

State of Hawai'i  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Forestry and Wildlife  
Honolulu, Hawaii 96813

October 22, 2021

Chairperson and Members  
Board of Land and Natural Resources  
State of Hawai'i  
Honolulu, Hawai'i

SUBJECT: REQUEST FOR APPROVAL AND ACCEPTANCE OF NOTICE OF  
FEDERAL PARTICIPATION AND CONSENT REGARDING A U.S.  
FISH AND WILDLIFE SERVICE GRANT FOR RESTORATION OF  
THE HONU'APO ESTUARY PROPERTY ACQUIRED IN 2006, KAU,  
HAWAII, TAX MAP KEY (3) 9-5-14:02-07, 27 & 52-59.

**SUMMARY**

Submitted for your approval is the Acceptance of Notice of Federal Participation (NOFP) and Consent for the Honu'apo Estuary, acquired by the State of Hawaii in 2006. The deed specifies that the Honu'apo Estuary was acquired with funds that included a federal financial assistance award through the National Oceanic and Atmospheric Administration (NOAA) (Award #NA05NOS4191259) and shall be managed for conservation purposes in accordance with the Coastal and Estuarine Land Conservation Program, and that the State of Hawaii, by its Board of Land and Natural Resources, shall not dispose of, encumber its title or other interests in, or convert the use of this property without the prior approval of NOAA or its successor agencies.

In 2011, the Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW), received a US Fish and Wildlife Service (USFWS) National Coastal Wetlands Conservation Grant for the restoration of the Honu'apo Estuary (Award #FI2AP01128). DOFAW plans to use part of the bargain sale value of the original purchase price to match the current USFWS grant. USFWS also requires that the title for Honu'apo Estuary reflect the NOFP and affirm that the property will be managed for the conservation purposes consistent with both programs. The proposed NOFP is attached as Exhibit A.

**BACKGROUND**

The purchase of the 225.5 acre Honu'apo estuary property located in Kau, Hawaii, identified as Tax Map Key (3) 9-5-14:02-07, 27 & 52-59, secured state ownership of Honu'apo's wetland complex and its surrounding area, with ongoing management and oversight provided by the Hawaii County Division of Parks and Recreation (DPR) and *Ka'Ohana O Honu'apo* (via memorandum of

understanding with DPR.) The purchase was facilitated by NOAA's Coastal and Estuarine Land Conservation Program and local funds contributed by the State of Hawaii Legacy Land Program, the County of Hawaii, and private donors, putting a stop to a resort development project that was being proposed.

Acquisition was necessary to provide immediate conservation status to the property and ensure its long-term protection and the opportunity for restoration of this unique estuarine wetland. In addition, the current protected status and resulting undeveloped open land surrounding the inland side of the wetland allows for future wetland migration as climatic changes resulting in sea level rise.

The current USFWS grant awarded to DOFAW proposes to restore the wetland by: 1) removal of detrimental invasive vegetation that is impairing water quality and quantity as well as habitat function, 2) the sculpting of deepened water areas for improved habitat productivity and diversity, and 3) the re-introduction and expansion of native plant species that will provide improved habitat function and natural site conditions for native endemic species.

The USFWS competitive grant required the state and its partners to provide at least a 25% match component. Above a 25% match would increase the likelihood of the grant being awarded. The Federal grant awarded is \$549,000 with a dedicated match of \$250,000 above the 25% threshold for match. A portion of the land value purchased for the Honu'apo property was identified as match.

## **DISCUSSION**

Approval of the NOFP will allow DOFAW to utilize USFWS grant funds for the restoration of the Honu'apo Estuary. The wetland restoration project is expected to improve habitat for native waterbirds, fish, and turtles and enhance other wetland functions. Specifically, grant objectives include:

- 1) Improving water quality by removing invasive kiawe trees that excessively tap ground water and reduce spring fed water flows to the wetland. Thus, rebalancing and returning historic inflow conditions to the site.
- 2) Improving invertebrate production and shorebird access for foraging by removing the invasive plant cover and slightly lowering topography within the intertidal area of the wetland.
- 3) Improving habitat conditions for waterbird use within backwater areas of the wetland by slightly deepening pond areas by sediment dredging and contouring.
- 4) Improving overall water quality, water circulation, avian habitat, fish habitat and cultural values of the wetland by eradicating invasive plant species within and surrounding the wetland area.
- 5) Recovering historic appearance and wetland function by planting and expanding native plant species and communities within and around the wetland that will recover the integrity of the historic wetland and serve as a cultural resource for gathering and use.

**RECOMMENDATION:**

That the Board:

Approve and consent to the NOFP for the Honu'apo Estuary subject to the following:

1. Review and approval by the Department of the Attorney General;
2. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

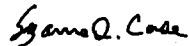
Respectfully submitted,



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David G. Smith, Administrator  
Division of Forestry and Wildlife

APPROVED FOR SUBMITTAL:



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SUZANNE D. CASE, Chairperson  
Board of Land and Natural Resources

Attachment A: Notice of Federal Participation and Consent for the deed on the Honu'apo Estuary

**2011 National Coastal Wetland Conservation Grant Proposal**

**(Final: June 30, 2011)**

**Honu'apo Estuary Wetland Restoration**

**Phase I: Habitat Recovery**



**APPLICANT:**

State of Hawaii  
Department of Land and Natural Resources  
Division of Forestry and Wildlife  
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## **PROJECT SUMMARY**

The State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, in partnership with the non-profit community group *Ka 'Ohana O Honu'apo*, seeks a National Coastal Wetland Conservation grant to permanently restore the unique estuarine wetlands of Honu'apo located in the southernmost area of the U.S. - Hawaii Island's Ka'ū District. In supporting this project an acquisition interest

in the property will be provided to the USFWS.

The purchase of the 225.5 acre Honu'apo property, completed in 2005, secured state ownership of Honu'apo's wetland complex and its surrounding area, with ongoing management and oversight provided by the Hawaii County Division of Parks and Recreation (DPR) and *Ka 'Ohana O Honu'apo* (via memorandum of understanding with DPR.) The purchase was further facilitated by NOAA's Coastal and Estuarine Land Conservation Program and local funds contributed by the State of Hawaii Legacy Land Program, the County of Hawaii, and private donors, putting a stop to a resort development project that was being proposed.

Acquisition was necessary to provide immediate conservation status to the property and ensure its long-term protection and the opportunity for restoration of its unique estuarine wetland. In addition, the current protected status and resulting undeveloped open land surrounding the inland side of the wetland allows for future wetland migration as climatic changes result in sea level rise. The Honu'apo estuarine wetland project, at 11.5 acres may be small by mainland standards, but for the state of Hawaii it constitutes an exceptional wetland protection opportunity. The wetland types found within Honu'apo are predominantly rare and declining, and the site offers refuge to endemic Hawaiian species that are either endangered or rare, thus contributing to its regionally significant status both within the state of Hawaii, and on Hawaii Island especially.

Honu'apo means "caught turtle" in Hawaiian, and the threatened Green sea turtle is one of the numerous federally listed species that frequents this estuarine wetland on a regular basis. So, "Got turtles?".... Honu'apo does! Honu'apo also has numerous endangered endemic waterbirds, migratory waterbird use, endangered Hawaiian monk seals, and many invasive plants and non-native predators.

The influx of fresh water at the coastline, originating from precipitation on Mauna Loa, dilutes salt water and creates a brackish water environment in the Honu'apo wetland. Although the estuary wetland system supports a diversity of endemic species and microhabitats, decades of neglect and misuse have resulted in altered hydrology, sedimentation, and invasion by non-native plants and animals. This has contributed to impairment of wetland functions and decreased habitat for native resident and migratory birds and other native fauna. For example, springs along the inland margin of the estuary are encroached on by invasive California grass (*Urochloa mutica*) and kiawe (*Prosopis pallida*), resulting in decreased habitat and adverse impacts to the system's hydrology.

This proposal requests federal funding assistance in the amount of \$549,000 for completion of the first phase of restoration at the Honu‘apo wetland complex. This first phase includes physical improvements to the system through: 1) removal of detrimental invasive vegetation that is impairing water quality and quantity as well as habitat function, 2) the sculpting of deepened water areas for improved habitat productivity and diversity, and 3) the re-introduction and expansion of native plant species that will provide improved habitat function and natural site conditions for native endemic species. In addition, ongoing predator control to protect the endangered endemic and migratory bird species utilizing the wetland has begun at the site and under Phase II (not included in this proposal) will be aggressively undertaken, ideally, in conjunction with the installation of a predator proof fence.

This proposal is presented based on the site assessment work, and planning conducted by the consulting firm Sustainable Resources Group International, Inc. (SRGII) based in Honolulu, Hawaii. SRGII completed the *Wetland Habitat Restoration Plan* for the Honu‘apo estuary in spring 2011 with funding support from numerous federal sources under the direction of Ka ‘Ohana O Honu‘apo. Much of this proposal’s content has been excerpted from this document.

## **PROJECT STATEMENT**

### **(Q.1) Need for the Project and Description**

#### **Project Site Description**

The Honu‘apo estuary wetland is part of a unique coastal ecosystem of semi-sheltered near-shore pools, brackish ponds, and open ocean environs. Estuarine wetlands are relatively rare on Hawai‘i Island and the location of this system makes it of high value to both native and migratory birds utilizing the southern portion of the island. With the purchase of the entire 225.5-acre parcel, the Honu‘apo estuary wetland complex was effectively buffered and secured from any potential development impacts, yet restoration of the complex is needed.

The Honu‘apo Estuary is part of a wetland complex that encompasses 8-acres comprised of three distinct wetland types. The estuary proper is a subtidal water body covering approximately 2 acres. Water levels and the wetted surface of the estuary vary with tides, due to the direct ocean connection. Approximately 4.5 acres of the wetland are classified as intertidal, inundated by tides on a periodic basis. Approximately 1.5 acres of the complex is classified as a palustrine wetland, located above the intertidal zone, and not submerged except during wave run-up and following heavy rain events. Vegetation at this site changes in a short distance from wetland to upland species creating a distinct boundary. A coastal strand community is found *makai* of the estuary, towards the ocean.

There are no natural freshwater streams or channels that flow into the estuary. Freshwater from springs and seeps has been observed discharging into the wetland along its margins and within the estuary itself, creating small pockets of freshwater that transition quickly to brackish water in the main body of the estuary and to seawater near its mouth.



### Wetland Plant Community

The dominant plant species found within the wetlands of Honu‘apo Estuary are kiawe or mesquite (*Prosopis pallida*) and seashore paspalum (*Paspalum vaginatum*), both non-native invasive species. Other prevalent, non-native and invasive species within the wetland area include California grass (*Urochloa mutica*) and manienie or Bermuda grass (*Cynodon dactylon*). Native plant species present include makaloa (*Cyperus laevigatus*), milo (*Thespesia populnea*), and ākulikuli (*Sesuvium portulacastrum*). The native ‘aka ‘akai or Giant bulrush (*Schoenoplectus tabernaemontani*) can also be found in the intertidal and palustrine zones near the fresh water seeps and springs.

### Upland Plant Community

The uplands directly adjacent to the wetland area are dominated by non-native invasive species including: haole koa (*Leucaena leucocephala*), Guinea grass (*Panicum maximum*) and kiawe (*Prosopis pallida*), along with other dry shrubland species such as Christmas berry (*Schinus terebinthifolius*), java plum (*Syzigium cumini*), and sourbush (*Pluchea odorata*).

### Coastal Strand Plant Community

The coastal strand vegetation community is located between the shoreline and estuary and is dominated by native plants adapted to an environment of sea spray including: naupaka kahakai (*Scaevola taccada*), ‘ilima (*Sida fallax*), pa‘u o hi‘iaka (*Jacquemontia ovalifolia*), pohuehue or beach morning glory (*Ipomoea pescaprae brasiliensis*), ‘akulikuli or sea purslane (*Sesuvium portulacastrum*), nehe (*Melanthera integrifolia*), and kipukai or seaside heliotrope (*Heliotropium curassavicum*) (Fig1).



Fig.1 Native coastal strand plants of Honu‘apo: Naupaka, ‘Ilima, and ‘Akulikuli

### Endangered Avian Species

Though various federally and state listed and migratory avian species have been observed at the site, the wetland complex does not currently support the substantial waterbird populations, as it did in the recent past. The presence of feral cats and mongoose in the adjacent Whittington Beach Park, and in the larger Honu‘apo Park is believed to be a primary cause of the low number of native and migratory birds utilizing the estuary. In addition, the non-native vegetation found within the wetland has caused degradation of habitat function while providing cover for predators. Bird access to foraging and loafing sites has thus been limited, and mortality due to predation amplified.

### **Non-Native Plant Species**

Over 30 non-native plant species have been recorded in the Honu‘apo area. Many of these non-natives are considered aggressive invasive species with the ability to outcompete native plants for available resources. Of special interest is the elimination or control of seashore paspalum (*Paspalum vaginatum*), kiawe or mesquite (*Prosopis pallida*), California grass (*Urochloa mutica*), and Guinea grass (*Panicum maximum*). Kiawe is of particular concern due to its significant use of groundwater and its ability to fix nitrogen. A phreatophyte, or plant that is efficient at tapping groundwater, kiawe is thought to be decreasing freshwater inputs into the estuary and elevating the areas nitrogen levels. Guinea grass, which dominates the upland, disturbed areas of Honu‘apo Park is a target for control in the recently completed 2010 *Honu‘apo Park Resources Management Plan* in part to reduce wildfire risk. In general, high stature vegetation is known to provide cover for predators, which kill endangered avian endemic species and migrants as well.

### **Project Need**

Wetlands provide many functions on the landscape that benefit both humans and wildlife alike. In Hawaii, the standard condition of wetlands and the suite of functions they perform are in large part highly compromised. This has contributed to numerous and highly significant problems such as reduced in stream water flows, impacts to marine areas from poor water quality and sediment run off, and extensive loss of habitat for endemic bird species. Unlike our North American counterparts, the only land-based wildlife endemic to the Hawaiian island environment is birds and a bat. There are no native bears, cougar, wolf, beavers, etc. Land based native wildlife protection in Hawaii means the protection of avian species.

That being the case, bird habitat and for waterbirds, shorebirds, & migratory birds, wetland habitat especially, is key. In the US Fish and Wildlife Service’s 2009 State of the Birds Report (<http://www.stateofthebirds.org/2009/>), the current vitality of all bird species across the nation was examined. The report stated that of all areas in the US, Hawaii’s birds ranked the highest as critically in need. The following year’s report in 2010 looked ahead to climate change impacts on bird species in biomes across the nation and, again, pointed to Hawaii’s birds as most vulnerable to loss following the oceans’ seabirds. Estimates of historic endemic bird species found in Hawaii indicate at least 113 species unique in the world. At present there are only 35 species remaining, 10 of which have not been seen in several decades. Of the historic endemic waterbirds there were once 30+ species, yet now only 5 remain in the Main Hawaiian Islands and all are federally listed. Population numbers for some are so low that recovery is becoming highly questionable.

Healthy wetlands are crucial to endemic waterbird survival in Hawaii. Healthy wetlands are those where there is a predominance of native flora and fauna and an absence of non-native introduced predators. Hawaii’s tropical island environment differs significantly from that of the continental United States. The finite nature of small islands makes them particularly vulnerable to invasive non-native introduced species. Native flora and fauna have no place to go to avoid the advance of aggressive non-natives. In Hawaii this has lead to numerous habitat areas becoming completely overrun by outcompeting, non-native species; and those areas loosing their



supportive structure for the island's native fauna, the birds. It is estimated that Hawaii receives between 20-50 new introduced species to the state every year! If even 1% of these are aggressive colonizers then holding the line on keeping native habitats in place is not simply a challenge, but much more! In addition, endemic birds in Hawaii evolved in the absence of predators and as such, the introduction of mongoose, rats, and feral cats has decimated their populations (Fig 2).

Much is at stake for Hawaiian ecosystems and Hawaiian endemic species in this age of mobility and rapidly shifting climate. The protection, restoration, and management of wetland ecosystems in Hawaii have become a critically important issue. In that regard it can be said that each of Hawaii's wetlands, although small (compared to hundred acre mainland systems), is immeasurably valuable to the ecological health and well-being of the islands environment, especially its native fauna, and the preservation of the indigenous host culture. Each small protection on the Hawaiian landscape equates to big strides in species protection and ecosystem health.

