

Forest Legacy IRA Project

East Maui Rainforest

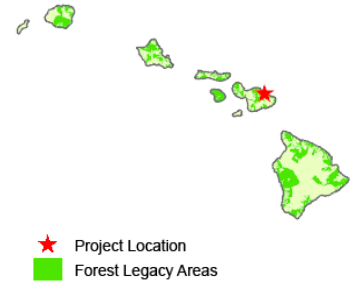
Haiku, Maui Hawaii



FUNDING HISTORY

| | |
|---------------------------------------|-------------|
| FY 2024 Forest Legacy Program Funding | \$1,500,000 |
| FY 2024 Non-Federal Cost Share | \$500,000 |
| FY 2024 Project Costs | \$2,000,000 |
| FY 2024 Project Acres | 479 |

| | |
|-------------------------------|--------------|
| Forest Legacy Funding To Date | \$1,900,000 |
| Total Project Costs | \$12,000,000 |
| Total Project Acres | 1,526 |



| Tract Name | Size (ac) | Tract Cost | FLP Funding | Non-Fed Cost Share | Status |
|---|-----------|-------------|-------------|--------------------|-------------|
| Hana Highway Coastal Rainforest | 789 | \$3,167,000 | \$1,900,000 | \$1,267,000 | Funded 2022 |
| Hana Highway Coastal Rainforest Remainder | 258 | \$6,833,000 | \$4,100,000 | \$2,733,000 | Draft 2027 |
| Paakea Stream Addition to Koolau FR | 74 | \$1,605,000 | \$1,500,000 | \$105,000 | Draft 2024 |
| Paakea Stream Cost-Share Donation Tract | 405 | \$395,000 | \$0 | \$395,000 | Draft 2024 |

GENERAL DESCRIPTION

The Paakea Stream (PS) Addition to Koolau Forest Reserve (KFR) Project includes a small strategic 74-acre FEE acquisition (PS) proposed for FLP funding and a 405-acre cost-share tract. On the slopes of Haleakala volcano on Maui's rural northeast coast, PS is strategically located next to the state protected KFR, which is part of a 108,000-acre landscape of contiguous managed reserves that encompass Haleakala. This high priority acquisition will be added to KFR, enhancing on-going efforts to strengthen the protection and management of the region's forests. PS is part of the larger East Maui Rainforest Project (EMR), which includes nearby current and planned FLP projects. PS will secure public access to forest, stream, and shoreline resources that support recreational, cultural, and subsistence uses. The coastal forests of PS contain designated federal critical habitat for 5 federally endangered plant species and roosting and foraging habitat for the federally endangered Hawaiian hoary bat. On PS, Paakea Stream provides habitat for native stream fauna and nutrient-rich freshwater for coastal fisheries. Under private ownership, PS is highly threatened by conversion due to its scenic features, accessibility, and lack of protection.



The lush rugged coastal forests of PS extend nearly 1 mile upland from the sea. (Photo by DOFAW)

PROJECT FEATURES

Important

- **PUBLIC ACCESS:** The northeast coast of Maui has the fewest shoreline access points on the island, restricted in numerous locations by private ownership or development. PS will provide public access to natural resources that support hiking, fishing, cultural practices, and subsistence gathering.
- Acquisition of PS will allow the state to strategically plan for managed public access. There are two trails in the area that may connect to potential new trails at PS: Kaliae Road Trail (potential access point on adjacent KFR) and the historic Piilani Trail which crosses the northern tip of PS.
- **T/E SPECIES:** PS has 1.2 acres of federal designated critical habitat for 5 coastal plants. There are no known individuals on PS, but 2 species are found on adjacent state lands. Acquisition will aid recovery by providing management access to critical habitat for surveys and restoration plantings.
- PS is part of an important undeveloped sea-to-land flyway for the federally endangered Hawaiian Petrel, with the largest known nesting colony located upland at the National Park. Artificial lights in developed areas disorient petrels causing injury or even death. PS will preserve this dark flyway.
- The forests of PS provide foraging and roosting habitat for the federally endangered Hawaiian hoary bat, HI's only native land mammal. The bat is threatened with extinction due to habitat loss, collisions with structures (e.g. wind turbines), pesticides impact on food sources and roost disturbance.
- Marine habitat extending 2.5 miles off PS is federal designated critical habitat for the federally endangered Hawaiian monk seal. Protection and proper management of the forest and stream on PS will support the health of the near- shore marine ecosystems critical for monk seal recovery.
- **AQUATIC HABITAT:** PS contains 1.3 miles of stream that flows to the sea. 4 species of native goby have been observed in the middle and lower stream reaches. Acquisition will protect stream connectivity that is essential for the goby's survival as they migrate upstream by ascending steep waterfalls.
- Water from many east Maui streams is diverted for agricultural uses leading to stream degradation. Although Paakea Stream is diverted above PS into a ditch, instream flow standards have been established for the stream, which require sufficient flow to restore native aquatic ecosystems.
- Acquisition of PS, in conjunction with established flow standards, will protect goby habitat from degradation. Other native species such as shrimp, crustaceans, and damselflies will also benefit from enhanced stream protection and management as part of KFR.
- PS is in Paakea watershed, which is rated as above average quality by the State Division of Aquatic Resources due to the area's forested lands and high rainfall. Stream quality is rated above average due to the native biotic diversity observed, including 6 fish species, 1 snail, and 1 crustacean.
- The coastal waters off PS are classified as AA water quality (highest EPA Clean Water rating). Forest protection and soil erosion mitigation upslope will preserve the clean and clear water that flows to the sea.
- Water in northeast Maui is a critical resource for recreational, subsistence, and cultural uses. PS's stream provides nutrients and freshwater that support healthy coastal fisheries and populations of native stream fish and shrimp that are an important component of fishing in the region.
- **CULTURAL:** PS will provide access to resources that are important for Native Hawaiian traditional and customary practices, such as gathering of plant materials for lei making/medicinal practices, subsistence fishing, opihi (limpet) picking, and limu (seaweed) gathering.



