



# University of Hawai'i at Mānoa

## Environmental Center

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Ms. Beth Miura  
Environmental Division  
U.S. Army Corps of Engineers  
Fort Shafter, HI 96858

Dear Ms. Miura:

Preliminary Draft  
Endangered Species Management Plan  
(1) Oahu Training Areas - 5 locations, Oahu  
(2) Pohakuloa Training Areas - Pohakuloa, Hawaii

The Army has prepared two Ecosystem Management Plans (EMPs), one for 5 different training areas on Oahu and the other for Pohakuloa on the Big Island. The purpose of these plans is to conserve, preserve, and enhance the natural and cultural resources of Army training lands. A key component of the EMPs is the Endangered Species Management Plan which evaluates threats to these resources and provides recommendations for management.

We consulted different reviewers for the two draft Endangered Species Management Plans (ESMPs). For the Oahu ESMP, we reviewed the document with the assistance of Charles Lamoureux, Lyon Arboretum; Kenneth Kaneshiro, Pacific Biomedical Research Center (PBRC), Michael Hadfield, Zoology; and Paul Berkowitz of the Environmental Center. For the Pohakuloa Plan, we were assisted by Deiter Mueller Dombois, Botany; Michael Hadfield, Zoology; Robert Cowie, Zoology; Charles Lamoureux, Lyon Arboretum; and Paul Berkowitz of the Environmental Center.

### Part I: General Comments

Given the similarities between the two documents, many of our comments apply to both ESMPs. These general comments will be presented in this section, while more specific location-dependent comments will be provided in the next two sections.

### Incomplete Information

Most of our reviewers commented that the documents are reasonably comprehensive and contain a wealth of information. However, several of our reviewers found it difficult to adequately assess the Management Plans without being able to see completed versions of the

documents. Many tables and figures are missing, as are entire sections such as the one on the Dillingham Training Area.

Furthermore, some of the appendices in both documents are only "available under [a] separate cover." According to Hawaii's Environmental Impact Statement (EIS) Rules (Chapter 11-200-19, Hawaii Administrative Rules), which apply at least in spirit to the ESMPs, reports of this nature should be "self contained documents, capable of being understood without the need for undue cross-reference." Thus, in the final draft ESMP, these appendices, or condensed versions of them, should be presented. The reader ought to be able to evaluate the Plan without having to look elsewhere.

#### Definition of a Natural Area

Neither of the documents adequately defines the term "nature area." Is it an area that should be untouched by humans, or possibly used for observation only? Or is it an area that should be actively managed and maintained, such as those areas that are undergoing remediation? The document needs to provide a precise description of the term and its implications, while stating how the army training lands fit into this definition.

#### Inappropriate Stewardship

A recurrent theme among our reviewers was that the U.S. military was not an appropriate steward of these ecologically rich lands. Given what previous military actions have done to Hawaii, it seems apparent that other organizations might be better suited to manage the land. Furthermore, many of our reviewers questioned human presence at all in these areas, suggesting that the training areas be relocated to less sensitive areas such as ones on the U.S. mainland. While this point of view may not be very practical, the military remains the most financially suited to manage the region, and therefore the proposed Plan could be the best management option for the moment.

#### Enforcement

Perhaps our greatest concern centers around the issue of enforcement and implementation. On paper, the ESMPs seem reasonably thorough and well-designed; however, in practice, how will the plans be implemented and enforced? What sort of monitoring programs will exist? Who will be responsible for insuring that the ESMPs are implemented properly? If the ESMPs are not enforced rigorously, then the exercise of preparing these documents becomes meaningless.

#### Lack of Individual Acknowledgement

Both documents were prepared with the assistance of individuals from several different organizations. Although the organizations are listed, the individuals who prepared the reports are frequently omitted. As scientists, some of our reviewers were concerned with the lack of acknowledgement of individual work. Furthermore, since the documents often do not cite specific names, our reviewers felt that a sense of accountability or responsibility was lacking.

