

1994-05-23-KA-FEA - Hawaii Army National Guard Firing Range MAY 23 1994

FINAL ENVIRONMENTAL ASSESSMENT
FOR IMPROVEMENTS TO
THE HAWAII ARMY NATIONAL GUARD FIRING RANGE
AT KEKAHA, KAUAI, HAWAII

APRIL 1994

PREPARED FOR THE STATE OF HAWAII DEPARTMENT OF DEFENSE
BY THE HAWAII ARMY NATIONAL GUARD FACILITIES MANAGEMENT OFFICE

TABLE OF CONTENTS

	PAGE
1. APPLICANT, APPROVING AGENCY, AND AGENCIES CONSULTED	1
2. TECHNICAL CHARACTERISTICS	1
3. SOCIO-ECONOMIC FACTORS	3
4. ENVIRONMENTAL CHARACTERISTICS	4
5. ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION	5
6. CONCLUSION	9
7. REFERENCES AND BIBLIOGRAPHY	10
8. APPENDICES	11

1. APPLICANT, APPROVING AGENCIES, AND AGENCIES CONSULTED

1.1 APPLICANT:

State of Hawaii, Department of Defense

1.2 APPROVING AGENCY:

State of Hawaii Department of Defense

1.3 AGENCIES CONSULTED:

County of Kauai

County Planning Office
Department of Public Works
Hawaiian Heritage Program, The Nature Conservancy
National Tropical Botanical Garden
State of Hawaii

Department of Defense
Hawaii Army National Guard
Department of Health, Kauai District Office
Department of Land and Natural Resources
Division of Forestry and Wildlife, Kauai Office
Division of Land Management
State Historic Preservation Division
Department of Transportation
Office of State Planning

United States

Department of Agriculture, Soil Conservation Service
Department of Interior, Fish and Wildlife Service

2. TECHNICAL CHARACTERISTICS

2.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed improvements is to increase training opportunities at the existing Hawaii Army National Guard (HIARNG) Rifle Range. Improvements to the HIARNG Rifle Range (hereinafter called the Range) at Kekaha, Kauai, will provide a certified weapons training facility for all Hawaii National Guard personnel stationed on the island of Kauai. The Range, built in 1961, is the only rifle range on the island. The Range is now considered inadequate and unsafe. At the present time, Kauai Guard personnel must be flown to the island of Oahu to perform weapons qualification. After the proposed improvements are completed, the Range will continue to be used by HIARNG, the Hawaii Air National Guard and community groups. HIARNG records for 1993 indicate that the Range was used

2.3.3 IMPROVEMENTS AT THE SUBJECT SITE

Carrying out the proposed project remains a feasible alternative and is the subject of this environmental assessment.

3. SOCIO-ECONOMIC FACTORS

3.1 POPULATION

The 1990 population of Kekaha, according to the 1990 Census Count, was 3,506; while that of the county of Kauai was 50,947, an increase of 31% over 1980. The county includes the island of Niihau which had a population of 230 in 1990. Kauai has a multi-ethnic population. No ethnic stock comprises a majority. Mixed stock, followed by Filipino, Japanese, and Caucasian stock characterize Kauai. The Guard personnel using the range are residents of Kauai, and reflect the multiethnic characteristic of the population.

3.2 ECONOMY

The proposed project will have little effect on the economic base of the community. Growing sugar cane and the production of sugar provided the backbone of the economy of Kekaha for several decades. This industry is declining due to forces far from Kauai. The job count by industry in Kauai for 1991 indicates that services (including hotels), trade, government (local, state, federal), construction, transportation, and agriculture are the chief sources of jobs on the island. The tourist industry forms an important sector of Kauai's economic base.

The cost of the proposed improvements is projected to be \$336,000. The contractor must be a Hawaii licensed contractor and must be selected through the regular bidding process. There can be no guarantee that the successful bidder will be from Kauai; however, some of the money will flow into the Kauai economy regardless.

The proposed improvements will make it possible for the Kauai guardsmen to qualify on-island, avoiding the travel expenses and time involved in flying to Oahu for their qualification.

In addition, the individual soldiers would be spending their money in the home community as well. This latter benefit, though minor, will continue indefinitely into the future. In sum, it appears that the proposed project might produce a small economic benefit.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

1. APPLICANT, APPROVING AGENCIES, AND AGENCIES CONSULTED

1.1 APPLICANT:

State of Hawaii, Department of Defense

1.2 APPROVING AGENCY:

State of Hawaii Department of Defense

1.3 AGENCIES CONSULTED:

County of Kauai

County Planning Office
Department of Public Works
Hawaiian Heritage Program, The Nature Conservancy
National Tropical Botanical Garden

State of Hawaii

Department of Defense
Hawaii Army National Guard
Department of Health, Kauai District Office
Department of Land and Natural Resources
Division of Forestry and Wildlife, Kauai Office
Division of Land Management
State Historic Preservation Division
Department of Transportation
Office of State Planning

United States

Department of Agriculture, Soil Conservation Service
Department of Interior, Fish and Wildlife Service

2. TECHNICAL CHARACTERISTICS

2.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed improvements is to increase training opportunities at the existing Hawaii Army National Guard (HIARNG) Rifle Range. Improvements to the HIARNG Rifle Range (hereinafter called the Range) at Kekaha, Kauai, will provide a certified weapons training facility for all Hawaii National Guard personnel stationed on the island of Kauai. The Range, built in 1961, is the only rifle range on the island. The Range is now considered inadequate and unsafe. At the present time, Kauai Guard personnel must be flown to the island of Oahu to perform weapons qualification. After the proposed improvements are completed, the Range will continue to be used by HIARNG, the Hawaii Air National Guard and community groups. HIARNG records for 1993 indicate that the Range was used

a total of 22 weekends as well as 12 weekdays in 1993. See Appendix A.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The HIARNG proposes to upgrade the existing 300-yard known distance range and to construct a 10-point, 25-meter basic firing range at Kekaha on the island of Kauai. Tax Map Key: 1-2-02; 21. See location map, Appendix B. Existing structures include: one large safety berm between the range and the beach, and one latrine. Water is available on site. An unimproved access road from Kaunualii Highway serves the Kauai County landfill, the Drag Strip and the Range.

