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KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

Ref.:PB:MM

(OFF. OF ENVIRONMENT)  
QUALITY CONTROL

File: OA-3123B

MEMORANDUM

TO: Genevieve Salmonson, Director  
Office of Environmental Quality Control

FROM: Dierdre S. Mamiya, Acting Administrator  
Office of Conservation and Coastal Lands

SUBJECT: Final Environmental Assessment (FEA)/Finding of No Significant Impact (FONSI) for CDUA OA-3123 for fence construction and hand clearing for the Helemano Watershed Project, Waialua, Oahu, TMK: (1) 6-3-001:001 located in the Protective Subzone of the Conservation District.

The Department of Land and Natural Resources has reviewed the FEA. We have determined that this project will not have significant environmental effects, and have therefore issued a FONSI. Please publish this notice in the July 23, 2003 OEQC Environmental Notice.

We have enclosed four copies of the Final EA for the project. The Department is submitting the OEQC Bulletin Publication Form. Comments on the draft EA were sought from relevant agencies and the public, and were included in the final EA.

It should be noted that acceptance of this EA does not constitute a project approval by the Board of Land and Natural Resources (BLNR). The BLNR has the discretion to approve or deny or modify the project.

Please contact Matthew Myers of our Office of Conservation and Coastal Lands at 587-0382 if you have any questions on this matter.

Enclosures

**FINAL ENVIRONMENTAL ASSESSMENT**

**HELEMANO WATERSHED MANAGEMENT PROJECT**  
**O'AHU, HAWAI'I**

in accordance with

**CHAPTER 343, HAWAII REVISED STATUTES**

Proposed by

**Kamehameha Schools  
U. S. Army Garrison – Hawai'i  
U. S. Fish and Wildlife Service  
Division of Forestry and Wildlife,  
Hawaii Department of Land and Natural Resources**

July 11, 2003

**I. SUMMARY**

**CHAPTER 343, HAWAII REVISED STATUTES (HRS)  
FINAL ENVIRONMENTAL ASSESSMENT**

**Project Name:** Helemano Watershed Management Project  
**Proposing Agency:** Kamehameha Schools  
**Approving Agency:** State Department of Land and Natural Resources  
**Project Location:** Helemano Stream Drainage, Ko'olau Mountains, O'ahu  
TMK Oahu: 6-3-001:001  
**Property Owner:** Kamehameha Schools  
**LU Classification:** Conservation, Subzone P1 (Restricted)

**Anticipated Determination of Environmental Assessment:**

A Finding of No Significant Impact (FONSI) is expected for the proposed project.

**Agencies Consulted During EA Preparation:**

**Federal:** U. S. Department of Agriculture  
Natural Resources Conservation Service  
U. S. Department of Interior  
U. S. Fish and Wildlife Service  
U. S. Department of Defense  
U. S. Army Garrison, Hawaii

**State:** Department of Health  
Environmental Planning Office  
Department of Land and Natural Resources  
Commission on Water Resources Management  
Division of Forestry and Wildlife-O'ahu  
Division of Land Management-O'ahu  
Historic Preservation Division  
University of Hawaii  
Hawaii Tree Snail Laboratory-Dr. Michael Hadfield

**City and County:** Honolulu Board of Water Supply  
Department of Land Utilization  
Neighborhood Boards:  
North Shore Neighborhood Board  
Wahiawa Neighborhood Board

Private:                   Audubon Society  
                              Bishop Museum  
                              Conservation Council of Hawaii  
                              Hawaiian Trail and Mountain Club  
                              Pig Hunters Association of O'ahu  
                              The Nature Conservancy of Hawaii  
                              Sierra Club

Summary of Project Actions:

Kamehameha Schools (KS), in a cooperative effort with the State of Hawai'i, Division of Forestry and Wildlife (DOFAW), Natural Area Reserves program, the U.S. Army Garrison, Hawai'i and the U.S. Fish and Wildlife Service (USFWS) propose the construction of an ungulate exclosure fence encircling the upper reaches of the Helemano Stream Drainage, Ko'olau Mountains, Oahu (See Map Appendix A). The ultimate goal of the project is to remove feral pigs (*Sus scrofa*) from within the fence, aid in securing the section as a natural ecosystem, provide habitat for rare plants, and serve as a site for rare species outplanting. This project builds upon the efforts of the ' pae'ula Fencing Project, an adjacent 250-acre exclosure completed in May 2001.

The project involves the creation of a pig free ecosystem of approximately 200 acres. It involves hand clearing of a corridor no more than ten feet wide and erecting a fence line. The outside of the fence will be skirted along the base with a hogwire apron. After fence construction, the project will conduct feral pig control and natural resource monitoring and management to determine the impacts of the fence on the vegetation and track the recovery of endangered plant species. The exclosure will be maintained as pig free.

The anticipated start date for the project is the second quarter of the 2003 calendar year. Clearing common native and introduced vegetation for the entire length of the fence corridor will take approximately three (3) months to complete. Fence installation will take an estimated nine (9) months, pending weather conditions. The entire project will take approximately twelve (12) months.

Project funding originates from a variety of sources, including private, state, and federal funds. An estimated budget for the project is found in Tables 1 and 2. State of Hawaii contributions to the project come from funds given to the State by the U.S. Fish and Wildlife Service under Section 6 of the Endangered Species Act of 1973. These monies, provided for management of endangered species, are given on a 3 to 1, federal to state dollar match. The State of Hawaii contributions also include the monetary value of Division of Forestry and Wildlife employees' time contributed to the project. Kamehameha Schools and the USFWS are sharing the cost of construction through a conservation partnership program. U.S. Army contributions arise from natural resource staff in-kind services, as the U.S. Army leases the land from Kamehameha Schools and has a duty to conserve threatened and endangered species under the Endangered Species Act.

**Table 1. Cost Estimates, Helemano Watershed Management Project**

| FENCE CONSTRUCTION<br>(2750 meters or 9075 feet)  | ARMY            | DLNR            | FWS              | KSBE             | TOTALS         |
|---|-----------------|-----------------|------------------|------------------|----------------|
| Supplies/fencing materials<br>(approximately \$3 per foot)                                  |                 | \$7,093         | \$10,132         | \$10,000         | \$27,225       |
| Clearing (approximately \$1 per foot)   | \$7,575         | \$1,500         |                  |                  | \$9,075        |
| Helicopter for fenceline clearing<br>personnel (4 trips, 3 hours each trip<br>@ \$686/hour) | \$8,232         |                 |                  |                  | \$8,232        |
| Helicopter sling loads (2 five-hour<br>days @ \$686/hour)                                   |                 | \$6,860         |                  |                  | \$6,860        |
| Helicopter for fence construction<br>personnel (8 trips, 3 hours each trip<br>@ \$686/hour) | \$16,464        |                 |                  |                  | \$16,464       |
| Construction (\$8 per foot)   |                 |                 | \$39,734         | \$32,866         | \$72,600       |
| <b>Subtotals</b>  | <b>\$32,271</b> | <b>\$15,453</b> | <b>\$49,866#</b> | <b>\$42,866*</b> | <b>140,456</b> |

\* \$15,000 of the \$42,866 KSBE contribution for this project was brought forward from prior years.

# \$24,886 of the \$49,866 FWS contribution for this project was brought forward from prior years.

**Table 2. Cost Estimates for Operations and Maintenance of Helemano Watershed Management Project**

| Operations and Maintenance   | ARMY             | DLNR      | FWS/KSBE  | TOTALS           |
|--|------------------|-----------|-----------|------------------|
| Ungulate control/Fence Maintenance (3<br>Army personnel \$12/hour, 4 trips/yr. for 30<br>hrs. each trip) | \$4,320          | --        | --        | \$4,320          |
| Helicopter for Army management trips (4<br>trips, 3 hours each trip @ \$686 per hour)                    | \$8,232          | --        | --        | \$8,232          |
| <b>Annual Cost</b>   | <b>\$12,552</b>  | <b>--</b> | <b>--</b> | <b>\$12,552</b>  |
| <b>10 yr projection</b>  | <b>\$120,552</b> | <b>--</b> | <b>--</b> | <b>\$120,552</b> |

**Project Purpose and Need:**

This project is directed at the protection of ecosystems as well as rare and endangered species. If long-term viability of rare and endangered organisms is to be achieved, large tracts of land need to be protected.

The approach of this project is consistent with the objectives of many entities. It is in accord with USFWS policy for the management of natural communities using an "ecosystem approach". It is also in alliance with the State of Hawaii's long-term environmental policies, goals and guidelines outlined in Hawaii Revised Statutes, Chapter 344. Watershed protection is an identified land use for Conservation District Protective ("P") subzone and exclusion of pigs will enhance the areas' functionality as watershed by reducing vegetation damage and alteration caused by feral pig activity. This project is consistent with a second designated land use of the "P" subzone: "preserving natural ecosystems of native plants, fish and wildlife, particularly those which are endangered" (HAR, 13-5-11-4).

The project also strives toward the provisions of the City and County of Honolulu General Plan Objectives and Policies, Chapter III, Objective A, Policies 1-11, by "protect[ing] and

preserv[ing] the natural environment (Objective A)" as well as the "plants, birds, and other animals that are unique to the State of Hawaii and the Island of Oahu (Policy 8)". The North Shore Sustainable Communities Plan is also supported by this project, as section 3.1.1, General Policies for "the preservation of open space and the natural environment" seek to "protect significant natural features" and "ecologically sensitive lands".

All project partners are full members of the Ko'olau Mountains Watershed Partnership (KMWP), which includes the Helemano Watershed Management Project as one its priority objectives in its Management Plan and Action Plan for 2002-2003. Plans are beginning for the KMWP to develop an overall master ungulate management strategy for the entire Ko'olau Range. Once complete, exclosures in upper elevations/high resource value areas will be included as one strategy in the KMWP ungulate control plan. Conservation projects will continue in the interim, proceeding piecemeal on a case by case basis until such a plan is completed.

Installation of the proposed fence will help to more effectively and efficiently control populations of feral pigs in the project area. Feral pigs pose the greatest threat to existing areas of native wet forest resources on the Ko'olau summit. Pigs consume and destroy understory plants, create conditions favoring non-native plant establishment and infestation, prevent the establishment of native plants, and disrupt soil nutrient cycling. Their wallows create breeding areas for mosquitoes, which transmit avian malaria and pox virus to native forest birds. The cumulative effect is the decline of native forest ecosystems that serve as habitat for threatened and endangered forest birds, plants, and invertebrates. This fence project is one component of a comprehensive threat management program which includes control of rats, weeds, mongooses and human disturbances.

The summit of the Ko'olau mountains in this area receives some of the highest rainfall on O'ahu, with greater than 200 inches per year, making the area crucial to the production of clean, fresh water for O'ahu. Such high rainfall and unpredictable weather pattern can also function as a constraint in project implementation, as many project components are contingent upon amenable weather conditions.

Degradation of native forest ecosystems has a direct impact on the forests' value as a watershed. By eliminating the destructive impact of pigs in the project area, this project will also help protect surface and ground water quality. The protection of the watershed in the upper reaches of the Helemano drainage will also benefit the North Shore community on O'ahu by protecting nearshore ocean habitats, which are impacted by Helemano stream water quality.

## **II. PROJECT DESCRIPTION**

### General:

The project will be located in the Army's Kawaihoa Training Area in the northern Ko'olau Mountain Range on the island of O'ahu, an area leased from Kamehameha Schools. The Army currently uses the area for helicopter over-flight training and occasionally for foot maneuvers between other training areas. The proposed fence project would not conflict with the area's use

for training. The proposed fence ranges from roughly 2400-2800 feet elevation and will encompass roughly 200 acres. The route currently proposed is about 2750 meters long and transverse a diversity of terrain types. This project utilizes existing resources from the ' pae'ula Fencing Project, an adjacent fence enclosure of 150 acres. A new weatherport will not be erected for the construction and maintenance of the fence project. Instead, the project will utilize an upgraded portable canvas tent structure built with the ' pae'ula Watershed Management Project for fence construction and natural resource management and monitoring purposes. The State of Hawaii, Land Division rendered a determination in November 2002 to authorize an amendment to CDUA permit #OA-2973 to include the change to more permanent management infrastructure.

Starting at the northeast corner at the junction of the summit and Pe'ahin i'a trails, the fence follows the Summit Trail for 800 meters south. The fence then turns west down a large ridge for 840 meters. Next the fence descends for 300 meters (250 feet vertical distance) to the Helemano stream. After crossing the stream the fence climbs to the Pe'ahin i'a trail for 210 meters (250 feet vertical distance). Finally the fence follows the Pe'ahin i'a trail for about 300 meters before cutting across the gulch to the north for 300 meters to rejoin the ' pae'ula fence (Appendix A). The fence may cross the Summit Trail at a few junctures. At these sections, the U.S. Army Garrison, Environmental Division will work with the Hawaiian Trail and Mountain Club and/or other concerned groups to minimize the impacts of the fence on the Summit Trail.

The proposed fence line will utilize 42 inch-high beznal coated hogwire fence fabric with a basal strand of beznal coated barbwire. The fence fabric will be supported by beznal coated steel fence posts and treated wood posts placed no more than 10 feet apart the entire length of the fence line. Shorter beznal steel pins will be used as anchors within the 10-foot span. The fence will have an apron of hogwire laid horizontally along the ground outside the fence to prevent pigs digging under. The fence alignment will be cleared by hand to a width of no more than 10 feet.

Project Schedule:

The progression of this project can be divided into three (3) phases as follows, with the approximate time to completion for each phase noted.

*Phase 1: Fence Corridor Construction (3 months)*

- The fence corridor of width no more than ten feet wide will be cleared with hand tools and small power tools.

