

Forest Legacy Project

Kaneohe Pali

City and County of Honolulu, Oahu, Hawaii



FUNDING HISTORY

FY 2023 Forest Legacy Program Funding	\$1,800,000
FY 2023 Non-Federal Cost Share	\$700,000
FY 2023 Project Costs	\$2,500,000
FY 2023 Project Acres	948
Forest Legacy Funding To Date	\$0
Total Project Costs	\$2,500,000
Total Project Acres	948



Tract Name	Size (ac)	Tract Cost	FLP Funding	Non-Fed Cost Share	Status
Kaneohe Pali	948	\$2,500,000	\$1,800,000	\$700,000	Draft 2023

GENERAL DESCRIPTION

The Kaneohe Pali (KP) project's forested foothills and spectacular soaring green cliffs (pali) lie above the town of Kaneohe, on the rainy windward side of the island of Oahu. FEE acquisition of 948 acres will protect historically and culturally unique forest that is currently off limits to the public and will allow managed public access for recreation and traditional cultural uses. Forests on the bottom slopes of KP are threatened by subdivision for residential development, which would mar the site's scenic beauty, block public access, and fragment the landscape. Native forest and streams on the site provide critical habitat for 32 federally listed Endangered species of plants and animals. KP is priority watershed, vital for recharge of fresh drinking water. The site's 11 streams contribute to the health of nearshore coastal fisheries. Hundreds of ancient Hawaiian sites are documented at KP, including historic trails, burials, and agricultural terracing once used for the growing of kalo or taro, the Native Hawaiian staple food. The pali, a National Natural landmark, and forests below provide an expansive backdrop to nearby parks and tremendous views to thousands of daily commuters driving on 3 major highways to work in Honolulu.



Scenic view of KP and vicinity from Nuuanu Pali Wayside/Nat. Natural Landmark (Photo by DLNR-DOFAW)

PROJECT FEATURES

Important

- **SCENIC:** KP's ribbon of undeveloped lush green forests at the base of sheer windward cliffs of the Koolau Range Pali National Natural Landmark are the defining natural resource feature of Kaneohe and parks including Nuuanu Pali State Park, Hoomaluhia Botanical Garden, beach parks and Kaneohe Bay.
- Numerous residents and visitors enjoy these views. Nuuanu Pali State Wayside is one of the most visited state parks with over 1 million visitors in 2020. The County's Hoomaluhia Botanical Garden hosted 271,762 visitors to its gardens, 3 campgrounds and popular weekend fishing program in 2020.

- Waterfalls cascading down the mountains after heavy rains are enjoyed by tourists and commuters using 3 major highways that pass through the property into tunnels between windward Oahu and Honolulu. 2020 average daily traffic counts for H-3, Likelike Hwy (Rt 63) and Pali Hwy (Rt 61) were 95,500.
- **ENDANGERED:** KP's cliffs and lowland forest are federally designated Critical Habitat for 31 Endangered Species (3 damselflies, 28 plants). 21 of these species are found at KP, including approximately 10 *Cyanea calycina*, a plant with only 200 wild individuals, monitored elsewhere by live webcam.
- KP's forests host populations of the federally Endangered Hawaiian hoary bat (*Aeorestes semotus*), a solitary, tree-roosting species. KP provides roosting, feeding and breeding habitat for bats, which are threatened elsewhere by habitat loss, collisions with wind turbines and roost disturbance.
- **ECONOMIC/NONTIMBER:** KP's forests are part of the Koolau Mountain range, which in total provides watershed benefits valued at \$11.5 - \$23 billion (2021 dollars) in a 1997 study by University of Hawaii. Benefits include groundwater recharge, water quality, biodiversity, tourism, and climate control.
- **WATER SUPPLY:** KP's watershed feeds 2 wells on and just below the property (Luluku tunnels), which tap groundwater and provided an average of 1.05 million gallons per day of fresh drinking water into the City Board of Water Supply system in 2020 for Kaneohe (population 33,841).
- **WATERSHED:** The Koolau Mountains, a key freshwater source for the island, is a state-designated priority watershed which provides 135 billion gallons/year, or 47% of Oahu's groundwater recharge. KP's forests enhance groundwater recharge providing 2.54 million gallons/day of recharge to the aquifer.
- Windward Oahu is the largest water producing area on the island. In parts of the region, rainfall averages 300-350 inches/year, creating numerous perennial streams. KP lies within Kaneohe Watershed, the largest of the windward side, which is about 23,500 acres and drains into Kaneohe Bay.
- **AQUATIC HABITAT:** KP has 11 perennial streams and tributaries (4.7 miles), which flow to estuaries and coral reefs of Kaneohe Bay and Heeia National Estuarine Reserve. The project will prevent stream sedimentation caused by development and restore KP's streams for native fish and invertebrates.
- Kaneohe Bay is protected by a barrier reef and is the largest sheltered body of water in Hawaii with diverse aquatic habitats. The semi-enclosed bay is vulnerable to damage by factors associated with urbanization, such as sedimentation, non-point source pollution and polluted stream runoff.
- **UNIQUE ECOSYSTEMS:** KP is entirely forested with a mixture of short-statured native cloud forest near the summits and on the wet cliffs, and lowland mixed native and non-native forest in the lower elevations. High numbers of Endangered plants are found on the cliffs, protected from disturbance.
- KP's streams rate well (6/7 out of 10) in the Hawaii Stream Atlas due to high native aquatic species diversity, which indicates resource value and stream health. Endemic species, such as the federally Endangered blackline Hawaiian damselfly, are found in pools in the headwaters of KP's streams.
- **PUBLIC ACCESS:** There is no public access to KP now. Acquisition will allow access for hiking, hunting and Hawaiian cultural uses such as forest product gathering. Existing public trails at Hoomaluhia and Nuuanu Pali State Park have spurs that go under highway bridges to link to KP's Kekele tTrail.
- The historic Kekele Trail, with sections of ancient rock-paving still visible, features opportunities for hiking and cultural interpretation. The trail connects to potential public access points at Hoomaluhia Botanical Garden, Koolau Golf Course, Nuuanu Pali, and the 15-mile Maunawili trail system.



