

Final Report on the Completion of the Approved Contingency Plan for the Round-Leaved Chaff Flower (*Achyranthes splendens* var. *rotundata*) Habitat Conservation Plan for the Kenai Industrial Park Project

To: David Smith, Administrator
Department of Land and Natural Resources–Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, Hawai'i 96813

From: SWCA and Betsy Wilson, AKC Leasing Corporation

Date: May 24, 2024

INTRODUCTION

In 2013, a Habitat Conservation Plan (HCP) was developed in compliance with Chapter 195D (Sections 4 and 21) of the Hawai'i Revised Statutes and approved by the Board of Land and Natural Resources of the Department of Land and Natural Resources (DLNR) that year. The HCP aimed to address the incidental take of three federally and state-endangered round-leaved chaff flower (*Achyranthes splendens* var. *rotundata*) plants and their associated seed bank at a 0.75-acre industrially zoned development site within the fully built out Kenai Industrial Park (KIP) in Kapolei, O'ahu (TMK 9-1-074:023).

DLNR–Division of Forestry and Wildlife (DLNR-DOFAW) has confirmed that the Proposal for Contingency Measures for the Round-Leaved Chaff Flower (*Achyranthes splendens* var. *rotundata*) Habitat Conservation Plan for the Kenai Industrial Park Project, if implemented, fully satisfies any outstanding obligations under the HCP and related incidental take license. The purpose of this report is to provide DLNR-DOFAW a report on the status of the implementation of the approved contingency plan over the one-year contingency period.

It is acknowledged that AKC and DLNR- DOFAW have a difference of opinion as to whether and to what extent the applicable success criteria in Section 6.6 of the HCP, as revised by DOFAW, have been met. However, both DLNR-DOFAW and AKC are in complete agreement that the completion of the contingency measures as presented in the aforementioned Proposal fully satisfies any and all obligations of AKC under the HCP and ITL and that upon submittal of this Final Report DLNR-DOFAW will provide written confirmation that the HCP and ITL were completed in compliance with all applicable requirements and that no further actions are required of AKC related to this matter.

DESCRIPTION OF CONTINGENCY SITE

Located at 91-1940 Coral Sea Road in Kapolei, the 11-acre KHP is managed by the Kalaeloa Heritage and Legacy Foundation (KHLF). The KHLF was awarded a 40-year lease for the property in December 2015, which is owned by the State of Hawaii and overseen by the Hawai'i Community Development Authority. The KHLF is a 501(c)(3) Native Hawaiian organization whose mission is to foster stewardship and preservation of the Native Hawaiian cultural sites at the park, maintain the cultural landscape of Kalaeloa, and educate the community about cultural traditions and practices. To facilitate awareness of Hawaiian culture, the foundation regularly undertakes community volunteer and education events that include site maintenance and ecological restoration.

The site is situated on the 'Ewa Plains, a unique geological formation consisting of raised coralline reefs and associated eolian deposits (wind-dispersed sand dunes). Over millennia, the slightly acidic rainfall has

dissolved parts of the plains, resulting in the formation of notable sinkholes. The heritage park, situated in this unique landscape, experiences a climate characterized by an extended dry season and a brief wet season. Rainfall is relatively low, with an average annual precipitation of 540 millimeters, which primarily occurs during the wet season.

Prior to the commencement of ecological restoration efforts at the KHP, the area in which active restoration activities are being implemented contained mature kiawe (*Prosopis pallida*) forest with an understory dominated by koa haole (*Leucaena leucocephala*) and buffelgrass (*Cenchrus ciliaris*). In contrast, the majority of unmanaged areas throughout the property still contain kiawe forest.

CONTINGENCY MEASURES IMPLEMENTED

On February 2, 2023, AKC transported 103 plants from the DLNR–DOFAW Waimano Nursery, where they had been temporarily stored, to the KHP. The plants were growing in approximately 1.5-liter pots and measured up to 70 centimeters in height. The plants were reproductively mature.

A team of eight individuals, consisting of four KHP volunteers and four SWCA Environmental Consultants (SWCA) staff, collaboratively planted all 103 plants on the same day.

The site within the KHP where the round-leaved chaff flower plants were planted runs parallel to Long Island Street, the park’s primary access driveway (Figure 1). This location was selected to provide easy access, facilitating future maintenance and monitoring efforts.