*Phase 2: Fence Installation (9 months)*

- Materials will be flown in by helicopter.
- Construction work will be done with hand tools, driving steel and wood poles into the ground along the corridor no more than 10 feet apart, attaching one strand of galvanized barbed wire along the post at ground level and stretching 42-inch beznal coated hogwire along the posts and clipping it on with wire clips. Where necessary, shorter anchor posts will be used along the fence, between the posts, to ensure the hogwire remains close to the ground.

- A 24-inch horizontal hogwire fence apron will be placed along the ground, attached to the upright fence and secured to the ground.
- The construction of the fence will take place over a six-month period, construction schedule being dependent on weather conditions.

*Phase 3: Feral Pig Control and Natural Resource Monitoring and Management (ongoing)*

- Pig populations will be monitored during the clearing and construction phases to determine population level.
- If feral pigs remain within the fenced area upon completion of the fence, Resource Management staff from the U. S. Army Garrison-Hawaii will employ an appropriate combination of methods to eliminate them, including staff hunting, volunteer hunting in collaboration with the Pig Hunters Association of O'ahu, or selective snaring within the fenced area. Specific control methodology will depend on the number of pigs remaining within the fenced area. The activities of the fence construction crew may drive pigs from the area and no control may be necessary.
- Following initial control, Army Resource Management staff will regularly monitor pig activity transects to detect feral pig ingress and assess the integrity of the fence.
- Vegetation will be monitored within the enclosure through a series of plots. Plots will be read before completion of the fence to obtain a baseline. Plots will be monitored annually following completion of the fence. Plots will be specifically designed to measure changes in native and non-native cover before and after fencing to help demonstrate the impacts of feral pigs and guide future management.
- Rare plants have been individually monitored for five years within the project area and will continue to be monitored at least annually once the fence is complete. Funds budgeted for pig control and natural resource monitoring are primarily for helicopter time to support these activities.

### III. SUMMARY DESCRIPTION OF AFFECTED ENVIRONMENT

The terrain of the proposed area is of similar topography and adjacent to the previous ' pae'ula fence. The area is generally characterized by precipitous gulches, dense vegetation and steep cliffs as elevation increases. However, the upper reaches near the summit are much more gently sloped, with more short-statured and open vegetation. This more gently sloped area has been a focal management area for the U.S. Army due to a combination of factors:

1. The extremely remote nature of this site in combination with its topography has resulted in this area being a haven for feral pigs. This situation is in contrast to mid- to lower-elevation areas where more extreme terrain, dense vegetation and occasional visits by hunters have lessened the impacts of pigs.
2. Feral pig impacts are worse in this area because the vegetation is more susceptible to pig damage.
3. Proximity of this area to the summit trail makes it a focal point for pig movement.
4. Gentle topography in the area allows for easier access and more effective management of the resources in the area.

Flora:

This area is rich in native plant diversity and home to at least nine species of listed endangered, candidate or plant species of concern (Appendix C). As comprehensive botanical surveys have not been conducted, the area likely harbors other undiscovered resources. Most of the habitat is fairly pristine, as there has been minimal invasion by human-vector weed species because of the remote nature of the area. In some areas however, pig damage has led to the spread of some alien species such as Axonopus fissifolius, Pterolepis glomerata and Psidium cattleianum.

Fauna:

Animal life in the area consists of native and non-native bird species, invertebrates such as snails and insects, and both large and small mammals such as feral pigs, mongooses, and rats. One species of endangered tree snail can be found within the proposed fence area (Appendix D). Comprehensive faunal surveys have not been conducted in the area.

Sensitive Habitat:

The entire project area should be considered sensitive habitat, particularly with regard to listed endangered plants and the resident Achatinella tree snails. The long term management goal for the area is protection of the intact native plant and animal communities. To ensure that this long-term goal is carried out, the agencies involved in this project are entering into a cooperative agreement under which long-term protection of this area is a goal.

Cultural Resources:

The history of the project area and use by native Hawaiians is not well documented. While the area may have been used historically for activities such as bird hunting and medicinal forest plant gathering, we have found no documentary evidence related to cultural use of this area. Additionally, as the landowner, Kamehameha Schools has received no requests for access to the area by practitioners. KS does not know of any ongoing traditional or cultural practices in the project area.

A National Historic Preservation Act (NHPA) Section 106 Consultation has been conducted for this project by the U.S. Army Garrison, Environmental Division with the State Historic Preservation Division. The consultation resulted in a determination of no impact to historic properties. This determination was based upon an archaeological reconnaissance of the fence line route by a cultural resources specialist from the Environmental Division, Directorate of Public Works (DPW), USAG-HI, on January 13, 2003. The Cultural Resources Specialist looked for temporary shelters (like State Site #50-80-04-5635, which is located several hundred meters to the north) and other natural and constructed features on the proposed fence line route. No extant cultural resources on the surface of the ground were observed along the project area.

Other Uses:

The project area, located on private property, is not open for public use at this time. Permits from the U.S. Army and Kamehameha Schools are required for entry. The project area does contain a portion of the Ko'olau Summit Trail, State Site #50-80-04-5638. The Summit Trail has been designated as a "site" because it has likely been utilized to facilitate transportation for

some time. While the time depth of trail construction and use is presumably quite long, over several hundred years at least, accurate temporal ranges are ambiguous at present.

The Pe`ahin i`a Trail, also located in the project area, has not been given a State Site designation. As a trail, it is overgrown, difficult to follow and not regularly utilized. For these reasons it is questionable where the fence line will impact the trail. The Pe`ahin i`a Trail however, is likely eligible for nomination to the Statewide Register of Historic Places for the same reasons as the Ko`olau Summit Trail. None of the trails found within this project area are maintained by or have ever been a part of the State of Hawaii's maintained trail network.

#### IV. IDENTIFICATION AND SUMMARY OF ENVIRONMENTAL IMPACTS & PROPOSED MITIGATION MEASURES

| Environmental Impacts   |                                       | Project Actions |                        |                    |                             |                       |
|-------------------------|---------------------------------------|-----------------|------------------------|--------------------|-----------------------------|-----------------------|
|                         |                                       | Pig monitoring  | Cutting fence corridor | Fence installation | Pig Control and Eradication | Vegetation Monitoring |
| Environmental Resources | Soils                                 |                 | ~                      | ~                  | +                           |                       |
|                         | Vegetation and ecosystems             | ~               |                        | ⊕                  | +                           | +                     |
|                         | Visual quality and aesthetics         |                 | ~                      |                    |                             |                       |
|                         | Water Resources                       |                 |                        | +                  | +                           |                       |
|                         | Rare & endangered species             | ~               |                        |                    | +                           | +                     |
|                         | Employment and the local economy      |                 |                        | +                  | +                           |                       |
|                         | Summit Trail Use                      |                 | ~                      |                    | ~                           |                       |
|                         | Archaeological and historic resources | ~               |                        | ⊕                  | +                           |                       |
|                         | Cultural Practices                    |                 |                        |                    | ⊕                           |                       |

The major positive and negative impacts are summarized in the table above and discussed in the following paragraphs. Areas with potential negative impacts ( ~ symbol) include a description of the anticipated mitigation. The primary potential negative impacts resulting from this project are associated with the cutting of the fence line and the installation of the fence. These aspects are discussed below and mitigation provided in italics.

1. Cutting a fence corridor is necessary to permit efficient installation of the fence and remove hazards to work crews. In this process, some soil disturbance and harm to native vegetation is unavoidable.

*Mitigation:* A survey of the ridges in the upper Helemano drainage has yielded a route based on the ease of installation and maintenance, long-term survival of the fence from vegetative encroachment, erosion and slides, and the need to limit the impact of construction on native plant communities and cultural resources. Trails are corridors for disturbance, and rather than creating a new disturbance, the use of a preexisting trail is a natural choice for a fence route. Soil disturbance is expected to be short-term and no changes in the normal runoff or percolation are expected. Botanists will search for rare and endangered plants along the proposed route. Only common native vegetation will be cut if necessary for fence line construction and the fence will be routed along existing trails to minimize damage. If necessary, the alignment will be shifted to avoid individual rare plants.

2. Workers could be agents for the unintentional introduction and/or spread of weedy or invasive plants along the corridor.

*Mitigation:* Gear cleaning procedures to reduce the introduction of noxious plant seeds and propagules will be strongly enforced. Species such as *Juncus planifolius* and *Andropogon virginicus* found to pre-exist along the proposed route and considered susceptible to spread from human activity will be removed prior to fence construction. The Army contracted Natural Resource staff will ensure that these gear cleaning procedures are followed by contractor.

3. Initially after completion, any pigs residing in the fence would be penned, egress from the area being closed. This could result in a period of amplified pig damage from animals that might otherwise be transiting out of the area.

*Mitigation:* Following the completion of the fence, intensive control efforts will immediately be implemented to eliminate those pigs remaining in the enclosed area. Control will be conducted using ground-based technique and will be carried out by Army and Kamehameha Schools contractors with assistance from others as necessary. These control techniques will not have a negative effect on rare species. No further recruitment of feral pigs into the area is anticipated. Intensive monitoring will be performed to ensure all pigs are removed.

4. Fence line clearing and construction could affect vegetation that harbors endangered O'ahu tree snails, causing the snails to leave their preferred location and become more susceptible to predators such as rats and introduced predatory snails.

*Mitigation:* The chosen fence line corridor has been chosen to minimize impacts to native species by following the existing corridors of disturbance. We will enlist the support of recognized tree snail experts and have them survey the proposed fence line corridor for tree snail populations prior to any doing any clearing work. Sizable 'hi'a trees that represent good snail "habitat" will not be removed. Any trimming or cutting of trees or shrubs will be done only after vegetation has been inspected carefully for snails. U. S. Army resource management

staff knowledgeable about tree snails will oversee the fence line corridor clearing. Finally, vegetation that is cleared will be placed upon other native vegetation so that if native snails were present and not detected by personnel doing the clearing, snails would have an opportunity to reach another host without having to cross the ground.

5. Construction of the fence line along the Ko'olau summit trail will restrict travel along the trail, prohibit access for native Hawaiian gathering rights, and disrupt the integrity of the Ko'olau summit trail for recreational hiking.

Mitigation: *The integrity of the Ko'olau summit trail will be kept intact. Fence construction will not restrict travel on the trails. One measure to help minimize impacts to the site is to realign the route whenever possible off the trail through areas that are already disturbed or sparse with native vegetation. Fence crossovers are planned wherever the fence crosses the trail. These crossovers can provide access for native gathering if necessary, although the area is extremely remote and unlikely to be used by collectors. In areas where the fence and trail run side by side, the 24-inch hogwire apron portion of the fence will stabilize the substrate and improve traction for hikers. At these sections, the U.S. Army Garrison, Environmental Division will work with the Hawaiian Trail and Mountain Club and/or other concerned groups to determine the best possible fence route in relation to the trail and minimize the impacts of the fence on the Summit Trail.*

*Visual, aesthetic impacts of the fence will be minimized as much as is practical, however the fencing materials -- class III galvanized or bezenal coated wire and fence posts selected for their durability -- come in a dull gray color, and are not available in green or dark brown. The portion of the Ko'olau summit trail affected by this project is on private land owned by Kamehameha Schools and is not currently open to the general public for hiking without landowner permission. However, signs will be posted at junctions so permitted hikers have no question about where the KST is located.*

6. Construction of fence could affect unknown cultural sites.

Mitigation. *Research written records and historic maps relevant to the project area. Inquire regarding known archaeological sites with the State Historic Preservation Division and the State Division of Forestry and Wildlife, Na Ala Hele Trails and Access Program. A survey has been conducted by a qualified archaeologist along the proposed fence route; no extant cultural resources on the surface of the ground were observed along the project area. If, at any time, cultural sites are found, site impacts will be avoided by re-routing the fence line.*

## V. ALTERNATIVES CONSIDERED

### Alternative 1: No action

This alternative effectively accepts the deterioration of this unique resource over time by allowing feral pigs to remain. Without a physical barrier like fencing to achieve a pig free unit, it is doubtful animal population numbers can remain low enough to allow these native natural

communities to remain viable. This alternative goes against participating parties' goals and mandates.

**Alternative 2: Build small exclosures around existing rare plants.**

This alternative is impractical, expensive and damaging. In part due to selective pressure from pigs, most of the rare plants have been relegated to very steep slopes. Fences in these areas would not only be very difficult to build, but also damaging to the sensitive slopes which we are striving to protect.

**Alternative 3: Utilize strategic (non-enclosed fencing) and hunting to reduce pig populations.**

The softly undulating topography of the upper Helemano drainage area does not provide many natural barriers to pig movement. The nature of this landscape renders this alternative as infeasible. Strategic fencing is ineffective in an area such as this where the goal of the project is to secure a pig free ecosystem. Hunting may be an effective mechanism to lower pig populations in some areas, but it is virtually impossible to eradicate pigs from hunting alone in an unsecured or unfenced area.

**Alternative 4: Build proposed fence around upper portion of Helemano drainage**

This approach is recommended because constructing a large-scale fence will minimize the ratio of area impacted by the fence line clearing to the area protected by the fence. It will be more cost effective to build one large fence rather than many small exclosures. In order to effectively control pig impacts to natural resources on the Ko'olau Summit, large-scale fencing is needed in conjunction with feral pig control.

## **VI. ANTICIPATED DETERMINATION**

Based on the assessment above we conclude that the Helemano Watershed Protection Project will not have any significant adverse impacts on the environment. Therefore, we feel preparation of an environmental impact statement is not required.

## **VII. FINDINGS AND REASONS SUPPORTING THE DETERMINATION**

The environmental impacts of the Helemano Watershed Protection Project have been evaluated in relation to the thirteen significance criteria listed in the Guidebook for the State Environmental Review Process. The criteria and the effects this project will have are listed below.

