

Lehua Island Restoration Project
Community Update & FAQ
19 August 2017

The Department of Land and Natural Resources (DLNR), and other Lehua Island Restoration Project partners, have a sustained commitment to transparency and effective communications with the people of Hawai'i regarding the proposed eradication of introduced, damaging (invasive) rats. DLNR [Chairwoman, Suzanne Case exemplified that commitment in this in this editorial](#). Below, the Chair's commentary is expanded upon in greater detail with references. The purpose of the Lehua Island Restoration Project is to aid in the restoration of the island for threatened and endangered seabird conservation, which will help protect the nearshore and marine environments and fisheries, and safeguard important aspects of native Hawai'ian cultural heritage.

All projects like this carry some potential for risk, which we acknowledge. However, the overall anticipated benefit to the native species and the environment far exceeds those risks. This is a central tenant of the proposed project, that the long-term benefits outweigh the potential short-term risks. Accordingly, this project required years of planning and research to ensure that all risks are understood and every effort is made to avoid, minimize, or mitigate those risks. On other islands, worldwide, the long-term benefits to native species following the removal of rodents have outweighed any limited, short-lived negative impacts from an eradication operation.

We aim to advance the community dialogue here by answering a few of the most frequently asked questions. Mahalo to state Rep. Dee Morikawa and her constituents for asking these questions.

Why would DLNR propose the same actions (aerial rodenticide broadcast) that caused a fish kill during a previous attempt in 2009?

- The death of fish occurring shortly after the 2009 rat eradication attempt on Lehua Island was determined to be coincidental; No traces of the rodenticide were detected in fish collected from the die-off.¹ In fact, a fresh-water blue-green algae containing a microcystin toxin known to harm fish was found in the stomach samples of triggerfish (Humuhumu'ele'ele) collected from Ni'ihau's beaches.

Conservation Bait Pellets in Marine Environments

- Of the ~11 tons of bait proposed to be used in this project, a mere fraction of that is the actual toxic, rodenticide diphacinone. About 99.995 percent of the bait is comprised of grains and other inert (non-toxic; human food-grade) ingredients specifically designed for target species palatability.
- All bait will be distributed over land with deflectors used when baiting adjacent to the shoreline. The proposal, consistent with rules and regulations governing the rodenticide application, acknowledges that a negligible amount of bait will drift in to shallow waters near shore.
- Bait pellets degrade quickly in water and will sink to the sea floor. Diphacinone scarcely dissolves in water (it is almost insoluble) and thus most remains in the pellet fragments and sinks to the sea floor.²
- Diphacinone rapidly breaks down in water when exposed to ultraviolet light (e.g. sunlight)³; a fate likely for some of the drifted bait. Eventually, the rodenticide will break down into carbon dioxide and water (and intermediate metabolites are non-toxic).

¹ [Final Environmental Assessment \(FEA\) Lehua Island Ecosystem Restoration Project July 2017](#), piii

² [FEA](#), p71

³ Hayes, W.J. and E.R. Laws (ed.). 1990. Handbook of Pesticide Toxicology, Vol. 3, Classes of Pesticides. Academic Press, Inc., NY.

Nominal Risk to Fish

- Samples deliberately collected by scientists of fish, invertebrates (crabs and limpets), and seawater collected days after aerial application of diphacinone on Mōkapu and Lehua (2009) showed no detectable levels of diphacinone in their tissues.⁴
- Lab and field studies have demonstrated that fish will consume inert bait pellets (with no rodenticide); however, lab studies found fish did not consume bait containing the rodenticide diphacinone.⁵
- The Environmental Assessment concludes: *“Given the relatively small amount of bait that would be expected to enter the marine environment, the rapid dissolving of pellets, and that fish appear to avoid diphacinone, it appears consumption of rodenticide baits would be unlikely. In the unlikely event of fish ingesting diphacinone, the study on black triggerfish, smallmouth bass, and fathead minnows indicate that they are amongst the least sensitive animals to the effects of diphacinone.”*⁶

Why was there a fish subsidy originally offered to the people of Ni‘ihau?

- During initial discussions with the Ni‘ihau community about the project, the project partners considered scenarios where the science-based environmental assessment might conclude the need for a fishing moratorium. In that context, a food subsidy might have been considered for, or sought by, fishers affected, including the Ni‘ihau community, to offset their loss in fish catch.
- Given that the preponderance of the science evaluated for the Environmental Assessment concluded that there is little to no risk to fish and a fishing moratorium is unnecessary, fishing subsidies are not relevant.

Is the helicopter authorized to fly over Lehua, which is a State Bird Sanctuary? Does it need DLNR approval?

- The bait would be applied per a flight plan that ensure personnel safety minimizes: bait spread into the marine environment; disturbance to native wildlife; and minimizes helicopter flight-time costs.⁷
- The project moves forward only with all necessary authorizations to operate the helicopter over Lehua Island. That includes authorizations from the coast guard (landowner) and the State Seabird Sanctuary Manager (DLNR). The flight plans will comply with all applicable state and federal aviation regulations. Ni‘ihau Ranch and the Robinson family authorize flights over Ni‘ihau.