New structures will include a target storage building, flag pole, target carriages, impact and side berms, lane markers, limit poles and a roofed mess area. Electricity will be brought to the site, utilizing overhead wires, to operate a public address system and night fire system.

The 800 square foot target storage building will be constructed of steel on a concrete foundation. The 30 foot aluminum flag pole will be erected at the entrance to the range. Steel target carriages will be located in the target pits of both ranges. Fifteen foot high impact berms and side berms will be constructed behind the 25-meter range and between the two ranges. The berms will be constructed with approximately 21,000 cubic yards of fill material obtained off-site. The projected costs for the range improvements total \$336,000. Construction will begin after necessary permits have been received.

2.3 ALTERNATIVES CONSIDERED.

2.3.1 NO ACTION ALTERNATIVE

The no-action alternative would mean continuing use of the range as it presently exists. The present facility consists of a 300-ft. known distance range, with a large impact berm on the ocean side, plus an inadequate latrine, and inadequate storage area. No action means there would be no 25 meter range, no adequate storage building, and no electricity (no night firing, no public address system). There would be no environmental impacts under this alternative.

2.3.2 CHANGING SITES

The existing site is State land, set aside in 1957 for the express purpose of a HIARNG rifle range. The site is large enough to accommodate the proposed improvement. HIARNG has no other land under its control on Kauai which could be used. The environmental effects of constructing a new range at another site might well be greater than improving the present site at Kekaha.

2.3.3 IMPROVEMENTS AT THE SUBJECT SITE

Carrying out the proposed project remains a feasible alternative and is the subject of this environmental assessment.

3. SOCIO-ECONOMIC FACTORS

3.1 POPULATION

The 1990 population of Kekaha, according to the 1990 Census Count, was 3,506; while that of the county of Kauai was 50,947, an increase of 31% over 1980. The county includes the island of Niihau which had a population of 230 in 1990. Kauai has a multi-ethnic population. No ethnic stock comprises a majority. Mixed stock, followed by Filipino, Japanese, and Caucasian stock characterize Kauai. The Guard personnel using the range are residents of Kauai, and reflect the multiethnic characteristic of the population.

3.2 ECONOMY

The proposed project will have little effect on the economic base of the community. Growing sugar cane and the production of sugar provided the backbone of the economy of Kekaha for several decades. This industry is declining due to forces far from Kauai. The job count by industry in Kauai for 1991 indicates that services (including hotels), trade, government (local, state, federal), construction, transportation, and agriculture are the chief sources of jobs on the island. The tourist industry forms an important sector of Kauai's economic base.

The cost of the proposed improvements is projected to be \$336,000. The contractor must be a Hawaii licensed contractor and must be selected through the regular bidding process. There can be no guarantee that the successful bidder will be from Kauai; however, some of the money will flow into the Kauai economy regardless.

The proposed improvements will make it possible for the Kauai guardsmen to qualify on-island, avoiding the travel expenses and time involved in flying to Oahu for their qualification.

In addition, the individual soldiers would be spending their money in the home community as well. This latter benefit, though minor, will continue indefinitely into the future. In sum, it appears that the proposed project might produce a small economic benefit.

4. ENVIRONMENTAL CHARACTERISTICS

4.1 LOCATION

The Kekaha Rifle Range is located on the southwest shore of the island of Kauai. Kauai is geologically the oldest of the major Hawaiian Islands. The island now comprises about 555 square miles. The island is roughly circular in shape, reflecting the development of a typical shield volcano.

The site of the proposed project is located near the southern end of the Mana Plain. The intersection of north latitude 21.58 degrees with west longitude 159.4 degrees indicates the project site. The nearest town is Kekaha (1990 population: 3,506). The HIARNG Hanapepe Armory and Organizational Maintenance Shop #5 lie about eight miles to the south. Lihue, population 5,536 in 1990, is the county seat, and is situated 26 miles away on the island's eastern coast.

4.2 PHYSIOGRAPHY

The shield shaped volcano which formed the island of Kauai arose from the floor of the Pacific Ocean. Kauai is estimated to be between four and five million years old. Over the ages, the volcano became deeply eroded. Spectacular scenery has resulted. The two peaks at the volcano summit each have elevations of about 5,200 ft. In ages past, coral reefs formed on the eroded platforms surrounding the island. The reefs then eroded, forming calcareous sand beaches. The Kekaha Rifle Range is on such a beach.

The soil at the Kekaha Range is in the Jaucas-Mokuleia Association. The soils of this association are typically well drained soils that have coarse textured underlying material on coastal plains. Alternating ridges and valleys make up most of the island's topography. The Kekaha area is one of the most productive of the sugar growing areas in the State. The Kekaha cane fields and mill are operated by the Kekaha Sugar Company, a division of AMFAC. The Kekaha Range is located in the tsunami run-up area.