**1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.**

The purpose of this project is to protect watershed values and benefit native ecosystems and rare and endangered species. The project intends to better manage endangered ecosystems. Therefore, it will not destroy or cause the loss of natural or cultural resources and will improve environmental quality.

**2. Curtails the range of beneficial uses of the environment**

The project will increase the range of beneficial uses of the environment by increasing water quality in a portion of the Ko'olau Mountains. The project will also increase public awareness in the importance of watershed protection as well as protecting native Hawaiian ecosystems for future generations.

**3. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.**

The aim of this project is to protect watershed values by protecting native ecosystems, or plant and animal communities as opposed to a particular species. If long-term viability of rare and endangered native organisms is to be achieved, protection of large tracts of land is essential. This is in keeping with the USFWS "ecosystem approach" policy which focuses on management of natural communities, and with the Hawaii Natural Area Reserve Law, which states a system of reserves be established to "...preserve in perpetuity specific land and water areas which support communities, as unmodified as possible, of the natural flora and fauna..." (Chapter 195D, Hawaii Revised Statutes). Protection and enhancement of endangered species is also mandated by both Federal and State Endangered Species Acts (16 U.S.C. 1531-1543, as amended; Chapter 195, Hawaii Revised Statutes).

**4. Substantially affects the economic or social welfare of the community or state.**

The project has a positive impact on the economic welfare of the community and state by protecting a valuable watershed and insuring high quality water from this drainage for the future. The project will probably not have a significant effect on the social welfare of the community or state.

**5. Substantially affects public health.**

Rather than having any detrimental effect upon public health, the project may have a small positive impact. Controlling the population of feral mammals will likely reduce the incidence of Leptospirosis and other diseases carried by these animals into the Helemano drainage.

**6. Involves substantial secondary impacts, such as population changes or effects on public facilities.**

The project focuses on watershed enhancement and protection of native forest habitats in a remote area of the Ko'olau Mountains. Therefore, the project will not have any impact on population increase in North shore communities or elsewhere on O'ahu.

**7. Involves a substantial degradation of environmental quality.**

The purpose of this project is to protect watershed values and benefit native ecosystems and rare and endangered species. The project intends to better manage endangered ecosystems. Therefore, the project will provide a long-term improvement in the environmental quality of the upper Helemano watershed. The fence will curtail the environmental degradation caused by pigs in the sensitive area enclosed by the fence.

**8. Is individually limited but cumulatively has considerable effect upon environment or involves a commitment for larger actions.**

The project will not involve a commitment for a larger action. The effects of the project are limited to the fence area and the immediate surroundings. The cumulative effect of the fence will be positive for the environment by protecting about 200 acres of native Ko'olau wet forest from the destructive effects of feral pigs. This project, along with the adjacent ' pae'ula fence, currently comprise the only fence exclosures in progress in the Ko'olau Range.

**9. Substantially affects a rare, threatened, or endangered species, or its habitat.**

This project will positively affect five endangered plant species, one candidate plant specie, and three plant species of concern. In addition, this project will positively affect one endangered tree snail species. The central goal of this project is the protection of these species and their native ecosystems from the long-term consequences of the detrimental feral pig activity. Exclusion of feral pigs has been shown to be the most important resource management activity that can be done to protect rare, threatened, or endangered plant species in Hawaii.

**10. Detrimentally affects air or water quality or ambient noise levels.**

Helicopter and fence construction noise will be minor and short-term. Air quality will not be affected significantly. Clearing of vegetation may produce a short-term increase in

sedimentation and runoff. Water quality however, will be improved in the long-term by reducing erosion and limiting the input of disease causing organisms into stream water by feral animals.

**11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

The project is in an upland area and will not detrimentally affect any coastal areas or bodies of water. The project is not located in any sensitive flood plain areas. The project is likely to have a positive effect on coastal areas by reducing the erosion of soil into the ocean. No geological hazards are present in the project area.

**12. Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.**

The fence will be located in a remote area not be visible from any public viewing sites, and therefore will not affect any scenic vistas or viewplanes identified in county or state plans or studies.

**13. Requires substantial energy consumption**

The project will consume only a small amount of energy and only during the construction of the project.

The long-term benefits of fencing and complete feral pig (*Sus scrofa*) removal inside the fenced area far outweigh the limited short-term effects of fence construction. Installation of the proposed fence will help to more efficiently and effectively control feral pigs in the project area. Feral pigs pose the greatest threat to existing intact native wet forest areas. The cumulative effects of feral pigs are the deterioration of intact native forest ecosystems, including the decline of threatened and endangered plants and invertebrates. Removal of feral pigs has been demonstrated to result in the recovery of native vegetation. Feral pig removal also controls or significantly reduces the spread of alien plants.

The possibility for introduction of new weed species as a result of human activity exists. Ensuring that the equipment, tools, and construction materials are clean and free of weed seeds can minimize this. Natural resource management and fence construction crews will be instructed in protocol to prevent weed distribution involving their personal gear and movements. This protocol will be strictly enforced.

## **VII. PERMITS REQUIRED**

This project will require a board permit from the Board of Land and Natural Resources (Section 13-5-22 Hawaii Administrative Rules) because the project falls in a Protective (P) subzone. This

permit will be requested in February, 2003. A management plan (Section 13-5-22 Hawaii Administrative Rules) and a public hearing (Section 13-5-40 Hawaii Administrative Rules) are also required.

#### **VIII. EA PREPARATION INFORMATION**

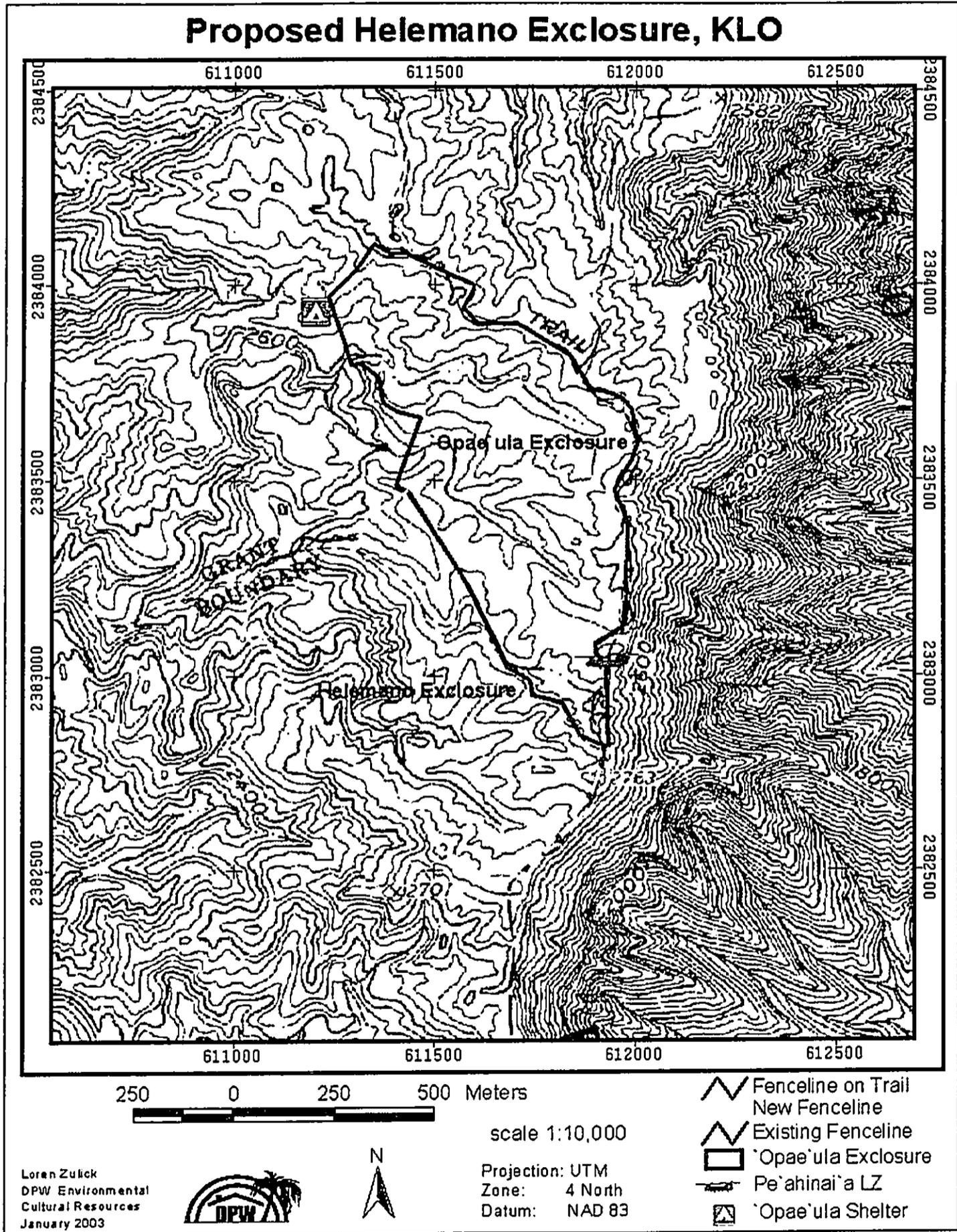
This Environmental Assessment was prepared for Kamehameha Schools in coordination with U.S. Army Garrison, Hawaii by:

Jason Y. Sumiye  
Ko'olau Mountains Watershed Partnership  
Waimano Home Road, Bldg. #202 96782  
TEL. (808) 453-6110, FAX 453-6113

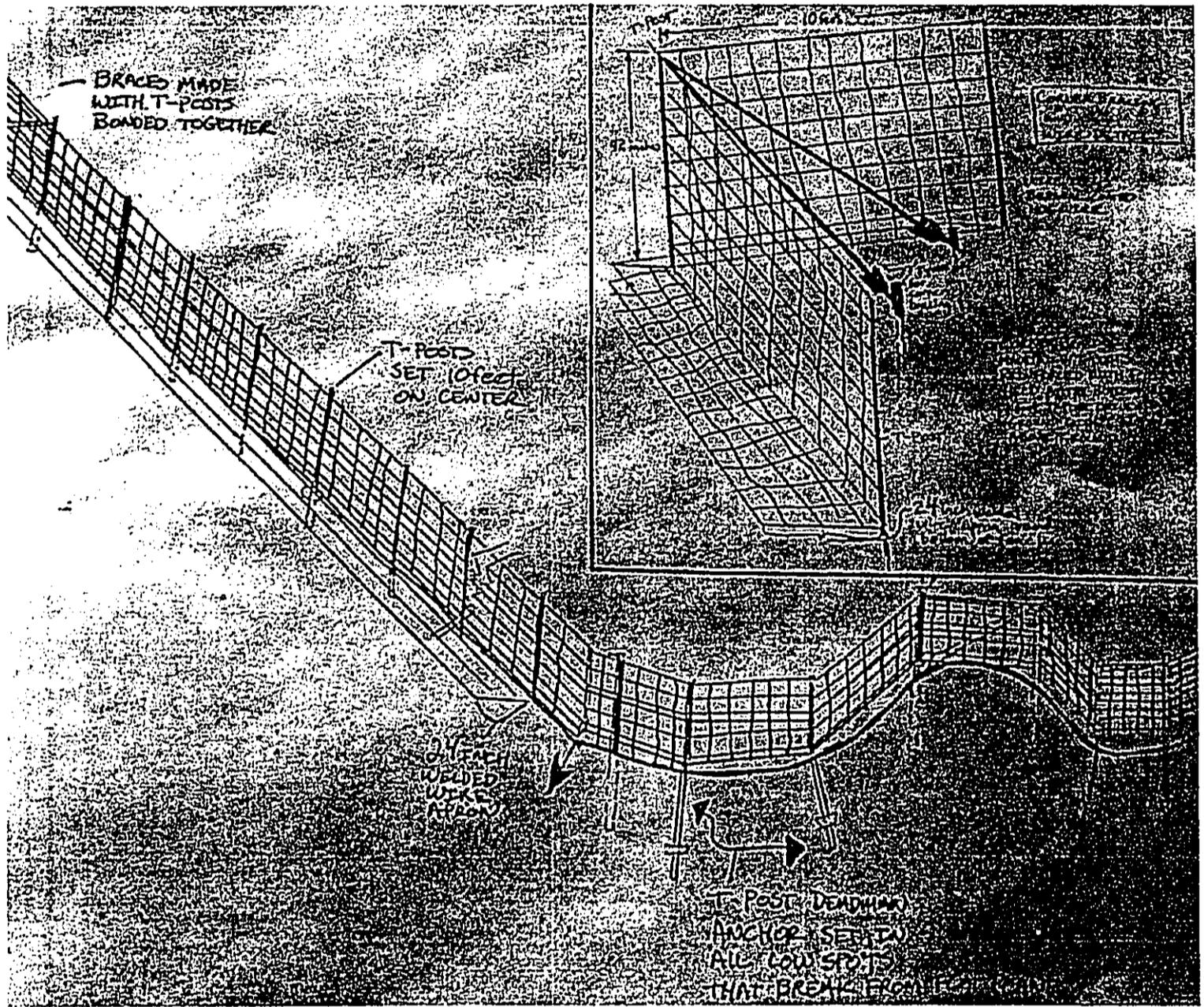
**LIST OF APPENDICES**

- APPENDIX A. MAP OF PROPOSED FENCE ROUTE
- APPENDIX B. FENCE DESIGN DETAILS
- APPENDIX C. ENDANGERED, CANDIDATE AND SPECIES OF CONCERN  
KNOWN TO EXIST IN THE PROJECT AREA
- APPENDIX D. NATIVE VERTEBRATES AND INVERTEBRATES KNOWN TO  
EXIST IN THE PROJECT AREA
- APPENDIX E. CONSULTATION REVIEW COMMENTS
- APPENDIX F. LETTERS RECEIVED DURING PUBLIC COMMENT PERIOD IN  
RESPONSE TO DRAFT ENVIRONMENTAL ASSESSMENT
- APPENDIX G. RESPONSES TO LETTERS RECEIVED DURING PUBLIC  
COMMENT PERIOD IN RESPONSE TO DRAFT ENVIRONMENTAL  
ASSESSMENT

APPENDIX A. MAP OF PROPOSED FENCE ROUTE



APPENDIX B. FENCE DESIGN DETAILS



**APPENDIX C**

**ENDANGERED, CANDIDATE AND SPECIES OF CONCERN  
PLANTS KNOWN TO EXIST IN PROJECT AREA**

**ENDANGERED SPECIES**

*Cytandra viridiflora*

*Chamaesyce rockii*

*Viola oahuensis*

*Mysine judii*

*Cyanea st-johnii*

**Common Name**

Ha'iwale

Akoko

None known

Kolea

Haha

**CANDIDATE SPECIES**

*Zanthoxylum oahuensis*

None known

**SPECIES OF CONCERN**

*Joinvella ascendens*

*Myrsine fosbergii*

*Cyanea lanceolata calycina*

None known

Kolea

Haha

APPENDIX D.

