protection of the Hāmākua 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

Hawai'i Fire Department
25 Aupuni Street Suite 2501. Hilo, HI 96720

Hawai'i County Civil Defense Agency
920 Ululani St, Hilo, HI 96720

For inquiries related to this plan:
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