To ensure successful establishment, the plants were watered immediately after planting, strategically coinciding with the highest rainfall period of the year. Each plant’s location was recorded using a smartphone-based GPS application (see Figure 1). A Hawaii Rare Plant Restoration Group (HRPRG) form was completed and submitted to DLNR–DOFAW within a week of the planting event.

During the 12 month contingency period, KHP volunteers have watered the plants every 3 to 4 days and conducted periodic weeding to prevent the establishment of invasive species such as buffelgrass.

AKC, through SWCA, undertook an inventory of the plants at the time of planting in February 2023. This was followed by another SWCA monitoring event in May 2023. In February 2024 AKC conducted a final visit pursuant to the Contingency Proposal. Photos documenting the status of the plants are provided in Appendix A.

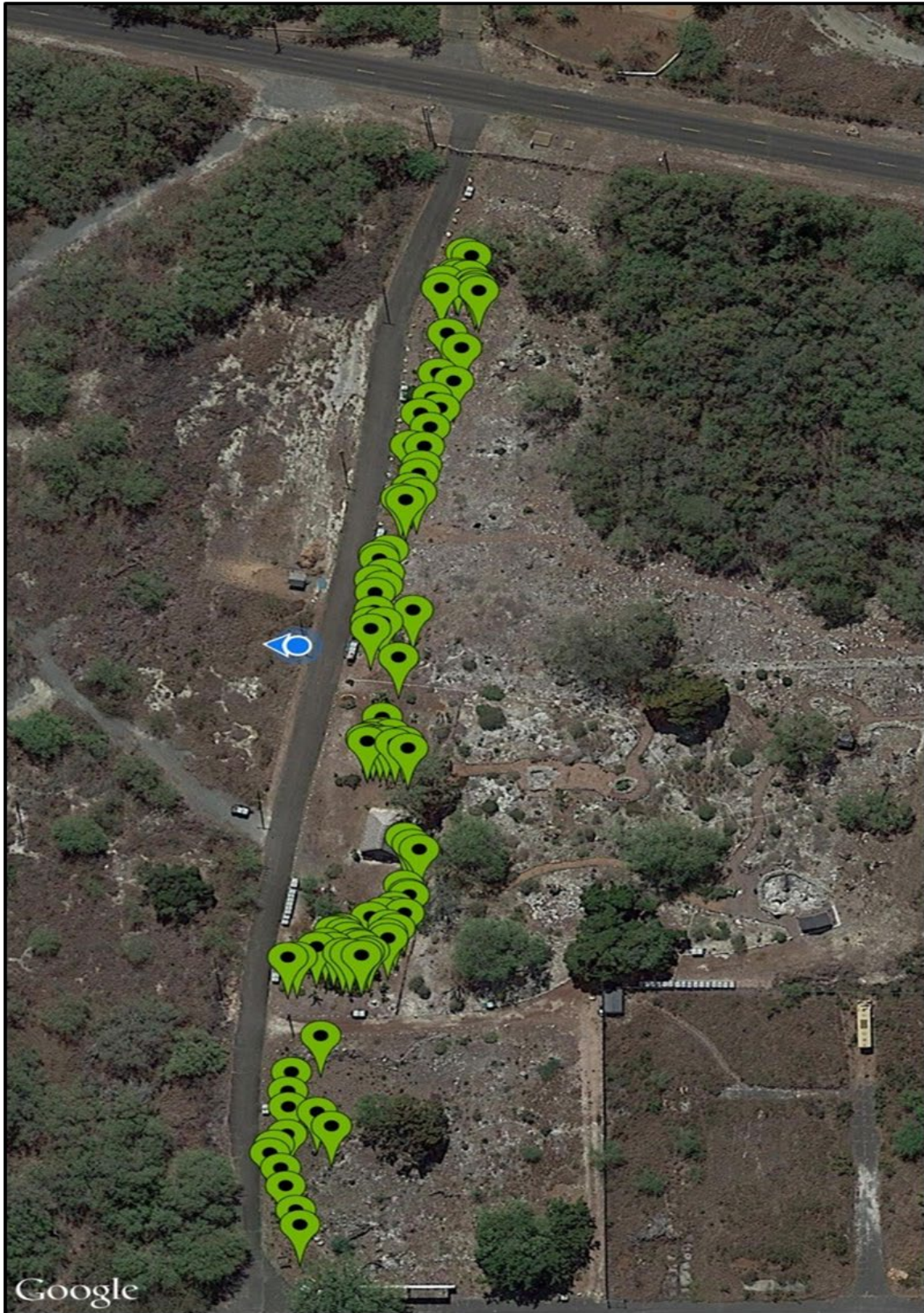


Figure 1. Locations of round-leaved chaff flower planting sites at Kalaeloa Heritage Park, February 2, 2023.