NATIVE VERTEBRATES AND INVERTEBRATES  
KNOWN TO EXIST IN THE PROJECT AREA

VERTEBRATES

*Himatione sanguinea*  
*Hemignathus virens*  
*Pluvialis fulva*  
*Awaous guamensis*

Common Name

Apapane  
Amakihi  
Golden Plover  
O'opu nakea

Federal Status

None  
None  
None  
None

INVERTEBRATES

*Achatinella sowerbayana*  
Tornatellides  
Succinides  
Auricullelides  
*Atyoida bisulcata*

Kahuli tree snail/O'ahu tree snail  
None known  
None known  
None known  
'Opae kala'ole

Endangered  
None  
None  
None  
None

**APPENDIX E. CONSULTATION REVIEW COMMENTS**



KAMEHAMEHA SCHOOLS

COPY

SIMILAR LETTER SENT TO  
ATTACHED LIST OF  
ORGANIZATIONS.

December 23, 2002

State Conservationist  
Natural Resources Conservation Service  
P.O. Box 50004  
Honolulu, HI 96850

Subject: Consultation Review of Draft Environmental Assessment for the Helemano  
Watershed Protection plan, TMK 1-6-3-01, O'ahu, Hawai'i

Enclosed please find a copy of the Draft Environmental Assessment (DEA) for the Helemano Watershed Management Project. We are submitting this copy of our DEA to consult with you concerning our efforts to protect the upper Helemano Watershed in the northern Ko'olau Mountains on O'ahu.

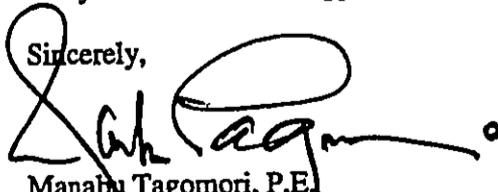
If you have any comments about our plan that you feel we should include in the Draft Environmental Assessment, please send them to us by January 15, 2003. We will attempt to incorporate your comments into the DEA we submit to the Office of Environmental Quality Control for publication in *The Environmental Notice* at the end of January. If we do not hear from you by this time, we will assume you do not have comments on the project. There is always an opportunity to comment on the DEA during the official 30-day review period after submission, but we wanted to be proactively thorough in addressing any concerns that may arise.

Please submit comments to:

Mr. Manabu Tagomori  
Water Resources Manager  
Kamehameha Schools  
567 S. King Street, Suite 200  
Honolulu, HI 96813

We feel this project is an integral component toward to the protection of the unique Hawaiian ecosystem found in the upper Helemano watershed. We welcome your input.

Sincerely,



Manabu Tagomori, P.E.  
Water Resource Manager

Enclosure

|   |   |  |
|---|---|--|
| <p>State Conservationist<br/>Natural Resources Conservation Service<br/>P.O. Box 50004<br/>Honolulu, HI 96850</p>   | <p>Department of Health<br/>State of Hawaii<br/>Environmental Planning Office<br/>919 Ala Moana Blvd., 3<sup>rd</sup> Floor<br/>Honolulu, HI 96814</p>                                | <p>Mr. David Higa<br/>Dept. of Land and Natural Resources<br/>Commission on Water Resource Mgmt<br/>P.O. Box 621<br/>Honolulu, HI 96809</p>                |
| <p>State Historic Preservation Officer<br/>Dept. of Land and Natural Resources<br/>Historic Preservation Division<br/>601 Kamokila Blvd., Room 555<br/>Honolulu, HI 96707</p> | <p>Dr. Michael G. Hadfield<br/>Professor of Zoology &amp; Director,<br/>Kewalo Marine Laboratory<br/>Pacific Biomedical Research Center<br/>41 Ahui Street<br/>Honolulu, HI 96813</p> | <p>Long Range Planning Office<br/>City and County of Honolulu<br/>Honolulu Board of Water Supply<br/>630 South Beretania Street<br/>Honolulu, HI 96813</p> |
| <p>City and County of Honolulu<br/>Department of Land Utilization<br/>650 South King Street<br/>Honolulu, HI 96813</p>  | <p>Kathleen Pahinui, Chair<br/>North Shore Neighborhood Board<br/>P.O. Box 577<br/>Haleiwa, HI 96712</p>  | <p>Sheri R. Bentley, Chair<br/>Wahiawa Neighborhood Board<br/>c/o Neighborhood Board Commission<br/>City Hall, Room 400<br/>Honolulu, HI 96813</p>         |
| <p>Ms. Wendy Johnson<br/>President<br/>Audubon Society<br/>850 Richards Street, Suite 505<br/>Honolulu, HI 96813</p>  | <p>Mr. Neil Evenhuis, Chair<br/>Department of Natural Sciences<br/>Bishop Museum<br/>1525 Bernice Street<br/>Honolulu, HI 96817-2704</p>  | <p>Anne Carter, President<br/>Conservation Council of Hawaii<br/>PMB-203<br/>111 E. Puainako Street, Suite 585<br/>Hilo, HI 96720</p>                      |
| <p>Dayle Turner<br/>President<br/>Hawaiian Trail and Mountain Club<br/>P.O. Box 2238<br/>Honolulu, HI 96804</p>   | <p>Mr. Pascual Dabis<br/>President<br/>Pig Hunters Association of Oahu<br/>1929 Iwaho Place<br/>Honolulu, HI 96819</p>  | <p>Ms. Suzanne Case<br/>Executive Director<br/>The Nature Conservancy of Hawaii<br/>923 Nuuanu Avenue<br/>Honolulu, HI 96817</p>                           |
| <p>Ms. Pauline Sato<br/>Director, Oahu Programs<br/>The Nature Conservancy of Hawaii<br/>P.O. Box 97-1665<br/>Waipahu, HI 96797</p>   | <p>Nikki Love<br/>Conservation Chair - Sierra Club<br/>Oahu Group Executive Committee<br/>P.O. Box 2577<br/>Honolulu, HI 96803</p>  |  |
|   |   |  |
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|   |   |  |
|   |   |  |

LINDA LINGLE  
GOVERNOR OF HAWAII



ERIC T. HIRANO  
ACTING CHAIRPERSON  
MEREDITH J. CHING  
CLAYTON W. DELA CRUZ  
BRIAN C. NISHIDA  
HERBERT M. RICHARDS, JR.  
DEAN A. NAKANO  
ACTING DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
P.O. BOX 621  
HONOLULU, HAWAII 96809  
JAN -7 2002

JAN 9 11 03 AM '02

FU. WR/MGR

Mr. Manabu Tagomori  
Water Resources Manager  
Kamehameha Schools  
567 South King Street, Suite 200  
Honolulu, Hawaii 96813

Dear Mr. Tagomori:

Thank you for allowing us to review the Draft Environmental Assessment for the Helemano Watershed Protection Plan, TMK 1-6-3-01, Oahu, Hawaii.

The project will be to control feral pigs by building a fenced enclosure consisting of 42-inch high beznal coated hogwire. We understand that the fence installation will be done without the use of heavy equipment, therefore work in the Helemano Stream channel will not require a stream channel alteration permit pursuant to Hawaii Revised Statutes §174C-71.

We support watershed partnerships and we appreciate Kamehameha Schools' participation and support for the Helemano Watershed Protection Plan.

If you have any questions regarding this letter, please call David Higa at 587-0249.

Sincerely,

Handwritten signature of Dean A. Nakano in black ink.

DEAN A. NAKANO  
Acting Deputy Director

DH:sd

c. Office of Environmental Quality Control  
Division of Aquatic Resources  
Natural Area Reserves

WAHIAWA NEIGHBORHOOD BOARD NO. 26  
c/o Neighborhood Commission  
City Hall, Room 400  
Honolulu, Hawaii 96813

January 14, 2003

Mr. Manabu Tagomori  
Water Resources manager  
Kamehameha Schools  
567 S. King Street, Suite 200  
Honolulu HI 96813

Subject: DEA for the Helemano Watershed Projection Plan TMK 1-6-3-01, O'ahu, Hawai'i

Dear Mr. Tagomori:

Thank you for your letter dated 12/23/02 regarding the above subject. We wish to inform you that Wahiawa NB No. 26 supports your efforts to protect the Upper Helemano Watershed in the northern Ko'olau Mountains on O'ahu

For our perusal, may we have a copy of the archaeological survey of the area to be fenced. This information will be shared with the Hawaiian Civic Clubs in central O'ahu.

FOR THE CHAIR, WAHIAWA NEIGHBORHOOD BOARD NO. 26:

Sincerely,



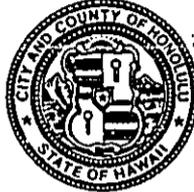
Ben V. Acohido  
Vice Chair, NB 26

Cy Furn:  
Neighborhood Commission  
Each NB 26 Member

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET • HONOLULU, HAWAII 96813  
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS  
MAYOR



ERIC G. CRISPIN, AIA  
Acting DIRECTOR  
BARBARA KIM STANTON  
DEPUTY DIRECTOR

2003/ELOG-25 (MH)

January 15, 2003

Mr. Manabu Tagomori, P.E.  
Water Resources Manager  
Kamehameha Schools  
567 S. King Street, Suite 200  
Honolulu, Hawaii 96813

Dear Mr. Tagomori:

Consultation Review of Draft Environmental Assessment for the  
Helemano Watershed Protection Plan, Oahu, Hawaii

In response to your request for comments of December 23, 2002, in the preparation of the Draft Environmental Assessment we have the following comments to offer:

1. The Draft Environmental Assessment (DEA) should include a section on how the proposed Helemano Watershed Protection Plan is consistent with, the Objectives and Policies of the General Plan, and the North Shore *Sustainable Communities Plan*.
2. TMK 1-6-3-01 does not correspond to the site that is shown in Appendix A. Map of Proposed Fence Route, page 15. Please identify/clarify the Tax Map Key(s) of the proposed site.
3. We look forward to reviewing and commenting on the DEA.

Should you have any questions, please contact Matt Higashida of our staff at 527-6056.

Sincerely yours,

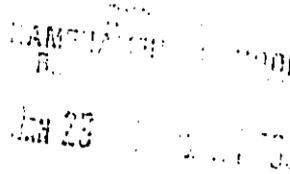
  
ERIC G. CRISPIN, AIA  
Acting Director of Planning and Permitting

EGC:js

cc: Department of Land and Natural Resources  
Office of Environmental Quality Control  
g:/Planning/DivFunction/Ea-cis/2002/Pre DEA for Helemano Watershed Protection Plan

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman  
CHARLES A. STED, Vice-Chairman  
JAN M.L.Y. AMII  
HERBERT S.K. KAOPUA, SR.  
DAROLYN H. LENDIO

LARRY J. LEOPARDI, Ex-Officio

CLIFFORD S. JAMILE  
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI  
Deputy Manager and Chief Engineer

January 17, 2003

Mr. Manabu Togomori, P.E.  
Kamehameha Schools  
567 South King Street  
Honolulu, Hawaii 96813-3036

Dear Mr. Togomori:

Subject: Your Letter of December 23, 2002 on the Draft Environmental Assessment for the Helemano Watershed Protection Plan, TMK: 6-3-1

Thank you for the opportunity to comment on the proposed project.

We do not have any comments on the proposed Helemano Watershed Protection Plan.

If you have any questions, please contact Joseph Kaakua at 527-6123.

Very truly yours,

for CLIFFORD S. JAMILE  
Manager and Chief Engineer

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
HONOLULU, HAWAII

CHIYOME L. FUKINO, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
File:

03-003/epo

January 23, 2003

*Tauo - WTR*

Mr. Manabu Tagomori, P.E.  
Kamehameha Schools  
567 South King Street  
Honolulu, Hawaii 96813-3036

Dear Mr. Tagomori:

Subject: Draft Environmental Assessment (DEA)  
Helemano Watershed Protection Plan, Oahu, Hawaii  
Tax Map Key: 1-6-003:001

Thank you for the opportunity to review and comment on the subject proposal. The DEA was routed to the various branches of the Environmental Health Administration. We have no comments at this time.

If you have any questions, please contact Lance Tauoa at (808) 586-4337.