For Hawaii Island, the wetland complex at Honu'apo is a gem on the landscape. Largely composed of rare and declining wetland types and serving as habitat for endangered endemic Hawaiian species, this wetland is regionally significant. Additionally, as the youngest (geologic) island in the Hawaiian Island chain, Hawaii Island is home to the fewest number of wetlands, relative to the more northern islands of Kauai and Oahu. As one of just a handful of small wetlands within the Ka'u District, Honu'apo stands apart as the most significant and is also highly unique across the Hawaiian Island chain. In appearance Honu'apo is almost a mini-Pearl Harbor, having both tidal fluctuations and freshwater spring inflows.

The use of the southern portion of Hawaii Island by endemic waterbirds, shorebirds, and migratory waterfowl would not be possible without the presence of the wetland at Honu'apo. The Honu'apo wetland is vital to these endemic and migratory bird species, and given its estuarine nature, with a direct marine connection, acts as an important refuge for numerous endemic fish, threatened sea turtles, and the endangered Hawaiian monk seal.

## **(Q.2) Project Objectives and Timetable**

The first Phase of the project would be completed within a two-year time horizon. The purpose of Phase I - Restoration is to restore and enhance the Honu'apo wetland's form and function, thereby improving water quality and habitat benefits to native flora and fauna with an emphasis on resident and migratory avian species.

The *Honu'apo Wetland Habitat Restoration Plan* identifies the stressors to the avian habitat, presents the prescriptions necessary to alleviate those stressors, and outlines the actions needed to restore and enhance the habitat. The prescriptions call for:

- 1) Improving water quality by removing invasive kiawe trees that excessively tap ground water and reduce spring fed water flows to the wetland. Thus, rebalancing and returning historic inflow conditions to the site.

- 2) Improving invertebrate production and shorebird access for foraging by removing the invasive plant cover and slightly lowering topography within the intertidal area of the wetland.
- 3) Improving habitat conditions for waterbird use within backwater areas of the wetland by slightly deepening pond areas by sediment dredging and contouring.
- 4) Improving overall water quality, water circulation, avian habitat, fish habitat and cultural values of the wetland by eradicating invasive plant species within and surrounding the wetland area.
- 5) Recovering historic appearance and wetland function by planting and expanding native plant species and communities within and around the wetland that will recover the integrity of the historic wetland and serve as a cultural resource for gathering and use.

Each of the following “discrete, quantifiable, and verifiable objectives” will be completed within the two-year time horizon indicated. Assuming a January 2012 start date, the following action timeline would apply:

- 1) Non-native invasive plant removal of 170 kiawe trees within the wetland edge by September 2012.
- 2) Non-native invasive plant removal of California grass (*Urochloa mutica*), Guinea grass (*Panicum maximum*), Haole koa (*Leucaena leucocephala*), Java plum (*Syzygium cumini*), Marsh fleabane (*Pluchea symphytifolia*), and Brazilian peppertree (*Schinus terebinthifolius*) within the wetland buffer by September 2012, and within the wetland itself by June 2013 (full 11.5 acres completed).
- 3) Non-native, invasive plant removal of seashore paspalum (*Paspalum vaginatum*) from intertidal mudflats with contouring of the intertidal areas by September 2013.
- 4) Topographic contouring to deepen pools (< 3 ft.) in the backwater areas of the wetland completed by September 2013.
- 5) Native plant re-vegetation throughout denuded areas of the wetland completed by December 2013.

In addition to the Phase I project tasks listed above, predator control will begin on site immediately. Only non-native species will be targeted including feral cats, dogs, mongoose, and rats (Fig 2). By law, dogs and cats are not allowed in Hawaii’s county parks; never the less a well-established feral cat colony can be found within the park area. In the coming months a Board member of *Ka Ohana*, who is a practicing veterinarian, will work with volunteers to trap and remove feral cats from Honu‘apo. In addition Hawaii County Parks will begin an ongoing trapping and/or baiting program to reduce and control the mongoose population.

Phase II of this project (not included in this grant request), includes the installation of a predator proof fence. Ideally, the predator proof fence would be constructed using New Zealand’s conservation design technology, and would surround the Honu‘apo wetland. The fence would

help to restore viable natural habitat, and provide a safe haven for bird species that utilize the area. Without such protection native bird recovery is extremely problematic.

Non-native mammalian predators impact native waterbird populations in various ways including direct predation of adults, depredation of eggs and chicks, and displacing nesting birds from preferred breeding sites. Additionally, many of these predators carry diseases that can be transmitted to both wildlife and humans.

Feral cats, for example, impact endangered and migratory bird health mainly through predation, and transmission of disease. The main disease of concern is toxoplasmosis, which is caused by the parasite *Toxoplasma gondii*. Toxoplasmosis is carried by cats and is passed in their feces. The most dangerous form of the bacteria is the oocysts, the egg encapsulated form, which is not killed when exposed to air or water (fresh or salt). Eggs can be transmitted by exposure to cat feces in the soil, exposure to water carrying the eggs, and ingestion of infected animals. Toxoplasmosis can infect wildlife and humans, and has caused the death of Hawaiian Monk Seals, Spinner dolphins, and several species of native and endangered birds including the endangered Hawaiian Goose, the endangered Hawaiian Crow, and the Red-footed Booby. If toxoplasmosis does not kill wildlife outright, it can leave infected animals in a weakened state that makes them more vulnerable to predation and other diseases. A study conducted on nearby Mauna Kea between 2002 and 2006 found that at least 37% of feral cats captured were infected with toxoplasmosis.



Fig 2. Introduced Mammalian Predators at Honu'apo: Cats, Mongoose, Dogs, and Rats

### (Q.3) Expected Results and Benefits

#### Function-Based Results

The following key processes or functions (i.e., “things wetlands do”) will be enhanced or restored within Honu'apo Estuary in consideration of the larger Hawaii State region.

#### Hydrology

- Enhanced or restored site hydrology (i.e., proper elevations, slope, tidal channels, and freshwater sources) sufficient to establish habitat similar to historic composition or to regional reference sites.
- Established and maintained hydrological function that supports habitat needs of avian and aquatic species.



**Biogeochemistry**

- Exposed wetland soils to promote biogeochemical cycling of organic and inorganic matter creating conditions favorable for food web productivity (e.g., insects) and to allow waterbirds to access food on and in soils.
- Enhanced or restored physical and chemical conditions of water sources (e.g., salinity) to optimize wildlife use and to achieve contaminant concentrations (e.g., nutrients, organic compounds) below State/Federal standards and other published/accepted levels of adverse effect.
- Promote the restoration of pre-existing wetland functions, especially in areas where the systems will serve a significant non-point source pollution abatement function.

**Floral and Faunal Support**

- Enhanced or restored habitat that benefits sensitive species currently using the area, and that encourages nesting/ foraging/ establishment of sensitive species that may have used the area historically (e.g. native and endemic Hawaiian waterbirds, seasonal migratory birds, fish, turtles).
- Restored habitat improving regional or landscape-level “functions” such as resident and migratory bird routes and regional fish populations.
- Enhanced and restored habitats using approaches to minimize the presence and influence of non-native, invasive plant species (e.g., aggressive grasses and kiawe).
- Restored plant communities, with an emphasis on native species, for each habitat type with species abundances, composition, and vertical structure comparable to regional reference sites.
- Achieved abundances and types of vertebrates and invertebrates found associated with each habitat.
- Provide adequate buffer areas (i.e., surrounding native habitat) to protect wetlands.

**Value-Based Results and Benefits****Education and Research Opportunities**

- Provide educational opportunities for young people, community members, and visitors.
- Coordinate activities (e.g. monitoring) with local schools and universities.

**Preservation of Hawaiian Cultural**

- Retain richness of the Ka‘ū District’s Hawaiian culture by restoring a historic natural ecosystem that supports important native species and resources of the Ka‘ū community and the Hawaiian people in general.
- Protect any archeological structure that may currently be obscured by vegetation from the impacts of invasive kiawe tree roots disturbing those structures.
- Convey cultural resource and historical information as part of outreach and education.

#### **Environmentally Sensitive Recreation and Access**

- Allow for passive recreational and educational uses.
- Maintain wetland as a natural habitat.
- Protect open space and scenic vista.

#### **Contribution to Federal and State Natural Resource Protection and Sustainability**

- Improved protection of endangered plant and animal species.
- Climate change adaptability in the restoration design (sea level rise).
- Benefit to agency recovery plans for rare, threatened, and endangered species.
- Protecting marine-estuarine exchange at the estuary outlet.
- Contribute to the regional contribution of healthy wetlands relative to other sites on the Island of Hawai'i and within the State.
- Restored habitat for shorebirds and waterbirds, including migratory species, thus benefiting national and state efforts to preserve those species.

#### **(Q.4) Project Approach to Meet Objectives**

Since Honu'apo Estuary is a coastal wetland with salinity ranging from brackish to sea water concentration and with no pure freshwater pockets, native waterbirds and migratory shorebirds that prefer and are tolerant of water ranging from saline to brackish (i.e. Hawaiian stilt, Hawaiian coot) will be targeted (Fig 3). Control of non-native predators, and grading the topography to create favorable physical habitat structure are key components to restore and enhance the avian habitat.



*Fig 3. Native waterbirds that will benefit from restoration: Endangered Hawaiian Coot, Endangered Hawaiian Stilt, & Pacific Golden Plover*

The aquatic species that currently utilize Honu'apo Estuary and the surrounding area include fish, sea turtles, and the endangered Hawaiian Monk Seal (Fig 4). Habitat enhancement may provide better habitat conditions for certain species and increase the frequency of occurrence of others; for example, snapping shrimp (*Alpheus rapax* and *Alpheus rapacida*) and the Hawaiian shrimp burrow goby (*Psilogobius mainlandi*) have a symbiotic relationship whereby a burrow that both share is built by the nearly blind snapping shrimp and protected by the goby. One of the preferred habitats of this pair of species is calm protected areas with silty sand bottoms. Excavated channels that allow passage to perennial pools will provide habitat for the snapping shrimp, gobies, and a host of other fish and invertebrates. Perennial channels will also allow free access to deep backwater habitat used by threatened Green sea turtles.



This section describes the project tasks that will benefit target species by improving the habitat conditions and hydrology of the wetland. In general, the design targets biological habitat for avian species, with improvements to wading and deepwater areas. Improved hydrological conditions will target restoration of freshwater inputs and creation of deep water in areas of lower salinity. These improvements will also be favorable for fish, sea turtles, and native invertebrates. Invasive plants will be removed and native plants utilized in re-planting efforts will be selected based on use by target avian species.

The three main tasks to meet the project objectives are non-native invasive plant removal, topographic contouring, and native plant re-vegetation. The details of these tasks are provided below. (Also, see the attached appendix showing restoration plan components.)



Fig. 4. Native Marine species to benefit: Hawaiian Burrow Goby & Snapping Shrimp; Endangered Hawaiian Monk Seal; Threatened Hawaiian Green Sea Turtle

### **Task 1. Non-Native Invasive Plant Removal**

Non-native invasive plant removal will prevent the further degradation of wetland habitat and function, while also restoring hydrologic function to the system. There are three areas of focus in invasive plant removal. Primary is kiawe removal so as to restore freshwater input into the estuary. Removal of kiawe will also reduce roosting sites for the cattle egret (*Bubulcus ibis*), a non-native aggressive avian species, that is known to prey upon endangered Hawaiian waterbird eggs and chicks. Secondly seashore paspalum (*Paspalum vaginatum*) removal from intertidal mudflats will improve avian forage habitat. Thirdly, control of invasive species across the wetland site will fully recover the historic native wetland condition. The primary species that will be removed from the project area include: kiawe or mesquite (*Prosopis pallida*), California grass (*Urochloa mutica*), Guinea grass (*Panicum maximum*), Haole koa (*Leucaena leucocephala*), Java plum (*Syzygium cumini*), Marsh fleabane (*Pluchea symphytifolia*), and Brazilian peppertree (*Schinus terebinthifolius*). The removal of non-native vegetation in the upland buffer surrounding the wetland will prevent further wetland degradation by encroachment and eliminate predator refuge.

Kiawe removal will entail removal of all trees in and around the wetland, including those growing in the upland zone. A count of kiawe trees conducted during field assessments of the site identified 170 trees for removal. Removal will include treatments to prevent re-sprouting. Monitoring for re-sprouting, followed by immediate removal of re-sprouted trees post restoration, should effectively eliminate this species and recover full groundwater flow to the site.



### ***Task 2. Topographic Contouring***

The topography of the intertidal zone will be graded to create two habitat types: forage habitat and deepwater pools. Forage habitat for use by wading birds will be provided on the mudflat areas that are presently elevated due to sedimentation build up and dense high stature ground cover. The ground surface in these areas will be lowered to finished elevations that will result in frequent inundation by mean high water. This is expected to increase productivity of food sources utilized by wading birds and prevent recruitment of invasive plants back onto the mudflats.

Grasses, herbaceous forbs, and shrubs growing on the mudflats in the intertidal areas will be removed in certain areas as part of the grading efforts. The vegetation will be stripped to contour the topography of the mudflats to make them more suitable for wading birds to forage and loaf.

Deep-water pools (< 3 ft.), in the backwater areas of the wetland, will also be created by grading. These pools, which remain perennial during all tides, and are fed by fresh and seawater, are expected to be favorable to the Hawaiian coot and other diving and dabbling birds.

Hydrologic restoration will increase fresh water inputs into the estuary via ground water discharged out of seeps and springs. Topographic manipulation in the form of removal of vegetative mats and excavation of deepwater channels, coupled with increased fresh water, will restore brackish water habitat for avian species that wade in shallow waters or exposed mud flats and that exploit brackish water areas.

### ***Task 3: Native Plant Re-vegetation***

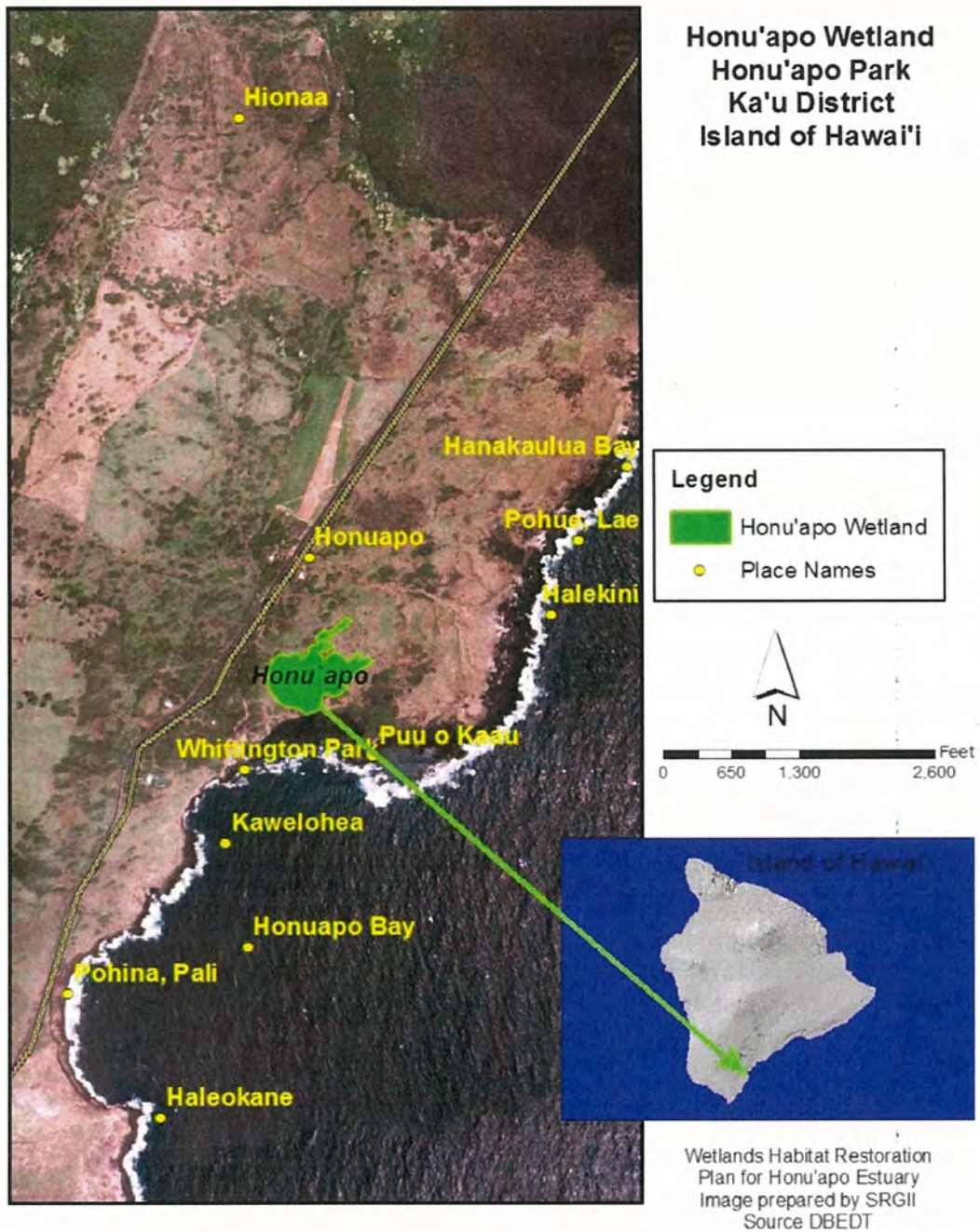
Existing areas of native wetland plants will be preserved to the extent possible. Grading plans were drawn up with consideration given to existing plant species used as food, forage and nesting by target bird species. In some areas grading will result in removal of native plants in order to create deepwater habitat. The list of native plant species for re-planting includes those preferable for native fish and birds, specifically endemic and migratory waterbirds. In the re-planting phase, community assistance will be employed to engage ownership in the restored site and help to educate participants for future invasive plant monitoring and control.