One example of poorly referenced information occurs in the Pohakuloa document. The ESMP continually cites the Hawaii Natural Heritage Program of the Nature Conservancy, without mentioning the major source from which their database is derived, that is the Bishop Museum collections. In particular, a 1993 report entitled "Malacological Inventory Survey in the Multipurpose Range Complex, Pohakuloa Training Area of Hawaii" by Robert Cowie and Gordon Nishida is frequently cited as either "HINHP" or "Gon, et. al., 1993." This failure to give credit where credit is due represents a serious distortion of facts.

### Historical Background

Neither of the documents presents much in the way of historical background to the Management Plans. Why is the military preparing these ESMPs at this time? What is the trigger? Since the military did not present the material in the document, we can only make assumptions. For instance, in the case of the Pohakuloa Training Areas, we might surmise that the lawsuit by Dr. Lani Stemmermann provided some impetus for the development of the Management Plan. A few years ago, a suit was filed against the military because training activities frequently disregarded the precious botanical communities of Pohakuloa. For the sake of public information, the military ought to disclose the historical context of these Plans.

### Part II: Comments Specific to the Oahu Training Areas

#### Priority Levels

In Northern Koolau Summit region within the Kawaihoa training grounds, critical habitat for at least three endangered tree snails exists. This region should be considered a Priority 1 area. Also, the upper reaches of the Kahuku training area may contain some high priority habitats.

While the recommended actions for invertebrate conservation seem reasonable for the most part, we are concerned that all invertebrate management actions have Priority 2 or 3. Why are invertebrates considered less important than plants? How does the military justify the lower ranking for invertebrates?

#### Insect Management Strategies

The Oahu ESMP, like most management plans, focuses on rare and endangered plants, "megavertebrate" species such as avian fauna, and "megainvertebrate" species such as snails. While conservation biologists recognize that Hawaii's native insects constitute a significant component of successful native ecosystems, the role of insects is mentioned only briefly in the document. Insects play vital roles as pollinators of plants, detritivores, and as food sources for insectivorous birds. In some cases, the decline of insect species may be the primary reason for a decline of native plants or of insectivorous bird species. Since endemic plants often serve as substrate hosts (for mating, breeding, and/or feeding) for any number of native insect species, actions that jeopardize the survival of endemic plants generally affect insect populations in a similar manner.

Additionally, the document should acknowledge the magnitude and significance of the gap of knowledge concerning insect fauna. Although approximately 5,000 species of insects in

Hawaii have been described, perhaps fewer than 50% have been treated taxonomically. Many of these unnamed, undescribed species exist in collections at Bishop Museum or University of Hawaii; however, many more species are still being collected as new field studies occur. Thus, it is not known how many of species are being threatened or endangered by the same actions that are endangering plants and vertebrates.

To become an effective steward of these unique ecosystems, the military needs to take a leadership role in addressing this gap of knowledge on insect fauna. Both the taxonomy and the role of insect fauna within the ecosystem need to be better understood. Perhaps through the Ecology Evolution and Conservation Biology (EECB) graduate program at the University of Hawaii, it might be possible to attract students to focus their research on some of these gaps of knowledge on Hawaii's insect fauna. Without a more thorough knowledge of the biosystematics, genetics, ecology, behavior of these organisms, we cannot begin to design an effective management plan.

#### Collection Techniques - Snails and Other Species

Many of the recommended management activities require collection, handling, and propagation of endangered tree snails by a staff hired by the army. These recommendations do not appear to take in account that federally endangered species cannot be touched, handled, collected, or otherwise disturbed except by those with valid federal permits. To acquire such a permit, individuals must have extensive training and experience with the organisms being handled. The army should contract out management activities requiring captive propagation to organizations already permitted to do so; otherwise, if the proposed actions are delayed long enough to find and train personnel with appropriate backgrounds, then species may cease to exist. In terms of endangered plant species, the above admonition may also be valid.

