

Kiwikiu news

MFBRP Celebrates 20 Years

From the Project Coordinator

It has been my honor to be a part of the MFBRP team for the past twelve years. I am humbled by the opportunity to work with the exceptional species that we strive to recover as well as the amazing and dedicated staff and volunteers that we have each and every year. Since this past year marked the 20th anniversary for Maui Forest Bird Recovery Project, we wanted to take a look back at the last few decades of conservation and recovery work for Maui's native forest birds. Our project has focused on both research and management for these species as we adapt to new challenges and priorities across the conservation landscape. I am continuously amazed by the number of people that have been involved in the work that MFBRP has done. It is hard to go to a conference or meeting anywhere in the US without meeting someone new that worked as an intern, volunteer, or technician for MFBRP in some capacity over these past 20 years. Mahalo for your support as we continue the recovery efforts for these unique Maui forest bird species.

-Dr. Hanna Mounce



History & Mission

Annotated History of Forest Bird Conservation on Maui

1970's: Po'ouli discovered— draws attention to forest birds.

Hawaiian Forest Bird Survey (HFBS) started on Big Island to estimate remaining bird populations.

1980's: First HFBS on Maui.

Studies find Po'ouli in rapid decline: from 76 to 8/km².
State establishes Hanawi Natural Area Reserve (NAR).

1990's: Pig exclusion fencing at Hanawi NAR completed in 1996.

US Geological Survey (USGS) forms "Hawai'i Rare Bird Search Team".

Predator control begins in Po'ouli home ranges.

State of Hawai'i takes over from USGS in 1997 and establishes Maui Forest Bird Recovery Project (MFBRP).

1997-2004: Po'ouli Recovery Efforts

2005- present: Kiwikiu Research & Recovery Efforts



- **Established:** 1997 to investigate declines in Maui's forest bird populations.
- **Mission:** Develop and implement techniques for the recovery of Maui's endangered forest bird species and their habitat.
- [MFBRP Publications](#)

The Story of the Po'ouli

The story of the [Po'ouli](#) is not over. Conservation in Hawai'i can learn from both the triumphs and failures of the Po'ouli recovery efforts. This species was full of surprises from its first discovery to learning its habits and behaviors. While the Po'ouli is believed to be extinct, its memory lives on and fuels conservation efforts to prevent the loss of future Maui species.



- ▶ **1973:** In a remote area of Haleakalā, researchers from University of Hawai'i discover a new species unknown to historical collectors or Hawaiian oral tradition. Representing a monotypic genus, the species is named Po'ouli (*Melamprosops phaeosoma*) or black-faced honeycreeper.

- ▶ **1974:** Listed as endangered species by US Fish and Wildlife Service (USFWS).

- ▶ **1980:** Estimated population: 140. Anecdotal observations suggest decline due to habitat damage by feral pigs.

- ▶ **1986:** First two nests of the Po'ouli found high in 'ōhi'a trees - only nests ever discovered.



- ▶ **1994-95:** "Rare Bird Search" found fewer than ten Po'ouli remaining in Hanawi NAR. Last known breeding occurs.

- ▶ **1997-98:** Three individuals found in three separate home ranges in Hanawi. All three captured and banded. Feather samples from birds were taken for DNA analysis. Several labs consulted for sexing: conflicting results returned.

- ▶ **1998:** Experts around the world consulted to implement recovery plan- initiates predator control program in three home-ranges.

- ▶ **1999-2001:** Propose translocating female to male territory to establish wild breeding pair. Trial runs with translocating a surrogate species done with Maui 'Alauahio in Hanawi. 'I'iwi translocation done from East to West Maui.

- ▶ **2002:** Po'ouli successfully translocated. However, within a day, the translocated bird slowly makes way back to own home range. Decide to bring all three remaining birds to Maui Bird Conservation Center (MBCC), conservation-breeding facility run by San Diego Zoo Global.



- ▶ **2004:** September, one Po'ouli captured and transported to MBCC. Male was a very old individual with only one eye.

- ▶ **2004:** November 26, last Po'ouli observed dies in captivity.

- ▶ Despite many field attempts the other Po'ouli were never seen again.

Kiwikiu's Leeward Debut

Establishing a second population of Kiwikiu has always been a key recovery action outlined for the species. The Kiwikiu captive breeding program started in 1997 when a wild egg was taken to MBCC. Additional wild eggs, chicks, and adults were added to the program in 1999, 2001, 2006, and 2015. While this conservation-breeding program was the first step towards recovery plans, the Kiwikiu proved difficult to rear in captivity and the program has never had more than a dozen individuals at a time.

In 2001, the Maui Parrotbill Working Group (Kiwikiu received its current Hawaiian name in 2010) began to more seriously discuss a reintroduction. It was and is still thought that the current population is likely at carrying capacity. Their current range is just a small representation of where they used to occur throughout Maui and Moloka'i. Now only found between 4,000 and 7,000 ft on the northeast slope of Haleakalā, their population is extremely constricted. Creating a disjunct second population of Kiwikiu will increase the species' range and safeguard them from potential future hazardous scenarios (e.g. mosquitoes and avian disease moving up into current habitat).

