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1200 Ala Moana Boulevard, #380
Honolulu, Hawaii 96814
Tel 808.548.7922 Fax 808.548.7923
www.swca.com

March 4, 2022

David Smith
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street, room 325
Honolulu, HI 96813

Re: DOFAW response to annual report for Achyranthes mitigation project KIP

Dear Mr. Smith

Thank you to for providing the letter addressed to Betsy Wilson of AKC Leasing Corporation, dated December 2, 2021.

Although we appreciate the frank discussion of the key issues at the KIP Achyranthes mitigation site, we feel the timeliness and context of the feedback has been unconstructive in successfully implementing the mitigation plan. SWCA has provided very detailed annual reports regarding the progress at the mitigation site and would have greatly appreciated feedback on project progress following the submittal of each annual report.

I will outline these concerns in the context of the four criteria identified in your letter, along with clarification on how the project has largely met the success criteria in the HCP.

Criterion 1

We requested removal of the success criterion in August 2017 because information from botanists (Bruce Koebele, who has worked at Kalaeloa since the 1990's outplanting Achyranthes, David Aikoff, and Matthew Schirman) indicate the species is not as long-lived as assumed when the success criteria were approved. The ESRC agreed based on this conversation on April 26, 2018 that the success criterion should be removed. The language describing this has been in the past four annual reports. Therefore, we do not believe we have seriously misrepresented DOFAW's guidance, as is stated in the DLNR letter.

The issue of the removal of success criterion 1 is still unresolved. Since 2018 DOFAW staff has promised to take the proposed revision to the HCP to the BLNR for approval, but this has not yet happened, despite our efforts to follow up and provide a draft board submittal.

This letter was the first time that we were informed of other outplanting projects over 5 years old that were grown from seeds collected at the KIP project site. If DOFAW had information regarding lessons learned from more successful outplantings, especially if using the same plant stock, why was this information not shared previously? We believe the sharing of this information would have greatly benefitted this project and the conservation of Achyranthes.

Criterion 2

We disagree with DOFAW's assessment.

Regarding watering: the original outplants were watered during the 120-day establishment period in 2014-2015, after which no water was used until AKC leasing corp. repaired the irrigation system for the June 2021 outplants. We want to make it clear that there was no irrigation between April 10, 2015 and June 2021, meaning the recruitment and survival during those years happened in absence of supplemental watering. Therefore, successful recruitment of progeny has taken place and progeny have survived for at least six years without supplemental watering, therefore they meet the standard set forth in this success criterion.

DOFAW agreed that the supplemental planting would take place at the mitigation site but has provided no further meaningful input on adaptive management. The success criterion specifically requires progeny to survive without watering through the dry season, not the outplanted individuals. Seedling survival and recruitment have been documented in the annual reports as well as the monitoring reports.

Regarding tracking lineages:

Pursuant to the 2013 HCP for this project the outplanted *Achyranthes* consisted of 50% grown from KIP stock and 50% from the CCH stock. All outplanted *Achyranthes* flowered and set seed, therefore the minimum criterion of at least 25% of the outplanted lineages setting seed has been met. This was explained during the 2021 ESRC meeting, which is the first time this was brought up.

Criterion 3

We agree with DOFAW, as expressed in the annual report, that the mortality of recruited progeny exceeded the number of plants reaching and surviving as adults over the five-year period, based on the total number of outplanted individuals. However, note that the minimum recruitment required was 25% as 75% of the original outplants were expected to still be alive at year 5. Considering the much higher than anticipated mortality of the original outplants, recruitment, which was at 97 individuals in May 2020, has far exceeded the expectations set by the HCP. The low survival rate of the original outplants triggered adaptive management, which in accordance with the HCP has resulted in additional outplanting. The removal of the first success criterion did not fully consider the requirements of the third criterion, which resulted in progeny recruitment levels well beyond what was expected during the HCP approval process, yet still falling short of the success criterion. Furthermore, naturally recruited plants are generally more resilient and may be longer lived than outplanted individuals, thus the replacement rate of outplanted individuals by natural recruitment may not be an adequate indication of population viability. Therefore, we request that the evaluation of this success criterion be reconsidered.

Criterion 4

We disagree with the statement that the outplanted individuals are required to have survived a specific amount of time without supplemental watering. The success criteria specifically state that the watering criterion applies to progeny. Supplemental planting is the only specific measure identified in the adaptive management section of the HCP, and this has been implemented to compensate for the higher-than-expected mortality of the originally installed plants. The supplemental outplanting was not needed in order to meet the fourth success criterion, which states that "No fewer than 120 mature plants, which will include plants recruited from the planted lineages, will be established *by year 5*" (*italics added*). In April 2019, which was in year 5, 50 outplants were alive, and 79 mature progeny had been tagged, for a total of 129 plants. Therefore, this success criterion was met in year 5.

We take issue with the statement that the failed outplanting in 2020 reflects on overall project management. The statement also misrepresents SWCA's reporting on this matter. This event was an unfortunate, but isolated incident, and SWCA had followed up with monitoring within four days after planting at which point the plants had all already died.

DOFAW again misrepresents SWCA's reporting with the statement that inadequate plant care is reported as the cause of early plant death in past reports. SWCA recommended increased pest and weed control on several occasions throughout the monitoring period, and those measures were generally implemented. There are no specific standards for acceptable management level, and the direction and criticisms from DOFAW have been inconsistent in this regard.

AKC leasing corporation would like to establish clear expectations and a mutually acceptable end point for this mitigation project. Considering the fact that the HCP was based on a 30:1 mitigation ratio, a total take of two individual plants from an industrial park (requested take of 3), and shorter than expected life span of outplanted individuals, we hope we can agree on a reasonable approach to close out this project. We would like to reiterate that with the exception of the first success criterion, the success criteria were largely met before initiation of adaptive management. Adaptive management should be commensurate with the small shortfalls in mitigation success.

The success of this mitigation project should be measured against the success criteria in the HCP and ITL. This does not include establishing a self-sustaining population, as was suggested during the February 4, 2022 ESRC meeting. Achyranthes is management-dependent in areas such as the mitigation site, and based on this mitigation project it is evident that without active management there should not be expected to be a self-sustaining population of at least 120 plants.

AKC Leasing corporation intends to plant 100 cuttings taken from the mitigation site at an acceptable location as soon as a location has been agreed upon with DOFAW. We would appreciate a discussion soon of the final adaptive management measures so we can identify a reasonable end point for the mitigation project.

Sincerely,



Jaap Eijzenga
Director Pacific Islands

Cc: Betsy Wilson, AKC Leasing Corp.