The target vegetation composition for the wetland complex is one that is dominated by native vegetation. The exclusive use of native species that are adaptable to the environment and suitable for the intended function is planned. Native or endemic vegetation will be used in wetland restoration and includes species that are already on-site, those of short stature, and those wetland plants that are known to provide foraging and nesting resources for target bird species. Native plants known to have occurred historically, or that are currently in the local area will be used. Selected species shall be suitable for soil and water salinity conditions and, once established, should not require long-term maintenance.

Removal or mowing of native plants with tall stature, which provide cover for predators, may be necessary for a period of time to help control the predator population. Following recovery, the use of some non-aggressive non-native species may occur within the wetland buffer where those species adequately fulfill the habitat buffering, screening, or shading functions, without causing control problems from invasion or predators.

### (Q.5) Project Location

Honu'apo Estuary is located along the coast in the rural Ka'ū District of southern Hawai'i Island (19° 05'N, 155° 33'W). It is within the 225.5 acre Honu'apo Park, which includes the County's Whittington Beach Park.



### ***Land Use and Infrastructure***

The Honu‘apo Estuary is found within Honu‘apo Park on the coast in the Ka‘ū District of southern Hawai‘i Island. The closest town, Nā‘ālehu, lies three miles southwest of the park. The population of the town was listed at 919 in the 2000 census. Honu‘apo Park and the surrounding lands are dominated by open space. Except for the limited number of houses in the immediate area, and one resort, much of the area is either used for cattle grazing or has been left undeveloped.

Honu‘apo Park consists of 225.5 acres of undeveloped land that offers unspoiled vistas of the coast and Mauna Loa, and provides unique habitats for marine and near-shore flora and fauna. At the southwestern edge of the property, in close proximity to estuary and Honu‘apo Bay, lies Whittington Beach County Park. The park contains limited facilities including: a parking lot, picnic tables, shelters and public restrooms. It is one of only two developed Hawaii County Beach Parks in the Ka‘ū District, affording fishing, camping, and picnicking for residents and visitors.

The consulting firm Townscape Inc. recently completed a *Resource Management Plan for Honu‘apo Park* that provides guidance to help protect and restore the important natural and cultural resources of the 225.5 acre Honu‘apo plus Whittington Park properties (now Honu‘apo Park) while providing recreational and educational opportunities. Plans to supplement recreational and educational opportunities include developing a new coastal park section with vehicle-accessible campgrounds, a multi-use pavilion, interpretive displays, and a native plant garden. Improvements to the Whittington Park section are also proposed. The plans call for protecting cultural resources and archaeological areas by limiting vehicular access in areas rich in native Hawaiian sites. Plans for protection of natural resources include preservation and restoration of native vegetation and shoreline habitats.

The adjacent coastline represents one of the longest undeveloped coastlines in the State of Hawai‘i. The shoreline in the Ka‘ū District is composed of rugged *pali* (cliff) and is inaccessible by land along large stretches. The strong ocean currents and the rough conditions make diving and boating in the area challenging, which limits extraction of ocean resources to the shoreline and near-shore waters.

There is no definitive explanation as to how the geomorphology of the Honu‘apo estuary was created, resulting in a low point on the landscape and a perennial water body. A logical geologic explanation is that subsidence due to seismic activity occurred after the cessation of lava flows and prior to habitation by Polynesians, since archeological evidence indicates the estuary was used by humans as a fishpond. Although the estuary is a natural feature, it was moderately altered by humans, and is a unique facet of the Ka‘ū shoreline.

### ***History and Culture***

At least five archaeological studies have been conducted within Honu‘apo Park. Evidence of habitation in this area of the Ka‘ū District dates back to as early as the 15<sup>th</sup> century. Two of the most recent surveys, which occurred in 2004 and 2009, identified eighty-eight sites with over 200 archaeological features, mostly in the northern portion of the park. Sixty-five of these sites were considered significant under State Historic Preservation criteria and include the remains of



the Kamala'i *heiau* (place of worship), pre-contact burial and ceremonial complexes, habitation sites, salt basins, and petroglyphs. The area was also known to be a *pu'uhonua* (place of refuge).

In ancient time, the area was used by *ka po'e kahiko* (ancient Hawaiians) as a fishpond to cultivate 'ama'ama or striped mullet (*Mugil cephalus*) and other valuable fish species. The estuary outlet channel would have been fitted with a *mākāhā* (gate) that was used to control water flow into and out of the estuary making its use as a fishpond possible. Archeological evidence suggests the estuary was still used as fishpond up to 500 years ago. Today, the estuary provides important habitat for numerous aquatic species.

Historic structures from the sugar plantation era (late 1800's to early 1900's) are basically gone. Concrete weirs on both sides of the estuary outlet suggest that sugar plantation personnel manipulated flows and water levels during that time. There are some concrete foundation remains of the warehouses and pier, but all other evidence has been destroyed by the tsunamis that have occurred in the area over the years. The only other historic structure located within Honu'apo Park was a clubhouse and Japanese-style garden constructed in the 1950's on the northern side of Honu'apo Estuary. That building was also destroyed by a tsunami, but garden structures (bridge and debris) remain. Studies also indicated that waste fill disposal during the sugar plantation era likely covered many other archaeological sites, particularly around the estuary.

#### ***Geological Setting***

Honu'apo, including the coastal zones to its north and south, is located on geologically young lava flows discharged from the vents of the Mauna Loa volcano. Both *a'ā* and *pāhoehoe* lavas form the relatively flat narrow coastal plain of the area, with *pāhoehoe* being dominant. Lavas in and around Honu'apo are estimated to be five thousand years old. Seismic activity concurrent with, and subsequent to volcanic eruptions has altered the topography of the area, and numerous locations along the Ka'ū coast have been subjected to uplift and subsidence. The Honu'apo Estuary is likely a depression feature due to subsidence induced by seismic activity. To the north of the wetland complex near the shoreline numerous small *pukas* (holes) can be seen. These *pukas* were most likely formed by seismic activity, the collapse of lava tubes in the underlying *pāhoehoe* flows, or were simply areas where lava did not infill during flow advancement.

The geologic substrate extending from the crest of the Mauna Loa volcano to the offshore zones contains lava tubes, fractures, and contact zones between various lava flows, creating preferential flow paths for groundwater. The upland areas that receive moderate to high rainfall levels recharge ground water which is conveyed via these flows paths either to coastal areas where it discharges offshore as submarine groundwater or to the atmosphere as springs and seeps.

#### ***Topography***

The topography of the Honu'apo area is best described as a rocky coastal plain. The longest axis is aligned in a northeast to southwest direction with the wetland complex located between the bases of the slopes formed from lava flows, approximately 600 to 1,000 feet from the shoreline. Immediately southwest of the adjacent Whittington Beach Park, sea cliffs cutoff the coastal plain, while to the northeast the plain extends for several miles and increases in width.

Slopes across the Honu‘apo coastal area are flat to less than 0.5%, resulting in a fairly uniform terrain. The estuary is the lowest elevation feature within the terrestrial environment. *Mauka* (upcountry) of the shoreline, at varying distances, the surface slopes increase rapidly as a result of lava flows discharged by the vents of Mauna Loa. There are no perennial stream channels in the immediate area of the Honu‘apo watershed, nor are there well developed natural drainage networks. Surface water channels draining the flanks of the volcano are not well formed. Gullies dissect the watershed, though most only carry water in response to high intensity rainfall events.

#### ***Surface & Ground Water***

Honu‘apo Estuary is located in a watershed that covers approximately 18,000 acres and extends from an upper elevation of 10,400 ft, down to the watershed outlet at the estuary mouth. There does not appear to be a drainage channel that conveys runoff from the uplands to the estuary directly. Groundwater instead flows into the wetland complex at numerous locations under artesian conditions. Field investigations recorded eleven fresh water seeps and springs along the edge of the estuary and another three discharging from its bed.

### **(Q.6) Project Budget and Contributors**

Included as in-kind match below is a portion of the land value obtained in the actual purchase of the Honu‘apo property. Purchase of the Honu‘apo property in 2005 was necessary and critical for both the immediate protection of the estuarine wetland from surrounding development and the currently proposed restoration project to recover the areas natural wetland function. In 2005 the property came under immediate threat of resort development, with permit proposals in the works, when the community and state took action to secure the land and gave it permanent conservation status. The larger property parcel surrounding the wetland serves as a permanent buffer protecting the wetland from development impacts and incompatible land uses.

<b>Project Costs</b>	
Task 1: Nonnative Invasive Plant Removal	\$103,000
Task 2: Topographic Contouring (Excavation)	\$242,000
Task 3: Native Plant Re-vegetation	\$ 60,000
Project Administration & Oversight	\$144,000
<b>Match (In-Kind)</b>	
Land Value: from bargain sale &/or county cash for purchase (State DLNR)	\$100,000
Park Staff Labor (Hawaii County Div. Parks &Rec.)	\$ 30,000
Volunteer Labor ( <i>Ka ‘Ohana O Honu‘apo</i> )	\$ 15,000
Restoration Plan (Sustainable Resources Group International Inc.)	\$ 53,000

Plantings, Predator Control Traps, Staff (DLNR, Div. of Forestry & Wildlife)	\$ 2,000
Project Assistance (PCJV, Hawaii Wetland Joint Venture)	\$ 500
<b>Cash Match</b> ( <i>Hawaii County cash investment for property purchase</i> )	<i>\$ 50,000</i>
<b>Total Project Cost</b>	<b>\$ 799,500</b>

Non-Federal 25% Required Match = \$199,875  
 Actual Non-Federal In-Kind Match = \$200,500  
 Total Match (\$200,500 in-kind + \$50,000 cash) = \$250,500

**Federal Request = \$549,000**

**(Q.7) Form DI-2010 – to be attached**

**(Q.8) Form 3-2179: How Proposal Addresses the 13 Ranking Criteria – see attachment**

**(Q.9) State Trust Fund Description**

The State of Hawaii Legacy Land Conservation Program (LLCP) provides funds from the Hawaii State Land Conservation Fund for acquisition of lands demonstrating high natural resource value for watershed protection, parks, coastal areas, beaches and ocean access, natural areas, habitat protection, cultural and historic sites, agricultural production, open space and scenic resources, and recreation. On an annual basis, the state legislature approves funding allocations to projects that meet these conservation needs. Eligibility for the 25/75 cost share with the National Coastal Wetland Conservation grant has been approved and no changes have occurred to these funds.

**(Q.10) Other Current Coastal Actions**

A concerted effort has been underway for the past several years to secure protection for coastal areas within the Ka‘ū District. The Honu‘apo wetland restoration project provides a critical link between a number of protected conservation areas along the southeastern Ka‘ū District coastline, and thus contributes to the longest stretch of undeveloped coastline in Hawaii.

***Conservation Areas***

Furthest north in the Ka‘ū District lies Hawaii Volcanoes National Park, an extensive protected conservation area with miles of undeveloped shoreline. Just south of Volcanoes National Park The Natural Conservancy owns a conservation parcel at Kamehame that contains a crucial nesting beach for *Honu‘ea*, or the endangered Hawksbill sea turtle. Below that is Punalu‘u County Park, a black sands beach that is the nesting area for threatened Green sea turtles. This park is managed in cooperation with the State of Hawaii for the protection of this species.



A small stretch of undeveloped lava cliff coastline stretches south of Punalu'u to Kawa Bay. Kawa Bay is currently in the process of being purchased by Hawaii County for conservation and is the recipient of a US Fish and Wildlife Service (USFWS) Recovery Land Acquisition grant award. The remaining parcel, between Kawa Bay and Honu'apo Park, is currently under negotiation for purchase. With its acquisition Honu'apo's mile long protected shore will be effectively linked to Kawa Bay.

A bit further down the coast is the Wai'ōhinu coastal strand project. The Wai'ōhinu coastal strand contains a varied collection of natural resources and petroglyphs. In 2005 the Hawaii Board of Land and Natural Resources approved a measure to set aside 1,350 acres of the Wai'ōhinu *ahupua'a* (watershed) as a forest reserve for conservation management by the State Division of Forestry and Wildlife. The Hawaii Wildlife Fund (HWF) is the state's partner in this conservation effort.

The natural resource features of Wai'ōhinu include two rare anchialine pond ecosystems on the lava substrate. These are brackish wetlands with subsurface connections to the sea and freshwater sources through the lava rock base. The endemic pond shrimp found in these specific ponds are their own distinct lineage known only to this location. The flora of Wai'ōhinu is one of the more diverse and extensive examples of native Hawaiian coastal vegetation in the state and, if maintained, could provide a gene pool for future coastal site restorations. In addition, the site is utilized by the endangered Hawaiian monk seal, endangered Hawksbill sea turtle, threatened Green sea turtle, and the endangered Hawaiian hoary bat; and also hosts several important petroglyph fields. Numerous alien plant species are invading the native coastal strand at Wai'ōhinu, while non-native invasive aquatic plants and fish are threatening the anchialine ponds. Recent funding has been provided to the HWF from the USFWS's Hawaii Fish Habitat Partnership Program to address these issues.

A few miles around the south point of the island is a 3,000 acre coastline conservation purchase near completion at 'Awili Point. This stretch of coastline contains a green olivine beach and lies directly adjacent, on its north side, to Manuka Natural Area Reserve (NAR). The NAR staff actively maintain the anchialine ponds at Manuka by eradicating invasive fountain grass and planting native vegetation.

#### ***Other Conservation Players***

The US Geological Survey Pacific Island Ecosystems Research Center and the Hawaii Volcanoes National Park are conducting Nene research within the National Park (located 12 miles north of Honu'apo) to determine the use patterns of this endangered endemic Hawaiian Goose. These efforts are intended to assist them in the protection and management of this endangered species within the park and its surrounding areas. Thus far, preliminary information has uncovered the strong preference, by this bird, for spending time near water; important information for wetland managers working to expand waterbird habitat and use.

Watershed partnerships are voluntary alliances of public and private landowners and other partners working collaboratively to protect forested watersheds for water recharge, conservation, and other ecosystem services. The Three Mountain Alliance is a partnership of major landholders within Ka'u who are applying conservation practices to protect, restore, and enhance

the water quality and habitat attributes of their lands. These partners include The Nature Conservancy, Kamehameha Schools, several major ranch owners in the District, the National Park, and numerous other parties.