4.3 CLIMATE

The semi-tropical climate of Kauai is mild and pleasant. The mean annual temperatures range from 70F to 78F at Barking Sands, only a few miles to the north of the subject site. Rainfall on the leeward side of the island (including the Kekaha area) is about twenty inches per year, while about 450 inches fall annually at Mt. Waialeale, said to be the wettest place in the world. The climate of the major Hawaiian islands is produced by the influence of several factors:

- (a) their position in the southerly latitudes;

(b) the moderating effect of the ocean surrounding them on all sides. (Hawaii lies more than 2,400 miles from any continental land mass); and

(c) the nearly continual presence of the northeast trade winds.

4.4 LAND USE

The existing land use at the Kekaha site under consideration was established by Executive Order #1794 signed by then Territorial Governor Samuel Wilder King on July 17, 1957. The Executive Order states that the land is "hereby set aside for the following public purposes: for use as a rifle range and weekend training area to be under the control and management of the Hawaii Army National Guard, Territory of Hawaii."

Today the range is a pre-existing use in the State Conservation District established under the State Land Use Law of 1962. The Conservation District included the Forest Reserve lands and other lands from which the range was set aside. The County of Kauai zoned the area "Preservation."

There will be no change in land use, but the proposed improvements trigger the need for an approved Conservation District Use Application from the Department of Land and Natural Resources (DLNR). The site also lies within the Special Management Area (SMA) of the Coastal Zone Management program. A SMA permit must be obtained from the County of Kauai, because the proposed improvements are projected to cost more than \$250,000.

Neighboring land use will not be affected by the proposed improvements.

Adjoining the HIARNG range on the north is the Navy's Pacific Missile Range Facility (PMRF) at Barking Sands and the Coast Guard's lighthouse. On the west is the beach lying between the rifle range and the ocean. The beach is State owned land controlled by the Department of Land and Natural Resources. To the east is the County owned and operated sanitary landfill. The landfill has grown in height to over thirty feet above ground level and has recently begun operations on an adjoining parcel.

5. ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

5.1 CLIMATE

The proposed action is not expected to affect the climate in any way.

5.2 AIR QUALITY

The project is not expected to have a significant effect on air quality. Dust may be raised during the construction period. The neighboring land uses (landfill, drag strip, seed corn plot, Coast Guard Station, and the Pacific Missile Range Facility) are not expected to be significantly affected.

5.3 NOISE

During the brief period of construction there will be an increase in noise from the construction vehicles. This noise is not expected to carry to the residential areas of Kekaha. There is no expected significant increase in noise during normal use of the Range.

5.4 PHYSICAL SETTING

The basic physical setting of the Kekaha Rifle Range is expected to be the same as it is now. The construction of the proposed safety berms is expected to mean the introduction of off-site soils. This is not expected to alter the growing medium for vegetation, as the introduced soil will be contained in the new berm. The setting of the Range is not expected to be impacted by the proposed project.

5.5 VEGETATION AND WILDLIFE

Communication with Ed Pettys, forester at the Kauai office of DLNR, Roy Kam and Dr. Samuel M. Gon III of the Nature Conservancy and Timothy Flynn of the National Tropical Botanical Garden in Lawai indicates that no endangered species of flora or fauna have been found on the subject site. A search by a qualified botanist failed to discover any examples of ophioglossum consinum, a native plant, once considered to be rare, and which has been found in nearby areas. Any vegetation at the exact site of the proposed berm will be impacted, as the fill brought in to form the berm will cover the plants now growing there. See Appendices D and E.

There are no known endangered fauna on site. At the more extensive Barking Sands facility to the north, endangered species have been sighted, including the Hawaiian Monk Seal, the Hawaiian Gallinule, the Hawaiian Coot, the Hawaiian Stilt and the Hawaiian Duck. No recorded sighting of either threatened or endangered species has taken place at the Kekaha Range. Cattle egrets and other birds attracted by the adjacent landfill do fly over the range.

Robert P. Smith of the U.S. Fish and Wildlife Service has offered the following comments:

1. None of the plant species identified in your PDEA are listed species.

2. Each year, from October through December, lights on Kauai confuse seabird fledglings and cause a great number to collide with man-made objects and fall to the ground. On the ground the fledgling have a difficult time becoming airborne and are easy prey for predators such as cats or dogs. The seabirds of concern in this case are the threatened Newell's shearwater (Puffinus newelli), the category 2 candidate band-rumped stormpetrel (Oceanodromacastro cryptoleucura) and potentially the endangered dark-rumped petrel (Pterodroma phaeopygia sandwichensis).

Initially we were concerned with the possibility of bright lights being installed for night-time operations. Ms. Jane Yamamoto of the Army National Guard assured us that there were no plans to install any lights except for two red limit lights on short poles, one on each side of the firing area, and six lights that would be inside a rain shelter (under a roof). Bright lights are not used for night operations and will not be installed.

Because the projected use of the range for night operations is minimal and because there are no plans to install bright lights, we do not feel that there will be a light-related problem for seabird at the proposed range.

3. We have some concerns about the installation of new power supply lines. Power lines are one type of man-made structure with which the above mentioned species can collide. Even if there is no attractant (bright lights) to lure the birds into the vicinity, power lines could still cause problems for seabirds. Researchers have found a number of downed seabirds under utility wires stretched along unlighted cane roads.

The best solution would be to bury the lines. If this alternative is prohibitively expensive, we recommend that you monitor the effects of any new power lines and be prepared to make modifications if warranted.