TIMELINE OF THE IMPLEMENTATION OF THE CONTINGENCY MEASURE

The following chronological summary highlights the key actions undertaken for the successful propagation, transportation, planting, monitoring, and maintenance of the round-leaved chaff flower plants at the KHP:

- **June 10, 2021:** AKC commissioned Native Ecosystem Services LLC (NES), an ecological restoration company based in Kāneʻohe, to vegetatively propagate approximately 100 round-leaved chaff flower plants. The propagation material was sourced from plants that were outplanted at the KIP site.
- **April 19, 2022:** AKC meets with representatives from the KHP, DLNR–DOFAW, and SWCA regarding the transfer of the plants from NES’s nursery to the DLNR–DOFAW nursery near Dillingham Airfield, and the subsequent planting of the plants at the KHP.
- **April 27, 2022:** Matthew Kier, DLNR-DOFAW Botanist, confirms that AKC would be required to obtain a new threatened and endangered species permit before the propagated plants could be transferred from NES to a DLNR-DOFAW nursery or for outplanting and monitoring at the KHP site.
- **May 26, 2022:** Matthew Kier, DLNR–DOFAW botanist, emails Jaap Eijzenga, SWCA Pacific Islands Office Director, to notify that DLNR–DOFAW Permit I2746 had expired and a new permit would be required to possess or work with the plants at the NES nursery.
- **May 27, 2022:** SWCA submits a report for Permit I2746 via email to DLNR–DOFAW botanist Matthew Kier.
- **June 27, 2022:** DLNR–DOFAW issues Permit I5122 to Richard Pender, SWCA project ecologist, for the transport of the plants from the NES nursery to the DLNR–DOFAW nursery near Dillingham Airfield (the nursery location was later changed to the DLNR–DOFAW Waimano nursery due to the malfunctioning irrigation system at the Dillingham nursery) and the planting of the plants at the KHP.
- **September 12, 2022:** SWCA moves the plants from the NES nursery in Kāneʻohe to the DLNR–DOFAW nursery at Waimano until the plants can be planted.
- **September 28, 2022:** In response to SWCA Pender’s email confirming that the plants had been moved from NES’ nursery in Kāneʻohe to DLNR’s nursery at Waimano, and stating SWCA’s expectation that the plants would remain at the DLNR site until the winter (depending on how the rainy season unfolded) until they were ready to be outplanted at KHP, Matthew Kier, DLNR-DOFAW Botanist, acknowledged the update and asked how many plants had been transferred. SWCA Pender confirmed that 113 plants had been transferred to the DLNR nursery.
- **Nov. / Dec. 2022:** Coordination took place between SWCA Pender, DLNR-DOFAW Oahu Botanist, Susan Ching, and Kawika Lauriano of KHP, regarding soil moisture levels at KHP, lead time needed for the DLNR-DOFAW nursery staff to inspect the plants prior to releasing them for outplanting, and potential outplanting locations within the KHP.
- **February 2, 2023:** AKC transports the plants from the DLNR–DOFAW Waimano Nursery to the KHP for planting. AKC together with KHP and SWCA volunteers plant and water all 103 plants on the same day.
- **February 10, 2023:** SWCA completed a HRPRG form and submitted it to the DLNR–DOFAW.
- **May 10, 2023:** KHP staff undertake monitoring of the plants. Five plants had died since February 2023. Six additional plants were showing signs of ill health. All the remaining plants were healthy and actively growing.

