

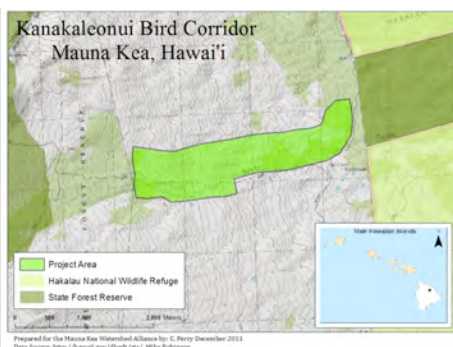
Kanakaleonui Bird Corridor



Mauna Kea Watershed Alliance

Realm of the Gods

In Hawaiian culture, the Kanakaleonui Bird Corridor is located in an ecological zone known as *wao akua*, or realm of the gods. Before land use practices such as grazing and logging took its toll, this area supported a rich and diverse ecosystem of plant and animal species found nowhere else in the world. Our goal is to restore this forest to its former diversity and structure, and to restore its function as forest bird habitat.

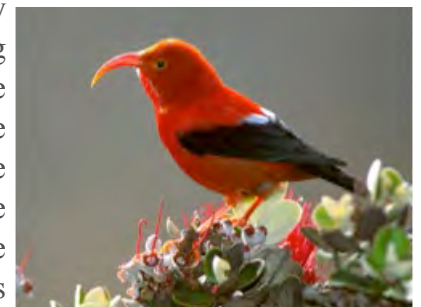


The project site is located on the upper (5,000 - 8,000') eastern flank of Mauna Kea, a dormant shield volcano, and covers approximately

525 acres of montane dry and mesic native forest. Native Hawaiian traditions and historical accounts describe the area as once having been covered with dense vegetation and frequented by native practitioners who gathered forest-plant resources, bird feathers, and food. Since then, native Hawaiian forests have been severely impacted by unsustainable land use practices including logging and the conversion of high elevation native forests to cattle pasture. To compound matters, feral ungulates were introduced in the late 1700's and exotic grasses brought in as cattle feed -- suppressing natural regeneration of native species and changing ecosystem function.

Forest Birds and Climate Change

Currently, mid-elevation forests such as those on Mauna Kea provide refugia for Hawaiian birds because cool temperatures prevent the transmission of avian diseases. Current climate models predict a 2-3°C increase in the central Pacific by 2100. With an increase in mean temperatures, these forest bird habitats become compressed from below by an expansion of disease transmission and above by fragmented rangeland habitat that is the result of a century of grazing. Without active restoration of these upper elevation pastures and degraded forests, the current forest bird habitat on the eastern slope of Mauna Kea will largely disappear in the coming century. The restoration of these degraded forests will be key to mitigating the effects of climate change for Hawai'i's native forest birds.



'Iwi (Hawaiian Honeycreeper)
Photo by Jack Jeffrey

Restoration



East slope of Mauna Kea

Project Outcomes:

- ▶ Protect, restore, and manage 525 acres of degraded forest
- ▶ Reforest project area with 25,000 native canopy and understory species
- ▶ Control invasive weeds in project area
- ▶ Involve members of the community in volunteer forest restoration actions such as pulling weeds, collecting seeds, and planting seedlings

Restoring the forest

The goals of our project are to restore and enhance this corridor area through established, cost-effective restoration techniques that include planting and seed broadcasting of native tree and shrub species; invasive weed control; and suppression of exotic pasture grasses. Restored forest bird corridors will facilitate movement of native birds from lower elevation native forests by providing foraging resources, shelter, and nest sites.

Practicing *Laulima*

A critical component to the long-term success of the Kanakaleonui Bird Corridor is the traditional Hawaiian concept of *laulima* or many hands working together to accomplish a difficult task. In the spirit of *laulima*, we rely on the community at large to help restore this forest to its former glory.

Students planting native shrubs at the project site



Volunteers who share in the stewardship of the area include community groups, students, families, and cultural practitioners. Reforestation activities are volunteer driven and is enhanced by an educational program that incorporates components of natural history, cultural significance, and traditional practices.

Who we are

The Mauna Kea Watershed Alliance (MKWA) is a voluntary public-private partnership of landowners committed to managing the lands of Mauna Kea for its watershed and cultural resources. MKWA coordinates and implements the project, working closely with project partners who support the project through funding, in-kind services, or expertise. These partners include the landowner, the Hawai'i Department of Hawaiian Home Lands; the US Fish and Wildlife Service; the Hawai'i State Division of Forestry and Wildlife; the University of Hawai'i; and the USDA Forest Service. This project is also funded in part by the Wildlife Conservation Society through its Climate Adaptations Fund, which is supported by a grant from the Doris Duke Charitable Foundation.