In sum, there are no expected significant impacts to the flora and fauna of the area. The new electric lines will be monitored in the months from October to December. Modifications will be made if deemed necessary.

5.6 LAND USE

The project does not affect the land use at the site or at the neighboring sites. The Executive Order establishing the Range makes the condition that no permanent improvements be made. The proposed project is expected to have no effect on land use.

5.7 AESTHETICS

The proposed improvements will not significantly affect the aesthetics of the Rifle Range. It will perhaps look less "natural," and more "improved." There are almost no visitors to the site, which cannot be seen from the state highway. The proximity of the landfill (now being expanded) may not contribute to the aesthetic quality of the Range, but the improvements at the Range are not apt to detract from the aesthetic quality of the area. The portion of the beach immediately adjacent to the range does not appear to be heavily used. The range is effectively hidden from the beach by the large safety berm which appears to have been formed from beach sand many years ago. Phase One of the neighboring Kauai County landfill has recently been closed, but Phase Two is in operation now. There has been encroachment from the landfill on to the Range in the form of dust, odor, and animals. The proposed berm and other range improvements are not expected to pose an issue of aesthetics to the general public. The HIARNG tries to maintain their facilities in a neat and attractive condition.

5.8 WASTE DISPOSAL

Solid Waste. Construction waste will be disposed of at the County landfill as would any domestic waste generated by National Guard activities.

Hazardous Waste. Any hazardous waste which might be generated during construction is to be disposed of in accordance with County, State, and Federal law and regulations. Hazardous waste cannot be disposed of on the island of Kauai. It must be shipped off island. Firing ammunition generates a certain amount of lead waste. The lead dust entering the air is considered insignificant at an outdoor range. The spent projectiles remaining in the berm are expected to have no significant effect on the environment.

5.9 WATER RESOURCES

There are no surface water resources on the site. Brackish water is found below the water table. Drinking water is available from the County system. There are no drinking water wells in the area that are affected by activity at the Rifle Range.

Waste water is disposed of in individual cesspools in the Kekaha area. The Range is in an area designated as a Critical Wastewater Disposal Area with no Exception. Waste water at the Rifle Range is disposed of in an on-site cesspool. No increase in use is expected, however should an increase occur and the cesspool not function well, it is understood that a septic tank would be required. At the present time, usage of the Range is not expected to increase. No significant impact on water resources is expected.

Spill Plans. The HIARNG has an Installation Spill Contingency

Plan and a Spill Prevention Control and Countermeasure Plan which cover possible damage to ground water and navigable waters from any potential spills.

5.10 CULTURAL RESOURCES

There are no known historic sites in the proposed project area. No archaeological surveys have yet to take place in the area. Human burials have been found in the sandy areas of the nearby Pacific Missile Range Facility. Historic sites are a highly sensitive issue in the Hawaiian community. The Department of Defense HIARNG will be completing an archaeological inventory survey with subsurface test excavations in the project impact areas to determine if significant historic sites or burials are present. If such sites are found, a mitigation plan must be approved by the State Historic Preservation Division under Chapter 6E, H. R. S. before the project can start.

During any excavation and soil disturbance an archeologist will be present to monitor the situation. Should significant historic sites or burials be encountered the mitigation plan would be amended to include appropriate measures.

6. CONCLUSION

A review of section five indicates that there are no expected significant impacts. If carried out, the proposed action will provide the required facilities for the training of the Kauai units of the Hawaii National Guard. Provided that the discussed mitigative measures are carried out the proposed action will not significantly impact the human and natural environment in the area under consideration. A Conservation District Use Application will be submitted to the Department of Land and Natural Resources, and a Special Management Area Permit application will be filed with the County of Kauai.

Implementation of the National Environmental Policy Act (NEPA) does not call for a formal environmental assessment because after the proposed project was assessed using an environmental checklist, a categorical exclusion was granted.

The proposed action would result in the most effective method for achieving compliance with the existing training and mission requirements of the Department of the Army and the Hawaii Army National Guard. The proposed action is not likely to involve any of the following:

- destruction of any natural or cultural resource;
- curtailment of the range of beneficial uses of the environment;
- conflict with the State's long-term goals or guidelines as expressed in Chapter 344, HRS;
- substantial effect on the economic or social welfare of the community or state;
- substantial effect on public health;
- substantial secondary effects, such as population changes

or infrastructure demands;

- substantial degradation of environmental quality;
- cumulatively a considerable effect on the environment, or to involve a commitment to a larger action;
- substantial effect on a rare, threatened, or endangered species or its habitat;
- significant effect on the air or water quality or ambient noise levels;
- nor will the proposed project affect an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, freshwater area or coastal waters.

Should cumulative impacts over time appear to be affecting the human environment, additional mitigation measures will be implemented as appropriate.

Based on the above discussion, and taking into account the suggested mitigation measures, implementation of this project does not appear to be a major action significantly affecting the quality of the natural or human environment. There are no indications that implementation of the proposed action will violate Federal, State, or County environmental laws or regulations. Therefore an Environmental Impact Statement (EIS) will not be prepared. It is anticipated that a Negative Declaration will be published in the Bulletin of the Office of Environmental Quality Control, State of Hawaii.