- **May 17, 2023:** SWCA submits an HRPRG form and permit report for Permit I2746 to DLNR–DOFAW botanist Matthew Kier.
- **July 24, 2023:** DLNR–DOFAW issues Permit I6534 to Dwight Victor, President, KHLF, for the establishment and maintenance of endangered plant species at the KHP that includes the plantings of round-leaved chaff flower. The permit covers the period from July 24, 2023, to July 24, 2024.
- **February 23, 2024:** Representatives of AKC visit the KHP to check on the progress of the round-leaved chaff flower outplantings. Photographs of the plants are taken (Appendix A, Figures A-1–A-9).
- **May 2, 2024:** DLNR–DOFAW requested that AKC submit a document detailing the contingency measures taken to fulfill the HCP requirements (see Proposal for Contingency Measures for the Round-Leaved Chaff Flower (Achyranthes splendens var. rotundata) Habitat Conservation Plan for the Kenai Industrial Park Project, submitted to DLNR-DOFAW on May 24, 2024). Additionally, DLNR-DOFAW requested that AKC submit a final report (this document) outlining the implemented contingency measures.

RESULTS

Plant Survival

As of February 2024, approximately 90 of the original 103 round-leaved chaff flower plants outplanted at KHP in February 2023 have survived (approximately 87% survival rate) (see Figure 1; see Appendix A, Figures A-4–A-9). Notably, all surviving plants have reached reproductive maturity, enabling them to contribute to the soil seedbank for this species at the site. Considering the active maintenance efforts by KHP volunteers, including regular watering and weeding, it is highly likely that round-leaved chaff flower seedling recruitment and population expansion will occur in the future.

Lessons Learned

Based on the monitoring and dialogue with the custodians of the KHP, below are the lessons that were learned as part of the implementation of the contingency measures for the HCP:

- The rapid establishment and abundant flowering and fruiting observed within 3 months of planting can be attributed, in part, to the ongoing supplementary watering and prior application of soil amendments (mulch) at the site. These practices likely promoted the rapid development of healthy root systems, increasing the likelihood of plant survival during the first dry season. This emphasizes the importance of considering soil amendments and supplementary watering during future plantings of this species at similar sites.
- Within the first year following the planting of round-leaved chaff flower plants, seedlings were observed growing near the parent plants at the site. However, not all seedlings survived the initial dry season due to the very low rainfall levels within this area of the island. It is anticipated that some seedlings will survive each year, ultimately contributing to the gradual growth and expansion of the population over time.
- The plantings demonstrate the significant impact that active management by not-for-profit, community-based organizations can have on endangered species conservation efforts. These contingency measures serve as a potential model for preserving other at-risk species, particularly specific plant species that may only require minimal threat mitigation (e.g., invasive plant removal and supplementary watering while establishing) to establish.

FUTURE MANAGEMENT OF PLANTINGS

AKC has no further responsibilities related to the round-leaved chaff flowers under the HCP or ITL or for any other reason.

KHLF has obtained from DLNR-DOFAW Permit I6534, effective July 24, 2023 to July 24, 2024. The Permit grants the foundation permission to establish and maintain populations of round-leaved chaff flower plants at Kalaeloa Heritage Park for the duration of the permit. A copy of Permit I6534 is provided in Appendix B.

CONCLUSIONS

The contingency measures have been successfully completed. As of the close of the one year contingency period, approximately 90 federally and state-endangered round-leaved chaff flower plants had survived at the KHP from the 103 that had been planted a year earlier. These plantings contribute to a net benefit for the preservation of the species. Given the care provided by KHP volunteers, this outplanting has the potential to expand and become the largest restoration site for round-leaved chaff flowers in the state. The site not only preserves the genetic diversity of the original two plants at the KIP but could also serve as a valuable source of propagation material for future round-leaved chaff flower restoration projects. Additionally, it provides an educational resource for KHP visitors, further raising awareness about the conservation of the species.

APPENDIX A

Photographs of Outplantings



Figure A-1. Newly planted round-leaved chaff flower plants at Kalaeloa Heritage Park, February 2, 2023.



Figure A-2. Newly planted round-leaved chaff flower plants at Kalaeloa Heritage Park, February 2, 2023.



Figure A-3. A newly planted round-leaved chaff flower plant at Kalaeloa Heritage Park, February 2, 2023.



Figure A-4. Round-leaved chaff flower plants that were planted in February 2023 at Kalaeloa Heritage Park. Photograph taken on February 23, 2024.



