



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 19, 2017

Brand Phillips
U.S. Fish and Wildlife Service
Pacific Islands Office
300 Ala Moana Blvd, Ste. 3-122
Honolulu, Hawaii 96850

Subject: EPA comments on the Draft Environmental Assessment for the Lehua Island Ecosystem Restoration Project, Lehua, Hawaii

Dear Mr. Phillips:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Assessment (DEA) for the subject project. The following comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Proposed Action is to eradicate non-native rats from Lehua using a series of helicopter aerial broadcasts of the rodenticide diphacinone, followed by a second series using the more toxic and persistent brodifacoum if rats are still present a year later, to facilitate the restoration of the natural island ecosystem. EPA recognizes the value of island ecosystem restoration, as well as the inherent challenges of rodent eradication efforts, and is aware that a previous attempt to eradicate rats from Lehua in 2009 was not successful. We believe that further planning is needed to improve the likelihood that the proposed eradication effort would be successful in supporting the project's restoration goal and to minimize the potential for adverse impacts.

EPA is aware that the local community has expressed concerns about the proposed project. Because impacts to the Native Hawaiian community of subsistence fishers were not specifically evaluated, opportunities for mitigating these impacts and concerns are not identified in the DEA. We recommend a fuller discussion of these impacts in the Final EA. We also have recommendations for improving the impact assessment if a Finding of No Significant Impact (FONSI) will be pursued. Please see the enclosed detailed comments.

EPA appreciates the opportunity to review this Draft EA. When the Final EA is completed, please send us one copy electronically or to the address above (mail code: ENF-4-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, lead reviewer for this project, at (415) 947-4178 or vitulano.karen@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathleen Martyn Goforth".

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure

EPA DETAILED COMMENTS ON THE LEHUA ISLAND ECOSYSTEM RESTORATION PROJECT, DRAFT ENVIRONMENTAL ASSESSMENT, LEHUA, HAWAII, MAY 19, 2017

Public Concerns/Environmental Justice

The DEA identifies fundamental principles of a successful eradication from its 2014 feasibility assessment, which includes: “The eradication strategy must be known by, and acceptable to, project partners and stakeholders, including local communities” The 2014 feasibility assessment also recommended that the strategy employed to eradicate rats from Lehua take into consideration the level of risk that project stakeholders (such as the Ni`ihau community) and the general public will accept based on information regarding the potential risks and benefits of the action (p. 16). The multi-stakeholder steering committee that was formed included the “owners of Ni`ihau”; it is not clear to what extent members of the community were involved.

EPA was sent copies of comment letters from Kekaha Hawaiian Homestead Association, representing native Hawaiians in west Kaua`I and Ni`ihau, and from Na Ki`a i Kai, representing Native Hawaiian fishers, gatherers and cultural practitioners of west Kaua`I, both expressing concerns about, and questioning the need for the project. The Ni`ihau community practices subsistence fishing, and potential impacts to food resources are an expressed concern, among others. The DEA acknowledges subsistence fishing by local residents, stating that people sometimes gather opihi (marine limpets) from Lehua’s intertidal areas. The DEA does not explicitly discuss the concern of contaminated seafood but does include as a mitigation measure, “Because fishing, harvesting of opihi, and diving occurs on and around Lehua, the public in general and particular stakeholders (e.g., fisherman) will be notified in advance of the operation and instructed to avoid harvesting marine life during the operation and one week after the last application of rodenticide” (p. 52).

The DEA does not discuss how such impacts to subsistence fishing could uniquely affect this Native Hawaiian community, nor whether the community would be considered to have environmental justice concerns pursuant to Executive Order 12898. The Council on Environmental Quality (CEQ) guidance on Environmental Justice (EJ) states that, where an agency action affects patterns of subsistence consumption, disproportionately high and adverse human health or environmental effects on low-income populations or minority populations may result (CEQ EJ guidance p. 3). It suggests that agencies should recognize that the impacts within minority or low-income populations may be different from impacts on the general population due to a community’s distinct cultural practices, and that data on different patterns of living, such as subsistence consumption, may be relevant to the analysis (CEQ EJ Guidance, p. 14).