Hiking on the historic Kekele Trail through Hala (Pandanus tree) forest at KP (Photo by DLNR-DOFAW)

- **HISTORIC/CULTURAL:** Hawaiian culture is inextricably connected to the landscape, and KP's mountains and forests are famed in legends. KP's highest peak, Keahiakahoe (fire of Kahoe), is named after Kahoe, who built an imu (underground oven) under the cliffs to hide the smoke in the rising mists.
- KP contains hundreds of archeological sites: heiau (places of worship), agricultural terraces, irrigation channels, house sites, burials, and trails. KP includes remains of Kukuiothane heiau, the largest in the region before much of it was destroyed by pineapple production and highway construction.
- KP is the site of a legendary hala (Pandanus tree) grove, famed in Hawaiian chants for its sweet fragrance. Hawaiians brought cultivars of hala to the islands; its foliage is used for weaving mats and sails. Hala is still found on the property and could be managed and used for cultural purposes.
- Culturally important plants used for food, fiber and medicine are found at KP: ulu (breadfruit tree), olona (bark cloth, rope), mamaki (tea, wood), maia (banana), awapuhi (shampoo ginger), ieie vine (medicine, rope), uala (sweet potato), and kalo (taro), considered an ancestor of Native Hawaiians.
- Wetland kalo production at KP and the vicinity has occurred since 300 A.D. on these State-designated "Unique and Important Agricultural Lands." The State and partners plan to sustainably manage culturally important non-timber forest products using traditional agroforestry practices on these lands.

Threatened

- **LANDOWNER CIRCUMSTANCES:** The landowner, a real estate investment company, has proposed plans to subdivide the flatter portion of the property (93 acres) into 30 lots including 15 lots of 5-8 acres for agriculture/housing, plus a 15-lot residential subdivision with 7,500-10,000 square foot lots.
- KP has not provided income for the landowners, who have been paying property taxes. If they cannot sell or develop KP, they may be forced to declare bankruptcy and sell the property to another developer. KP will continue to be threatened by politically influenced zoning changes unless protected.
- **LACK OF PROTECTION:** Land development in Hawaii is a very political process. Current zoning by the City and State restricts development, but a change in political leadership may approve the proposed KP subdivision. Other Kaneohe landowners have recently changed zoning to allow similar developments.
- State zoning changes are made by the State Land Use Commission. Rezoning is highly influenced by politics and depends on the Commission's make-up. Commissioners recently voted 6-1 to reclassify 53 acres of forested hillside 5 miles north of KP from conservation to urban use for cemetery expansion.
- City zoning is regulated by the Sustainable Communities Plan. The landowner proposed plan revisions to change KP's zoning, which was defeated by only 1 vote in the City Council in 2017. When Council membership changes, revisions to the plan allowing subdivision development are a real possibility.
- **ABILITY TO DEVELOP:** This parcel is easily accessible to existing roads and utilities (water and electric) from adjacent subdivisions. There are 93 acres of gentle terrain in the parcel's foothills flat enough to develop housing and which lack archeological sites that might restrict development.
- **ADJACENT LAND USE:** Housing demand on Oahu continues to rise and Honolulu County (includes Kaneohe) population grew by 54% between 1970 and 2019 with little increase in housing supply. This has put pressure on forested and agricultural lands that are rapidly being converted for housing development.
- In 2020 the 240-acre Koolau Golf Club adjacent to KP closed to the public and is now leased to a golf academy. The property owners are investigating other uses. This opens new options for access to KP and larger-scale development that may increase KP's development potential.