Figure A-5. A round-leaved chaff flower plant that was planted in February 2023 at Kalaeloa Heritage Park. Photograph taken on February 23, 2024.



Figure A-6. A round-leaved chaff flower plant that was planted in February 2023 at Kalaeloa Heritage Park. Photograph taken on February 23, 2024.



Figure A-7. Round-leaved chaff flower plants that were planted in February 2023 at Kalaeloa Heritage Park. Photograph taken February 23, 2024.



Figure A-8. A round-leaved chaff flower plant that was planted in February 2023 at Kalaeloa Heritage Park. Photograph taken February 23, 2024.



Figure A-9. Seedlings of round-leaved chaff flower plants. These seedlings germinated from seed produced by parent plants that were planted in February 2023 at Kalaeloa Heritage Park. Photograph taken February 23, 2024.

APPENDIX B

DLNR-DOFAW Permit I6534



NATURAL AREA RESERVE, RARE PLANT, and NATIVE INVERTEBRATE RESEARCH PERMIT

DEPARTMENT OF LAND AND NATURAL RESOURCES

1151 PUNCHBOWL STREET, RM. 325, HONOLULU, HAWAII 96813

PH: (808)587-0019, FAX: (808)587-0160, EMAIL: cynthia.b.king@hawaii.gov

EFFECTIVE: **July 24, 2023 - July 24, 2024**

Endorsement No: **I6534**

Terms & acronyms used in this document: DNLR = Department of Land and Natural Resources. DOFAW = Division of Forestry and

Wildlife. NARS = Natural Area Reserves System. T/E = Threatened/Endangered (specially-protected rare native organisms).

The Board of Land and Natural Resources hereby grants permission -- under the authority of: (1) Hawaii Revised Statutes (1993) Chapter 195D Conservation of Aquatic Life, Wildlife, and Land Plants, specifically Paragraph 195D-4-f License; and (2) DLNR Chapter 124 Indigenous Wildlife, Endangered and Threatened Wildlife, and Introduced Wild Birds, specifically Paragraph 13-124-4 Scientific, Propagation, and Educational Permits; and (3) Chapter 209, Rules Regulating Activities within Natural Area Reserves, specifically 13-209-5 -- to:

PRINCIPAL PERMIT HOLDER:

Name: Dwight Victor
Title:
Agency: Kalaeloa Heritage and Legacy Foundation
Address: PO Box 75447
City/State/Zip: Kapolei, HI 96707
Phone: 808 282 3921
Email: dvictor@khlfoundation.org

RESEARCH ASSISTANT(S):

Kawika Lauriano, Kalaeloa Heritage Park
Shad Kane, Kalaeloa Heritage Park
Malia Cox, Kalaeloa Heritage Park
Richard Pender, SWCA Environmental Consultants

... to **conduct** the following **prohibited activity** relating to native plant or animal species, and/or conduct prohibited activities within the boundaries of a Natural Area Reserve, with the methods, materials or equipment specified:

The purpose/objectives of the study: To establish and maintain populations of Endangered plant species at Kalaeloa Heritage Park.

Collection will be done on the islands of O'ahu (Kalaeloa Heritage Park, Coral Sea Road, Kapolei).

Common name	Scientific name	No. of species
	Achyranthes splendens var. rotundata Euphorbia skottsbergii	TWO

Methods/Materials/Equipment:

The Permit Holder is authorized to monitor and conduct threat control for the species listed above. No other species or collections are permitted.

Approximately 100 plants of *Achyranthes splendens* were transferred to and planted at the Kalaeloa Heritage Park in February 2023 by SWCA and Kenai Industrial Park under permit I5122 and will be maintained at the park for the duration of the permit. The plants and any progeny that naturally recruit will remain at the park indefinitely.