The Hawaii Wildlife Association engages in coastal beach clean up activities at remote beach locations where marine debris accumulates unabated. This group works throughout the Ka'ū District on an ongoing basis to protect marine life from the impacts of human waste.

Along with the Honu'apo Restoration Project, the extensive collection of conservation efforts highlighted above contributes to the overall ecological health and protection of coastal, watershed, and native species resources within the Ka'ū area. Given the small human population in Ka'ū, these are truly sizeable collective efforts. Since Honu'apo is a coastal wetland site, the maintenance of healthy upstream watershed processes, coastal resource integrity, and wetland species protection and knowledge, benefit and provide a direct contribution to Honu'apo. These actions fit within the state Coastal Zone Management Plan directives, the state Comprehensive Wildlife Conservation Strategy, and Federal Endangered Species Recovery Plans, to name a few.

### **(Q.11) Public Involvement or Interagency Coordination**

#### ***Community Based Preservation of the Estuary***

*Ka 'Ohana O Honu'apo*, a 501c conservation organization, is the direct result of community based mobilization to protect the estuary from a proposal for immediate development by an investment corporation. In 2005 the community mobilized to preserve the area from proposed condominium development, resulting in their collaboration with federal, state, and local government agencies, as well as numerous private donors to secure protection of the *aina* (land). The Nature Conservancy was involved initially, helping the community to organize. Then with the assistance from The Trust for Public Land, a national non-profit land conservation organization, the 225.5 acre property was purchased in 2005 and transferred to state ownership in early 2006 with funds from the NOAA Coastal and Estuarine Land Conservation Program, and the Hawaii State legislature (early State Legacy Land Program, and Hawaii County). After funds were raised and the property purchased, the community initiated clean up of trash, and removal of encroaching invading vegetation around the wetland perimeter adjacent to Whittington Park. It was from these activist roots that *Ka 'Ohana O Honu'apo* was established, and from this community commitment that this proposal is being submitted.

#### ***Community Knowledge, Attitudes, Use and Impacts***

As a graduate student in the Tropical Conservation Biology and Environmental Science's Program at the University of Hawai'i, Megan Lamson conducted a one-year biological and social monitoring project at Honu'apo Bay. The project, conducted over the course of a lunar year (November 2008–November 2009), had two main goals: to provide a contemporary baseline for the nearshore species utilizing Honu'apo Bay and to evaluate human use and attitudes about the area. The study provides important information detailing species composition and potential conservation tools in the nearshore waters of Honu'apo Bay. Honu'apo Estuary, the subject of the current wetland restoration efforts, is directly connected to the bay through tidal exchange,

provides inputs of freshwater, and has been, and continues to be an important nursery for fish species found in the bay's nearshore waters.

The research addressed two socio-cultural research questions: (1) *How are humans affecting marine resources (by extractions)* and (2) *What are community attitudes towards conservation and what do Ka'ū residents recommend for conservancy of the area?* By linking biological and socio-cultural data, Lamson demonstrated how protecting the rich species assemblage in the nearshore waters supported multiple objectives including maintenance of biological diversity, support for sustainable recreational and subsistence fishing, and upholding cultural traditions.

Lamson drew parallels between modern community-based stewardship of marine resources and traditional Hawaiian fishing practices that were rooted in knowledge of, and coordination with ocean patterns, an in-depth knowledge of species' reproduction cycles, and the social construct based on *ahupua'a* management and the *kapu* system.<sup>1</sup> She suggested that implementing a community-based management model that draws on traditional cultural values and management practices, and has community support, would aid in protecting Honu'apo's resources.

The socio-cultural monitoring was conducted in and about Whittington Beach Park, the shoreline access for fishers to Honu'apo Bay. Social monitoring involved recording human-use patterns along the shoreline at Honu'apo, conducting informal interviews with local residents, and randomly distributing a survey to community members. The study was designed to assess how local residents utilize resources at Honu'apo Bay, with a focus on fishing (i.e. targeted fish species and preferred times, methods), and gather information about how they felt about Honu'apo and its preservation.

A total of 210 human-usage records were collected. Both fishers and the general public indicated their perception that there are generally less marine resources (in terms of use or availability) at Honu'apo now as compared to the past. Specific observations included "*less limu (seaweed)*", "*less fish*", and "*[the] fish are smaller*". Data indicate that Honu'apo Bay is an important area for juvenile fishes, and that part of the estuary was used in the past as a fishpond, providing a managed nursery environment for numerous fish species.

Over 94% of survey respondents expressed support for conservation efforts along the Ka'ū coastline. The largest percentage of people (> 72%) supported restoration for the estuary pond. Lamson notes that since most of the community surveyed was genuinely interested in stewardship, community endorsement and involvement at Honu'apo can be expected.

#### ***Community Outreach for the Wetland Habitat Restoration Plan***

During late 2010 and early 2011 a wetland restoration plan was developed for the Honu'apo Estuary. Contributors to the development of this plan included the USFWS Coastal Program, Hawaii State Coastal Zone Management Program, and the Pacific Coast Joint Venture (a wetland and waterbird conservation partnership.) A series of meetings involved agency partners and

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<sup>1</sup> "In old Hawai'i, each *ahupua'a*, or traditional land division, from the highest mountain ridge (*mauka*) to the ocean (*makai*) was under the authority of a distinct *konohiki*, or resource manager. These *konohiki* could enforce *kapu* (restriction) systems of fishing closures for certain species that were dependent on seasonal and lunar reproduction schedules, and would encourage keeping the *ko'a* (fishing grounds) clean within their *ahupua'a*" (Lamson 2010; see original text for citations).

informed community members about the restoration plan, and sought feedback. In addition, *Ka 'Ohana O Honu'apo*, and their project partners, provided technical advice for the plan during meetings, and reviewed drafts prior to plan finalization.

- *Community Meeting: Agency Update.* During the course of the restoration plan development, *Ka 'Ohana O Honu'apo* held a series of meetings to inform local politicians, community leaders, and government agency personnel on project findings and proposed recommendations.
- *Community Meeting: Party in the Park* on May 15, 2011. This event, hosted by *Ka 'Ohana O Honu'apo*, was an opportunity for the public and other stakeholders to learn about the wetland restoration plan and ask questions of the consultants that developed the plan. Visual aids were used to illustrate the plan's components.
- *CZM Program Updates:* The Marine and Coastal Zone Advocacy Council (MACZAC) is a public advisory body established by the Hawai'i State Legislature to identify coastal management problems and to advocate for the Hawai'i CZM Program. The Ocean Resources Management Plan (ORMP) Working Group is an administratively created, multi-agency group of managers and staff tasked with coordinating their agency's implementation of the ORMP. Presentations were given to the MACZAC (May 5, 2011) and the ORMP Working Group (June 2, 2011) to update them on the Honu'apo Wetland Habitat Restoration Plan.



***(Q.8) Form 3-2179: Addressing the 13 Ranking Criteria***

Summary Information for Ranking  
National Coastal Wetlands Conservation Program Proposals  
**Honu'apo Estuary Wetland Restoration**  
**Phase I: Habitat Recovery**

<b>Coastal Wetlands Program Request:</b>	<b>\$ 549,000</b>
<b>Non-Federal Match:</b>	<b>\$ 250,500</b>
<b>Total</b>	<b>\$ 799,500</b>

**Project Summary:**

Honu'apo Estuary is a high value system for native flora and fauna use due to its isolation along the Ka'ū coast, and its unique and rare wetland habitat. Migratory waterbirds utilize the estuary during winter months and resident endemic birds use it year round. It is close enough to other wetlands on Hawai'i Island for resident waterbirds such as the endangered Hawaiian coot and the endangered Hawaiian stilt to move between sites for foraging, nesting, and chick rearing.

Although the wetland supports a diversity of endemic species and microhabitats, decades of neglect and misuse have resulted in altered hydrology, sedimentation, and invasion by non-native plants and animals. This contributes to impairment of wetland functions and habitat for native resident and migratory birds and other native fauna (e.g. fish, invertebrates, & sea turtles.)

This proposal requests federal funding assistance for completion of Phase I -Restoration of the wetland complex. This first phase includes physical improvements to the system through: 1) removal of detrimental invasive vegetation that is impairing water quality and quantity as well as habitat function, 2) the sculpting of deepened water areas for improved habitat productivity and diversity, and 3) the re-introduction and expansion of native plant species that will provide improved habitat function and natural site conditions for native endemic species. Once the Phase I work has been completed, the Phase II task (not included in this proposal) of improved protection for the endangered endemic and migratory bird species utilizing the wetland will be undertaken via the installation of a predator proof fence.

Honu'apo Estuary is located along the coast in the rural Ka'ū District of southern Hawai'i Island (19° 05'N, 155° 33'W). It is within the 225.5 acre Honu'apo Park, which includes the County's Whittington Beach Park. Honu'apo Park offers unspoiled vistas of the coast and Mauna Loa, and provides unique habitats for marine and near-shore species. The adjacent coastline represents one of the longest undeveloped coastlines in the State of Hawai'i.

**(Q.8) Criterion 1. Wetlands Conservation: What is the breakdown by habitat type for the wetlands being conserved? (Only include the acres covered by this proposal)**

	<b>Acres (Total = 225.5)</b>	<b>Percent of Property</b>
<i>DECLINING COASTAL WETLAND TYPES</i>		
Estuarine Intertidal (emergent persistent)	4.57	2.0%
Palustrine (emergent persistent)	1.35	0.6%
Marine Intertidal Rocky Shore (Property East & South edge)	42.00	18.6%
<b>TOTAL DECLINING WETLANDS</b>	<b>47.92</b>	<b>21.3%</b>
<i>STABLE COASTAL WETLAND TYPES</i>		
Estuarine Subtidal (unconsolidated bottom)	2.07	0.9%
<i>UPLAND Area</i>	175.51	77.8%

**TOTAL PROPERTY ACRES = 225.5 (100%)**

**TOTAL WETLAND ACRES = 50 (22%)**

**TOTAL DECLINING WETLAND ACRES = 47.92**

**TOTAL PERCENTAGE OF DECLINING WETLANDS = 21.3%**

Of the 225.5 acre Honu‘apo property, there are approximately 42 acres of marine intertidal wetland (M2RS1L4) (Cowardin et al. 1979) located along the eastern and southern edge of the property that bounds the open ocean. Although this wetland type is not the focus of the wetland restoration, it does significantly contribute to the overall conservation benefit of the property, especially since marine intertidal areas are recognized as a nationally declining coastal wetland type.

The wetland system to be restored is approximately 11.5 acres of mixed wetland types (8 acres) and adjacent wetland edge (3.5 acres). The estuary opening and associated wetlands are an ‘estuary wetland complex’. The complex contains three wetland types: estuarine subtidal, estuarine intertidal, and palustrine. The estuarine subtidal surface area varies with the tides, as it is directly connected to the ocean via a natural channel cut into the lava. Depths in the estuary are a function of tides, with an approximate maximum at high tide of five feet near the center.

Using the 1979 Wetland Classification System developed for the USFWS, the estuary classification of Honu‘apo Estuary is: Estuarine, Subtidal, Unconsolidated bottom, Rubble (E1UB2). The estuary is brackish to saline, with the salinity concentration being a function of tide levels, rainfall inputs, and proximity to freshwater springs and seeps. Historically the surface area of the estuary was larger, as determined by comparing historic and recent oblique and air photographs of the site. Reduction of the surface area is most likely due to vegetation encroachment, sediment filling during sugar cane operations, and settling of

organic debris from dead vegetation. It is not possible to definitively quantify the amount of open water decrease between historic and present; but an estimate is two acres.

The intertidal wetland encompasses the zone around the estuary that is submerged on a nearly daily basis from normal high tides. This wetland type contains small stretches of exposed mudflats, a deltaic feature with dense low growing emergent grasses, and backwater areas with dense vegetative cover. Sections of this wetland have soil and water chemistry ranging from nearly salt free to saline. Vegetation growing on and along this wetland type is a function of the soil type and its soil water salinity concentrations. Under the USFWS classification this wetland is: Estuarine, Intertidal, Emergent, Persistent (E1EM1).

Intertidal wetlands are frequently used by wading waterbirds (such as stilts) that forage on crustaceans, fish, and insects. The density and high stature vegetation present in most of this wetland type at Honu‘apo reduces its use by wading birds, since they are not able to walk over the vegetation or access the ground surface to reach food sources.

The palustrine wetland is classified as Palustrine, Emergent, Persistent (PEM1). It is located in areas slightly to moderately elevated above the high tide water surface elevation. Most of this wetland type is covered with dense high growing non-native plants. The soils in this wetland support facultative and obligate wetland plants due to the proximity of the phreatic surface (groundwater level) to the ground surface. Pockets of this wetland are dominated by California grass, a species with low salinity tolerance.

***(Q.8) Criterion 2: Maritime Forest on Coastal Barriers: What plant species are present that are indicative of maritime forest as defined in the criteria?***

Not applicable for the proposed project.

***(Q.8) Criterion 3: Long-term conservation: How long will the habitat benefits be provided by the project?***

Property acquisition occurred in 2005, securing the estuarine wetland and its surrounding land under the ownership title of the Hawaii State Department of Land and Natural Resources (DLNR). This acquisition was spearheaded by the community and deemed “necessary and reasonable” to prevent an immediate resort development project on the property by a private investment developer. The Trust for Public Lands stepped in to secure the property from development (2005) and then transferred it to State ownership (early 2006) in a second closing. Acquisition was essential to afford legal ownership rights for long-term conservation and restoration of the estuary. By preventing development around the wetland it is both effectively buffered and assured the future opportunity for inward migration as sea level rise occurs.

Under State ownership the property will be protected in perpetuity for the benefit of the citizens of Hawaii. The State has awarded property management control, under executive order #4164, to the Hawaii County Division of Parks and Recreation (DPR). In 2008, the non-profit community group *Ka ‘Ohana O Honu‘apo* (The Family of Honu‘apo) entered into a formal Memorandum of Understanding with the Hawaii County DPR to help restore and

manage the wetlands and surrounding area within Honu‘apo Park indefinitely. This commitment includes the ongoing and long-term control and management of invasive plant and animal species, both during and post restoration.

*Ka ‘Ohana O Honu‘apo* and the Hawaii County Division of Parks and Recreation will jointly provide for the ongoing management of the site over time. This will be done with both community volunteers and County Parks’ staff. *Ka ‘Ohana* will take the lead in overseeing the wetland restoration work at Honu‘apo that is the subject of this proposal.

Additionally, the restoration task of deepening ponds and excavating intertidal areas is, in itself, intended to prevent invasive plant species from re-colonizing these areas by increasing the circulation of brackish water and changing elevations to prevent rooting. Following restoration, both County staff and *Ka ‘Ohana* community volunteers will actively canvass the wetland and its surroundings and remove any newly sprouted invasives. The partners will also initiate and continue ongoing predator control efforts to prevent and minimize impacts to waterbird species utilizing the restored wetland until such time as a permanent exclusionary predator control fence can be erected.

	Benefits in perpetuity	26-99 years	10-25 years
Fee-title permanent ownership by Hawaii State Dept. of Land & Natural Resources; with on-going long-term active site conservation management by Hawaii County DPR and <i>Ka ‘Ohana</i> .	225.5 acres		

***(Q.8) Criterion 4: Coastal watershed management: How will this project help achieve the goals of specific management plans and efforts?***

Restoration of estuarine wetland areas via the recovery of native species composition and wetland functions, such as water quality and biodiversity, serves many goals and objectives within state, regional, and federal resource management efforts. Overall ecosystem vitality recovers watershed processes that contribute to the productivity of natural resources for the benefit of humans as well as native species. Estuarine systems such as the Honu‘apo wetlands add immense benefit to marine ecosystem function and performance by providing refuge for marine species and nursery areas for juvenile fish as well.