7. REFERENCES AND BIBLIOGRAPHY

- County of Kauai, Department of Public Works. Revised Environmental Impact Statement, Kekaha Sanitary Landfill Expansion Project. R. M. Towill Corporation. Honolulu: 1983.
- Hawaii Audubon Society. Hawaii's Birds. Honolulu: 1989.
- MacDonald, G. A., et al. Volcanoes in the Sea. U. H. Press. Honolulu: 1983.
- Merlin, Mark David. Hawaiian Coastal Plants and Scenic Shorelines. Oriental Publishing Co. Honolulu: 1977.
- Sohmer, S. and R. Gustafson. Plants and Flowers of Hawaii. U. H. Press. Honolulu: 1987.
- State of Hawaii, Dept. of Business and Economic Development. Data Book 1992. Honolulu : 1993.
- Stearns, H. T. Geology of the Hawaiian Islands. U.S.G.S. Honolulu: 1967.
- Tomich, P. Quentin. Mammals in Hawaii. Revised Ed. Bishop

Museum Press. Honolulu: 1987.

-United States Department of Agriculture, Soil Conservation Service/ University of Hawaii Agricultural Experiment Station. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. U. S. Government Printing Office: 1972.

-University of Hawaii, Dept. of Geography. Atlas of Hawaii, Honolulu: 1980. U. H. Press.

8. APPENDICES

Appendix A. Summary of Usage of the Kekaha Rifle Range, CY 1993

Appendix B. Portion of the USGS quadrangle map for Kekaha, Kauai.

Appendix C. Diagram of the Kekaha Firing Range and proposed improvements.

Appendix D. Map of Kauai showing vegetation zones.

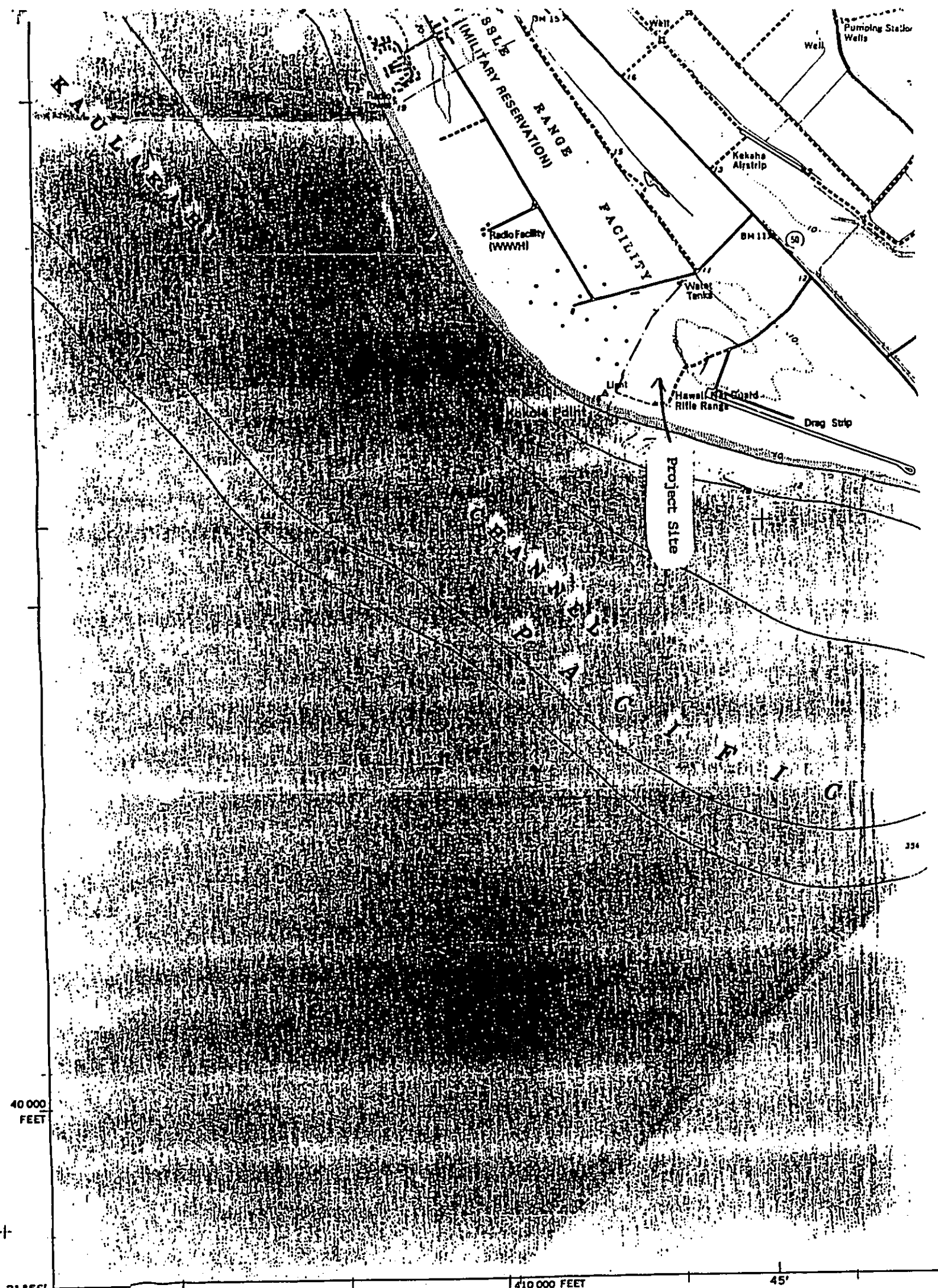
Appendix E. List of flora at project site.