1. General conditions/understandings:

- 1.1 This permit is not transferable or assignable. The permit holder is individually responsible and accountable for his or her actions under this permit. A signed copy of the permit and photo identification must be carried by permit holder(s) while engaging in activities authorized under this permit. Besides conditions stipulated here, the permit holder will adhere to project specifications given in the permit application.
- 1.2 This endorsement does not in any way make the Board of Land and Natural Resources of the State of Hawaii liable for any claims of personal injury or property damage to the Principal Permittee or Sub-Permittee or their party which may occur while engaged in activities permitted under this endorsement; further, the Principal Permit Holder and Sub-Permit Holder agree to hold the State harmless against any claims of personal injury, death or property damage resulting from the activities of the Principal Permit Holder or Sub-Permit Holders.
- 1.3 The proposed activities to be conducted fall under DOFAW's exemption list of June 12, 2008, including but not limited to **Exemption Class 5: Basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource**. Division analysis of the proposed resource management actions concluded it will provide a positive environmental benefit and will be done in a manner to have no negative on the conditions that define the area. Furthermore, the cumulative impact of these and similar actions over the duration of the permit period will not have a significant adverse impact and will have minimal or no significant effect on the environment and are exempt from the need to prepare an environmental assessment.
- 1.4 Persons in violation of the terms and conditions of this permit and/or related or appropriate laws may be subject to criminal and or administrative penalty under Hawaii Revised Statutes and Hawaii Administrative Rules (§13-104, §13-107, §13-124 §13-171, §13-183, §13-185, §13-195, §13-209), or as otherwise provided by law. Infractions or misconducts will constitute grounds for revocation of this permit and criminal prosecution. Any person whose permit has been revoked shall not be eligible to apply for another permit until the expiration of two years from the date of revocation.
- 1.5 This endorsement may be revoked for due cause (ex. fire danger).
- 1.6 For the protection of the forests and other wildland areas from pest infestations (particularly weeds and plant diseases), precautions will be taken to prevent introduction of plants, animals or pathogens not naturally present in the area. **Permit Holder is responsible for ensuring that all clothing and gear is cleaned prior to fieldwork or hiking**. Should an infestation develop, Permit Holder is responsible for eradication by methods to be specified by DLNR managers--whether it occurs during or after the permit period, and even though it may be only indirectly attributable to the project activities.
- 1.7 Reports: (a) A report will be submitted within 5 weeks of the project's completion. (b) Results of the project, as published or unpublished reports, also will be submitted. (c) The reports will identify the project site, document all study activities, and acknowledge the permits approved by the DLNR-DOFAW. If renewal is needed, a progress report and an updated plan should be submitted in advance of expiration (at least one month) to allow time for staff evaluation and processing of renewal. **Failure to submit reports and requests in advance may result in denial of further permits until resolved.**
- 1.8 Principal Permit Holder shall provide, or make available for inspection, any raw data (including photos) that may be obtained under this endorsement when requested by DOFAW. In addition, permit holder(s) will notify DOFAW and provide product drafts of, and receive clearance prior to, final publication of any outreach or publicity projects involving interviews, films, brochures and print articles.
- 1.9 Upon project completion entomological specimens will be deposited in Bishop Museum and/or the University of Hawaii at Manoa Insect Museum; duplicates may be deposited in host institution so all material is accounted for and may be located for any future research or other needs. Primary repository for botanical specimens from State lands is the Bishop Museum. Collections of live botanical specimens will be delivered to cooperating rare plant nurseries, the Lyon Arboretum micropropagation laboratory, and/or seed storage facilities. New/rare species or species thought to be extinct may be collected under this permit provided the above conditions are followed and **HRPRG Rare Plant Monitoring Forms are completed**. Copies of receipts, or other documentation, for any specimen deposited at DOFAW-authorized repositories shall be attached to the reports.

- 1.10 The State of Hawaii reserves its title to all biological or biogenetic resources transferred or collected under this permit, including all genetic material or composition of the natural resources and other things connected to, or gathered from, public lands.

2. General conditions/understandings continued:

- 2.1 This endorsement authorizes the Principal Permit Holder and Sub-Permit Holders to study/collect the organisms listed in the amounts and manner specified. Access is also granted to listed Natural Area Reserves. **The permit holder(s) must obtain approval from landowners of other lands where activities are planned**, including other programs or divisions of the DLNR (ex. Forest Reserves, State Parks), private landowners, tenants, and County, State, and Federal agencies prior to conducting activities on lands under their jurisdiction.
- 2.2 The Permit Holder agrees to comply with all the terms and conditions of the applicable permit, as well as applicable laws and regulations; and consent to be subject to inspection by a duly authorized representative of the department. A refusal of inspection by a duly authorized representative of the department will be considered a violation of this permit, and thus the permit is subject to suspension or being revoked until such time the permit can be reviewed for renewal.
- 2.3 Appropriate DOFAW district office must be notified in advance of proposed fieldwork: The Permit Holder **is responsible for notifying appropriate DOFAW/NARS Staff, prior to conducting fieldwork to inform them of exact dates for each NARS site visit; this also allows time to make arrangements for gate keys or other logistical needs.** This is particularly important to be sure that proposed site visits do not conflict with other NARS Staff or other permitted activities, as well as to be sure that areas are not closed due to weather or other hazards such as landslides, etc.