Sincerely,

*Jane F. Harrigan - lum*

JUNE F. HARRIGAN-LUM, MANAGER  
Environmental Planning Office

c: File



## KAMEHAMEHA SCHOOLS

January 27, 2003

Mr. Eric G. Crispin, AIA  
City and County of Honolulu  
Department of Land Utilization  
650 South King Street  
Honolulu, HI 96813

Dear Mr. Crispin:

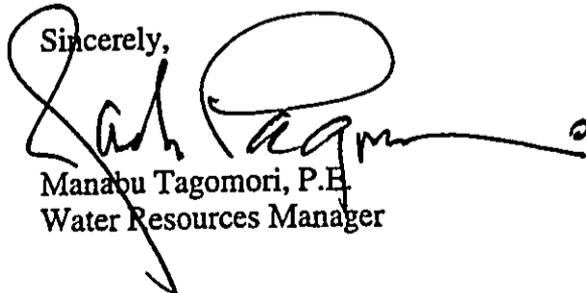
Thank you for your comments provided during the consultation review for the Draft Environmental Assessment (DEA) for the Helemano Watershed Protection Project. We appreciate you taking the time to express your concerns and interest in the project.

The DEA will include a section on how the proposed Helemano Watershed Protection Project is consistent with both the Objectives and Policies of the General Plan and the North Shore Sustainable Communities Plan. In the City and County of Honolulu General Plan, we feel the project is especially aligned with Objective A of Chapter III, Natural Environment to "protect and preserve the natural environment." All of the policies under this objective are consistent with the project as well. Within the North Shore Sustainable Communities Plan, the project supports Chapter 3, Land Use Policies, Principals and Guidelines by protecting ecologically sensitive natural resources and watershed areas.

The Tax Map Key number listed in the DEA is correct. However, the format it was reported in may have caused some confusion. The parcel can be viewed in the City and County GIS database with the following TMK, sans punctuation (6-3-001:001).

Thank you again for your comments, and welcome any further comments you wish to provide during the official comment period.

Sincerely,



Manabu Tagomori, P.E.  
Water Resources Manager

KAMEHAMEHA SCHOOLS  
GENERAL CORRESPONDENCE

January 27, 2003

Mr. Eric G. Crispin, AIA  
City and County of Honolulu  
Department of Land Utilization  
650 South King Street  
Honolulu, HI 96813

Dear Mr. Crispin:

Thank you for your comments provided during the consultation review for the Draft Environmental Assessment (DEA) for the Helemano Watershed Protection Project. We appreciate you taking the time to express your concerns and interest in the project.

The DEA will include a section on how the proposed Helemano Watershed Protection project is consistent with both the Objectives and Policies of the General Plan and the North Shore Sustainable Communities Plan. In the City and County of Honolulu General Plan, we feel the project is especially aligned with Objective A of Chapter III, Natural Environment to "protect and preserve the natural environment." All of the policies under this objective are consistent with the project as well. Within the North Shore Sustainable Communities Plan, the project supports Chapter 3, Land Use Policies, Principals and Guidelines by protecting ecologically sensitive natural resources and watershed areas.

The Tax Map Key number listed in the DEA is correct. However, the format it was reported in may have caused some confusion. The parcel can be viewed in the City and County GIS database with the following TMK, sans punctuation (6-3-001:001).

Thank you again for your comments, and welcome any further comments you wish to provide during the official comment period.

Sincerely,



Manabu Tagomori, P.E.  
Water Resources Manager

**APPENDIX F.**

**LETTERS RECEIVED DURING PUBLIC COMMENT PERIOD IN  
RESPONSE TO DRAFT ENVIRONMENTAL ASSESSMENT**

DOCUMENT CAPTURED AS RECEIVED

0- 0-03: 3:33PM:



**ANIMAL RIGHTS HAWAII  
ADVOCATES FOR ANIMALS**

RECEIVED  
LAND DIVISION

2003 MAY 27 A 10:55

STATE OF HAWAII  
LAND DIVISION  
1555 KALANANAKUI AULI DRIVE  
HONOLULU, HAWAII 96813

State of Hawai'i  
Dept. of Land & Natural Resources  
Attn: Dierdre Mamiya  
Acting Administrator  
Office of conservation and control lands  
DLNR  
Via facsimile: 808.587.0455  
Hard copy sent via postal service (including attachments)

Comments re: draft environmental assessment  
Helemano Watershed Management Project, O'ahu, Hawai'i  
23 May, 2003

Animal Rights Hawai'i absolutely opposes the use of snares. Snares are a primitive, non-selective, cruel method of catching and (usually) killing animals. They are particularly cruel to use on pigs because pigs have strong neck muscles snares cause the animals to suffer in agony for hours, even days before expiring.

We suggest that the fence be built with one-way gates to allow the pigs egress. Hazing or tempting the pigs with food is a more humane method of removing the pigs from the enclosed protected area.

In the long term, chemical sterilization is the most promising and humane method for reducing populations of non-human animals. It has proven successful in some species. We urge governmental and private partner support for this research to speed up the production of immuno-contraception for more animals.

We hope that you will choose compassion and not sentence pigs and other animals to excruciating pain and lingering death.

Truly,  
*Cathy Goeggel*  
Cathy Goeggel  
Director, Research & Investigations  
Attachments: 4

O. Box 10845 Honolulu, Hawaii 96816  
www.animalrightshawaii.org

15  
808.941.9476

DOCUMENT CAPTURED AS RECEIVED

attach #1

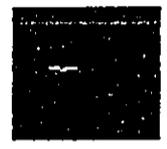


- News
- Background Articles
- How to Help
- Facts, Figures & Quotes
- About NoSnare
- Endorsements
- Suggested Links
- Bibliography
- Main Page
- Site Map

Site Map- Navigation  
for browsers with scripts  
disabled

## MAINE AUDUBON OPPOSES COYOTE SNARING PROGRAM

Statement for Maine Audubon Society  
Great News and great success for NoSnare



Maine Audubon is opposing the use of snares as a wildlife management strategy to control coyote populations, and recommends the Department Of Inland Fisheries and Wildlife end the program. Slipping over the head of and killing any animal that walks into them, snares are indiscriminate traps that put non-target animals at risk. In Maine, bald eagles, Canada lynx, bobcat, deer, snowshoe hare, fox, bear and moose have all been found dead in snares.

Coyote snaring will lead neither to a significant decrease in the coyote population nor a significant increase in the deer population in northern and Downeast Maine. Although short-term effects are possible, studies have shown that coyote litter sizes increase as population densities decrease, quickly compensating for any loss due to snaring. Any long term increase in the deer population is much more likely to be related to habitat quality and quantity and to weather factors such as the severity of the winter than to predation by coyotes.

---

### Association of Veterinarians for Animal Rights

Committed to balancing the needs of nonhuman animals with those of human animals



[www.AVAR.org](http://www.AVAR.org)

4 Novemer 2002  
To Whom It May Concern:

The Association of Veterinarians for Animal Rights is adamantly opposed to the use of neck snares to trap and kill wildlife.

DOCUMENT CAPTURED AS RECEIVED

These snares are inherently cruel and their use can never be justified. When animals are caught in the wire loop, they slowly strangle to death. The terrified animals' struggles to free themselves cause the snares to tighten further, intensifying the suffering. Animals in snares die agonizing and often prolonged deaths.

Neck snares are indiscriminate and ecologically unsound. Although they are usually intended to kill predatory animals, they also frequently kill other animals, including endangered species and human companion animals because they cannot be set to target only a particular species. Nevertheless, the killing of predators is extremely detrimental to biological diversity and ecological balance. Those who advocate this as "management" demonstrate a fundamental lack of understanding of the vital role that predators play in healthy ecosystems.

Nedim C. Buyukmihci, V.M.D.  
President

---

### Maine's NoSnare Task Force



Please consider the information we have included about our mission to ban snaring. If you have further questions, please contact us. Our hope is that as many people as possible will get active in opposing snaring and make a public statement to that effect. We also ask that you consider publishing information about the NoSnare Task Force's efforts in your organization's newsletter. By gathering the influence and support of

Maine organizations working to protect the environment, we hope to create a groundswell of opposition to wildlife snaring among Maine citizens.

Thank you for your efforts on behalf of Maine's wildlife.

• To page top

17

*Attach #2*

## Snares - Why They should Be Banned

### Snares are indiscriminate

Gamekeepers and others who set snares may take precautions to try to ensure that they will capture only the intended victims. However, it is simply not possible to set a snare in such a way that it will only catch a rabbit or a fox and nothing else. The fact is that a great many badgers and other non-target animals are caught in snares every year. Other animals caught in snares include dogs, cats, sheep, horses, deer, and even otters. Many of these animals suffer a terrible fate...

### Snares are barbaric

In theory the use of free-running snares, and the daily inspection of those snares required by law, means that snared animals do not suffer. They either strangle quickly, or hold their victims for a day at most, until the animals are killed humanely by the persons who set the snares.

Well, that's the theory. In practice it is all too easy to set a free-running snare in such a way that it will cause tremendous suffering. If a snare is attached to a post (such as a fence post), the captured animal in its efforts to escape will end up wrapping the wire round and round the post until the noose is so tight that it causes serious injury. Snares have also been found positioned on the tops of walls or banks, so that when they catch their victims, the animals fall and are hung to death.

Even when a free-running snare is set properly, the wire can easily become kinked or tangled in such a way that the snare acts like a self-locker. A self-locking snare continues to tighten as its victim struggles, but does not relax when the animal stops pulling. This

causes the noose to cut through the animal's skin and into its flesh, causing terrible suffering.

A slow death by strangulation - or even near decapitation in some cases - is bad enough. But snares do not only capture animals by the neck. Some animals get their legs caught in snares, and end up with the snare cutting down to the bone. Such animals may attempt to escape by gnawing off their own limbs. Other animals are caught around the body. Both badgers and foxes have been found with snares that have almost cut them in half, the snares around their bodies having tightened to around five centimetres in diameter. Some of these animals were still alive when found.

The daily checking of snares ought to prevent prolonged suffering of those animals which are caught and injured by them. However, there have been many occasions where it is clear that snares have not been checked daily - or even weekly. The discovery of long-dead corpses with snares around their necks, legs or bodies is not uncommon. These animals will have died either as a direct result of their injuries, or by infection of their wounds or even by starvation.

The suffering caused to animals by snares is unimaginable - and wholly unacceptable.

**Outlawing self-locking snares alone is not enough**

Under the law as it stands, the use of self-locking snares is illegal. However, as we have seen, even free-running snares can cause tremendous suffering. This is only part of the problem however.

Even if it was to be accepted that free-running snares do not on the whole cause as much suffering as self-lockers, there remains the difficulty of defining a free-running snare. Dual purpose snares can easily be converted into self lockers. And now there are newer types of snares, which are known to have maimed and killed badgers, cats, sheep, deer and hares, but which seem to defy classification as either free-running or self-locking. Different 'experts' have different opinions, and the result is a legal minefield when any attempt is

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made to prosecute a case where animals have been caught in these snares.

[How To Deal With Traps and Snares](#)

[Home Page](#)

HUNT SNARES SAVE LIVES

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attach # 3

Some trappers use snares to catch animals. These are wire cables formed into a noose. When an animal walks into the noose, it is caught around the neck, body or leg. The more the animal pulls against it, the tighter the noose becomes. A snare around the neck or body will strangle its victim or crush vital organs. The Humane Society of the US (HSUS) has called snares "the most primitive, indiscriminate and inhumane" of traps used legally in the US. HSUS gives the following gruesome description:

*"Animals killed in snares are often referred to as 'jellyheads' because of the thick, bloody lymph fluid that swells their heads and necks"*

If a snare catches an animal around the leg, it will almost certainly lose the limb, as described in a fur industry trade journal:

*"It (a snare) is known to completely cut off the blood supply to the limb, causing foot damage, tissue death and certain loss of the limb. The cable has the ability to cut like a knife. These facts are well documented with obvious results"*

Humane Society of the United States

attch #4

## Immunocontraception

Immunocontraception is a birth control method that uses the body's immune response to prevent pregnancy. The Humane Society of the United States continues to lead development of this emerging technology, which offers a humane means of controlling animal populations in situations where it is necessary and appropriate to do so. We have actively forged partnerships with public agencies, communities, parks, zoos, and other entities to test immunocontraceptive vaccines and begin to control wildlife populations.

We have several active deer immunocontraception field sites, including locations in New York, Maryland, and Ohio. In South Africa, we are conducting a series of immunocontraception field tests on elephants. Closer to home, The HSUS is working with biologists and officials of the U.S. National Park Service and Bureau of Land Management to use immunocontraception to control the size of wild horse herds. And, by making immunocontraception technology available to zoos, we are helping to alleviate the suffering that results from the excessive breeding of wildlife in captivity.

Finally, The HSUS is funding non-invasive research to develop long-acting immunocontraceptives and immunosterilants for companion animals. It is our goal to find a safe, one-shot vaccine that can be made available at a low cost to animal shelters, animal control officers, and others who are working to end cat and dog overpopulation.

## Is PZP Safe? Immunocontraceptive Vaccines and Their Regulation

The HSUS studies porcine zona pellicuda (PZP) under the auspices of an Investigational New Animal Drug (INAD) exemption from the federal Food and Drug Administration (FDA). The INAD is the FDA's mechanism for authorizing and guiding research directed at moving new drugs through the approval process. Under FDA rules, a drug or vaccine being studied under an INAD cannot be described by its sponsor as "safe" for a specific use. However, the FDA does review all research projects for scientific validity, relevance to the drug approval process, target animal safety, and human food safety.

The total volume of a PZP injection is 1 cc (approximately 1/5 teaspoon). In general, there are two components to the PZP vaccine. The first is the PZP itself, which is a family of pig proteins extracted from pig ovaries by simple physical and chemical processes, dissolved in a saline solution. There is absolutely no evidence that PZP in the form we use it is physiologically or immunologically active when eaten—which is why we go to the trouble of injecting it rather than administering it using an easier method. The second component of the vaccine is an adjuvant, a substance that boosts the action of the immune system.