<u>AGENCY</u>	<u>WEEKDAY</u>	<u>WEEKEND</u>	<u>NIGHT</u>
HIARNG		4/4/93 12/03/93 06/26/93	4/3/93 12/04/93
HIANG		09/18/93	
U.S. NAVY	02/17-18/93 06/15-16/93 07/22/93		
SOH JUD	08/11/93		
PMRF SEC	01/25-29/93 02/3-5/93 04/5-6/93 09/13-17/93 11/17-19/93 12/07-09/93 12/13-17/93	11/20-21/93 12/12/93	04/04/94
HIPA	06/25/93		
GISC		01/24/93 02/21/93 02/28/93 04/18/93 05/16/93 06/27/93 07/18/93 08/08/93 08/28-29/93 09/04-05/93 09/11-12/93 10/02-03/93 10/24/93 11/07/93 11/27-28/93 12/11-12/93	

HIARNG	-	HAWAII ARMY NATIONAL GUARD
HIANG	-	HAWAII AIR NATIONAL GUARD/150TH, 298TH, 154TH.
U.S NAVY	-	BARKING SANDS
SOH JUD	-	STATE OF HAWAII, JUDICIARY, COURT MARSHALL
PMRF	-	PACIFIC MISSILE RANGE FACILITY/SECURITY
HIPA	-	HAWAII PROTECTIVE ASSOCIATION/AIRPORT
GISC	-	GARDEN ISLAND SHOOTING CLUB

Appendix A. Summary of Usage of the Kekaha Rifle Range,
CY 1993

DOCUMENT CAPTURED AS RECEIVED



40 000 FEET

21°56' 159°47'30"

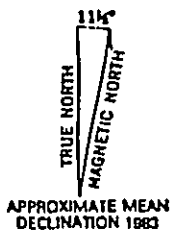
Mapped, edited, and published by the Geological Survey
 Revised in cooperation with Hawaii Dept. of Transportation
 Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs
 taken 1960. Field checked 1983. Revised from aerial photographs
 taken 1977. Limited field check 1981. Map edited 1983

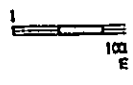
Selected hydrographic data compiled from NOS/NOAA charts 4100 (1959)
 and 4114 (1952). This information is not intended for navigational purposes

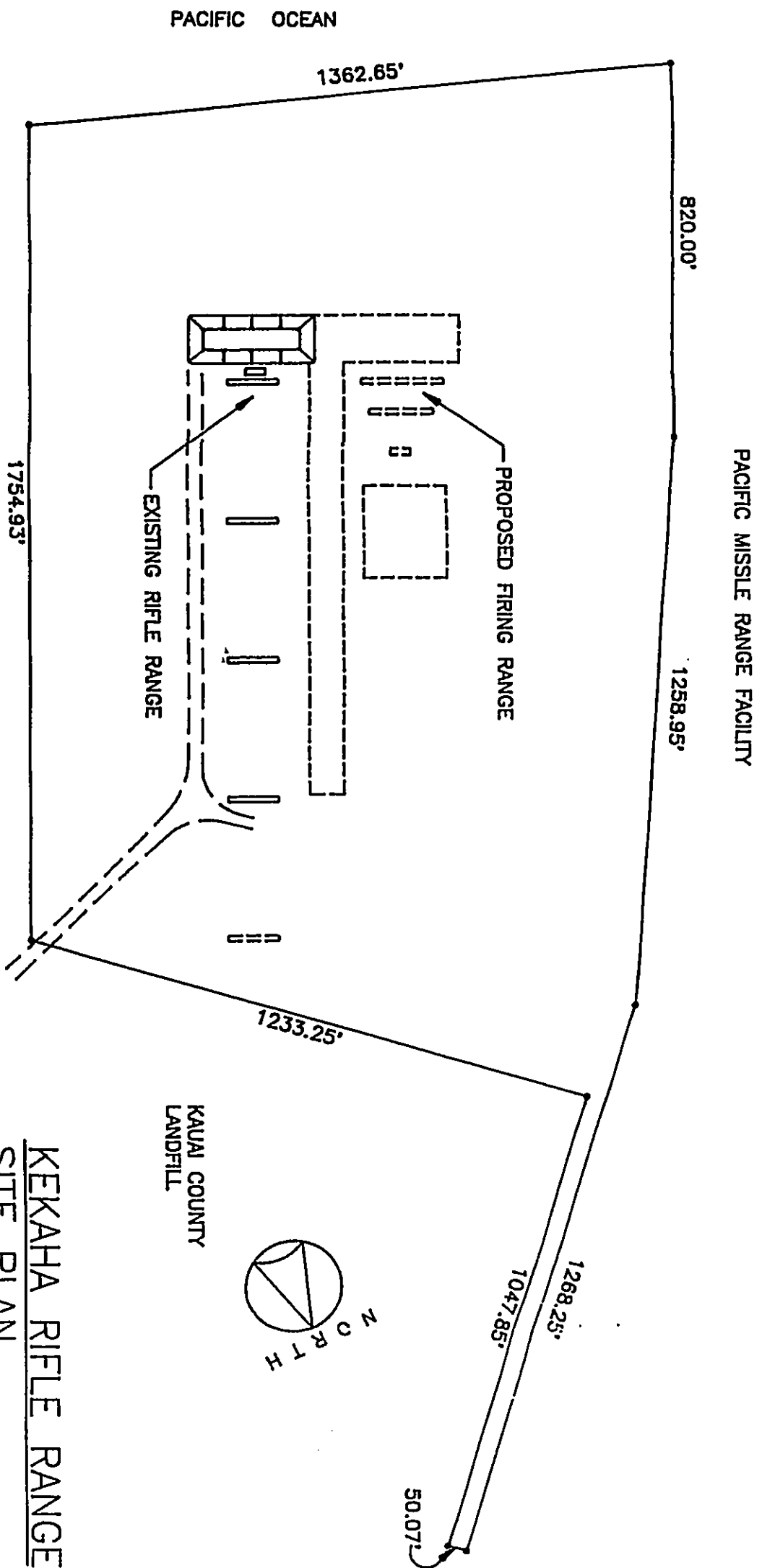
Projection and 10,000-foot grid ticks: Hawaii coordinate system,
 zone 4 (transverse Mercator) Clarke spheroid 1888. Old Hawaiian Datum
 1000-meter Universal Transverse Mercator grid ticks, zone 4, shown
 in blue. International spheroid. To place on the predicted North
 American Datum 1983 move the projection lines 362 meters north and
 288 meters west as shown by dashed corner ticks