If working with Plant Extinction Prevention Program species, Permit Holder **is required to consult with PEPP Coordinators prior to any planned work.** If deemed necessary, PEPP Coordinators may accompany the permit holder(s) to oversee field work in and around PEPP plants. The permit holder(s) is asked to alert land managers, PEPP Coordinators, and landowners of any observed threats or negative changes in the health of PEPP plants so immediate mitigative actions may be taken.

2.4 DOFAW District Offices:

Kaua'i Branch Manager, Division of Forestry & Wildlife, 3060 Eiwa Street Rm. 306, Lihue, HI 96766. (808) 274-3433.

O'ahu Branch Manager, Division of Forestry & Wildlife, 2135 Makiki Heights Drive, Honolulu, HI 96822. (808) 973-9778.

Maui (& Moloka'i) Branch Manager, Division of Forestry & Wildlife, 1955 Main Street, Room 301, Wailuku, HI 96793. (808) 984-8100.

Hawai'i Branch Manager, Division of Forestry & Wildlife, 19 E. Kawili Street, Hilo, HI 96720. (808) 974-4221.

- 2.5 Disturbance of non-target vegetation and wildlife will be avoided as much as possible. **Hiking groups may not leave established trails.** Activities may not impede public access.

If working with rare plant species, **Permit Holder(s) will adhere to methods that are in accordance with established procedures as published by the Hawaii Rare Plant Restoration Group (HRPRG) for collection of Threatened and Endangered species.**

- 2.6 Photos taken by Permit Holders, Sub-Permit Holders and Volunteers of rare and endangered wildlife and plants, encountered during research activities described in this endorsement, **shall not be posted on social media outlets with location information**, except in the broadest of terms i.e. island and mountain range. An example of an acceptable location tag for a site on O'ahu would be "Northern Ko'olau Mountains". Failure to comply will result in the revocation of this permit and the denial of further permits. If Principal Permit Holder, Sub-Permit Holders, or Volunteers encounter rare and endangered wildlife and plants while conducting research activities outlined in this endorsement, said permit holders and volunteers will not visit the given rare or endangered wildlife or plant again except if absolutely necessary for conducting the research outlined in this endorsement. Similarly, Permit Holders, Sub-Permit Holders, and Volunteers will not provide directions or location information of rare and endangered wildlife and plants to non-agency or non-permitted individuals. Failure to comply will result in the revocation of this permit and the denial of further permits.

3 General conditions/understandings continued:

- 3.1 As a Federal agency of the United States, the U.S. Geological Survey is self-insured. The U.S. Geological Survey agrees to cooperate, to the extent allowed by law, in the submission of claims pursuant to the Federal Tort Claims Act, 28 U.S.C. §2671 et seq, against the United States for personal injuries or property damage resulting from the negligent or wrongful act or omission of any employee or volunteer of the United States while acting within the scope of his or her official duties, arising out of this Agreement.
- 3.2 The University of Hawaii (University) shall be responsible for damage or injury caused by The University's officers and employee in the course of their employment to the extent that the University's liability for such damage or injury has been determined by a court or otherwise agreed to by the University. The University shall pay for such damage or injury to the extent permitted by law and provided that funds are appropriated, allotted or otherwise properly made available for that purpose. In each instance in this Agreement where the University is or may be obligated to assume responsibility or liability of any type or nature for damages or injuries, including, without limitation, any obligation to perform, be responsible for failure to perform, or pay monies, such obligation shall be subject to and limited by the provisions of this section.
- 3.3 The Research Corporation of the University of Hawaii (RCUH) shall be responsible for damage or injury caused by RCUH's officers and employees in the course of their employment to the extent that RCUH's liability for such damage or injury has been determined by a court or otherwise agreed to by RCUH. RCUH shall pay for such damage or injury to the extent permitted by law and provided that funds are appropriated, allotted or otherwise properly made available for that purpose. In each instance in this Agreement where RCUH is or may be obligated to assume responsibility or liability of any type or nature for damages or injuries, including, without limitation, any obligation to perform, be responsible for failure to perform, or pay monies, such obligation shall be subject to and limited by the provisions of this section.