Management plan or effort	How this project helps implement plan goals
<i>County &amp; State Plans (*specifically mentions Honu‘apo)</i>	
<i>Honu‘apo Park Resource Management Plan*</i> , Townscape, Inc. 2010	Addresses the recreational, cultural, and natural resources values of the expanded Honu‘apo Park area and specifically calls out the benefits to be obtained by restoring the estuarine wetland for the education, cultural value, and enjoyment of the community and park visitors. It also provides a conceptual plan for the park’s overall visitor enjoyment and use of this natural area, which includes



	walking trails informational areas, and cultural study areas.
<i>Honu‘apo Wetland Habitat Restoration Plan*</i> , Sustainable Resources Group International, Inc., May, 2011	Provides an overview of the natural resource condition of the Honu‘apo wetlands and proposes a restoration action plan to recover habitat and water quality function of the natural system for the benefit of waterbirds and resource function.
<i>Pacific Coast Joint Venture’s Strategic Plan for Wetland Conservation in Hawaii (2006) and 2010 Hawaii Wetland Strategic Plan Focus Area Addendum*</i>	Identifies the wetlands in the South Hawaii Ka‘ū District, including Honu‘apo, as immediately important to the recovery of federally listed endangered waterbirds in Hawaii and as key habitat areas for migratory waterbirds and shorebirds.
<i>USFWS Draft Revised Recovery Plan for Hawaiian Waterbirds</i> ; second revision (2005)	Addresses four species of Hawaiian waterbirds: the Hawaiian duck or koloa maoli ( <i>Anas wyvilliana</i> ), Hawaiian coot or ‘alae ke‘oke‘o ( <i>Fulica alai</i> ), Hawaiian common moorhen or ‘alae ‘ula ( <i>Gallinula chloropus sandvicensis</i> ), and Hawaiian stilt or ae‘o ( <i>Himantopus mexicanus knudseni</i> ), all listed as endangered. Wetland restoration, including preventing predator access and outplanting native species are listed as recovery objectives.
<i>Hawaii’s Comprehensive Wildlife Conservation Strategy</i> (2005)	The Strategy calls for maintaining, protecting, and restoring native ecosystems and native species and combating introduced invasive species. Strengthens and maintains partnerships and cooperative efforts. Lists Hawaiian goose, duck, moorhen, coot, and stilt as species of greatest conservation need, and lists wetland restoration and conservation as important conservation actions for recovery of these species.
<i>Hawaii Wildlife Plan</i> (1983)	The Plan calls for retention and protection of wetland habitat, and recovery of T&E waterbirds.
<i>Hawaii Ocean Resources Management Plan</i> (2006)	Implements all three perspectives of the <i>Hawai‘i Ocean Resources Management Plan</i> (connecting land and sea, preserving ocean heritage, and promoting collaboration and stewardship), 7 of 10 Management Goals and 15 of 28 Strategic Actions
<i>Hawaii Coastal Nonpoint Pollution Control Program Management Plan</i> (1996)	Meets management measures, including those for the protection and restoration of wetlands, with the overarching goal of protecting Hawaii’s coastal waters from nonpoint source pollution
<i>Hawaii CZM Special Management Area (SMA)</i>	SMAs are designated under Hawaii Revised Statute 205A as part of the Hawai‘i CZM Program. In general, SMAs include lands extending inland from the coast that are placed under special development control to avoid permanent loss of valuable resources, the foreclosure of management options, and to ensure that public access to beaches, recreation areas, and natural reserves is provided.
<i>Hawaii Ocean Resources Management Plan</i> (2006)	Addresses the goal to restore and protect wetlands, streams, and estuaries within the Hawaiian islands.
<i>USFWS Multi-Island Plants Recovery Plan. Recovery Plan for the Hawaii Plant Cluster of Endangered Hawaii Island Plants</i>	Lists alien animals and plants as one of the primary causes of the historical declines of the Hawaii cluster taxa, and the presence of these introduced species as the continued primary threats to their survival and recovery.
<i>Regional &amp; National Plans</i>	

<i>US Coastal Program Strategic Plan</i>	The Plan identifies restoration of coastal wetlands for the benefit of endangered waterbirds, within the Hawaii Focus Area, as a high priority.
<i>Ducks Unlimited Conservation Plan (2001)</i>	Hawaiian wetlands are identified as a “High” priority for wetland conservation activities
<i>North American Waterbird Conservation Plan (2002)</i>	Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
<i>Migratory Bird Program Strategic Plan (2004)</i>	Seeks to protect, restore, and manage migratory bird habitats such as Honu’apo.
<i>U.S. Pacific Islands Regional Shorebird Conservation Plan (2004)</i>	Calls for high quality habitat to ensure that shorebirds in the region are not unduly limited by habitat availability and directs that efforts to provide habitat for shorebirds are integrated into multiple species habitat management initiatives

***(Q.8) Criterion 5a: Conservation of threatened and endangered species: What are the benefits to federally listed species, candidates, or recently delisted species?***

There are three endemic native waterbirds that are listed under the Endangered Species Act (Hawaiian stilt, *Ae’o*, *Himantopus mexicanus knudseni*; Hawaiian coot, *‘Alae ke’oke’o*, *Fulica alai*; and Hawaiian duck, *Koloa moali*, *Anas wyvilliana*) that have been seen at the estuary at various times (Fig 5). Current population estimates for the number of these endemic Hawaiian waterbird species remaining are as follows: stilts at 1500-2000 individuals, coots at 2000 individuals, and koloa at 2000 individuals. These numbers are extremely low, placing these species at high risk for extinction. Recent research on the endangered Hawaiian goose or Nene on Hawaii Island is showing that this species desires sites with water and therefore, may also be a future resident at Honu’apo when improvements to habitat and predator free conditions prevail. Statewide Nene population numbers are estimated at 1800 individuals. Another endangered bird that utilizes the estuary area for hunting is the endangered *‘io* or Hawaiian hawk (*Buteo solitarius*).



*Fig 5. Endangered Waterbirds found at Honu’apo: Hawaiian Stilt, Hawaiian Coot & Hawaiian Duck*

The threatened *honu* or Green sea turtle (*Chelonia mydas*) is known to frequent Honu’apo Estuary. *Honu* are often seen feeding on *limu* (algae or seaweed) within the estuary at mid and high tides. The endangered *honu’ea* or Hawksbill sea turtle (*Eretmochelys imbricata*) has been recorded in Honu’apo Bay, and nearby nesting sites include Kawa, Kamehame, and

Punaluu. The endangered '*ilio holo i ka uaua* or Hawaiian monk seal (*Monachus schauinslandi*) has also been observed utilizing the bay and the beach near the estuary.

A candidate insect species for listing under the Endangered Species Act, the orange-black Hawaiian damselfly (*Megalagrion xanthomelas*), has been observed at the Honu'apo Estuary near freshwater seeps. There's anecdotal evidence that the endangered Hawaiian Hoary Bat (*Lasirus cinereus semotus*), the only native terrestrial mammal in Hawai'i, occasionally occurs in the Honu'apo area.

The Honu'apo project will provide essential habitat for all of these state and federally listed species: 3-5 waterbirds, one insect, one marine mammal, and two marine reptiles, all of which have been documented within Honu'apo currently or in the past. Wetland restoration will also implement an essential recovery action identified in USFWS recovery plans including the USFWS Draft Revised Recovery Plan for Hawaiian Waterbirds; second revision (2005.)

In March of 2009 the U.S. Fish & Wildlife Service released their "State of the Birds" 2009 Report (<http://www.stateofthebirds.org/>). The report defined bird status in Hawaii as a crisis situation and stated "more bird species are vulnerable to extinction in Hawaii than anywhere else in the United States." It acknowledged that a main reason for the extinction crisis is the overabundance of invasive species in this finite island environment.

By removing aggressive non-native vegetation, the proposed project will provide and enhance waterbird foraging, breeding, nesting, and rearing habitat in various stages as Phase I (habitat restoration), and later Phase II (predator proof fencing) are implemented. Contouring of deep-water ponds will provide refuge to sea turtles and nursery areas for endemic fish. Re-exposed mudflats will increase invertebrate abundance benefiting all foraging species.

**Citation Note:** All of the birds listed in the following table are identified in the *Honu'apo Wetland Habitat Restoration Plan* by Sustainable Resources Group International, Inc., (May, 2011) as being present on the site.

Common Name	Scientific Name	Status	Project Benefits	Does the project support goals of Recovery Plan or HCP?
Hawaiian Stilt, <i>Ae'o</i>	<i>Himantopus mexicanus knudseni</i>	FE SC	Restored habitat will increase numbers by providing additional nesting, foraging, loafing areas and via predator protection.	2005 Endangered Waterbird Recovery Plan goal is to restore and maintain multiple self-sustaining populations of listed federally endangered waterbirds until species recovery allows removal from endangered status.
Hawaiian Coot, <i>'Alae ke'oke'o</i>	<i>Fulica alai</i>	FE SC	Improves deepwater wetland areas for coot foraging and nesting and predator	2005 Endangered Waterbird Recovery Plan goal to restore and maintain multiple self-sustaining

			protection.	populations of listed federally endangered waterbirds until species recovery allows removal from endangered status.
Hawaiian Duck, <i>Koloa maoli</i>	<i>Anas wyvilliana</i>	FE SC	Improves wetland areas for adult foraging and loafing, and potential nesting and predator protection.	2005 Endangered Waterbird Recovery Plan goal to restore and maintain multiple self-sustaining populations of listed federally endangered waterbirds until species recovery allows removal from endangered status.
Hawaiian Goose, <i>Nene</i>	<i>Branta sandvicensis</i>	FE SC	Improves wetland areas for adult loafing and foraging and predator protection.	2004 USFWS Hawaiian Goose Recovery Plan goal to restore and maintain multiple self-sustaining populations until recovery allows removal from endangered status.
Hawaiian Hawk, <i>Io</i>	<i>Buteo solitarius</i>	FE SC	Invasive grassland controls improve visibility for hunting	
Green Sea Turtle, <i>Honu</i>	<i>Chelonia mydas</i>	FT SC	Improves deepwater areas and wetland access for basking.	1998 Recovery Plan for the US Pacific Populations of the Green Sea Turtle goal to maintain existing foraging areas as healthy environ and ensure long-term protection of marine habitats
Hawksbill Sea Turtle, <i>Honu'ea</i>	<i>Eretmochelys imbricata</i>	FE SC	Improves deepwater areas and wetland access for basking,	1998 Recovery Plan for the US Populations of the Hawksbill Sea Turtle goal to maintain existing foraging areas as healthy environ and ensure long-term protection of marine habitats
Hawaiian Monk Seal, <i>Ilio holo i ka uaua</i>	<i>Monachus schauinslandi</i>	FE SC	Improves haul-out access for molting and resting and reduces threat of disease posed by feral cats and dogs.	2007 Revised Recovery Plan for the Hawaiian Monk Seal goal of protection of haul-out sites in the Main Hawaiian Islands
Hawaiian Hoary Bat , <i>Ōpe'ape'a</i>	<i>Lasurus cinereus semotus</i>	FE SC	Improves habitat for night foraging and provides potential predator protection	1998 Recovery Plan for the Hawaiian Hoary Bat goal of protecting key foraging areas.



Hawaiian Orange-black Damselfly	<i>Megalagrion xanthomelas</i>	F Can. SC	Provides improved wetland conditions for various life cycle needs	
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***(Q.8) Criterion 5b: State Species of Conservation Concern***

State species of conservation concern include all federally listed and candidate species, as well as many migratory birds and seabirds.

The numerous migratory species or other non-federally listed birds that have been known to use Honu‘apo wetland include the following: ‘akekeke or Ruddy turnstone (*Arenaria interpres*); ‘ulili or Wandering tattler (*Heteroscelus incanus*); hunakai or Sanderling, (*Calidris alba*); kioea or Bristle-thighed Curlew (*Numenius tahitiensis*); and kolea or Pacific Golden Plover (*Pluvialis fulva*). The native ‘auku‘u or Black-crowned Night Heron, (*Nycticorax nycticorax hoactli*) also resides in the wetlands.

Seabirds observed at Honu‘apo include the Black Noddy or *noio* (*Anous minutus melanogenys*) which is frequently seen flying in and out of refuges in the rocky coastal cliffs of the area, as well as the White-tailed Tropicbird (*Phaethon lepturus dorotheae*) which is likely to nest in the cliff faces by the estuary.

**Citation Note:** All of the birds listed in the following table are identified in the *Honu‘apo Wetland Habitat Restoration Plan* by Sustainable Resources Group International, Inc., (May, 2011) as being present on the site and benefiting from the restoration project.

Common Name	Scientific Name	Status	Project Benefits	Does the project meet the goals of a specific management plan? List plan and goal.
Hawaiian stilt, <i>Ae‘o</i>	<i>Himantopus mexicanus knudseni</i>	SC FE	Restored habitat will increase numbers by providing additional nesting, foraging, loafing areas and predator protection.	Draft Revised Recovery Plan for Hawaiian Waterbirds 2005 goal to restore and maintain multiple self-sustaining population of listed federally endangered waterbirds until species recovery allows removal from endangered status.  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
Hawaiian coot, <i>‘Alae ke‘oke‘o</i>	<i>Fulica alai;</i>	SC FE	Improves deepwater wetland loafing, foraging, and nesting areas for coots and predator protection.	Draft Revised Recovery Plan for Hawaiian Waterbirds 2005 goal to restore and maintain multiple self-sustaining population of listed federally endangered waterbirds until species recovery allows removal from endangered status.

				2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
Hawaiian duck, <i>Koloa maoli</i>	<i>Anas wyvilliana</i>	SC FE	Improves wetland areas for adult foraging and loafing, and potential nesting. Provides predator protection.	Draft Revised Recovery Plan for Hawaiian Waterbirds 2005 goal to restore and maintain multiple self-sustaining population of listed federally endangered waterbirds until species recovery allows removal from endangered status.  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
Hawaiian goose, <i>Nene</i>	<i>Branta sandvicensis</i>	SC FE	Improves wetland areas for adult foraging and loafing and provides predator protection.	USFWS Hawaiian Goose Recovery Plan 2004 to restore and maintain multiple self-sustaining populations until recovery allows removal from endangered status.  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
Hawaiian Hawk, <i>'Io</i>	<i>Buteo solitarius</i>	SC FE	Invasive grassland control improve visibility for hunting small mammals	1984 Hawaiian Hawk Recovery Plan goal of protecting occupied territories in non-native forest areas.
Hawaiian Short-eared Owl, <i>Pueo</i>	<i>Asio flammeus sandwichensis</i>	SC	Invasive grassland control improve visibility for hunting small mammals	2004 Migratory Bird Program Strategic Plan- Seeks to protect, restore, and manage migratory bird habitats such as those at Honu'apo.
Green Sea Turtle, <i>Honu</i>	<i>Chelonia mydas</i>	SC FT	Improves deepwater areas and wetland access for basking and foraging.	1998 Recovery Plan for the US Pacific Populations of the Green Sea Turtle goal to maintain existing foraging areas as healthy environ and ensure long-term protection of marine habitats
Hawksbill Sea Turtle, <i>Honu'ea</i>	<i>Eretmochelys imbricata</i>	SC FE	Improves deepwater areas and wetland access for basking and foraging.	1998 Recovery Plan for the US Populations of the Hawksbill Sea Turtle goal to maintain existing foraging areas as healthy environ and ensure long-term protection of

				marine habitats
Hawaiian Monk Seal, 'Ilio holo i ka uaua	<i>Monachus schauinslandi</i>	SC FE	Improves haul-out access and reduces disease transmission threat posed by feral cats and dogs	2007 Revised Recovery Plan for the Hawaiian Monk Seal goal of protection of haul-out sites in the Main Hawaiian Islands
Hawaiian Hoary Bat, 'Ōpe 'ape 'a	<i>Lasirus cinereus semotus</i>	SC FE	Improves habitat for night foraging and removal of potential introduced predators	1998 Recovery Plan for the Hawaiian Hoary Bat goal of protecting key foraging areas.
Hawaiian orange-black damselfly	<i>Megalagrion xanthomelas</i>	SC F Can.	Provides improved wetland conditions for various life cycle needs	
<b>Ruddy Turnstone,</b> 'Akekeke <b>Wandering Tattler,</b> Ulili <b>Sanderling,</b> Hunakai <b>Bristle-thighed Curlew,</b> Kioea <b>Pacific Golden Plover,</b> Kolea <b>Northern shoveler,</b> Koloa maha	<i>Arenaria interpres</i> <i>Heteroscelus incanus</i> <i>Calidris alba</i> <i>Numenius tahitiensis</i> <i>Pluvialis fulva</i> <i>Anas clypeata</i>	SC	Habitat improvements provide optimal foraging, and loafing conditions in native species dominated system and removal of introduced predators	U.S. Pacific Islands Regional Shorebird Conservation Plan (2004.) Goals include habitat restoration, best management practices, increasing protected habitat, predator eradication, alien species removals.  2004 Migratory Bird Program Strategic Plan- Seeks to protect, restore, and manage migratory bird habitats such as those at Honu'apo.
<b>Black-crowned Night Heron,</b> 'Auku 'u	<i>Nycticorax nycticorax hoactli</i>	SC	Habitat improvements provide improved foraging, and loafing areas, and removal of introduced predators	2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds.  2004 Migratory Bird Program Strategic Plan- Seeks to protect, restore, and manage migratory bird habitats such as those at Honu'apo.
Black Noddy, Noio	<i>Anous minutus melanogenys</i>	SC	Improved foraging and removal of introduced predators	2005 Regional Seabird Conservation Plan, Pacific Region goal of protecting and enhancing seabird habitats to meet seabird needs and eradicating or controlling introduced predators and other invasive species that have negative

				impacts on seabird populations.
White-tailed Tropicbird, <i>Koa'e Kea</i>	<i>Phaethon lepturus dorotheae</i>	SC	Improved foraging and removal of introduced predators	2005 Regional Seabird Conservation Plan, Pacific Region goal of protecting and enhancing seabird habitats to meet seabird needs and eradicating or controlling introduced predators and other invasive species that have negative impacts on seabird populations.