#### Part III: Comments Specific to Pohakuloa

##### Biologically Significant Areas Within the Impact Zone

Figure 2-15 does not show any biologically significant areas at level 1 or 2 (BSA-1 or BSA-2) within the impact zone. However the impact zone has not been surveyed. Thus it seems inappropriate to categorize this huge area without the benefit of further research. It seems more appropriate to leave the impact zone categorization blank, implying that data for the region is incomplete.

##### Biocontrol

In the section on controlling alien plants, the document mentions biocontrol as a possible method. Since the implications of deliberately introducing alien species are rarely understood, this technique should be discouraged. Hawaii already has enough problems involving invasive alien species.

## Alien Species Introductions

Section 4.45 on alien species should be expanded. As stated in the ESMP, foreign troops or troops from the U.S. mainland may bring in alien species. What is not mentioned is that alien species, which already exist in Hawaii but not Pohakuloa, may be brought into the training area. Furthermore if the impact zone contains alien species and cannot be managed, then this region may act as a continual source of alien species.

## Plan Recommendations

With regard to the recommendations listed in Figure 4-5, most proposed actions are admirable and well thought out. However, the realignment of Saddle Road (Spec-6) has the potential to be highly disruptive environmentally. Also, it appears that the only measure to pertain to the impact zone is aerial hunting (Ani-8). Is this correct? If so, then the above concerns regarding alien species propagation could be a problem.

## Miscellaneous Comments Regarding Snails

Figure 2-1, the Inventory of Biological Investigations, should include the following citation: "Cowie, R.H., Nishida, G.M., Basset, Y., and Gon, S.M., III. 1995. Patterns of land snail distribution in a montane habitat on the island of Hawaii. *Malacologia* 36:155-169."

The amastrid land snail *Leptachatina lepidata* has now been included by the World Conservation Union (ICUN) in the 1994 *ICUN Red List of Threatened Animals*, and has been proposed as a Candidate species by U.S. Fish and Wildlife. For the incomplete amastrid land snail illustration (Figure 2-10), Dr. Robert Cowie from the Bishop Museum has offered to provide an illustration.

According to the 1995 *Catalog of the Native Land and Freshwater Molluscs of the Hawaiian Islands*, the land snail family Amastridae "once numbered over 300 species", not "over 500 species or taxa." Figure 2-14, which shows "Amastrid land snail occurrences", is ambiguous. Is the figure suppose to apply to all species in the family Amastrid or just *Leptachatina lepidata*?

## Clarifications

Section 4.6.1 lists the greatest threats to the area as fire, alien animals, and alien weeds, while human activities are listed as "other threats." Our reviewers commented that this section tends to downplay the importance of human activity. Who brings in alien species? Who is responsible for fires?

The document should explicitly state that, although the Endangered Species Areas are most important, the remainder of Pohakuloa training area has great intrinsic natural value as well.


## Conclusion

In general, most reviewers were impressed with the quantity and quality information presented in the ESMPs. However, the incomplete nature of the documents made it difficult

to adequately evaluate the proposed plans. In particular, the lack of information regarding implementation posed the greatest concern. Without knowing how the plans will be implemented, monitored, and enforced, it is difficult to determine if the ESMPs will succeed. Another major concern involves the appropriateness of military ownership. Given the extreme sensitivity of these lands to disturbance, the consensus among our reviewers was that the land would be better managed by a park service or conservation agency. Finally, the ESMPs seem to neglect and downplay the importance of invertebrate species such as insects. These species play significant roles in their respective ecosystems, and should not be given inferior priorities.

We hope that our comments will be helpful in the preparation of the final draft ESMPS. Thank you for the opportunity to comment.

Sincerely,

  
John T. Harrison  
Environmental Coordinator

cc: OEQC  
Roger Fujioka  
Charles Lamoureux  
Kenneth Kaneshiro  
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Deiter Mueller Dombois  
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