Left: Paakea Stream; Top: Hawaiian hoary bat; Bottom: Hawaiian goby (Photo by DLNR)

- PS contains suitable areas for restoration of indigenous hala (Pandanus tree) that are a large component of adjacent coastal forests. Hala is a significant cultural resource, used for weaving, cordage, and medicine, that has lost much of its former range due to development and invasive species.
- UNIQUE: The undeveloped mixed native/non-native forest of PS provides irreplaceable coastal habitat which is rare in Hawaii. On Maui, 43% has been converted to development. PS is adjacent to the Waiohue cliffs, where surveys have noted high quality remnant coastal vegetation including T/E plants.
- SCENIC: PS is located along the world-renowned Hana Highway that meanders along Maui's northeast coast. The highway is famous for stunning views of lush forest, towering cliffs, 50 historic bridges, and 20 cascading waterfalls. Visitors can enjoy the scenic beauty of PS from the highway.
- ECON/NON-TIMBER: Tourism is the largest economic driver on Maui (38% of the GDP). In 2022, Maui saw 2.9M visitors spend \$5.82B (\$244pp/day) on lodging, car rental, and attractions. Driving Hana Highway past PS's scenic beauty is one of the most popular tourist experiences on Maui (500 cars/day).
- HISTORICAL: The precursor to the Hana Highway was a trail constructed by the Chief of Maui in the 1500s that likely encircled all of Maui. Remnants of this historic trail, also known as the "Piilani Trail", still exist on PS. Acquisition will enable the state to protect and restore this trail.
- Hana Highway is listed on the National Register of Historic Places for its significance in engineering, transportation, and social history. The Highway, an engineering achievement that connected Hana with the rest of Maui, retains historic integrity in its narrow lanes, bridges, and amazing views.

Threatened

- LACK OF PROTECTION: 67% of PS is zoned agricultural, allowing for subdivision into roughly 11 lots ranging from 2-40 acres with 2 dwellings/lot allowed. The other 33% is zoned conservation, which does not allow subdivision for housing development.
- In the agriculture zone, intensive farming, land and forest clearing, homes with large grassy lawns, and infrastructure are allowed without approval/permits. Agricultural uses allowed in the conservation zone include cultivating and harvesting of horticultural crops, and animal husbandry.
- LANDOWNER CIRCUMSTANCE: The landowner, a commercial real estate company, is a major private landowner in Hawaii. They are supportive of a state purchase of PS for conservation but have expressed their need to sell on a short timeline.
- The landowner's current objective is to sell non-core assets including agricultural and conservation zoned forest land such as PS that are not being used. In 2018, they sold 41,000 acres of ag land in central Maui to a joint farming venture; this was one of the largest land sales in state history.
- One mile to the east of PS, the landowner is selling 250 acres with similar attributes to PS and is actively working with a potential buyer. The buyer could easily clear the forest to build a luxury estate and intensive agriculture.
- ABILITY TO DEVELOP: PS is easily accessible from Maui's largest town, Kahului (40 miles), which has an international airport and commercial district. PS is only 9 miles from the town of Hana, which has a regional airport that makes this rural region more accessible for residents and visitors.
- PS is attractive for development due to its agricultural zoning and accessibility from the nearby towns of Hana, as well as Nahiku (2 miles to east) and Wailua (2 miles to west). It also has serene ocean, forest, and stream views, proximity to electrical infrastructure and access from Hana Highway.