***Q.8) Criterion 6: Benefits to fish. Will the project provide, restore or enhance important fisheries habitat?***

The Honu'apo Estuary provides important spawning and nursery habitat for a large number of native fish. A reef area located at the mouth of the estuary is naturally protected by a breakwall of *pāhoehoe* lava and provides prime habitat for juvenile fish and other marine life. Local residents recall that the estuary provided habitat for *pāpio* or juvenile trevally, and *ulua* or adult trevally (*Caranx sp.*).

Native fish species that have been recorded in Honu'apo Estuary include 'o'opu akupa (*Eleotris sandwicensis*), the threatened 'o'opu naniha (*Stenogobius hawaiiensis*), 'ama'ama or striped mullet (*Mugil cephalus*), āholehole or Hawaiian flagtail (*Kuhlia sandwicensis*), the Hawaiian shrimp goby (*Psilogobius mainlandi*), and yellowfin goatfish (*Mulloidichthys vanicolensis*). Recorded crustaceans include snapping shrimp (*Alpheus sp.*) and 'ōpae huna or banded coral shrimp (*Palaemon debilis*)

**Citation Note:** All of the fish listed in the following table are identified in the *Honu'apo Wetland Habitat Restoration Plan* by Sustainable Resources Group International, Inc., (May, 2011) as being present in the estuary and benefiting from a restoration project. A few additional species that were observed in the estuary itself are added to this list following personal communication with Honu'apo researcher Megan Lamson\*. Ms. Lamson observed 119 marine fish species (from 39 different families) utilizing the nearshore region of Honu'apo Bay, adjacent to the Honu'apo Estuary. Most of these fish were indigenous (68.1%) or endemic (29.4%) to Hawai'i, and only three species were introduced exotics (2.5%). [\*Lamson, M. 2010. *One Year at Honu'apo Bay. A Social and Biological Monitoring Project in SE Hawai'i (Ka'ū)*. MS Thesis, Tropical Conservation Biology and Environmental Science, University of Hawai'i-Hilo.]

Common Name	Scientific Name	Status	Project Benefits
'O'opu Naniha	<i>Stenogobius hawaiiensis</i>	Endemic	Proposed restoration actions will improve water quality and productivity for rearing and foraging by bringing the ecosystem back to native condition. This will enhance the availability of niche space for this and other native species.



Bluefin Trevally, <i>ulua</i>	<i>Caranx melampygus</i>	Native	Young use Honu'apo Estuary waters for foraging and protection from at sea predators; adults found in nearshore marine waters; these fish are important to Hawaii's economy as a recreational fish species.  Maintain/increase abundance by improving water quality and productivity for rearing and foraging of young and improving water quality in surrounding marine waters used by this species
`O`opu Akupa	<i>Eleotris sandvicensis</i>	Endemic	Improves water quality and productivity for rearing and foraging
Kanda Mullet	<i>Valamugil engeli</i>	Introduced	Improves water quality and productivity for rearing and foraging for this important food fish.
Stripe Belly Puffer	<i>Arothron hispidus</i>	Native	Improves water quality and productivity for rearing and foraging.
Striped Mullet, 'ama'ama	<i>Mugil cephalus</i>	Native	Improves water quality and productivity for rearing and foraging for this important food fish.
Hawaiian Flagtail, <i>āholehole</i>	<i>Kuhlia sandvicensis</i>	Endemic	Improves water quality and productivity for rearing and foraging for this important food fish.
Hawaiian Shrimp Goby	<i>Psilogobius mainlandi</i>	Endemic	Improves water quality and productivity for rearing and foraging
Yellowfin Goatfish, <i>weke'ula</i>	<i>Mulloidichthys vanicolensis</i>	Native	Improves water quality and productivity for rearing and foraging of this important food fish
Yellowstripe Goatfish, <i>weke'a</i>	<i>Mulloidichthys flavolineatus</i>	Native	Improves water quality and productivity for rearing and foraging for this important food fish
Convict Tang, <i>manini</i>	<i>Acanthurus triostegus</i>	Native	Improves water quality and productivity for rearing and foraging. These important grazers help keep turf algae down and important food fish
Hawaiian Sergeant, <i>mamo</i>	<i>Abedefduf abdominalis</i>	Endemic	Improves water quality and productivity for rearing and foraging
Pufferfish sps.	<i>tetradontidae</i>	Native	Improves water quality and productivity for rearing and foraging
Snowflake eel	<i>Echidna nebulosa</i>	Native	Improves water quality
Rock crab	<i>Grapsus sp.</i>	Native	Improves water quality

Snapping shrimp	<i>Alpheus</i> sp.	Native	Improves water quality and productivity for rearing and foraging
Banded Coral Shrimp, 'ōpae huna	<i>Palaemon debilis</i>	Endemic	Improves water quality and productivity for rearing and foraging. Increasing populations of this grazer species will help keep the microfilm algae at bay thus helping to keep the estuary waters clean.

***(Q.8) Criterion 7: Benefits to coastal-dependent or migratory birds. Will the project provide, restore, or enhance important habitat for coastal-dependent or migratory birds?***

Several migratory waterbirds, protected under the Migratory Bird Treaty Act, may utilize either the land or marine environments near Honu'apo Estuary. These include: 'akekeke, or Ruddy turnstones (*Arenaria interpres*); hunakai or Sanderlings (*Calidris alba*); 'ulili or Wandering tattlers (*Heteroscelus incanus*); kioea or Bristle-thighed Curlew (*Numenius tahitiensis*); and kolea or Pacific golden plover (*Pluvialis fulva*).

The peregrine falcon (*Falco peregrinus*) and osprey (*Pandion haliaetus*) are known to migrate to Hawaii and frequent coastal and wetland areas. Along with other migratory bird species, healthy wetlands and their surrounding uplands provide essential habitat for these and other migrants who need to refuel and survive after long travels.

The Black Noddy or noio (*Anous minutus melanogenys*) is frequently seen flying in and out of refuges in the rocky coastal cliffs of the Honu'apo area. In addition, the White-tailed Tropicbird (*Phaethon lepturus dorotheae*) has been observed at Honu'apo.

**Citation Note:** All of the birds listed in the following table are identified in the *Honu'apo Wetland Habitat Restoration Plan* by Sustainable Resources Group International, Inc., (May, 2011) as being present on-site and benefiting from the restoration project.

Common Name	Scientific Name	Status	Habitat Benefits	Meet the goals of a management plan?
Hawaiian stilt	<i>Himantopus mexicanus knudseni</i>	FE Resident	Increased number via habitat improvements that provide optimal nesting, foraging, and loafing conditions in native species dominated system and protection from predators.	Endangered Waterbird Recovery Plan goals to restore and maintain multiple self-sustaining populations of listed federally endangered waterbirds until species recovery allow removal from listing.  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds,
Hawaiian coot	<i>Fulica alai</i>			
Hawaiian duck	<i>Anas wyvilliana</i>			

				including endangered waterbirds.
Northern Shoveler Northern Pintail American Wigeon Blue-winged Teal Green-winged Teal Eurasian Wigeon Lesser Scaup	<i>Anas clypeata</i> <i>Anas acuta</i> <i>Anas Americana</i> <i>Anas discors</i> <i>Anas crecca</i> <i>Anas Penelope</i> <i>Aythya affinis</i>	Migratory waterfowl	Increased number via habitat improvements that provide optimal foraging, and loafing conditions in native species dominated system and protection from predators.	Migratory Bird Program Strategic Plan seeks to protect, restore, and manage migratory bird habitats.  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.
Ruddy Turnstone, 'akekeke Wandering Tattler, 'ulili Bristle-thighed Curlew, kioea Pacific Golden Plover, kolea Sanderling, hunakai	<i>Arenaria interpres</i> <i>Heteroscelus incanus</i> <i>Numenius tahitiensis</i> <i>Pluvialis fulva</i> <i>Calidris alba</i>	Migratory shorebirds	Increased number via habitat improvements that provide optimal foraging, and loafing conditions in native species dominated system and protection from predators.	U.S. Pacific Islands Regional Shorebird Conservation Plan (2004.) Calls for high quality habitat to ensure that shorebirds in the region are not unduly limited by habitat availability  2002 North American Waterbird Conservation Plan - Calls for restoration and protection of habitats that support the life cycle needs of water birds, including endangered waterbirds.  Migratory Bird Program Strategic Plan seeks to protect, restore, and manage migratory bird habitats.
Hawaiian Hawk, 'Io	<i>Buteo solitarius</i>	SC FE	Invasive grassland control improve visibility for hunting small mammals	1984 Hawaiian Hawk Recovery Plan goal of protecting occupied territories in non-native forest areas.  2004 Migratory Bird Program Strategic Plan- Seeks to protect, restore, and manage migratory bird habitats such as those at Honu'apo.
Hawaiian Short-eared Owl, Pueo	<i>Asio flammeus sandwichensis</i>	SC	Invasive grassland control improve visibility for hunting	2004 Migratory Bird Program Strategic Plan- Seeks to protect, restore, and manage migratory bird

			small mammals	habitats such as those at Honu'apo.
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***(Q.8) Criterion 8: Prevent or reduce contamination. Will the project prevent or reduce input of contaminants to the coastal wetlands and associated coastal waters that are already contaminated?***

The historic uses of the Honu'apo Estuary and surrounding area include: cattle grazing, cultivation of sugar cane, and manipulation of the topography by sugar plantation managers. Cattle grazing in and around the estuary had adverse impacts to the water quality, topography, and vegetation community. Cattle trample wetland habitat, spread invasive plants, and increase nutrient levels via their urine and feces. Historic photos show cattle directly within the wetland estuary. In Hawaii, high nutrient loads are associated with the spread of alien algae species over near shore reefs therefore the reduction of nutrients from Honu'apo will help alleviate this problem.

During sugar cane operations fill material was discharged into the estuary, elevating the ground surface and decreasing deepwater and shallow water habitats used by native flora and fauna. This restoration will address the removal of sediment build up within the wetland and re-contour portions of the wetland most impacted by this sedimentation. Although the days of sugar cane production are long past cattle grazing continues in the areas near and upland of Honu'apo. However, with the acquisition of the estuarine wetland and its immediate 225.5 acre surrounding area, along with its designation as a natural park, cattle grazing is now permanently precluded at this site.

With restoration of full estuarine function, water quality improvements of the wetland will serve to benefit the adjacent shoreline should fecal and non-point source pollution from higher elevation areas travel seaward during flooding events. Overland flow and nonpoint source pollutants contained in the runoff and routed into the estuary will be remediated and filtered.

Transpiration losses from plants growing in and around the margin of the Honu'apo Estuary complex are unknown. However, it is expected that the non-native kiawe trees that line the margins of the wetland have tapped into the phreatic, or ground water layer, that is the source of the fresh water springs and seeps discharging into the estuary. These trees function as pumps and can transpire a significant volume of water. In addition they contribute nitrogen to the surrounding areas that they inhabit. During site investigations a count of kiawe trees growing at or lower than the banks of the estuary with a diameter at breast height (dbh) equal to or greater than three inches was performed. A total of 173 kiawe trees within this size range were inventoried in order to estimate the cumulative transpiration loss of all trees. However, due to a significant amount of uncertainty with respect to the dry weight of the trees and other variables necessary to compute losses, it is not possible to provide an accurate transpiration estimate. Basic water budgeting supports the theory that the removal and replacement of kiawe with drought tolerant native vegetation that does not mine the phreatic zone will result in increased fresh water inflows via the existing seeps and springs.

The restoration project will remove non-native invasive plants, re-plant native vegetation, and remove fill, which taken collectively is expected to greatly improve the wetland's capacity for bio-filtration and improve overall water quality. Water quantity is expected to increase with the removal of kiawe trees and water circulation patterns increase with removal of non-native intertidal vegetation and topographic contouring, thus benefiting water quality.

Toxoplasmosis, a zoonotic disease largely associated with feral cats and their feces, has proven fatal to many of Hawaii's native wildlife including: the critically endangered Hawaiian Monk Seal (*Monachus schauinslandi*), the Hawaiian Spinner Dolphin (*Stenella longirostris*) and several native bird species including the endangered Hawaiian Goose (*Branta sandvicensis*), the Red-footed Booby (*Sula sula*), and the endangered Hawaiian Crow (*Corvus hawaiiensis*). Removal of cats will help to reduce the contamination of Honu'apo's waters and benefit both wildlife and humans utilizing the area.

Action	Benefit to Wildlife
Permanent Absence of Cattle	Prevention of fecal contaminants and habitat protection
Sedimentation Removal	Increased depths for removal and prevention of invasive plant species invasion and increased habitat values.
Kiawe Removal	Reduced nitrogen loading and increased water supply to wetland
Invasive Plant Removal	Increased native plant community composition for increased habitat value for foraging, nesting, and cover.
Increased Water Circulation	Improved water quality for invertebrate production, fish use, and better waterbird foraging.
Removal of feral cats	Reduction of pathogenic disease to native fauna

***(Q.8) Criterion 9: Catalyst for future conservation. Will the project leverage other ongoing coastal wetlands conservation efforts in an area or provide additional impetus for conservation?***

The Honu'apo Wetland Restoration Project provides a critical link between a number of protected conservation areas along the southeastern Ka'u District coastline and thus contributes to the longest stretch of undeveloped coastline in Hawaii. Furthest to the north is the active Hawaii Volcanoes National Park, which extends south reaching to Punalu'u Beach County Park, a sea turtle sanctuary managed by the State of Hawaii. Just south of Volcanoes National Park and north of Punalu'u, The Natural Conservancy owns a conservation parcel at Kamehame that contains a crucial nesting beach for *honu'ea* or Hawksbill sea turtles. It is fenced and protected from predators and actively staffed by National Park Service volunteers during the nesting season.

A small stretch of undeveloped lava cliff coastline stretches south of Punalu'u to Kawa Bay. Kawa Bay is in the process of being purchased by Hawaii County for conservation purposes.



A remaining parcel between Kawa Bay and Honu'apo Park is under negotiation for purchase to create a link to Honu'apo's already protected mile long shoreline. These acquisitions are a direct result of the Honu'apo purchase by adding incentive to conserve adjacent areas.

South of Honu'apo is the 1,350 acre Wai'ōhinu *ahupua'a* (watershed), a forest reserve managed for conservation and owned by the State Division of Forestry and Wildlife. Hawaii Wildlife Fund (HWF) is the state's conservation partner for the shoreline portion of the watershed. Currently, restoration work is underway to protect the Wai'ōhinu native coastal strand community and rare anchialine pool system.