U.S.G.S. QUAD
 Kekaha, Hawaii
 1983



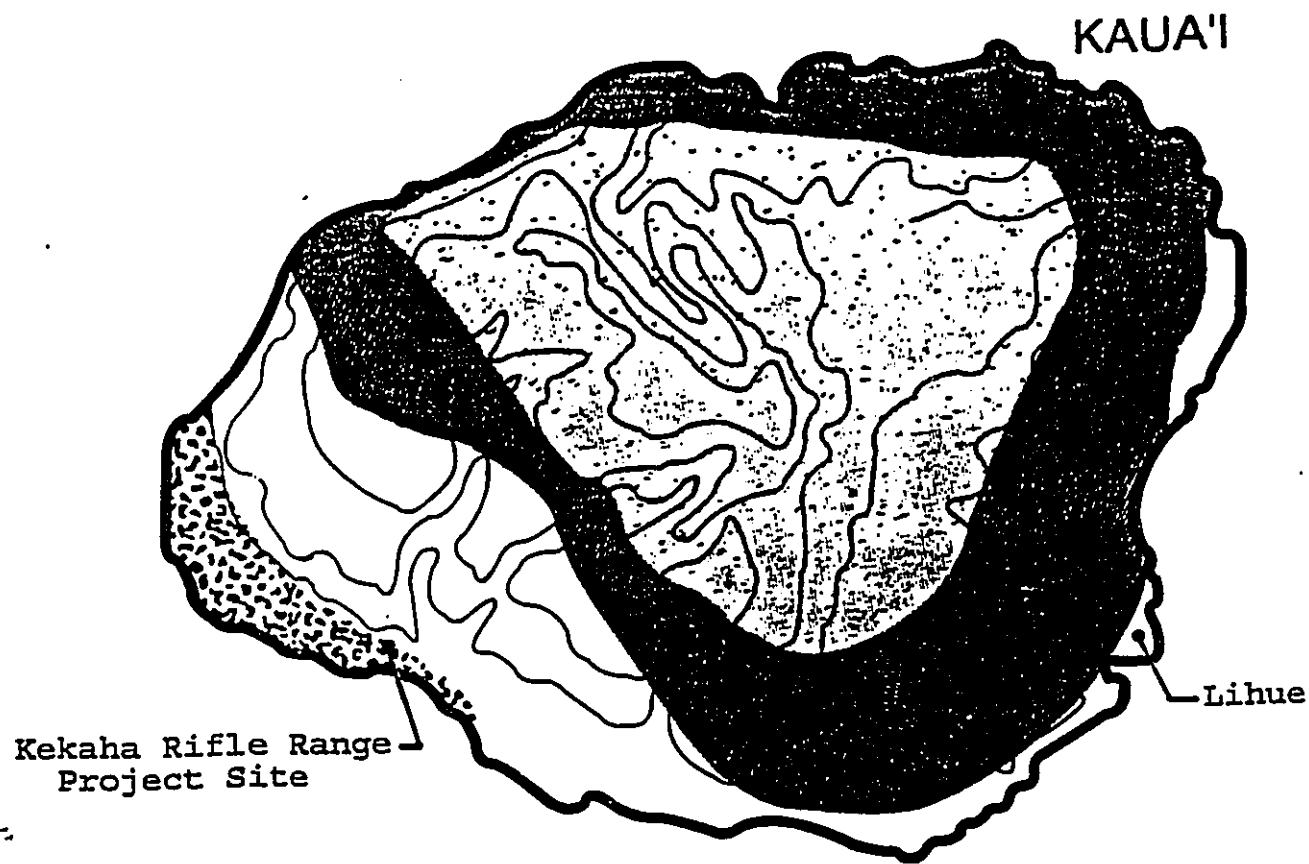
Scale 1:24 000
 (REDUCED)







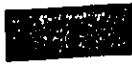


KEKAHA RIFLE RANGE
SITE PLAN

SCALE: 1" = 300'
 HAWAII ARMY NATIONAL GUARD
 KEKAHA, KAUAI, HAWAII
 10 FEB 92



VEGETATION ZONES OF HAWAII
 (AFTER RIPPERTON AND HOSAKA. 1942)



-  Coastal
-  Dryland forest and shrub
-  Mixed mesic forest
-  Rain forest
-  Subalpine, alpine

0 6 MILES
 ALL ISLANDS
 EXCEPT HAWAII

0 10 MILES
 HAWAII

Appendix D

from Schmer, S.H. and R.Gustafson, Plants and Flowers of Hawaii

Appendix E

Kekaha Rifle Range Flora

Timothy Flynn, botanist at the Tropical Botanical Garden at Kawi, Kauai described the site as a degraded *Dodonaea/Sida* shrubland with areas that seem to have escaped disturbance and that might possibly harbour plants of *Ophloglossum concinnum*, a small fern once thought to be rather rare. It is presently found in similar areas on Pacific Missile Range Facility and in Polihale State Park. Mr. Flynn stressed that he did not find any evidence that the plant grows on the site of the proposed range improvements.