It is unclear how the Fish and Wildlife Service determined that one week would be sufficient to preclude any possibility of seafood contamination. If brodifacoum is used, rodenticide residues in seafood could persist much longer. Masuda et al (2104)¹ tested for brodifacoum residues in fish and shellfish after an aerial broadcast project and detected residual concentrations of brodifacoum in 3 of 10 species of coastal fish or shellfish sampled 43–176 days after bait application commenced. The proposed Farallon Island

¹ Masuda, Bryce M. et al (2014) “Residue profiles of brodifacoum in coastal marine species following an island rodent eradication”, *Ecotoxicology and Environmental Safety* 113 (2015) 1–8. Authors concluded that any brodifacoum residues that occur in marine wildlife decline to below detectable concentrations over a period of weeks. Thus potential human exposure to brodifacoum through consumption of marine wildlife containing residual brodifacoum could be minimized by defining ‘no take’ periods for harvest following bait application and regular monitoring to confirm the absence of detectable residues in relevant marine wildlife.

mouse eradication project that would use brodifacoum proposed a 2-month closure of all non-essential access in the National Wildlife Refuge²

Recommendation: We recommend that additional discussion of potential impacts to the Native Hawaiian community be included in the Final EA, including an assessment of environmental justice impacts pursuant to EO 12898. Disclose the presence of rodenticide residues detected in live seafood after other rodent eradications using diphacinone and brodifacoum, and use this information to inform an appropriately protective fishing and harvest advisory/ban for each product. If no diphacinone residues were detected in live fish or invertebrates after the 2009 attempt, discuss this in the context of the higher application rate proposed for this attempt. As was recommended by Masuda (2014), commit to monitoring relevant marine wildlife post-implementation to confirm the absence of detectable residues.

We recommend outreach and coordination with the local impacted community prior to project implementation, to provide and discuss residue testing results from other projects and offer sufficient information to help community members determine what precautionary practices they feel would be most protective for their individual lifestyles. We also recommend that the project partners conduct outreach to the community prior to, if needed, conducting a brodifacoum broadcast a year later, to provide a report on possible reasons for failure of the diphacinone attempt, and to ensure mitigation measures are sufficiently robust for use of this more toxic and persistent rodenticide.

Disposal of Dead Animals

The rodenticide label for DITRAC D-50 pellets (diphacinone) says “for all methods of baiting, monitor the baited area periodically and, using gloves, collect and dispose of any dead animals and spilled bait properly. Dead animals and spilled bait may be buried on site if the depth of burial makes excavation by nontarget animals extremely unlikely” There is no mention in the DEA of the attempt to recover dead animals, nor the disposal method that would be used.

Recommendation: Include this label requirement in the project description and indicate the expected disposal method.

Project Planning

Timing of project

The information regarding project timing is confusing, since the 2009 eradication was timed for the winter months, and the rationale given for that was: “One of the changes made for the 2009 eradication attempt was to move the timing of the eradication from mid-summer to mid-winter based on consideration of the effect of predicted rainfall on the rats’ food supply and numbers. Best practice is to bait when rats are not breeding, are hungry and (if possible) when fewest non-target species are on the island. December to February seemed to best fulfill these conditions (Dunlevy 2008)” This DEA moves the timing back to the mid-summer using the same arguments: “Rat eradication would occur in the summer dry season to maximize the probability of success by targeting the rats when food resources are

² South Farallon Islands Invasive House Mouse Eradication Project: Revised Draft Environmental Impact Statement p. 66

lowest and rat abundance is declining.” The Lehua Review Report³ cited to the “unseasonal rain” as a potential cause of failure for the winter operation, implying rain was more prominent in another season.

Recommendation: In the Final EA, clarify the information known regarding seasonal food resources and rat abundance. Include climate data on seasonal rain occurrences and amounts.

Presence of vegetation

The Lehua Review Report highlighted the abundant natural food for the rats from recent vegetation growth as a potential cause of failure of the 2009 eradication attempt. The report recommended that, “*If the aerial broadcast method is to be repeated, the operation should not start if natural food is abundant*” and that “*Decisions on whether to start an operation using diphacinone baits might have to be more strict (sic) than for those using brodifacoum if, for example, competition with natural food and its availability is a factor in bait acceptance by rats.*” We understand that bait palatability is also being addressed through a bait reformulation, but, to minimize impacts to nontarget species and other resources, project partners should ensure all conditions are optimal. The DEA includes, as a mitigation measure, that, prior to the beginning of the operation, the National Tropical Botanical Garden would perform a plant survey to identify the presence or absence of the federally-listed plant *Canavalia napaliensis* and all observed plants would be marked and all ground-personnel instructed to avoid contact with these plants (p. 51). This would be an opportunity to also assess the amount of overall plant growth present.

Recommendation: We strongly recommend that a pre-implementation review of plant abundance occur just prior to the operation to ensure the best possible conditions exist for the diphacinone eradication attempt. This should be accompanied by a commitment and willingness to abort operations on short notice, despite the acknowledgement in the Lehua review report that “*delay in the face of logistical momentum is difficult*” Disciplined decision-making under such circumstances is necessary to maximize the potential for a successful outcome and avoid unnecessary adverse impacts.