A few miles around the south point of the island is a 3,000 acre coastline conservation purchase near completion at 'Awili Point. This stretch of coastline contains a green olivine beach and lies directly adjacent to Manuka Natural Area Reserve (NAR) on its north side. NAR staff actively maintains the anchialine ponds at Manuka by eradicating invasive fountain grass and planting native vegetation.

The acquisitions mentioned are part of a decade long effort on the part of Ka'ū citizens to preserve the Ka'ū coastline, the longest uninhabited shoreline in Hawaii. The link that Honu'apo provides to this system of conservation areas is an essential element of both the terrestrial and aquatic shoreline. It is a core refuge area for threatened and endangered turtles, and monk seals that frequent the coast. It is the only significant wetland habitat that with the potential to benefit endemic and migratory waterbirds in the entire south portion of Hawaii Island. Most significantly, although small in size, Honu'apo is a rare and decreasing type of wetland in southern Hawaii Island, Hawaii Island overall, and in the state of Hawaii. It is therefore, regionally significant providing habitat for rare and declining endemic species that are federally threatened and/or endangered.

The Honu'apo wetland restoration represents a unique community-initiated and implemented recovery effort on the island of Hawaii. The special relationship that the Ka'ū District community has with the *aina* (land) has resulted in the formation of a highly motivated and active constituency. On the Island of Hawaii the Ka'ū District is home to one of the oldest intact communities of Hawaiians who have lived in the area their entire lives, as have their ancestors. Their lineage is long; therefore their sense of place is noteworthy. At the community meeting for the unveiling of the wetland restoration plan, there were many *kupuna* (elders) who recalled years past, living on the edge of this wetland and working the sugar plantation. They remembered the wetland as it once was and recalled the richness of species once found there.

The presence of this unique community, which has both initiated the acquisition of this site and is now proposing its restoration, comes forward at a time that will be of great benefit to future wetland conservation efforts. The Hawaii Wetland Joint Venture (HWJV), state arm to the Pacific Coast Joint Venture, is a recently initiated partnership of federal, state, and local players within Hawaii. Started in 2005, the partnership has taken many steps to mobilize wetland habitat protection and endangered waterbird recovery within Hawaii...but the going is slow. Starting in 2005, the partners created their Strategic Plan for Wetland Conservation in Hawaii. Since that time, the partners further defined the plan by narrowing

down the most critical areas for partner focus across the island chain (2011). One of these new focus areas includes the important wetland complex at Honu'apo.

Community interest in wetland conservation throughout Hawaii is limited. Few citizens know the facts of what is truly at stake. What is at stake ecologically in terms of wetland functions on the landscape and the loss of endemic species that represent vestiges of the indigenous native Hawaiian culture. Hawaiian legends speak of the 'elepaio, a forest bird that was instrumental in guiding the canoe building *kahuna* (experts) to the best koa tree for felling (canoe building being an essential component of Hawaiian life). But few remember legends associated with the waterbirds or remember where they lived. For example, Nene are now thought to be mountain dwelling birds, but current research is demonstrating that they seek water every day and use un-vegetated mountain stock ponds for lack of lowland areas where they can be assured safety from predators and human disturbance. They are indeed a "water" bird that has been displaced for so long that their true needs and habitat use have been forgotten.

What this means is that the conservation efforts underway by *Ka 'Ohana O Honu'apo* will undoubtedly have a rippling effect for conservation work in other areas across the state. As a community working to recover a wetland area of important focus to the HWJV, their role as conservation partners, along with the unique benefits of this wetland estuary to the state, can be an inspiration to other communities with neglected wetlands. This project will certainly be a catalyst for other wetland conservation and waterbird recovery efforts elsewhere in the state. Its true value certainly cannot be overestimated.

***(Q.8) Criterion 10: Partners in conservation. Will the project receive financial support, including in-kind match, from private, local or other Federal interests?***

<b>Organization/Individual Partners</b>	<b>Description of Support (in-kind)</b>	<b>Estimated Value of Support</b>
Hawaii State Department of Land and Natural Resources (DLNR)	Value from bargain sale and/or local cash contribution to purchase	\$100,000
Sustainable Resources International Inc. Consultants	Restoration Plan in-kind service	\$ 53,000
Hawaii County Division of Parks and Recreation	Providing park staff labor	\$ 30,000
<i>Ka 'Ohana O Honu'apo</i>	Volunteer labor	\$ 15,000
DLNR Division of Forestry & Wildlife	Predator traps, plantings, & labor	\$ 2,000
Pacific Coast Joint Venture & Hawaii Wetland Joint Venture	General project assistance	\$ 500

***(Q.8) Criterion 11: Federal share reduced. Does the application significantly reduce the Federal share by providing more than the required match amount? (Only cash above the required match applies.)***

Additional cash match comes from the Hawaii County contribution to the Honu‘apo property purchase. The funds contributed were from local and private sources and exceeded the 50% non-federal match required to obtain NOAA’s Coastal and Estuarine Land Conservation Program support for the property acquisition. Therefore \$50,000 from this local contribution can be credited to this project. This cash contribution allows for the reduction in the federal cost share of this project proposal in the additional amount of 25% above the required non-federal match.

<b>Total Project Costs</b>	<b>\$799,500</b>
<b>Required 25% State Match</b> (see note* below)	<b>\$199,875</b>
<b>Additional Cash Contribution</b> (Above match)	<b>\$ 50,000</b>
<b>Percent Increase over required match</b>	<b>25%</b>

\*Note: Hawaii State qualifies for the 25% non-federal match as it has recurring funds for habitat conservation purposes. These funds are provided through the State’s Legacy Lands Account. Eligibility has been previously approved and no change has occurred in the funds.

***(Q.8) Criterion 12: Education/outreach program or wildlife-oriented recreation. Is the project designed to increase environmental awareness and develop support for coastal wetlands conservation? Does it provide recreational opportunities that are consistent with the conservation goals of the site?***

This site could not be more ideally suited to environmental awareness education and wildlife-oriented recreation. Since the Honu‘apo Estuary is directly adjacent to the original 2.5 acre Whittington Beach County Park all park visitors are exposed to the wetland. This affords an exceptional opportunity to conduct outreach events, trainings, interpretive education, and recreational viewing of the wetland and its inhabitants.

Since their inception, *Ka ‘Ohana O Honu‘apo* has been actively engaging the community by mobilizing volunteers to work at Honu‘apo Estuary and educating and informing visitors and citizens in the community about the estuary and it’s natural resource importance. Over the last 2.5 years, *Ka ‘Ohana* has sponsored nine (9) keiki (children's) and ‘opio (youth) workshops in the park. These 4-hour weekday workshops featured two sessions: one on the cultural and historical values (taught by a local cultural expert) and the other on the environmental values of Honu‘apo Park (taught by a local environmental scientist). On average, at least 12 to 54 students (from home-schooled, charter, and public schools) attended each workshop as do their teachers and several parents. The next ‘Opio Workshop at Honu‘apo Park in July will include approximately 18 middle and high school students reviewing the environmental benefits of the *Honu‘apo Wetland Restoration Plan*.

On a quarterly basis, throughout the year, *Ka 'Ohana O Honu'apo* holds community events within the coastline park to outreach to, educate, and engage citizens. These activities are planned to expand as the restoration work is implemented and will include an educational overview of the benefits of the wetland restoration. This quarterly environmental education program will serve to prepare volunteers for service in protecting the wetland from any residual invasive species and will inform new residents and visitors about the value of a healthy fully functioning wetland estuary for both humans and wildlife. It is expected that upwards of 300 to 400 participants will be informed by each quarterly community event.

An upcoming quarterly "Sunday Afternoon in the Park" event will be titled "Honu'apo's Environmental Treasures." *Ka 'Ohana* is inviting the marine, environmental, and biological scientists who contributed to the research and review of the Wetland Restoration Plan to present and exhibit their work on the endangered and threatened species within the Park and demonstrate their research techniques and strategies in gathering data at Honu'apo. There have been many local residents who requested this demonstrative workshop to more fully understand what the researchers have been studying at the site.

In addition, *Ka 'Ohana O Honu'apo* actively worked with the community to develop two plans for the area: the *Honu'apo Park Resource Management Plan (2010)*, and the *Wetland Habitat Restoration Plan for the Honu'apo Estuary (2011)*. In the *Honu'apo Park Resource Management Plan* there is guidance and a design for integrating the estuary benefits to the larger park use, while also protecting the estuary from user impacts. Walking trails, educational facilities, camping sites, passive community recreation, open-air pavilions, and cultural elements such as community grown native plant gardens are all part of the larger park design. Integral to this design is the estuary and its contribution to the landscape. The *Honu'apo Park Resource Management Plan* includes the construction of a trail around the wetland that will provide for visitor observation of the wildlife and dynamics of the estuary. Along with the trail information signage will be installed that informs visitors about the importance of wetland conservation, the site restoration, and the species that inhabit the area.

Currently, the park hosts 8,000 visits per month, with the majority being Hawaii Island residents as this is a very popular park among 'locals.' This number has increased from less than 4,000 only four years ago. It is expected that at least 96,000 to 120,000 people will visit this site next year with the numbers increasing in the coming years as the park's environmental and aesthetic infrastructure improves and visitor awareness increases.

Honu'apo is the largest county park within the State of Hawaii, offering a total of 228 contiguous acres and includes a mile of undeveloped shoreline, a unique feature of the park. Its location is along the only highway traversing the coastline between the western tourist destination of Kona and the eastern county seat of Hilo. Directly north of Honu'apo is the heavily frequented black sand beach and park of Punalu'u and, within a few miles of there, the active volcanic area of Hawaii Volcanoes National Park. These are places that virtually everyone who visits Hawaii Island travel to see. This placement assures that Honu'apo Park will be frequently visited, thus offering an excellent opportunity to increase environmental awareness and develop additional support for coastal wetland conservation while providing wildlife-oriented recreation, and educating visitors about the need for recovery of Hawaii's endangered endemic wildlife species.

***(Q.8) Criterion 13: Other factors. Do any other factors, not covered in the previous criteria, make this project or site particularly unique and valuable?***

**1) Benefits to rare or threatened habitat type, biodiverse habitats, rare and declining species, and the local community.**

While Hawaii represents only 2% of the US land base, it contains 40% of the federally listed endangered species. Hawaii has lost well over 30% of its wetlands in recent history. Most remaining wetlands are heavily impacted or severely degraded by aggressive non-native species. The decline in populations and species of endemic waterbirds, as well as migratory waterbird visitation, parallels this trend. Protected wetlands in Hawaii represent only .002% of the state land base compared to a full 1% in Oregon, or even more in other continental states. Hawaii truly needs recovery of its wetlands as they are essential to declining and endangered endemic species. Hawaii's location in the middle of the Pacific Ocean makes it an essential landfall for migratory birds needing winter refuge. Honu'apo offers a critical, and rare to find estuarine wetland habitat.

**2) Very significant resource benefits for the cost**

In the US Fish and Wildlife Service's 2009 State of the Birds Report (<http://www.stateofthebirds.org/2009/>), the current vitality of all bird species across the nation was examined. The report states that of all areas in the US, Hawaii's birds are in the most dire straits. The follow up report in 2010 looked ahead to climate change impacts on bird species in biomes across the nation and, again, pointed to Hawaii's birds as most vulnerable to loss following the ocean's seabirds. Estimates of historic endemic bird species found in Hawaii indicate at least 113 species unique in the world. Now there are only 35 species remaining, and 10 of these have not been seen in several decades. Of the historic endemic waterbirds there were once 30+ species, but now only 5 remain in the Main Hawaiian Islands and these are all federally listed as endangered. Population numbers are so low that for some, recovery is highly questionable.

Hawaii is an area that has historically been overlooked and underinvested in, or this condition would not currently exist. Waterbirds, who use wetlands, are known for their resiliency to recovery; however, some attention to and investment in the habitats they need and use is an essential ingredient to their recovery. Focusing on these species is "a low hanging fruit" for beginning a turn around to the ecological facts stated above. Investment in Hawaii's wetlands will go far in reversing the trend of waterbird decline, therefore making the benefit for the cost an obvious win-win scenario. There is probably no better place too invest in recovering diversity than in Hawaii.

**3) Prevention or control of invasive species**

There are very few places that have more invasive species than Hawaii. Despite this, tools and tactics have been learned to effectively control and manage many of these invaders. A key component of the long-term effectiveness of control rests with the owner's management of the land, and local community support. In this regard the Honu'apo wetland has everything on its side. The land is now in permanent state ownership, Hawaii County is an



active and committed manager, and the community group *Ka 'Ohana O Honu'apo* hosts the volunteers who will love and care for the site as if it were a member of their *ohana* (family). These factors add up to the assurance that control of invasive species at Honu'apo wetland is doable, is manageable, and is warranted.

#### **4) Cultural and historical significance**

Honu'apo has a long history of ancestral and cultural significance to the Hawaiian people of Ka'ū. At least five archaeological studies have been conducted within Honu'apo Park itself. Evidence of habitation in this area of the Ka'ū District dates back to as early as the 15<sup>th</sup> century. Two of the most recent surveys, which occurred in 2004 and in 2009, identified eighty-eight sites with over 200 archaeological features, most in the northern portion of the park. Sixty-five of these sites were considered significant under State Historic Preservation criteria and include the remains of the Kamala'i *heiau* (place of worship), pre-contact burial and ceremonial complexes, habitation sites, salt basins and petroglyphs.

In ancient time, the estuary at Honu'apo was used by *ka po'e kahiko* (ancient Hawaiians) as a fishpond to cultivate 'ama'ama or striped mullet (*Mugil cephalus*) and other valuable fish species. The estuary outlet channel would have been fitted with a *mākāhā* (gate) that was used to control water flow into and out of the estuary making its use as a fishpond possible. Archeological evidence suggests the estuary was used as fishpond around 500 years ago. The removal of invasive kiawe trees will prevent destructive root impacts to archeological walls that may be near the wetland.

In more recent times, structures from the sugar plantation era (circa late 1800s to early 1900s) once present at Honu'apo have been lost, being less permanent and impacted by the area's tsunamis. In the early 1900s Honu'apo was well inhabited and worked and is clearly remembered by *kupuna* (elders) living in Ka'ū.

#### **5) Other benefits**

Sea Level Rise and Global Climate Change Resiliency. The restoration design accounts for gradual and long-term increase in sea levels. Sea level rise will elevate the tidal water levels that determine tidal wetland habitat type, magnify the impact of extreme storm events, and probably shift the coastline *mauka*. The design anticipates the impact of a three-foot sea level rise. While uncertainty remains as to future rates of sea level rise due to uncertainty about future carbon emission rates and global temperature change and the oceans' response, it is reasonably certain that three feet of sea level rise from 1990 levels will occur by the end of the 21<sup>st</sup> century. Protected uplands will allow greater resiliency in the face of these changes by affording the wetland space to migrate landward over time.

#### ***(Q.8) Additional Considerations/Tie-breakers:***

##### **1) Is the habitat imminently threatened?**

Yes, on two counts. First, the original purchase of the property was initiated due to an active proposal for condominium resort development at Honu'apo. Therefore, acquisition was

essential to prevent that development, and it's impacts from occurring. Second, the existing estuary wetland is being very aggressively filled in by invasive non-native vegetation. A no-action alternative in relationship to the restoration project will result in the loss of wetland function and acreage, remaining ecological integrity, and wildlife support capabilities.

**2) Does the site have unique and significant biological diversity?**

Absolutely! As previously mentioned, the presence of wetlands on Hawaii Island is a relatively rare feature to begin with. When present, they provide a haven for endemic waterbirds and migrants, by virtue of scarcity. In the case of Honu'apo, the wetland is not only a rare feature in the south area of the island, but as an estuarine system it supports both endemic waterbirds and marine life (monk seal, hawksbill & green sea turtles, and fish) many of which are federally listed as threatened or endangered. Although current endemic species use has been diminished, the restoration of this wetland will reestablish lost attributes essential to recovery of use and endemic species benefit.