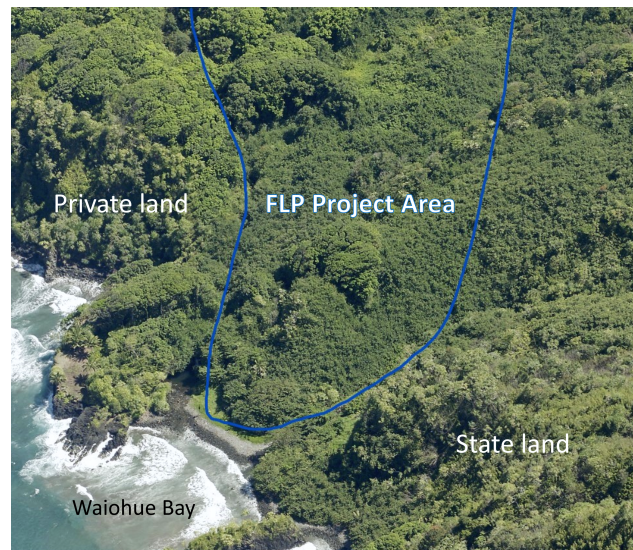


Lots in the nearby Nahiku area have been cleared for homes and agriculture (Photo by Zillow)

- **ADJACENT LAND USE:** The scenic beauty of northeast Maui has created extremely high demand for properties. Residential sprawl is marching relentlessly eastward from Kahului, as properties like PS are quickly sold to speculators seeking to subdivide and convert lands for luxury homes or agriculture.
- Nahiku has approx. 70 ag lots. 10 have sold since 2021 and 3 lots with houses are for sale. One lot listed for \$5.4M boasts an off-grid farm, infrastructure, and 7 permitted structures. In Wailua, most of the 160 ag lots have been converted for agriculture. PS could easily meet the same fate.
- From 2000-2020, Maui's population grew 28% (128k to 164k), and Maui saw a near-record 2.9M visitors in 2022. These increases are straining the region's limited resources and accommodations, putting substantial pressure on ag and forest land west of PS that are being converted to urban development.

Strategic

- **NATIONAL PLAN:** PS contains critical habitat for 5 endangered coastal plant species, 2 of which (*Cyperus pennatiformis* and *Vigna owahuensis*) are identified in the US Fish and Wildlife Service Recovery Plan for Multi-Island Plants. Potential recovery strategies at PS include surveys, enhancing wild populations, establishing new populations, building protective fences and maintaining genetic stock.
- Acquisition supports U.S. Fish and Wildlife Service (USFWS) Recovery Plan and Hawaii State Wildlife Action Plan (SWAP) recommendations to protect roosting and foraging areas, such as the coastal forest at PS, from degradation and disturbance for the federally endangered Hawaiian hoary bat.
- Acquisition of PS supports the recommended action of conserving monk seal habitat identified in the National Oceanic and Atmospheric Administration Hawaiian Monk Seal Recovery Plan and SWAP. PS will support monk seal habitat conservation through upland forest and stream protection and management, which benefit the health of near-shore waters.
- The 2014 Hawaii Coastal and Estuarine Conservation Plan identifies PS as a priority area that supports the plan's priority of conserving coastal areas with ecological, recreational and cultural values. To conserve these values, the state will manage PS to protect coastal forest habitat and flowing streams for endangered species, other native fauna, healthy near-shore waters, and public access.
- **STATE PLAN:** Managed as part of KFR, PS will support the 2016 Hawaii Forest Action Plan's (FAP) strategies of preserving stream and nearshore water quality, protecting areas for outdoor recreation, and mitigating forest loss. The FAP also advocates for using the traditional Hawaiian land management system that enhances the connection of forests such as those on PS, to the sea.
- **COMPLEMENT PROTECTED LANDS:** PS is strategically located next to the state managed KFR. PS will be designated as part of KFR, adding to the 108,000-acre landscape of state, federal, and non-profit managed reserves that were created to conserve Maui's forest resources.
- The majority of Maui's upland forests are protected, however most coastal areas such as PS are not, resulting in a large gap in protection of lowland forests and streams. The state is actively working to strengthen and expand the continuity of protection and management of Maui's forests from the summit to the sea through acquisition of PS and other private lands along the coast.
- **LANDSCAPE SCALE GOALS:** PS and the 405-acre cost-share tract are part of the larger EMR, which is comprised of strategically located private parcels that are priorities for state acquisition. In addition to PS, EMR includes a funded FY22 project seven miles west of PS and a planned FY25 FLP proposal for parcels less than half a mile east of PS.