3D view of KP (brown) with threat of subdivision development (red outline) (Photo by Trust for Public Land)

- KP offers a cool, lush and quiet alternative to intensely urbanized downtown Honolulu and the Pearl Harbor area (combined population 444,708; 45% of Oahu's population). KP is prime for development as a bedroom community to these commercial and industrial hubs which are only a 20-minute drive away.
- The residential development proposed by the current landowner will reduce regional landscape connectivity and result in a loss of forest and important values and public benefits including scenic, cultural, historic, recreational access, watershed protection and natural resources.

Strategic

- **CONSERVATION PLAN:** The project is consistent with U.S. Fish and Wildlife Service Endangered Species Recovery Plans for 31 species at KP. State acquisition will allow increased levels of management recommended in these plans. Management needs include surveys to locate and map existing populations, invasive species control, forest restoration, predator control and stream habitat management.
- Hawaii's Forest Action Plan (FAP) recommends management in high priority watersheds such as KP. The State will implement management at KP to protect forests, recover Endangered species and restore watershed function. Actions such as invasive species control and planting native and agroforestry trees will secure the future water supply and increase Hawaii's resilience in the face of climate change.
- The project will address FAP Urban and Community Forestry goals including improving the health and well-being of the community through social justice and planting trees for food. The State will partner with nonprofit stewards to manage accessible portions of KP for community benefits including education, cultural practices and agroforestry plantings of traditional foods, fiber, and medicine.
- **COMPLEMENT PROTECTED LANDS:** KP provides scenic views from Kawainui Marsh (international Ramsar wetland) and Heeia National Estuarine Reserve. Acquisition will protect a critical link between Koolau Range Pali National Natural Landmark (NPS), designated for its geologic, ecologic, and scenic importance, Nuuanu Pali state wayside, forest reserves, and the county's Hoomaluhia Botanical Garden.
- Acquisition will complement partner plans to conserve ecologically and culturally important lands adjacent to KP. The State Dept. of Transportation has set aside 21 acres as mitigation for H-3 construction for community stewardship, historic sites, and traditional agriculture (kalo). Trust for Public Land (TPL) is also working with other nonprofits to purchase 73 acres in a separate transaction.
- KP's streams flow into Kaneohe Bay's Heeia National Estuarine Reserve. The State's Ocean Resources Management Plan recommends watershed management to reduce stormwater runoff, protect coral reefs and increase climate resilience. Restoration of KP's forests will reduce land-based pollution into streams, Kaneohe Bay and the National Estuarine Reserve by reducing flooding and filtering pollutants.
- KP's Kekele Trail provides access to 15 miles of public trails in the Maunawili Valley Trail Complex on adjacent state lands. The State Trail and Access Plan supports trail development for recreational, cultural, and subsistence uses. The State will work with stakeholders to determine appropriate managed public access to KP, including hiking and hunting, considering resource sensitivity.
- **CONSERVATION INITIATIVE:** Governor Ige's 30 x 30 Sustainable Watershed Forests Initiative committed the state to protect 30% (253,000 acres) of priority watershed forests by 2030 as part of efforts to foster environmental stewardship from mountain to sea. KP is identified as priority watershed in the Koolau Mountains, due to the importance of its upland native forests for rainfall infiltration.



KP supporters standing at Hoomaluhia, with KP forest scenic view in background (Photo by Trust for Public Land)

- The KP project is consistent with the State's Water Resources Protection Plan as it protects and sustains ground and surface water resources and priority watershed forests. KP is within the Windward Oahu aquifer, a Designated Water Management Area. This aquifer provides approximately 22% of Oahu's sustainable yield allocation (87 million gallons per day).
- The County's 2017 Koolaupoko Sustainable Communities Plan recommends preservation of KP's undeveloped lands at the foot of the Koolau Mountain Range through public acquisition, as a "greenbelt" to preserve natural, recreational, and scenic resources; maintain view corridors; prevent inappropriate development and to provide opportunities for environmental and cultural research and education.