In 2005, a project to look at population and habitat requirements for Kiwikiu started in Manawainui. That is also the same time that MFBRP began more in depth research on Kiwikiu demographics in three study sites: two in Hanawi NAR and one in The Nature Conservancy's Waikamoi Preserve. Nest success, annual productivity, survival, and density were estimated from these studies. Additionally, the genetic architecture of Kiwikiu's small populations was studied in the 2010s.

In 2006, the Revised Recovery Plan for Hawaiian Birds by USFWS suggested Kahikinui as the first Kiwikiu reintroduction site. Kahikinui has remnant mesic-koa forest, great potential for suitable Kiwikiu habitat.

Key Definitions

- **Translocation:** managed movement of live plants or animals from one location to another. Includes planning, transfers, release, monitoring and post-release management.
- **Reintroduction:** deliberate release of a species into the wild, from captivity or other areas where the organism survives. Goal is to establish a healthy, genetically diverse, self-sustaining population to an area where it has been extirpated, or to augment an existing population.

In 2011, the 1,420-acre Nakula NAR was established (page 4). This area has some of the best habitat left on the leeward slope of Haleakalā. After fencing was completed in a small portion of the preserve, MFBRP, State of Hawai'i Native Ecosystem Protection & Management (NEPM), and partners began restoring native forest by controlling invasive species and planting native trees. Over 160,000 trees have been planted in addition to the trees that have naturally returned since the removal of ungulates and weeds.

The future of the Kiwikiu is dependent on the success of this restoration. In 2017, the Maui Forest Bird Recovery Team (new name of Maui Parrotbill Working Group) met to begin the massive efforts to bring the first Kiwikiu to Nakula in early 2019.

Kiwikiu Historic Dates

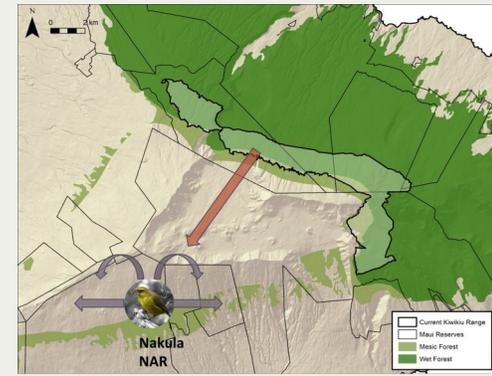
- **1967:** March, federally listed as endangered species by USFWS.
- **1980:** 500 ± 230 Kiwikiu estimated by Hawai'i Forest Bird Survey.
- **1982:** March, protected under State of Hawai'i endangered species law.
- **2017:** Range wide surveys suggest less than 300 individuals.



Kahikinui and Nakula

Mesic-koa forest once covered an estimated 40,000 acres, extending from Makawao to Kaupo. It has been so badly impacted by human activities (primarily logging and cattle ranching) that it has been reduced to ~5% of its original range. Active protection and restoration is necessary to prevent this last remnant of forest from disappearing.

- ▶ **1928:** December 22, Kahikinui Forest Reserve (FR) established. These lands totaled ~16,013 acres that are now owned by the State of Hawai'i and private entities.
- ▶ **2003:** Ten landowners, including the State of Hawai'i, signed a memorandum of understanding for the Leeward Haleakalā Watershed Restoration Partnership. The intent of the partnership is to support restoration of native ecosystems on 43,000 acres of leeward Haleakalā above 3500' elevation.
- ▶ **2004:** First attempts on ungulate proof fence intended to enclose a portion of the Nakula tract within Kahikinui Forest Reserve. The purpose is to exclude ungulates, allowing regrowth of koa forest and subsequent reintroduction of endangered forest birds.
- ▶ **2010 April:** [Proposal](#) to establish Nakula Natural Area Reserve (NAR) within Kahikinui FR submitted to NAR Commission.
- ▶ **2011:** 1,420-acre Nakula NAR established.
- ▶ **2012:** Arthropod (Kiwikiu prey) species abundance and diversity research study by USGS in current range and Nakula.
- ▶ **2012 Fall:** Fencing completed in 420-acre parcel, Wailaulau Unit, between ~4000-5800 ft in Nakula; ungulates removed.
- ▶ **2013- 2016:** MFBRP and partners complete and monitor restoration trials to identify the most efficient and effective method(s) of restoring forest in Nakula.
- ▶ **2013- now:** MFBRP and NEPM landscape-scale outplantings; >160,000 seedlings representing 16 species.
- ▶ **2014- 2018:** Nakula studies: predator abundance (2014-15), avian disease and mosquito abundance (2015-16), avian populations and survivalship (2015-2018).
- ▶ **2018:** Preparation for first Kiwikiu reintroduction.
- ▶ **2019:** First trials of Kiwikiu reintroduction.



Community Involvement Since 2013



159 volunteers, interns,
and partners



12,370 volunteer field
hours in Nakula



1,827 tree
sponsorships