Paakea Stream flows along PS and enters the ocean at Waiohue Bay (Photo by County of Maui)

- In support of the state's initiative to expand and connect protected areas in the region, several unprotected state owned parcels ("Planned addition to KFR" on map) have been approved for addition to KFR. The state also continues efforts to acquire other privately owned forest land adjacent to KFR ("Potential Future Acquisition" on map; no willing seller at this time).
- PS will help achieve the goals of the East Maui Watershed Partnership (EMWP), a working relationship of 7 landowners established in 1991 to increase watershed protection through collaborative management. EMWP currently encompasses 100,000 acres of uplands forests on the northeast slope of Haleakala. As a FR, PS will enlarge EMWP by connecting to the lowland coastal forests.

Special Emphasis Criteria

- **STRATEGIC VALUE:** PS is strategically located next to the 31K acre state protected KFR. Addition of PS and 850 acres of public state land along the coast to KFR will expand the contiguous 108K acre network of protected forests on Haleakala, which includes a completed 3.2K acre FY18 FLP project.
- Acquisition will complement a funded FLP FY22 project with similar attributes located 7 miles west of PS. The state is also planning to acquire several parcels (Planned FLP FY26 proposal) less than 1/2 a mile from PS. These strategically located parcels together make up the EMR.
- **PUBLIC ACCESS:** PS will provide public access to the forest and coast for recreation and cultural uses. The state will consult with the community on plans for future managed public access to PS, which may include a reservation system, to prevent overuse and damage to sensitive natural resources.
- **STEWARDSHIP CAPACITY:** PS will be incorporated into the KFR management plan, which will address on-going and future management. This strategic plan will include managed public access to PS for hiking, camping, and fishing, as well as protection and restoration of natural and cultural resources.
- **HABITAT CONNECTIVITY:** PS connects and enhances management of KFR forest habitat for 5 federally listed plant species and the hoary bat, aiding species recovery. Acquisition will also protect the continuity of streamflow, which is essential for native fauna that migrate upstream to reproduce.
- **CLIMATE RESILIENCE:** PS currently supports significant rain forest biomass. Conversion would result in greenhouse gas emissions, loss of carbon sequestration, and erosion. Acquisition will allow for native ecosystem restoration, which will improve biodiversity, soil retention and climate resilience.
- **DISADVANTAGED COMMUNITIES:** Native Hawaiians (36% of pop. in rural northeast Maui, 10% island wide) are disadvantaged due to disproportionately high rates of unemployment, poverty, and health risks. PS will enhance access to natural resources essential to traditional and customary practices.
- **READINESS:** The project can be successfully completed within a year of grant award. Due diligence is underway and will be completed prior to grant award. The Trust for Public Land is a project partner and is currently negotiating a purchase agreement with the landowner.

Readiness

| | |
|------------------------------------|----------|
| Easement or Fee Conditions | 1 |
| Non-Federal Cost Share Commitment | 0 |
| Signed Purchase Agreement | 0 |
| Title Search | 1 |
| Mineral Determination | 1 |
| Readiness Total Tally Score | 3 |

Supporting Parties

National Park Service - Haleakala National Park; US Fish and Wildlife Service; Trust for Public Land; Maui County Department of Water Supply; and Maui Nui Seabird Recovery Project.

CONTACT INFORMATION

Scott Stewart

*National Forest Legacy
Program Coordinator*

USDA Forest Service
1400 Independence Avenue,
3SC
Washington, DC 20250
202-205-1618
scott.stewart@usda.gov

Dana Walsh

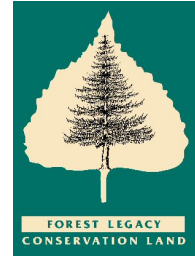
*Forest Legacy Program
Manager*

USDA Forest Service
1323 Club Drive
Vallejo, CA 94592
530-450-5555
dana.walsh@usda.gov

Tanya Rubenstein

*Cooperative Resource
Management Forester*

Hawaii Division of Forestry &
Wildlife
1151 Punchbowl St. Room 325
Honolulu, HI 96813
808-587-0027
Tanya.Rubenstein@hawaii.gov



Paakea Stream (PS) Addition to Koolau Forest Reserve