3.4 **Abide by the recommendations for preventing spread of Ceratocystis Wilt of Ohia (aka Rapid Ohia Death):**

- Do not move any wood from areas where ROD is present.
- Clean all tools (saws, pruners, shovels, etc.) with Lysol or a 70% rubbing alcohol solution before reusing at another site.
- Off-road vehicles should be thoroughly cleaned underneath to prevent moving contaminated soil.
- Shoes, clothing, and backpacks should also be cleaned before being worn in healthy forests. Shoes soles should be sprayed with Lysol or alcohol solution after removing mud and dirt.
- So far the pathogen has been isolated from ohia wood (internal), soil, and insect frass. Such material collected from sites where ROD is present should be destroyed following research or other use and not moved to other forest sites.
- When visiting multiple sites, visit sites where ROD has been detected last to prevent spread.
- The above sanitation precautions should be closely followed, especially for researchers moving interisland.

For more information including updates on where the disease has been found, please see www.ohiawilt.org

- 3.5 **Access to these Natural Areas has been provided by DLNR. To support the conservation work of DOFAW, NARS and PEPP, featured in this research/facilitated through this permit, please consider donating here: <https://dlnr.hawaii.gov/ecosystems/nars/donate/>**

Note: there is no condition or agreement that the gift is in exchange for favorable action by the state in favor of the donor.

4 Special conditions/understandings:

- 4.1 The Permit Holder is authorized to monitor and conduct threat control for the species listed above. No other species or collections are permitted.
- 4.2 All activities endorsed in this permit must follow HRPRG procedures (<https://laukahi.org/hawaii-rare-plant-restoration-group/>).
- 4.3 All monitoring must follow HRPRG procedures (<http://laukahi.org/hrprg/>) and track sites, individual wild plants, and collections with the HRPRG Geographic Reference Code.
- 4.4 All threat control activities must follow avoidance and mitigation measures as described by the Pacific Islands Fish and Wildlife Office: <https://www.fws.gov/media/plant-avoidance-and-minimization-measures-may-2023>. In the event a plant authorized under this permit is unintentionally damaged or destroyed in the wild during authorized activities, the permittee must: a. Immediately cease the activity resulting in damage or destruction. Continuation of the activity is dependent on reauthorization by DOFAW. After analysis of the circumstances of the damage or destruction, DOFAW may amend, suspend, or revoke this permit. b. Within 24 hours, notify DOFAW Botanist (Matthew.J.Keir@hawaii.gov). Such notification must be followed up in writing within 3 working days. The permittee must provide a written report of the circumstances that led to the damage or destruction; date, time, and precise location of the damaged or destroyed specimen; disposition of the damaged or destroyed specimen or suggested disposition of the specimen; and a description of the changes in protocols that will be implemented to reduce the likelihood of such damage or destruction from reoccurring, -if appropriate. c. If possible, propagules and plant tissues should be collected from all destroyed plants and used as part of the species propagation, research, and/or recovery efforts authorized in this permit.
- 4.5 No collection of plant material is permitted.
- 4.6 Detailed records are required for surveys, monitoring, collection, outplanting, threat control, propagation, storage, and transferring plant material of each species listed above. Records must be in electronic format (shapefile, database, spreadsheet) as described below. Photos should be included whenever possible. Survey tracks and plant locations must be documented with a GPS. Each monitoring, collection, and outplanting record must include all fields on the HRPRG Rare Plant Monitoring Form (<https://laukahi.org/hrprg/>). Templates for these records will be provided with approved permits.
- 4.7 Plants or propagules covered by this permit may only be transferred to DOFAW or PEPP.

I, **Dwight Victor**, have read the general and special conditions/understandings listed on Section 1 to Section 4, understand them, and hereby agree to abide by them.



Dwight Victor
Principal Permit Holder



DAVID G. SMITH, Administrator
Division of Forestry and Wildlife