We heard the helicopter will be refueled on Ni‘ihau with the blades running? Is that true? Is it safe?

- Yes, the helicopter will be refueled on Ni‘ihau with rotors spinning. This is known as *hot refueling* and it is standard practice for commercial and private helicopter operators as it saves time and wear and tear on the engines from frequent starting and stopping.
- Safety of project personnel and the environment are critically important to the operation. The refueling of A1 Jet fuel will only be done by mechanics, pilots, or other personnel trained in safely refueling the helicopter. The area around the refueling zone will only be open to authorized personnel trained on relevant safety protocols.
- On Ni‘ihau, a separate site near the helicopter landing site would be used to store fuel. This fuel for the helicopter would be in 208-liter (55 gal) drums and would be held in a containment area

⁴ Ibid, p72

⁵ Ibid, p71

⁶ Ibid, p72

⁷ Ibid, p37

that meets EPA⁸-approved Spill Prevention, Control, and Countermeasure (SPCC) rules and covered to prevent water intrusion to the fuel.⁹

How does the operation deal with windy/over scatter (drift) of pellets?

- The FEA includes a wind speed no-baiting restriction of 35mph.¹⁰ To further reduce risks of drift, the project partners' operational plan self-imposes a voluntary restriction of 25mph; and we anticipate the draft aerial permit awaiting HDOA signature will reinforce that same 25mph restriction. The operational plan and permits acknowledge a small amount of bait making its way into the nearshore marine environment, but the overall risks to the marine environment are nominal. See question one and the following question.

Do pellets over scatter in the water affect seals by affecting fish?

- There may be up to 15 Monk Seals expected on/near Lehua during the time of the proposed operation. Monk Seals forage entirely offshore in deep waters, and sometimes spend days away from the island before returning to this island to sleep and digest.¹¹
- The few bait pellets that will reach the water will be very close to shore, will degrade quickly, and are unlikely to be ingested by the near-shore fish present at the time.¹²
- Because Monk Seals forage primarily in offshore areas it is unlikely they would prey on any fish that may have consumed rodenticide pellets, however unlikely. In the event a seal did forage in the near shore environment there would be a very low probability it would encounter a fish that had consumed rodenticide of any consequence.¹³
- Based on the above, it would be unlikely that the proposed project would expose monk seals to a sufficient quantity of rodenticides to have any negative effects.¹⁴
- Furthermore, there have been no documented cases of impacts to seals or sea lions after aerial bait application, including the 2009 bait application on Lehua Island.¹⁵

Does Hawai'i Department of Agriculture (HDOA) have permission to inspect the ongoing project?

- The HDOA has a cooperative agreement with the US EPA to enforce Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (FIFRA) and is the State Lead Agency by the EPA and has the authority to enforce federal law (FIFRA) and promulgate Hawai'i State pesticides laws.¹⁶
- They implement/enforce state laws for licensing, sale or distribution and use of pesticides, application information, restrictions and aerial application permitting, etc.
- The HDOA Pesticides Branch has at their discretion the authority to inspect any site where pesticides are being used.¹⁷
- A permit from HDOA is required for the project to move forward and we anticipate permit conditions that include HDOA on-site monitors before, during, following every bait application.
- The project partners will have an on-site monitoring team stationed on Lehua before the first drop and for at least a week following the last drop and that team includes representatives from DLNR, Island Conservation, and US Department of Agriculture. That team will be evaluating bait uptake, and monitoring for any unanticipated outcomes.¹⁸

⁸ Environmental Protection Agency

⁹ [FEA](#), p35

¹⁰ Ibid, p50

¹¹ Ibid, p69-70

¹² Ibid, p71

¹³ Ibid, p69-70

¹⁴ Ibid

¹⁵ Ibid

¹⁶ [FEA](#), Ibid, p26

¹⁷ Ibid

¹⁸ Ibid

Why weren't the Native Hawaiian and local communities engaged in this process more? Why are there unanswered questions at this late stage in the process?

- The Lehua Island Restoration Project proposal was developed in cooperation with project partners, the Ni'ihau Ranch, the Robinson family, the native Hawai'ian community, local residents, state and federal regulatory agencies, and non-governmental organizations.
- The public servants and partnership embraced responsibilities to community engagement / consultation through these actions - most exceed legal requirements for community input:
 - Three public meetings were held by the partnership.
 - The first two were to solicit input from local community members and these were supplemented by online postings of draft Environmental Assessments and collection of comments electronically.
 - The third meeting was intended to provide explanations to questions and concerns raised in the former comment collection processes.
 - The DLNR and USFWS sent press releases to local newspapers, garnering multiple articles in local newspapers announcing the public meeting dates and locations.
 - A radio interview with an open call-in session with several project partners addressed all questions and announced the second public meeting.
 - Twenty-five formal comments and concerns submitted were all addressed and responded to in the Final Environmental Assessment.¹⁹
 - The partnership is unwavering in its focus on effective communications, public relations, and transparency and maintains a communications team focused on constructive communications through community outreach and media engagement efforts.

¹⁹ [FEA](#), appendix C, p107-148