**3) What are the costs per acre?**

\$67K. Though this may seem high, the reality is that the cost of living is exceptionally higher in Hawaii compared to the continental U.S. and as such accounts for the increased expense associated with the restoration. However, it is important to keep in mind the cost/benefit ratio of Hawaii wetland restoration given the conditions faced in this state (i.e. the highest number of endangered avian species in the nation and the fewest number of potential wetland habitats from which to benefit the waterbird guild). Protected wetlands in Hawaii make up only .002% of the land area and many of these wetlands are in degraded condition.

**4a) Are there new sources of funds, lands, or services being applied to this project? (As opposed to lands already owned by the State or third party that are being offered as match.)**

none


**4b) What percentage of the funds, lands, or services is new?**      N/A

## **SUMMARY OF PROPOSAL ATTACHMENTS:**

1. Map of the 225.5 acre Honu'apo property & wetland restoration area.
2. Restoration component excerpts from the *Wetland Habitat Restoration Plan for the Honu'apo Estuary (2011)*.
3. Honu'apo Property Deed (shows purchase price at \$3,232,367).
4. Honu'apo Property Appraisal Summary (shows property value at \$3,675,000 demonstrating \$442,733 in bargain sale value).
5. Resolution by Board of Hawaii State Land and Natural Resources approving property purchase and showing funding source breakdowns (see page 6).
6. State DLNR Division of Parks letter for withdrawal of Land and Water Conservation Fund support (demonstrates Hawaii County's additional non-reimbursed cash contribution of \$267,323).
7. Letters of Financial Support (non-state partners):
  - a. Ka Ohana O Honu'apo (\$15,000 in-kind)
  - b. County of Hawaii (\$30,000 in-kind)
  - c. Sustainable Resources Group International Inc. (53,000 in-kind)
  - d. Hawaii Wetland Joint Venture (\$500 in-kind)

**APPLICATION FOR  
FEDERAL ASSISTANCE**

Version 7/03

<b>1. TYPE OF SUBMISSION:</b> Application <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction		<b>2. DATE SUBMITTED</b>	Applicant Identifier
<b>3. DATE RECEIVED BY STATE</b>		State Application Identifier	
<b>4. DATE RECEIVED BY FEDERAL AGENCY</b>		Federal Identifier	
<b>5. APPLICANT INFORMATION</b>			
Legal Name: Department of Land and Natural Resources		Organizational Unit: Department: Department of Land and Natural Resources	
Organizational DUNS: 824 671 200		Division: Division of Forestry and Wildlife	
Address: Street: 1151 Punchbowl Street, Room 325		Name and telephone number of person to be contacted on matters involving this application (give area code) Prefix: Dr. First Name: James	
City: Honolulu		Middle Name: Scott	
County: Honolulu		Last Name: Fretz	
State: Hawaii	Zip Code: 96813	Suffix: Ph.D.	
Country: USA		Email: Scott.Fretz@hawaii.gov	
<b>6. EMPLOYER IDENTIFICATION NUMBER (EIN):</b> 99-0266119		Phone Number (give area code) (808) 587-4187	Fax Number (give area code) (808) 587-0160
<b>8. TYPE OF APPLICATION:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) Other (specify)		<b>7. TYPE OF APPLICANT:</b> (See back of form for Application Types) A. State Other (specify)	
<b>10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:</b> 15-614 TITLE (Name of Program): National Coastal Wetlands Conser.Grants		<b>9. NAME OF FEDERAL AGENCY:</b> U.S. Department of Interior, Fish and Wildlife Service	
<b>12. AREAS AFFECTED BY PROJECT</b> (Cities, Counties, States, etc.): Ka'u District, Big Island of Hawaii		<b>11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:</b> Honu'apo Estuary Wetland Restoration Phase I: Habitat Recovery	
<b>13. PROPOSED PROJECT</b> Start Date: Ending Date:		<b>14. CONGRESSIONAL DISTRICTS OF:</b> a. Applicant 1 b. Project 2	
<b>15. ESTIMATED FUNDING:</b>		<b>16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?</b>	
a. Federal	\$ 549,000	a. Yes. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE:	
b. Applicant	\$	b. No. PROGRAM IS NOT COVERED BY E. O. 12372	
c. State	\$ 102,000	<input checked="" type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW	
d. Local	\$ 148,500	<b>17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?</b>	
e. Other	\$	Yes If "Yes" attach an explanation. <input checked="" type="checkbox"/> No	
f. Program Income	\$		
g. TOTAL	\$ 799,500		
<b>18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.</b>			
<b>a. Authorized Representative</b>			
Prefix Mr.	First Name James	Middle Name Scott	
Last Name Fretz		Suffix Ph.D.	
b. Title Wildlife Program Manager		c. Telephone Number (give area code) (808) 587-4187	
d. Signature of Authorized Representative 		e. Date Signed 6/28/2011	

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# NEPA COMPLIANCE CHECKLIST

State: \_\_\_\_\_ Federal Financial Assistance Grant/Agreement/Amendment Number: \_\_\_\_\_  
Grant/Project Name: \_\_\_\_\_

This proposal ☐ is; ☐ is not completely covered by categorical exclusion \_\_\_\_\_ in 516 DM 2, Appendix \_\_\_\_\_; and/or 516 DM 6, Appendix \_\_\_\_\_.  
(check (✓) one) (Review proposed activities. An appropriate categorical exclusion must be identified before completing the remainder of the Checklist. If a categorical exclusion cannot be identified, or the proposal cannot meet the qualifying criteria in the categorical exclusion, or an extraordinary circumstance applies (see below), an EA must be prepared.)

## Extraordinary Circumstances:

Will This Proposal (check (✓) yes or no for each item below):

- | Yes                      | No                                  |   |
|--------------------------|-------------------------------------|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1. Have significant adverse effects on public health or safety.   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2. Have significant adverse effects on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds (Executive Order 13186); and other ecologically significant or critical areas under Federal ownership or jurisdiction. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 3. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)].   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. Have a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 6. Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7. Have significant adverse effects on properties listed or eligible for listing on the National Register of Historic Places as determined by either the bureau or office, the State Historic Preservation Officer, the Tribal Historic Preservation Officer, the Advisory Council on Historic Preservation, or a consulting party under 36 CFR 800.  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. Have significant adverse effects on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant adverse effects on designated Critical Habitat for these species.   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. Have the possibility of violating a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. Have the possibility for a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 11. Have the possibility to limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 12. Have the possibility to significantly contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).   |

(If any of the above extraordinary circumstances receive a "Yes" check (✓), an EA must be prepared.)

☐ Yes ☐ No This grant/project includes additional information supporting the Checklist.

## Concurrences/Approvals:

Project Leader: \_\_\_\_\_

Date: \_\_\_\_\_

State Authority Concurrence: \_\_\_\_\_

Date: 6/28/11

(with financial assistance signature authority, if applicable)

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the grant/agreement/amendment:

- ☐ is a categorical exclusion as provided by 516 DM 6, Appendix 1 and/or 516 DM 2, Appendix 1. No further NEPA documentation will therefore be made.
- ☐ is not completely covered by the categorical exclusion as provided by 516 DM 6, Appendix 1 and/or 516 DM 2, Appendix 1. An EA must be prepared.

## Service signature approval:

RO or WO Environmental Coordinator: \_\_\_\_\_

Date: \_\_\_\_\_

Staff Specialist, Division of Federal Assistance: \_\_\_\_\_

Date: \_\_\_\_\_

(or authorized Service representative with financial assistance signature authority)



U.S. Department of the Interior

**Certifications Regarding Debarment, Suspension and  
Other Responsibility Matters, Drug-Free Workplace  
Requirements and Lobbying**

Persons signing this form should refer to the regulations referenced below for complete instructions:

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - **The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions. See below for language to be used or use this form certification and sign. (See Appendix A of Subpart D of 43 CFR Part 12.)**

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions - (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requirements - Alternate I. (Grantees Other Than Individuals) and Alternate II. (Grantees Who are Individuals) - (See Appendix C of Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance with certification requirements under 43 CFR Parts 12 and 18. The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of the Interior determines to award the covered transaction, grant, cooperative agreement or loan.

**PART A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters-  
Primary Covered Transactions**

*CHECK ☐ IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE.*

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;
  - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -  
Lower Tier Covered Transactions**

*CHECK ☐ IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.*

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**PART C: Certification Regarding Drug-Free Workplace Requirements**

CHECK ☒ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL.

**Alternate I. (Grantees Other Than Individuals)**

**A. The grantee certifies that it will or continue to provide a drug-free workplace by:**

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing an ongoing drug-free awareness program to inform employees about—
  - (1) The dangers of drug abuse in the workplace;
  - (2) The grantee's policy of maintaining a drug-free workplace;
  - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
  - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will —
  - (1) Abide by the terms of the statement; and
  - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
- (e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
- (f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted —
  - (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
  - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a) (b), (c), (d), (e) and (f).

**B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:**

Place of Performance (Street address, city, county, state, zip code)

Check ☐ if there are workplaces on files that are not identified here.

**PART D: Certification Regarding Drug-Free Workplace Requirements**

CHECK ☐ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.

**Alternate II. (Grantees Who Are Individuals)**

- (a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;
- (b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

**PART E: Certification Regarding Lobbying**  
**Certification for Contracts, Grants, Loans, and Cooperative Agreements**

CHECK ☒ IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS \$100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT; SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.

CHECK ☐ IF CERTIFICATION FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF \$150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING \$100,000, UNDER THE LOAN.

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

  
SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

Scott Fretz Wildlife Program Manager  
TYPED NAME AND TITLE

June 28, 2011  
DATE

**ASSURANCES - NON-CONSTRUCTION PROGRAMS**

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**


**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.



9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 	TITLE Wildlife Program Manager	
APPLICANT ORGANIZATION Hawaii Division of Forestry and Wildlife		DATE SUBMITTED June 28, 2011



## REGULAR SYSTEM

Tax Map Key Nos. (3)9-5-014:002,  
003, 004, 005, 006, 007, 027,  
052, 053, 054, 055, 056, 057, 058  
& 059

## ACCEPTANCE OF AMENDED NOTICE OF FEDERAL PARTICIPATION AND CONSENT

WHEREAS, for and in consideration of the sum of Three Million Two Hundred Thirty Two Thousand Three Hundred Sixty Seven Dollars (\$3,232,367.00), the State of Hawaii acquired certain real property ("Proposed Honuapo Estuary") described in Warranty Deed from The Trust for Public Land, a California nonprofit corporation, as grantor, to the State of Hawaii, by its Board of Land and Natural Resources, as grantee, dated March 31, 2006, and recorded on the same date, as Document Number 2006-060697 in the State of Hawaii Bureau of Conveyances (LOD No. 28,827) (hereinafter the "Deed").

WHEREAS, the said Deed specifies that the Proposed Honuapo Estuary was acquired with funds from a federal financial assistance award through the National Oceanic and Atmospheric Administration (NOAA) (Award #NA05NOS4191259) and shall be managed for conservation purposes in accordance with the Coastal and Estuarine Land Conservation Program, and that the State of Hawaii, by its Board of Land and Natural Resources, shall not dispose of, encumber its title or other interests in, or convert the use of this property without the prior approval of NOAA or its successor agencies.

WHEREAS, the Proposed Honuapo Estuary had an appraised value of \$3,675,000 and the State of Hawaii purchased the property at a bargain sale for \$3,232,367, resulting in \$442,633 of donated land value ("banked value").

WHEREAS, the State of Hawaii has received a grant from the U.S. Fish and Wildlife Service (USFWS), National Coastal Wetlands Conservation Grant Program to restore wetlands on the Proposed Honuapo Estuary in accordance with the terms of USFWS award #F12AP01128 and desires to use \$200,000 of the banked bargain sale value from the original purchase of the property as non-Federal match for that award.

WHEREAS, NOAA has determined that restoration of the Honuapo wetlands is consistent with the conservation purposes of the Coastal and Estuarine Land Conservation Program and the terms of the award, which proposed to restore traditional and cultural access, with recreational activities such as hiking, camping and fishing allowed along with a community stewardship effort to restore the estuary/fishpond area, and therefore consents to the addition of the USFWS notice of participation.

NOW, THEREFORE, THIS ACCEPTANCE OF AMENDED NOTICE OF FEDERAL PARTICIPATION, made this \_\_\_ day of \_\_\_\_\_, 2021, by the STATE OF HAWAII, by its Board of Land and Natural Resources, for the purpose of amending the Notice of Federal Participation in the purchase of the subject property, the STATE OF HAWAII, by its Board of Land and Natural Resources, whose address is 1151 Punchbowl Street, Honolulu, Hawaii 96813, as grantee under said Deed, for good and valuable consideration, receipt whereof is hereby acknowledged, does hereby accept the amended notice of federal participation under said Deed as follows:

The Deed property (property) has been acquired with federal financial assistance from NOAA through the Coastal Estuarine Land Conservation Program (NOAA award #NA05NOS4191259). The property shall be managed for conservation purposes and consistent with the purposes for which it was entered into the Coastal Estuarine Land Conservation Program.

Additionally, a portion (\$200,000) of the banked value of the land attributable to the bargain sale (\$442,633) is used as match for another federal financial assistance award (Grant # F12AP01128 awarded on September 11, 2012) from the U.S. Fish and Wildlife Service's Division of Wildlife and Sport Fish Restoration (FWS) under the National Coastal Wetlands Conservation Grant Program (CFDA # 15.614) for the ecological restoration of wetlands on said property. The property shall be managed for conservation purposes and consistent with the USFWS National Coastal Wetlands Conservation Grant Program.

Title to the Proposed Honuapo Estuary shall vest in the State of Hawaii, by its Board of Land and Natural Resources, subject to certain use and disposition requirements from NOAA or its successor agencies and the U.S. Fish and Wildlife Service or its successor agencies.

The State of Hawaii, by its Board of Land and Natural Resources, shall not dispose of, transfer, or encumber its title or other interests in, or convert the use of this property without the approval of NOAA and USFWS or their successor agencies. The State of Hawaii must not authorize or tolerate any activities on the property that interfere with its originally authorized purpose and there must be no discrimination during the useful life of the project. In the event the property is disposed, each agency shall be compensated from the proceeds based upon their percentage participation in the purchase of the property, in accordance with 2 C.F.R. 200.311 or a successor regulation.

A copy of NOAA grant record is kept on file at NOAA Grants Management Office, 1325 East-West Hwy, Silver Spring, MD 20910. A copy of the FWS grant record is kept on file at the FWS office at 911 N.E. 11th Ave., Portland, OR 97232 and at the Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, 1151 Punchbowl St., Honolulu, HI 96813.

Except as corrected herein, the State of Hawaii, by its Board of Land and Natural Resources, as grantee under said Deed hereby confirms all provisions contained in the Deed shall remain in place and shall continue in full force and effect.

**[The remainder of this page is intentionally left blank]**

IN WITNESS WHEREOF, the State of Hawaii, by its Board of Land and Natural Resources, the grantee herein, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and has hereunto set its hand the day and year first above written.

STATE OF HAWAII.

By \_\_\_\_\_  
SUZANNE D. CASE  
Chairperson  
Board of Land and Natural Resources

GRANTEE

Approved by the Board of Land  
and Natural Resources at its meeting  
held on \_\_\_\_\_.

APPROVED AS TO LEGALITY,  
FORM, EXCEPTIONS, AND  
RESERVATIONS:

\_\_\_\_\_  
JULIE H. CHINA  
Deputy Attorney General

Dated: \_\_\_\_\_

**CONSENT:**

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,  
U.S. DEPARTMENT OF COMMERCE**

NOAA Grants Management Division hereby consents to the recording of a notice of federal participation on behalf of the United States Fish and Wildlife Service, National Coastal Wetlands Conservation Grant program as set out above.

By: \_\_\_\_\_  
Jewel Linzey  
Branch Chief, Grants Management Division

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_, to me personally known, who, being by me duly sworn or affirmed, did say that such person executed the foregoing instrument as the free act and deed of such person, and if applicable in the capacity shown, having been duly authorized to execute such instrument in such capacity.

\_\_\_\_\_  
Notary Public, State of \_\_\_\_\_

(SEAL)

My commission expires: \_\_\_\_\_