

Comments on KIUC draft HCP from ESRC member Dr. Kawika Winter, received May 16, 2023

“Cumulative net benefit,” as articulated in Ch 195D, means that the endangered species in question should be better off with the project in place than without it. I am concerned because I just don’t see how this proposed HCP results in a cumulative net benefit for either ‘Ua‘u and ‘A‘o in light of the staggering amount of take that has happened and continues to happen. The best scientific knowledge that we have indicates that the applicant is responsible for the take of many thousands of endangered seabirds since KIUC made the decision to not put their powerlines underground when they rebuilt their electrical infrastructure after Hurricane ‘Iniki in 1992. That is more than 30 years of take that has directly contributed to the population collapse of these critically endangered species. First and foremost, I would like to hear from the applicant, in a clear and concise statement, the theoretical foundation for their thinking about how their proposed HCP amounts to a cumulative net benefit. For example, does their mitigation lead to an increase in the population beyond the amount of negative impact that their electrical infrastructure has had on these populations, or are they increasing the number of viable breeding colonies above what exists now, or are they increasing the genetic diversity of the narrowing gene pool to support the ability of these birds to adaptively evolve to survive current conditions, or are they viewing cumulative net benefit in another way?

In addition to the primary question above, I have the following concerns and associated questions:

2. When KIUC made the decision to not put their powerlines underground after Hurricane ‘Iniki in 1992, there were multiple viable breeding colonies of both ‘Ua‘u and ‘A‘o throughout the island of Kaua‘i, each with their own population dynamics. These many breeding colonies cumulatively represented a broader genetic diversity than exists today. This proposed HCP supports mitigation efforts within the breeding colonies of the Honooāpali region only. It does not have any mitigation projects in the other breeding colonies around the island, nor does it propose to revive the breeding colonies that have been extirpated in the last 30 years. Deterrence alone, outside of the Honooāpali region, will not be enough to maintain the breeding colonies between Wainiha to Waimea (as the car drives), which is the vast majority of the island. I don’t logically see how a plan that does not support the perpetual existence of multiple breeding colonies throughout the majority of the island equates to cumulative net benefit for a project that has significantly contributed to the collapse of those same populations. Can the applicant explain their logic here?

3. Previous drafts of the HCP included a predator-proof fence that encompassed Upper Mānoa and Upper Limahuli valleys. That would have amounted to a significant benefit for ‘Ua‘u and ‘A‘o, but the current HCP now only calls for a much small predator-proof fence in Upper Limahuli only, with Upper Mānoa no longer included. It is questionable whether or not this small enclosure will have a significant benefit to either species. I don’t see how this version of the HCP has accounted for the benefit that was lost when they changed it from a enclosure fence that protected several hundred acres to one that only protects a few acres. Can the applicant please explain the accounting here?

4. We have a saying in science regarding mathematical modeling, “All models are wrong; some models are useful.” In the case of this HCP, I’m not confident that the model it is based on is even useful. My main issue with the HCP’s model is that while the consultants seem to have found a way to make the numbers work and present well on paper, the model itself is divorced from biological reality. As far as I can tell, in order to get the numbers needed to make the model work, the consultants have counted the total individuals in all remaining breeding

colonies outside of the Hoonāpali region, and treated them as if they exist as a single large breeding colony; but, that is not reflective of biological reality. Healthy breeding colonies need a certain critical mass to maintain certain population dynamics. For instance, from a modeling perspective, the response strength to losing 5 breeding adults is extremely different in a large breeding colony versus a small breeding colony, and the predicted mathematical effects on those populations should be quite different. However, the model presented in this proposed HCP does not take this biological reality into account, and it therefore inaccurately paints a picture of minimal population-level impact for the take of each breeding adult. Can the applicant explain why this proposed HCP does not take into account the mathematical effect associated with take in the several small breeding colonies throughout the island outside of the Hoonāpali region?