The initial research with PZP was performed using Freund's Complete Adjuvant (FCA) for the initial shot and Freund's Incomplete Adjuvant (FIA) for subsequent shots. Both adjuvants consist principally of mineral oil; FCA also contains killed fragments of *Mycobacterium tuberculosis*, the bacteria that causes tuberculosis. We treated hundreds of deer and horses with injections of PZP and FCA and saw only minor local reactions (swellings and, rarely, draining abscesses). However, because FCA can cause false positive readings in tuberculosis tests in deer (FCA does not cause tuberculosis), has a history of provoking severe inflammatory reactions in laboratory animals, and perhaps for other reasons as well, the FDA rejected the use of FCA in a commercial product. Consequently, The HSUS no longer uses FCA in deer immunocontraception studies.

A variety of commercial and experimental adjuvants are under consideration by The HSUS and other investigators, and suitable alternatives with better safety records than FCA have been found. Over the last quarter-century, thousands of animals belonging to dozens of species have been treated with the PZP vaccine. Side effects of PZP that have been reported so far include the injection site reactions described above, ovarian abnormalities in dogs, an extended breeding season in deer, and ovarian and bone marrow abnormalities in deer. No one has yet documented that the extended breeding seasons or the observed abnormalities are harmful, but these areas are under active investigation.

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## Other Fertility Control Agents

Although the bulk of field research on wildlife contraception has been conducted with porcine zona pellucida (PZP) immunocontraception, other fertility control technologies are also being tested.

### GnRH "Agonists" and GnRH Vaccines

GnRH (gonadotropin releasing hormone), a small peptide hormone produced by the brain, is the switch that controls reproductive function in both sexes. In females, blocking GnRH stops ovulation, the estrous cycle, and the production of estrogen and progesterone from the ovaries. In males, blocking GnRH stops the production of sperm and testosterone in the testes.

There are at least two approaches to blocking GnRH function. One is to inject the animal with a GnRH "agonist," which interferes with normal patterns of GnRH release by stimulating a negative feedback loop. The other is to use a GnRH immunocontraceptive vaccine, which causes the body to produce antibodies to GnRH, which in turn prevent it from stimulating the production of other reproductive hormones.

Implants of GnRH agonists have been tested with some success on captive mule deer by D.L. Baker and colleagues at the Colorado Division of Wildlife Research Center in Fort Collins and on wild carnivores of a variety of species by H.J. Bertschinger at the University of Pretoria (South Africa) and his colleagues. GnRH vaccines have shown promise in studies of captive white-tailed deer by L. Miller at the USDA's National Wildlife Research Center in Fort Collins and his colleagues, and in the field by P. Curtis and colleagues at Cornell University.

Both GnRH agonists and vaccines can alter behavior, physiology, and even body form in important ways. Because of these effects, The HSUS has serious concerns about the use of anti-GnRH contraceptives on wildlife. However, the same effects that we consider undesirable in wildlife contraceptives (such as suppression of estrus behavior) may prove to be desirable when applied to companion animals.

### Prostaglandins

Prostaglandins are chemicals produced in different regions of the body for a variety of purposes. One purpose of prostaglandins is to help stimulate contractions in the wall of the uterus during the birth process. A. DeNicola of White Buffalo, R. Warren of the University of Georgia, and others have induced abortions in white-tailed deer by administering prostaglandins by biobullet (a bullet-shaped object that can be filled with vaccine, hormone, etc., and fired at an animal) or other means. For humane reasons, however, The HSUS does not support the use of prostaglandins for wildlife population control.

## Questions and Answers about Immunocontraception

### What is immunocontraception?

Immunocontraception is a birth control method that uses the body's immune response to prevent pregnancy.

### Why is The HSUS sponsoring research in immunocontraception?

The HSUS believes that immunocontraception may offer a humane, nonlethal solution to conflicts between people and wildlife in urban and suburban areas as well as a solution to local problems of animal overabundance. Immunocontraception can also help reduce the overproduction of captive animals in zoos and other facilities. In the future, it may play a role in controlling dog and cat overpopulation.

### What are the current objectives of immunocontraceptive research?

The HSUS is working to develop a porcine zona pellucida (PZP) immunocontraceptive vaccine that will meet U.S. Food and Drug Administration (FDA) standards for safety and effectiveness and serve as a practical tool for the humane control of wildlife populations. We are also developing field techniques, examining the

effects of immunocontraception on wildlife population growth, and exploring the potential for the use of immunocontraceptives on companion animals.

#### What is PZP?

PZP (porcine zona pellucida) is a protein that occurs naturally in pig ovaries. The HSUS and others are conducting research to develop a synthetic form of PZP.

#### How does PZP prevent pregnancy?

Zona pellucida (ZP) proteins surround the unfertilized eggs of all mammals. Sperm must attach to ZP before an egg can be fertilized. When pig ZP (PZP) is injected into a female animal, that animal's body produces antibodies to it. These antibodies attach to the female's ZP proteins, preventing sperm from attaching and blocking fertilization.

#### How is PZP administered?

The HSUS and its collaborators administer PZP by hand injection or via a dart fired from a dart rifle, CO<sub>2</sub> pistol, or blowgun. Other researchers have administered PZP via biobullet (a bullet-shaped object that can be filled with vaccine, hormone, etc., and fired at an animal).

#### How long does PZP last?

In the past, two injections have been given in the initial year, followed by annual boosters. However, one-shot PZP vaccines that last at least a year have been tested successfully on horses by The HSUS and its collaborators and on other species by other investigators.

In particular, Spay-Vac®, a form of PZP produced by ImmunoVaccine Technologies in Nova Scotia, has demonstrated one-shot, long-term effectiveness in studies involving a variety of species. One-shot procedures should soon become standard.

#### Is PZP experimental?

PZP is experimental in the sense that it is being used under an Investigational New Animal Drug exemption from the FDA and has not yet been approved by the FDA as "safe and effective" for use as a wildlife contraceptive. It is also experimental in the sense that all current uses of PZP are built around scientific studies. However, the PZP vaccine and its effects are fairly well known. PZP was developed more than a quarter century ago and has been extensively tested on many species in the lab and in the field.

#### Has PZP been shown to reduce deer populations?

Much more work must be done to determine where and to what extent PZP can reduce deer populations. To our knowledge, there are only two locations where immunocontraception has reduced deer populations; we are proud that these were part of studies conducted by The HSUS.

- At Fire Island National Seashore, New York, The HSUS/National Park Service research team has treated deer with PZP since 1993. Population monitoring began in 1995, and approximately 200 deer have been treated each year since 1998. Two or more consecutive years of PZP vaccinations reduced pregnancy rates in treated animals by 85-90 percent. Deer population densities in the most heavily treated area rose by 11 percent annually between 1995 and 1998, then declined by 23 percent annually from 1998 through 2000.
- At the National Institute of Standards and Technology (NIST), a 574-acre federal research campus in Gaithersburg, Maryland, The HSUS began treating deer with PZP in 1996. At NIST, the population rose from approximately 200 deer in late 1995 to a peak of approximately 300 in 1997, subsequently declining to approximately 200.

#### Is PZP being used to manage wild horses?

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PZP was first shown to prevent pregnancies in wild horses at Assateague Island National Seashore, Maryland, in 1989. The National Park Service (NPS) has been using PZP to stabilize the wild horse population at Assateague since 1994. At Cape Lookout National Seashore, North Carolina, the NPS began using PZP to stabilize the wild horse population at Shackleford Banks in 2000.

In collaboration with The HSUS and our research team, the Bureau of Land Management has tested PZP extensively on wild horses living on public lands in the western United States. Policy guidelines and biological models have been developed for the use of PZP as a wild horse management tool on public lands, but none of these herds are formally managed with PZP at this time.

**What other wildlife species are being treated with PZP?**

PZP is being tested on captive animals of about 100 species in about 100 zoos and aquaria worldwide.

Additionally, PZP is being given to tule elk at Point Reyes National Seashore, California, and to water buffalo on Guam (in cooperation with the U.S. Navy).

PZP has also been successfully delivered to African elephants in the field at Kruger National Park in South Africa, and additional elephant field projects are underway.

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May 23, 2003

BY FACSIMILE AND U.S. POSTAL SERVICE

Founder  
Cleveland Amory  
Chair  
Marian Probst  
President  
Michael Markarian  
National Director  
Heidi Prescott

Dierdre Mamiya  
Acting Administrator  
Office of Conservation and Coastal Lands  
Department of Land and Natural Resources  
State of Hawai'i  
P.O. Box 621  
Honolulu, HI 96809-0621  
Facsimile: (808) 587-0455

To Whom It May Concern:

On behalf of the nationwide membership of The Fund for Animals, including 330 members who reside in the State of Hawai'i, I submit the following comments on the Draft Environmental Assessment of the Helemano Watershed Management Project, O'ahu, Hawai'i (DEA).

The Fund for Animals is opposed to the killing of feral pigs and recommends that every means possible be employed to exclude or remove the pigs from the proposed enclosure in a non-lethal manner. An example of methods that should be tried is to drive any remaining pigs out of the enclosure when it is near completion, and then immediately finish the fence. Depending on the terrain, a moving line of people, approximately ten feet apart, and using noisemakers, could be effective in driving the feral pigs towards the opening. Any remaining pigs can be live-trapped or tranquilized, neutered/spayed, and released outside the area. This would allow the pigs to live, but not to reproduce.

The Fund for Animals believes that under no circumstances should lethal methods be used. However, if the Department ignores the recommendations, methods of killing that produce the least amount of suffering for the feral pigs should be used. Snare trapping would not fall into that category.

Again, since the "ultimate goal of the project is to remove feral pigs (*Sus Scrofa*) from within the fence..." and not to specifically and purposefully *kill* feral pigs, we urge the adoption of non-lethal recommendations. Indeed, the DEA states that the "activities of the fence construction crew may drive pigs from the area and no control may be necessary." An outcome like this, with no feral pig casualties, is

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ideal not only for the goals of the project, but for the individual feral pigs in the area to whom we owe due consideration of their interests.

Thank you for the opportunity to submit comments on this important issue.

Sincerely,

  
Pierre Grzybowski  
Grassroots Coordinator

6- 8-03: 3:33PM:

# 18/ 25

LINDA LINGLE  
GOVERNOR OF HAWAII

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MAY 23 2003



GENEVIEVE SALMONSON  
DIRECTOR

2003 MAY 23 A 10: 08

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETAMA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
Telephone (808) 586-4185  
Facsimile (808) 586-4185  
Email: oeqc@health.state.hi.us

May 22, 2003

Mr. Manabu Tagomori  
Kamehameha Schools  
567 South King Street, Suite 200  
Honolulu, Hawai'i 96813

Mr. Matthew Myers  
Department of Land and Natural Resources, State of Hawai'i  
Land Division  
P.O. Box 621  
Honolulu, Hawai'i 96809

Dear Messrs. Tagomori and Myers:

The Office of Environmental Quality Control (OEQC) has reviewed the draft environmental assessment for the Helemano Watershed Protection Project, Tax Map Key 6-3-001, parcel 001 in the judicial district of Waialua and offers the following comments for your consideration and response:

1. RELATIONSHIP TO THE 'OPAE'ULA FENCE PROJECT. Page 2 contains a typographical error - ' pae'ula should be 'Opae'ula? In the Appendix, please show the location of the 'Opae'ula fence project in relation to the present Helemano project and consider the cumulative impacts, if any, of the two fencing projects.

Thank you for submitting a document that is well-prepared, reflecting many hours of pre-consultative work. If there are any questions, please call Leslie Segundo, Environmental Health Specialist, at (808) 586-4185. Thank you for the opportunity to comment.

Sincerely,

*Genevieve Salmonson*  
GENEVIEVE SALMONSON  
Director

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LINDA LINGLE  
GOVERNOR OF HAWAII



PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON  
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU  
DEPUTY DIRECTOR - WATER



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LAND DIVISION

2003 MAY 12 A. 9:49

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

MAY - 7 2003

HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING, ROOM 555  
601 KAMOKILA BOULEVARD  
KAPOLEI, HAWAII 96707

Lieutenant Colonel Floyd A. Quintana  
Director of Public Works  
Department of the Army  
Headquarters United States Army Garrison Hawaii  
Schofield Barracks, Hawaii 96857-5000

LOG NO: 2003.0393  
DOC NO: 0304EJ35

Dear Lieutenant Colonel Quintana:

**SUBJECT: National Historic Preservation Act - Section 106 Compliance - Construction of Ungulate Enclosure Fence in Cooperation with the U. S. Army Garrison, Hawaii, Kamehameha Schools, State of Hawaii Division of Forestry and Wildlife, Natural Area Reserves and the U. S. Fish and Wildlife Services in the Upper Reaches of the Helemano Stream Drainage.  
Kawailoa, Walalua, O'ahu  
TMK: (1) 6-3-001:001**

Thank you for the opportunity to provide comment on the proposed undertaking to create a pig free ecosystem of approximately 200 acres within the upper reaches of the Helemano Stream Drainage. We received a CDUA [Board Permit] for this action on March 28, 2003. Additional information requested by SHPD was received on April 3, 2003, and included results of an archaeological reconnaissance of the fence line route prepared by cultural resource specialists for USAG-HI. Subsequent to that, your Section 106 consultation letter was prepared and received in our office on April 28, 2003. Our review is based on historic maps, aerial photographs, records, and reports maintained at the State Historic Preservation Division; no field inspection was made of the proposed project area.