Mauna Kea Watershed Alliance
Kanakaleonui Bird Corridor Packing List - updated on 03/04/2013

Clothing: Worn

- Broken-in hiking shoes with ankle support
- Comfortable cotton socks (mid-calf recommended)
- Work pants with belt (bring leatherman type multi-tool if have)
- Comfortable underwear
- Work shirt (t-shirt is ok, long sleeve cotton button shirt is recommended for protection)
- Hat with brim (full brim provides more protection)
- If cold day – cold weather jacket that breathes well, should have hood if possible
- If wet day – waterproof jacket and pants, should have hood if possible
- If cold and wet day – add cold weather gloves and beanie (skull cap)

Clothing and field gear: Packed

- Multi-overnight backpack (may also use heavy duty trash bag if no backpack)
- Two sets comfortable cotton socks
- Two sets work pants
- Two sets comfortable underwear
- Two sets work shirts
- One set comfortable warm sleeping clothes
- Sleeping bag and warm blankets (If NO sleeping bag then bring several warm blankets)
- Pillow with pillowcase if available
- Sleeping pad if available
- Heavy duty cot if available
- One Towel
- Large trash bags (to cover packs if raining or to store clothing, etc.)
- Flashlight (LED head lamps recommended)
- Work gloves
- Extra hiking shoes
- Cold weather gloves and beanie (if not worn)
- Cold weather jacket and pants (if not worn)
- Wet weather jacket and pants (if not worn)

Personal Items

- Sunscreen and chapstick
- Small liquid soap (or bar soap)
- Small shampoo and conditioner
- Deodorant
- Shaving cream and razor
- Toothbrush and toothpaste
- Washcloth
- Individual personal items

- Personal medicines

Food and water

- Bring at least 5 liters of drinking water per person per day (there is no potable water on-site)
- Meals are potluck, coordinate with group lead
- It's always good to bring easy and quick snacks (trail mix, beef jerky, etc.) for quick energy in the field

Our lodging facilities

There are 6 micro cabins on-site; each sleeps two people so volunteers may share a cabin if we are at max capacity (12 volunteers).



Our lodging facilities are off the grid, remote (1.5 hours from Hilo), and located at 7,800 feet elevation on Department of Hawaiian Home Lands. We have running non-potable water from a water catchment system (no bathing facilities); one flush toilet with running water, and our electricity is provided by generator. There is no refrigeration, please coordinate with leads regarding cooler space. We cook our

meals on gas stoves and have LED lanterns when we are preparing meals at night (provided). We have plastic plates and utensils, cooking pots, and kitchen utensils (serving spoon, large tongs, etc.). You should bring a camp cup if you have one for coffee, etc. We also provide tables, chairs, and pop-up tents for our common/cooking areas. On the bright side, our lodging facilities are nestled in some of the last remaining mamane tree forests on Mauna Kea with expansive views of Hilo and Puna, truly a unique and culturally significant place.

Hot weather

Your work clothing should be loose and all cotton if possible, and most importantly is should be ok to get them dirty, long pants and long sleeve shirt are recommended to protect you from the sun and fall hazards. Apply sunscreen at the beginning and throughout the day as necessary. Apply chapstick to prevent lip blistering caused by the sun and wind. Wear a hat that protects your face from the sun, wide brim is better as that will protect your neck as well. The solar radiation here at the Kanakaleonui Bird Corridor is equal to Hapuna Beach in North Kona so take care of your body so you can fully enjoy this beautiful place. **Always drink lots of water.**

Cold/wet weather

Your work clothing should be loose and all cotton if possible, and most importantly is should be ok to get them dirty, long pants and long sleeve shirt are recommended to protect you from the sun and fall hazards. Jeans don't work well; they chafe when wet and can get heavy. Wet jeans draw heat from the body and create conditions for cold weather exposure injury. Stay dry and layer in cold/wet weather conditions (workclothes, long sleeve shirt, jacket, etc.). Wear headgear, gloves, and fresh clean socks. This prevents heat from leaving your body at your extremities and keeps you warm. It's a good idea to apply chapstick in this weather too. **Always drink lots of water**

Sleeping comfortably

It is essential in cold weather to trap heat next to the body, layering blankets and dry clothes inside of a zipped up cold weather sleeping bag works extremely well. Make sure to insulate your sleeping bag top and bottom with additional blankets or sleeping pads, even dry cardboard is effective for this. This prevents the cold ground and air from pulling heat from your body. Insulate your cabin by piling up clothes and unused blankets at creases where wind might enter your cabin. Seal your cabin if you are trying to stay warm. Body heat works in emergency situations to warm someone who has been exposed to cold weather.

These items are what are needed at a minimum; please feel free to bring additional items as individually needed space allowing.

Mele Kumu Honua (traditional)

One: 'O Wakea noho ia Papahanaumoku

All: Hanau 'o Hawai'i, he moku
Hanau 'o Maui, he moku

One: Ho'i hou 'o Wakea noho ia Ho'ohokukalani

All: Hanau 'o Moloka'i, he moku
Hanau 'o Lana'i, Ka 'ula, he moku

One: Liliopu punalua 'o Papa ia Ho'ohokulani
ho'i hou 'o Papa noho ia Wakea

All: Hanau 'o O'ahu, he moku
Hanau 'o Kaua'i, he moku
Hanau 'o Ni'ihau, he moku
He 'ula a'o Kaho'olawe

*Wakea lived with Papa, begetter of islands
Begotten was Hawai'i, an island
Begotten was Maui, an island
Wakea made a new departure
And lived with Ho'ohokukalani
Begotten was Moloka'i, an island
Begotten was Lana'i, an island
The womb of Papa became jealous at its partnership with Ho'ohokukalani
Papa returned and lived with Wakea
Begotten was O'ahu, an island
Begotten was Kaua'i, an island
Begotten was Ni'ihau, an island
A red rock was Kaho'olawe*

E Ala E By Pualani Kanahele (chanted before sunrise)

E ala e
Ka la i kahikina
I ka moana
Ka moana hohonu
Pi'i ka lewa
Ka lewa nu'u
I kahikina
Aia ka la.
E ala e!

*Awaken/Arise
The sun in the east
From the ocean
The ocean deep
Climbing (to) the heaven
The heaven highest
In the east
There is the sun
Awaken!*