Operation/post-operation monitoring

The DEA identifies ineffective post-eradication monitoring as a potential cause of the 2009 eradication failure (p.14), noting that, despite robust monitoring protocols detailed in the EA, the measures were not employed. This inability to trigger the planned reaction to evidence of surviving rodents within the window of opportunity meant that the failure of the two aerial baitings could not be salvaged (Lehua report p. ix). There was no formal search for surviving rats immediately after the last baiting, as funding was not set aside to do it, and eight months later, when the rats were abundant enough to easily detect, the capacity to react was absent. This lack of capacity appeared to be, in part, due to lack of ongoing funds (Lehua report p. vi).

The DEA indicates that approximately 10 people would be camped on Lehua Island to conduct monitoring of bait application and non-target species impacts for the duration of the operation (p. 36) and references a monitoring plan that “*would be developed and implemented*” and that a team would be staged on Lehua for approximately 6 weeks. It is concerning that the monitoring plan has not yet been

³ Parkes, John P., and Penny Fisher. 2011. “Review of the Lehua Island Rat Eradication Project.” Lincoln, NZ: Landcare Research.

developed and is not included in the DEA, since it is so vital to a successful project. Because the previous monitoring plans were not implemented or properly funded, assurances should be included that these potential causes of failure will not be repeated.

Recommendations: We recommend that details of the operation/post-treatment monitoring plan be documented in the project description in the Final EA. Indicate whether there will be formal searches for surviving rats and when and how this would occur. Identify whether funding has been allocated for this activity or whether it is pending. Information regarding logistical planning should be documented, including who would implement the project and the organizational structure. Identify roles and responsibilities for decision-making in response to search findings.

Additional monitoring

The DEA states, "It is anticipated that at a minimum sampling of marine water, fish, birds, and rodents would be made" but no definitive plan is presented.

Recommendation: We recommend that marine organisms be tested for rodenticide residues post-application and that an outline of the proposed monitoring plan be included in the project description in the Final EA. Genetic samples should be taken prior to the eradication attempt to allow for the distinction to be made between eradication failure and a subsequent re-invasion. Other monitoring efforts, as needed, should also be described in the project description.

Impact Assessment

According to the DEA, the purpose of the environmental consequences section is to determine whether or not any significant impacts to the environment of Lehua would be expected from any of the alternatives, and it cites to CEQ's definition of significance, which is to consider context and intensity of the impact. The DEA states that the potential significance of impacts will be discussed on a case-by-case basis for each impact topic, with an identification of both the context used for the analysis and the considerations included for a determination of the intensity of the impact (p. 49); however, the DEA does not include such a discussion for each impact topic. Impact assessment methodology, especially when a Finding of No Significant Impact (FONSI) will be issued, should have clear significance criteria identified, and the discussion of impacts should be presented in relation to those criteria. The DEA sometimes presents conclusory statements without explaining how the conclusions were drawn. For example, on page 62, the DEA states that "*it is likely that 19 plovers, 3 tattlers, and 9 turnstones will be killed by either primary or secondary poisoning from brodifacoum. There would also be a low likelihood that brodifacoum would persist in the environment and have impacts on shorebirds several months beyond the proposed operational window*". It is not clear how a low likelihood was determined since there are no supporting references. On page 53, it states that predation pressure from rats on Lehua Island may disproportionately impact native plants, without explanation.

The DEA states that, under the No Action alternative, the risk of erosion from rats' continued feeding on vegetation may continue to pose a risk to the near shore marine ecosystem, including coral, which is a critical resource for the marine life surrounding the island. "*This potential harm to the near shore environment could extend throughout the trophic levels of Lehua's marine ecosystem, potentially reducing habitat quality for the federally listed endangered Hawaiian monk seal, fishes, and marine invertebrates*" (p. 53). Increased erosion is mentioned once in the DEA, but to the extent that it is

caused by rats feeding on vegetation, it appears to be contradicted by references to an increase in island-wide vegetative biomass after the 2005 rabbit eradication (p. 14) where an approximately 60% increase in vegetation cover was observed (p. 15). Additionally, for the No Action alternative, no discussion of impacts to seabirds or shorebirds is included. The impact assessment strongly needs a clear methodology and significance criteria for each resource evaluated to present a scientific basis for its impact conclusions.

The preferred alternative would use both diphacinone and the much more toxic and persistent brodifacoum if, after one year, rats are detected. The impact assessment discusses both toxicants but does not specifically evaluate the use of one followed by the other after one year, especially the effects of such a dual operation on seabirds and shorebirds.

Recommendation: We recommend that a clear assessment methodology be presented for each resource evaluated, with significance criteria identified, followed by a discussion of whether the predicted impact would be significant and how that was determined. If mitigation measures are a factor in the less-than-significant determination, they should be clearly identified in both the Final EA and the FONSI, with the mechanism for implementation, responsible party, and funding identified. Cumulative impacts from using diphacinone followed by brodifacoum a year later should be discussed.