Ground disturbance includes hand clearing a corridor no more than 10 feet wide and approximately 2750 meters long to erect the a fence line. Clearing of the corridor and construction of the fence and platform will be done by hand with hand tools. The USAG-HI conducted an archaeological reconnaissance of the fence line route (*Trip Report, Archaeological Reconnaissance of Fence Line Route of Proposed Helemano Enclosure, Upper Pe'ahinā'a, Ko'olau Summit, Kawailoa Training Area (KLO); O'ahu Island, Hawaii January 23, 2002*). According to the Army, the proposed fence line has the potential to adversely affect the visual integrity and/or accessibility of Site 50-80-04-5638, the Ko'olau Summit Trail, which has been

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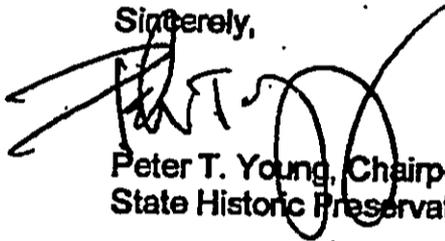
identified within the area. Two measures have been proposed to minimize impacts to the trail; 1) realignment of the fence away from the trail when possible and 2) construction will include the building of crossovers to ease accessibility to the trail.

Provisions have been made for US Army Garrison personnel to minimize impacts of the fence to the Summit Trail.

You have determined that the proposed undertaking may have an "adverse effect" on the historic trail. You have made a finding of "no adverse effect" with the proposed mitigation measures described above. We concur with your determination of effect and finding of "no adverse effect."

Should you have any questions, please feel free to call Sara Collins at 692-8026 or Elaine Jourdane at 692-8027.

Sincerely,



Peter T. Young, Chairperson and  
State Historic Preservation Officer

EJ:jk

c: ✓ Dierdre Mamiya, Administrator, Land Division File No. CDUA OA-3123B

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LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION  
P.O. Box 821  
HONOLULU, HAWAII 96809

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
DAN DAVIDSON  
DEPUTY DIRECTOR FOR LAND  
ERNEST Y.W. LAU  
DEPUTY DIRECTOR FOR  
THE COMMISSION ON WATER  
RESOURCE MANAGEMENT

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FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE  
COMMISSION  
LAND  
STATE PARKS

April 22, 2003

MEMORANDUM

TO: Dierdre S. Mamiya, Administrator

ATTN: Sam Lemmo

FROM: Robert M. Ing, Land Agent *RI*  
Land Division *RL*

SUBJECT: Request for Comments  
(Conservation District Use Application (CDUA) for Hand Clearing of a Corridor,  
Fence Line and Fence Construction.

We have no comments.

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# 21/ 20

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

850 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
Telephone: (808) 523-4414 • Fax: (808) 527-8743 • INTERNET: www.co.honolulu.hi.us

2003 APR 22 AM 11:05

JEREMY HARRIS  
MAYOR



ERIC G. CRISPIN, AIA  
DIRECTOR

BARBARA KIM STANTON  
DEPUTY DIRECTOR

2003/ELOG-1136 (RY)

April 21, 2003

Ms. Diedre S. Mamiya  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Ms. Mamiya:

**Subject: Conservation District Use Application (CDUA OA-3123) and Draft Environmental Assessment for Hand clearing of a Corridor, Fence Line and Fence Construction for Kamehameha Schools Helemano Watershed Project  
Tax Map Key 6-3-1: 1, Waialua, Oahu.**

The proposed project is designated within the State Land Use Conservation District, zoned P-1 Restricted Preservation District, and located outside of the Special Management Area.

With respect to long-range planning policies, the project is consistent with Section 3.1.3, Guidelines for Open Space and the Natural Environment of the North Shore *Sustainable Communities Plan*, relating to identification and protection of endangered species, native ecosystems, and other important ecologically sensitive areas.

Thank you for the opportunity to comment. If you have any questions, please contact Raymond Young of our staff at 527-5839.

Sincerely yours,

  
ERIC G. CRISPIN, AIA  
Director of Planning and Permitting

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Doc 214896

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|-------------------------------|---|
| DIVISION OF AQUATIC RESOURCES |   |
| DIRECTOR                      | <input checked="" type="checkbox"/> Suspense Date                 |
| COM. FISHERIES                | <input checked="" type="checkbox"/> Div. By                       |
| AG. REC/ENV.                  | <input checked="" type="checkbox"/> Rep. Div.                     |
| AG. PLAN.                     | <input checked="" type="checkbox"/> Comm. Div.                    |
| STAFF SVCS.                   | <input checked="" type="checkbox"/> Plan. Div.                    |
| FISH DEVA.                    | <input checked="" type="checkbox"/> Cont. Act. & PM. Div.         |
| STATISTICS                    | <input checked="" type="checkbox"/> Sub. Nat. Res. Div.           |
| AFRIC. SVCS.                  | <input checked="" type="checkbox"/> Div. of Forestry and Wildlife |
| EDUCATION                     | <input checked="" type="checkbox"/> Historic Preservation Div.    |
| REL. PB. MGMT.                | <input checked="" type="checkbox"/> Oahu District Land Agent      |
| OFFICE SVCS.                  | <input checked="" type="checkbox"/> Hawaii District Land Agent    |
| FED. AID                      | <input checked="" type="checkbox"/> Maui District Land Agent      |
| J.C.                          | <input checked="" type="checkbox"/> Other                         |

STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 Land Division

MAR 25 2003

File # CDUA OA-3123B  
 Acceptance Date: March 17, 2003  
 180-Day Expiration Date: September 13, 2003  
 SUSPENSE DATE: 21 Days from stamped date

4/17

MEMORANDUM

TO: Division of Aquatic Resources, Division of Forestry and Wildlife, Historic Preservation Division, Oahu District Land Agent

FROM: Dierdre S. Mamiya, Administrator *Dierdre Mamiya*  
 Land Division

SUBJECT: REQUEST FOR COMMENTS  
 Conservation District Use Application (CDUA)  
 [Board Permit]



APPLICANT: Kamehameha Schools

FILE NO.: OA-3123B

REQUEST: Conservation District Use Application for Hand Clearing of a Corridor, Fence Line and Fence Construction

LOCATION: Waialua, Oahu

PUBLIC HEARING: YES X NO   

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 HISTORIC PRESERVATION DIVISION

Attached please find a copy of the subject CDUA, Draft Environmental Assessment (DEA) and our Department's Notice of Acceptance and Environmental Determination. We would appreciate your review and comment on this CDUA by the suspense date noted above.

Should you require additional information, please call Matthew Myers of our Planning Branch at 587-0382. If no response is received by the suspense date, we will assume there are no comments.

Attachment(s)  
*No Objections*

*W. Devick*  
 William S. Devick

4-11-03

5



**STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813**

April 4, 2003

Ms. Dierdre S. Mamiya  
Administrator  
Land Division  
Department of Land and Natural  
Resources  
P.O. Box 621  
Honolulu, HI 96809

2003 APR 09 A 10:45  
RECEIVED

**SUBJECT: CDUA AND DEA FOR HAND CLEARING OF A CORRIDOR,  
FENCE LINE AND FENCE CONSTRUCTION**

Dear Ms. Mamiya:

Thank you for the opportunity to review the above referenced CDUA and DEA which will result in the creation of a pig free ecosystem of approximately 200 acres.

The Office of Hawaiian Affairs (OHA) has several concerns. The draft environmental assessment does not adequately evaluate the impact of the project on cultural resources. The document should include ethnographic, historical, anthropological and other culturally-related documentary research relating to the site. Given the nature of the project, specific findings should be included relating to how the project will specifically interfere with any known traditional trails or access ways. The document should also discuss any previous archeological inventory surveys done of the area and based on those findings, assess the need for further study. A substantive cultural impact statement, based on consultation with the Hawaiian community, is required by Act 50, Session Laws of 2000.

We note that federal funds are being used for this project, which requires a National Historic Preservation Act (NHPA) Section 106 Consultation. A formal consultation does not begin until a written Request for Consultation is made by the respective Federal agency to OHA. The request should be sent by mail to the following address:

Attn: Request for Section 106 Consultation  
Administrator  
Office of Hawaiian Affairs  
711 Kapiolani Blvd. - Suite 500  
Honolulu, HI 96813-5249

DOCUMENT CAPTURED AS RECEIVED

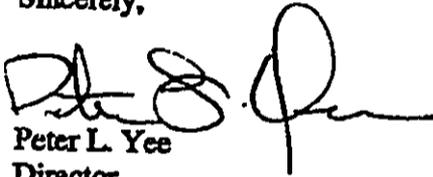
Ms. Dierdre S. Mamiya  
April 4, 2003  
Page Two

OHA's position with regards to the propriety and adequacy of any and all Section 106 consultations is that without proper identification of all potentially interested stakeholders at the outset, the consultation process will be flawed and inadequate. NHPA requires any Federal agency contemplating an undertaking to attempt to identify all potentially interested stakeholders. OHA cannot speak for all Hawaiian organizations and individuals that may be affected by an undertaking. Some potential organizations that you should contact include:

- Local Hawaiian civic clubs
- Local chapters of the royal societies
- Individuals familiar with cultural practices of the area affected by your undertakings

If you have any questions, please contact Jerry B. Norris at 594-1847 or email him at [jerryn@oha.org](mailto:jerryn@oha.org).

Sincerely,



Peter L. Yee  
Director

National hood and Native Rights Division

DOCUMENT CAPTURED AS RECEIVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Land Division

MAR 25 2003

Ref.:PB:MM

File #: CDUA OA-3123B  
Acceptance Date: March 17, 2003  
180-Day Expiration Date: September 13, 2003  
SUSPENSE DATE: 21 Days from stamped date

MEMORANDUM

TO: Division of Aquatic Resources, Division of Forestry and Wildlife, Historic Preservation Division, Oahu District Land Agent

FROM: Dierdre S. Mamiya, Administrator  
Land Division

SUBJECT: REQUEST FOR COMMENTS  
Conservation District Use Application (CDUA)  
[Board Permit]

APPLICANT: Kamehameha Schools

FILE NO.: OA-3123B

REQUEST: Conservation District Use Application for Hand Clearing of a Corridor, Fence Line and Fence Construction

LOCATION: Waialua, Oahu

2003 APR -2 A 6:11  
RECEIVED  
LAND DIVISION

PUBLIC HEARING: YES X NO \_

Attached please find a copy of the subject CDUA, Draft Environmental Assessment (DEA) and our Department's Notice of Acceptance and Environmental Determination. We would appreciate your review and comment on this CDUA by the suspense date noted above.

Should you require additional information, please call Matthew Myers of our Planning Branch at 587-0382. If no response is received by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Signed:   
Michael G. Buck  
DOFAW Administrator

Date: MAR 27 2003

DOCUMENT CAPTURED AS RECEIVED

**APPENDIX G.      RESPONSES TO LETTERS RECEIVED DURING PUBLIC  
COMMENT PERIOD IN RESPONSE TO DRAFT  
ENVIRONMENTAL ASSESSMENT**



## KAMEHAMEHA SCHOOLS

July 11, 2003

Genevieve Salmonson, Director  
Leslie Segundo, Environmental Health Specialist  
State of Hawaii, Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, HI 96813

Dear Ms. Salmonson and Mr. Segundo:

Thank you for your thoughtful comments on our Draft Environmental Assessment regarding the Helemano Watershed Protection Project, TMK 6-3-001, parcel 001. We appreciate you taking the time to review the document and provide your input into the project. Your comments help support our efforts to protect the watershed and unique natural resources of the Ko'olau Range.

The typographical errors noted in your comments have been corrected. The text throughout the document should read "Opae'ula" not "pae'ula". I believe the error may be an artifact of computer font formatting and Hawaiian diacritical markings. A revised map more clearly delineating the existing 'Opae'ula fence and the relation of the proposed fence to existing pathways is attached herein and will be included in the Final EA as Appendix A.

The cumulative effects of two fencing projects are addressed in an expanded paragraph of the EA, Chapter VII, item number eight (8). It will be revised as follows:

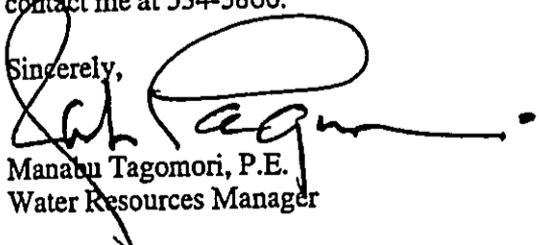
- 8. Individually limited but cumulatively has considerable effect upon environment or involves a commitment for larger actions.**

The cumulative effect of the Helemano enclosure will be a positive one: to increase the total area protected in the Ko'olau Mountains from the destructive effects of feral pigs from 150 to 350 acres. This project, along with the adjacent completed 'Opae'ula fence, currently comprise the only fence enclosures in progress in the Ko'olau Range. They are small in relative scale and in an extremely remote location. Any potential negative impacts are not significantly exacerbated by the addition of this singular enclosure.

The project will also not involve a commitment for a larger action. In the future, the Ko'olau Mountains Watershed Partnership hopes to develop a comprehensive ungulate management strategy for the entire range, but this particular fencing project is limited only to the fence area and its immediate surroundings.

Thank you again for your comments. If you have any further questions or concerns, please feel free to contact me at 534-3866.