Readiness

Pre-Appraisal/Market Analysis	1
Easement or Fee Conditions	1
Non-Federal Cost Share Commitment	1
Signed Purchase Agreement	0
Title Search	1
Mineral Determination	1
Stewardship Plan (or equivalent)*	1
Readiness Total Tally Score	6

Supporting Parties

Senator Mazie Hirono, Senator Brian Schatz and Representative Ed Case; U.S. Fish and Wildlife Service; United States Marine Corps (Marine Corps Base Hawaii); State Senator Jarrett Keohokalole; State Representative Lisa Kitagawa; State Representative Scot Matayoshi; Mayor Richard Blangiardi (Office of the Mayor, City and County of Honolulu); Trust for Public Land (TPL); Community Partners (Aloha Aina Health Center, Luluku Farmer's Association); Hawaiian Organizations (Koolaupoko Hawaiian Civic Club, Koolau Foundation); Watershed Management Non-profits (Hui o Koolaupoko, Pacific America Foundation); and Project Partner Education (Mailikukahi Aina Momona Academy).

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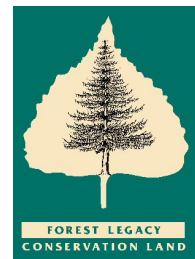
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Wildlife

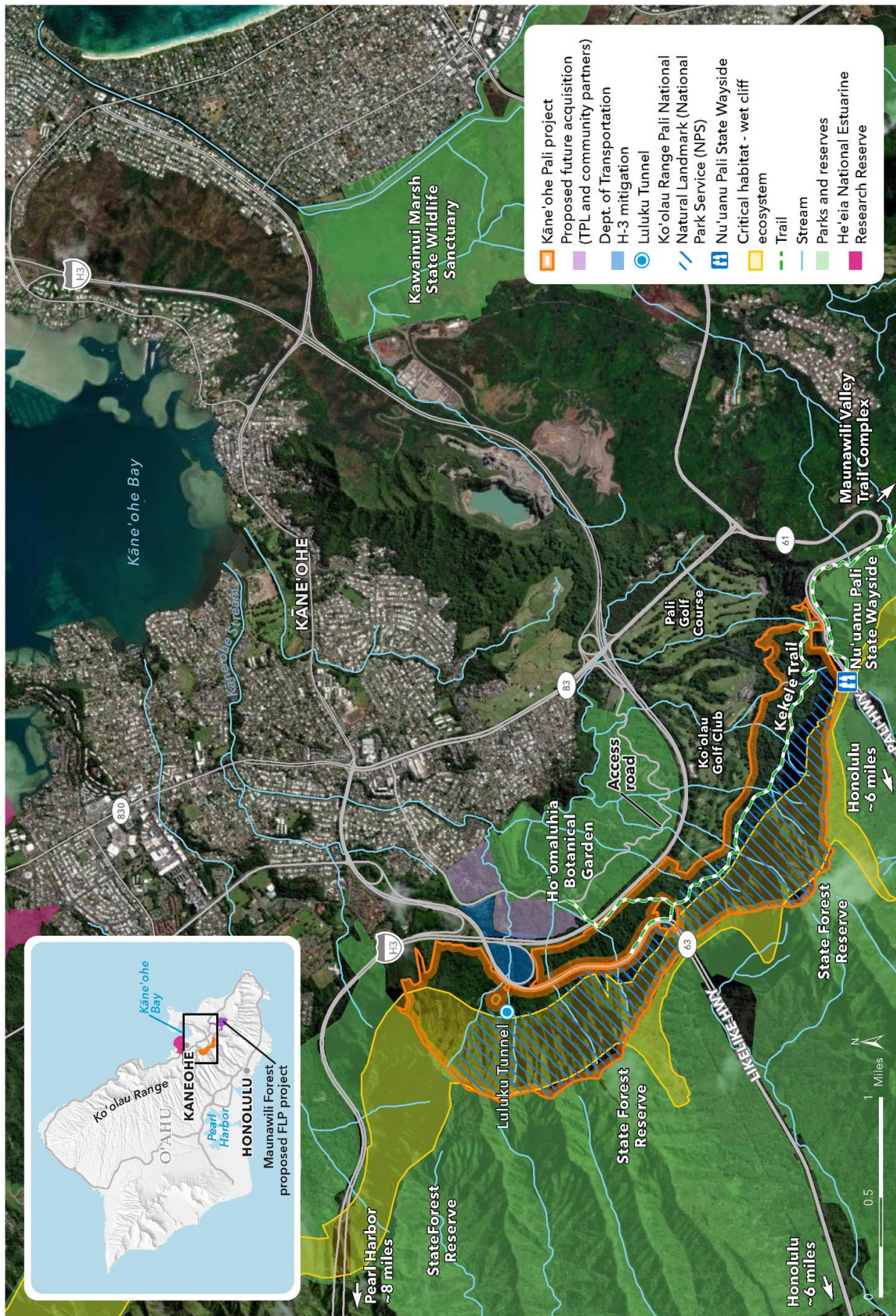
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Kāne'ohe Pali

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