Sincerely,

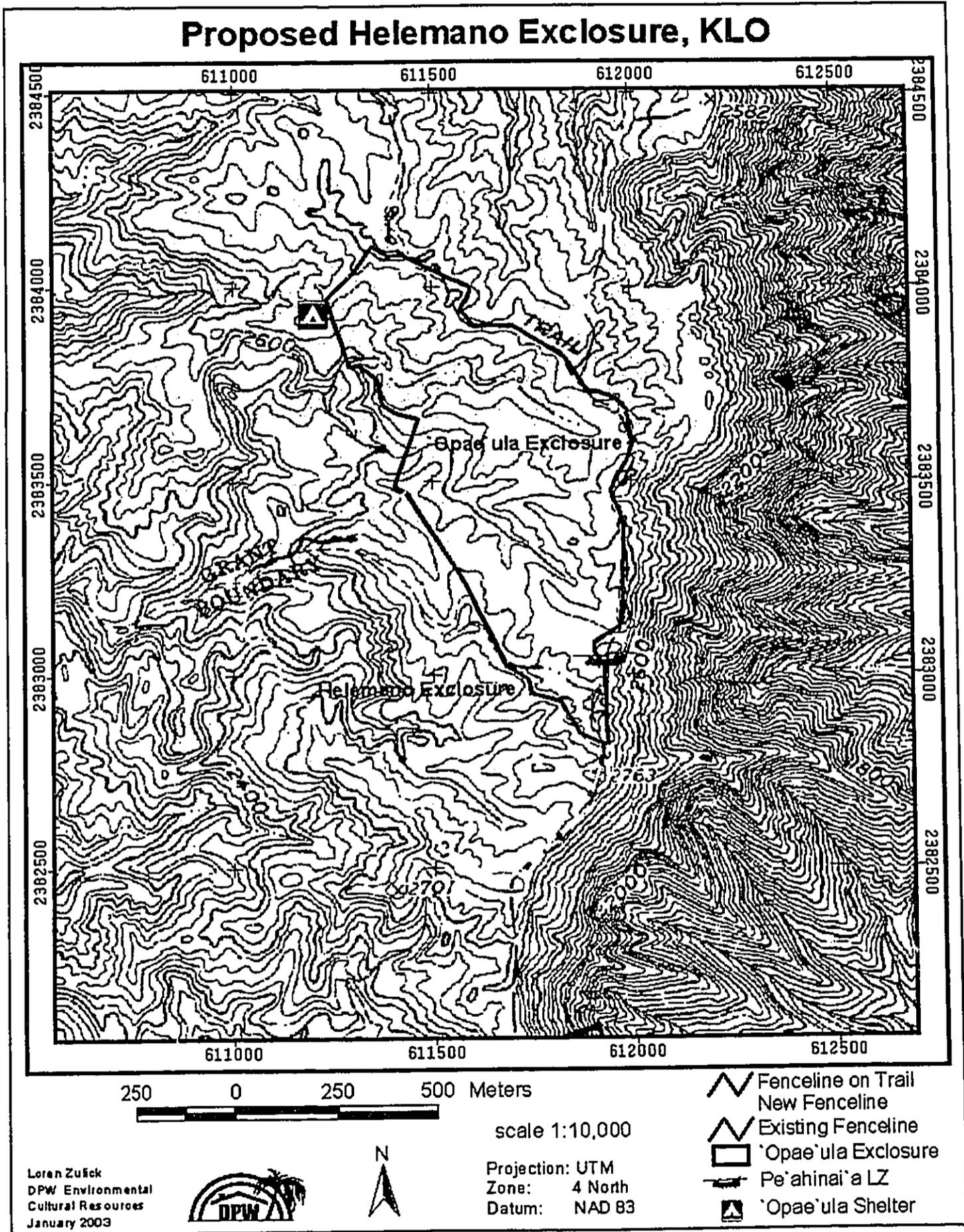
  
Manabu Tagomori, P.E.  
Water Resources Manager

Attachment

567 South King Street, Honolulu, Hawai'i 96813-3036 Telephone (808) 523-6200

*Founded and Endowed by the Legacy of Princess Bernice Pauahi Bishop*

APPENDIX A. MAP OF PROPOSED FENCE ROUTE





## KAMEHAMEHA SCHOOLS

July 11, 2003

The Fund for Animals  
c/o Pierre Grzybowski  
8121 Georgia Avenue, Suite 301  
Silver Spring, MD 20910

Dear Mr. Grzybowski,

Thank you for your thoughtful comments on our Draft Environmental Assessment regarding the Helemano Watershed Protection Project. We appreciate you taking the time to express your concerns and interest in the project. Selection of the fence route has been a long and arduous task balancing factors including cost of construction, impacts on the native ecosystem, and impacts on existing trails. The route we have agreed on strives to minimize the costs while maximize the benefits to the ecosystem and preserve the existing trail network.

The Helemano Watershed Protection Project is a fencing project that aims to protect the valuable native forest resources within this area of the Ko'olau Mountains. The ultimate goal of the project is to remove feral pigs from within the fence, not specifically and purposefully to kill pigs. It is our hope that the noise and disturbance resulting from fence construction will flush pigs out from the fence enclosure area, and that at the conclusion of the fence, there will no pigs trapped within. We were successful in achieving this objective with the adjacent 'Opae'ula Watershed Protection Project. In the unlikely event that a few pigs remain within the fenced area after construction is complete, we will employ public hunters to remove these pigs. The Vice President of the O'ahu Pig Hunter's Association is a member of the Army's Natural Resource Crew. He is excellent at coordinating with responsible members of the hunting group to help with damage control hunts. We hope that we have sufficiently addressed your concerns and hope that you support this project in terms of its' benefit to native natural resources. Please feel free to contact me at (808) 534-3866 if you have any questions.

Sincerely,

Manabu Tagomori, P.E.  
Water Resources Manager

567 South King Street, Honolulu, Hawai'i 96813-3036 Telephone (808) 523-6200

*Founded and Endowed by the Legacy of Princess Bernice Pauahi Bishop*



## KAMEHAMEHA SCHOOLS

July 11, 2003

Peter L. Lee  
Director  
Nationalhood and Native Rights Division  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 500  
Honolulu, HI 96813

Subject: CDUA and DEA for Hand Clearing of a Corridor, Fence Line, and Fence Construction

Dear Mr. Lee:

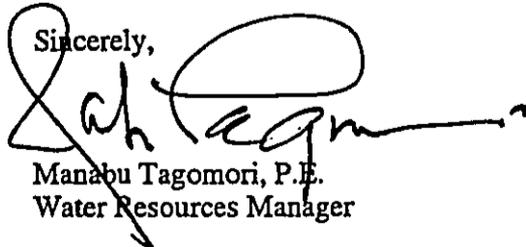
Thank you for your comment letter dated April 4, 2003.

Your comment letter raised concerns about the adequacy of the evaluation of the impact of the project on cultural resources. As noted in the Draft Environmental Assessment, history of the project area and use by Native Hawaiians is not well documented. While the area may have been used historically for activities such as bird hunting and medicinal forest plant gathering, we have found no documentary evidence related to cultural use of this area. In addition, the landowner, Kamehameha Schools, indicates that it has received no requests for access to the area by practitioners and that it knows of no ongoing traditional or cultural practices in the project area.

Your comment letter also noted that because Federal funds are being used for the project, a NHPA (National Historic Preservation Act) Section 106 Consultation is required. A Section 106 consultation has been conducted for this project by the U.S. Army Garrison, Environmental Division with the State Historic Preservation Division. The consultation resulted in a determination of no impact to historic properties. This determination was based upon an archaeological reconnaissance of the fence line route by a cultural resources specialist from the Environmental Division, Directorate of Public Works (DPW), USAG-HI, during which no extant cultural resources on the surface of the ground were observed along the project area. We would like to request your concurrence with this determination and have attached a map of the project area for your convenience.

Thank you again for your review of the Helemano Fence Draft Environmental Assessment. Please do not hesitate to contact me at 534-3866 if you have any additional questions.

Sincerely,



Manabu Tagomori, P.E.  
Water Resources Manager

567 South King Street, Honolulu, Hawai'i 96813-3036 Telephone (808) 523-6200

*Founded and Endowed by the Legacy of Princess Bernice Pauahi Bishop*



## KAMEHAMEHA SCHOOLS

July 11, 2003

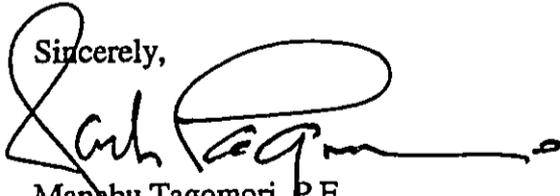
Animal Rights Hawaii  
c/o Cathy Goeggel  
P.O. Box 10845  
Honolulu, HI 96816

Dear Ms. Goeggel,

Thank you for your thoughtful comments on our Draft Environmental Assessment regarding the Helemano Watershed Protection Project. We appreciate you taking the time to express your concerns and interest in the project. Selection of the fence route has been a long and arduous task balancing factors including cost of construction, impacts on the native ecosystem, and impacts on existing trails. The route we have agreed on strives to minimize the costs while maximize the benefits to the ecosystem and preserve the existing trail network.

The Helemano Watershed Protection Project is a fencing project that aims to protect the valuable native forest resources within this area of the Ko'olau Mountains. The ultimate goal of the project is to remove feral pigs from within the fence, not specifically and purposefully to kill pigs. It is our hope that the noise and disturbance resulting from fence construction will flush pigs out from the fence enclosure area, and that at the conclusion of the fence, there will no pigs trapped within. We were successful in achieving this objective with the adjacent 'Opae'ula Watershed Protection Project. In the unlikely event that a few pigs remain within the fenced area after construction is complete, we will employ public hunters to remove these pigs. The Vice President of the O'ahu Pig Hunter's Association is a member of the Army's Natural Resource Crew. He is excellent at coordinating with responsible members of the hunting group to help with damage control hunts. We hope that we have sufficiently addressed your concerns and hope that you support this project in terms of its' benefit to native natural resources. Please feel free to contact me at (808) 534-3866 if you have any questions.

Sincerely,



Manabu Tagomori, P.E.  
Water Resources Manager



## KAMEHAMEHA SCHOOLS

July 11, 2003

Mr. Keith Palmer  
87-131 Kulahanai Place  
Waianae, HI 96792-3362

Dear Mr. Palmer,

Thank you for your thoughtful comments on our Draft Environmental Assessment regarding the Helemano Watershed Protection Project. We appreciate your taking the time to express your concerns and interest in the project. Selection of the fence route has been a long and arduous task balancing factors including cost of construction, impacts on the native ecosystem, and impacts on existing trails. The route we have agreed on strives to minimize the costs while maximize the benefits to the ecosystem and preserve the existing trail network.

We are sensitive to your concerns regarding the Ko'olau summit trail (KST); however please note that the entire length of the Helemano fence line along the summit trail is on private lands and not open for public use at this time. In addition, the Ko'olau Summit Trail is not part of the State of Hawai'i's maintained trail network. Without regular trail maintenance the vegetation obscuring the trail will continue to be a problem. The absence of pigs where the fence incorporates the trail should improve the state of the trail in terms of mud. This project will not worsen the state of the trail. Despite all these things, we feel these trails are valuable historically and culturally. In addition, they may be available for recreational enjoyment by the public in the future if access and maintenance issues are worked out with Kamehameha Schools Bishop Estate. The fence construction will not restrict travel on the trails.

We have routed the fence off the KST where feasible and are planing to construct crossings wherever the fence crosses the trail (gates will not be used because they require closure which we can not ensure). Where the fence does run along the trail we will be sure to preserve the trail. The 26" sleeve to be installed along the ground next to the fence will help stabilize the substrate and significantly improve footing. Being that it is our goal to preserve the ecosystem and watershed through this project, we have sought to keep the amount of new disturbance to a minimum. Our experience has shown us that any area where native vegetation is clear for a trail or fence route the ungulates and weeds are sure to follow. The existing trails are corridors of disturbance and therefore a natural choice for the fence route. However, wherever possible we have routed the fence off the trail through areas that are already disturbed or sparse with native vegetation. In this way we have altered the existing trails to a minimum extent without increasing the level of disturbance to the native ecosystem.

In order to address the issue of the KST being obscured by the fence route and hikers getting lost. We will post signs at junctions so hikers have no question about where the trail is located. Before construction begins again we will invite members of the Hawai'i Trail and Mountain Club on a site visit to determine the best possible fence route in relation to the trail.

567 South King Street, Honolulu, Hawai'i 96813-3036 Telephone (808) 523-6200

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Mr. Keith Palmer  
July 11, 2003  
Page 2

In order to address your concern about the shelter changing from a canvas tent to a more weather proof wooden structure, we have enclosed the determination which was rendered in November of 2002 by the State of Hawai'i, Land Division. This letter amends our CDUA permit #OA-2973 to include the change to a more permanent shelter and includes the details of interest to you.

Our lessee, the U.S. Army has 12 full-time field biologists who work in the project area. They are fully aware of the damage that rats can inflict on native plants. Rat control is extremely labor-intensive as it involves administering rat poison bait in stations in a grid formation. This bait degrades rapidly under the weather conditions at the project area. This being said, the Army Natural Resources crew administers bait at four locations in the Pe'ahinai'a fence enclosure focusing efforts around the endangered *Achatinella* sp. tree snails. In addition, rat bait will be administered at any rare plant population or new snail population where rat predation is deemed a threat. Rat control is certainly no substitute for pig control. Pigs are just as damaging as rats if not more. The management of the area would not be complete without both.

The ultimate goal of the project is to remove feral pigs from within the fence, not specifically and purposefully to kill pigs. It is our hope that the noise and disturbance resulting from fence construction will flush pigs out from the fence enclosure area, and that at the conclusion of the fence, there will no pigs trapped within. We were successful in achieving this objective with the adjacent 'Opae'ula Watershed Protection Project. In the unlikely event that a few pigs remain within the fenced area after construction is complete, we will employ public hunters to remove these pigs. The Vice President of the O'ahu Pig Hunter's Association is a member of the Army's Natural Resource Crew. He is excellent at coordinating with responsible members of the hunting group to help with damage control hunts. We hope that we have sufficiently addressed your concerns and hope that you support this project in terms of its' benefit to native natural resources. Please feel free to contact me at (808) 534-3866 if you have any questions.

Sincerely,



Manabu Tagomori, P.E.  
Water Resources Manager