Plants found on two walkthroughs of the proposed range expansion include:

ACANTHACEAE

Thumbergia fragrans Roxb.

ASTERACEAE

Bidens sp.

Gaillardia pulchella Foug.

Sochus oleraceus L.

Verbesina enceloids (Cav.) Benth. & Hook

BRASSICACEAE

Sisymbrium altissimum L.

CONVOLULACEAE

Ipomoea imperati (Vahl) Griseb.

CUCURBITACEAE

Momordica charantia L.

EUPHORBIACEAE

Chamaesyce hirta (L.) Millsp.

Euphorbia cyathophora

GOODENIACEAE

Scavola scricca Vahl

FABACEAE

Acacia farnesiana (L.) Willd.

Cortalaria sp.

Leucaena leucocephala (Lam) de Wit

Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth

HYDROPHYLLACEAE

Nama sandwicensis A. Gray

MALVACEAE

Sida fallax Walp.

NYCTAGINACEAE

Boerhavia repens L.

POACEAE

Cenchrus ciliaris L.

Cenchrus echinatus L.

Digitaria insularis (L.) Mez. ex Ekman

Eragrostis teneala (L.) P. Beauv. ex Roem. & Schult.

Panicum maximum Jacq.

Rhynchelytrum repens (Willd.) Hubb.

Appendix B
Kekaha Rifle Range Flora

PORTULACAEAE

portulaca pilosa L.

SOLANACEAE

Lycopersicon pimpinellifolium (Jusl.) Mill.

Solanum americanum Mill.

STERCULIACEAE

Waltheria indica L.

VERBENACEAE

Lantana camara L.

Vitex rotundifolia L. fil

COMMENTS RECEIVED WITH RESPONSES



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
PHONE: 535-5000
FAX: 535-5004
March 2, 1994

Col. Gerald J. Silva
Department of Defense
Hawaii Army National Guard
3949 Diamond Head Road
Honolulu, Hawaii 96816

Dear Col. Silva:

Subject: Draft Environmental Assessment for the Hawaii Army National Guard Firing Range Improvement, Waimea, Kauai

Thank you for the opportunity to review and comment on the subject document. We have the following comments.

1. The subject project involves lands within the State Conservation District. Please consult with the Office of Conservation and Environmental Affairs, Department of Land and Natural Resources.
2. The notice of availability for the subject draft environmental assessment will be published in the March 8, 1994, OEQC Bulletin. The deadline for comments is April 7, 1994.

If you have any questions, please call Jeyan Thirugnanam at 586-4165. Thank you.

Sincerely,

Bruce S. Anderson
BRUCE S. ANDERSON, PH.D.
Interim Director



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
220 SOUTH KING STREET, HONOLULU, HAWAII 96813
April 15, 1994

Engineering Office

Dr. Bruce S. Anderson, Ph.D.
Interim Director
Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Dr. Anderson:

Subject: Draft Environmental Assessment for Firing Range Improvements, Kekaha, Kauai

We appreciate your letter of March 2, 1994, expressing your concern regarding the subject project. We have consulted with the Department of Land and Natural Resources, Office of Conservation and Environmental Affairs, regarding a possible Conservation District Use Application.

Thank you for participating in the review process for this assessment. Your letter and this response will be appended to the FINAL environmental assessment.

If there are any questions, please contact Ms. Jane Yamamoto, our Environmental Planner, at 735-4659.

Sincerely,

Jerry M. Matzuda
Jerry A. Matzuda, P.E.
Lieutenant Colonel
Hawaii Air National Guard
Contracting and Engineering Officer

c: Colonel Silva, Chief of Staff
Hawaii Army National Guard



NATIONAL GUARD
Assurance At Their Best

JOANNA A. YUKIMURA
MAJOR



COUNTY OF KAUAI
PLANNING DEPARTMENT
4444 RICE STREET, SUITE 473
BUILDING "A"
LIHUE, HAWAII 96766

PLANNING DIRECTOR
DEE M. CROWELL
XEROX/PLANNING DIRECTOR
TELEPHONE 808 361-6677
442 8888 241-6699

JOHN PRINCE
ASSISTANT



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
290 DAWSON ROAD, HONOLULU, HAWAII 96848
April 25, 1994

OFFICE OF THE ADJUTANT GENERAL
PLANNING DEPARTMENT
COUNTY OF KAUAI
4444 RICE STREET, SUITE 473
BUILDING "A"
LIHUE, HAWAII 96766

March 24, 1994

Department of Defense, Hawaii Army National Guard
3949 Diamond Head Road
Honolulu, HI 96816-4495

Attention: Col. Gerald J. Silva

Subject: Draft Environmental Assessment
National Guard Firing Range Improvements
TRK: 1-2-02:21
Waimea, Kekaha, Kauai

Dear Colonel Silva:

Thank you for the opportunity to review and comment on the above referenced Draft Environmental Assessment (EA). We have the following comments.

The proposed development is located within the County of Kauai Special Management Area (SMA) and since the development cost is over \$125,000, an SMA Use Permit with Public Hearing before the Planning Commission will be required.

The Shoreline Setback Area for the subject property extends 40 feet mauka (inland) from the shoreline, generally identified by the seaward extent of the vegetation growth. It appears that the makai edge of the proposed safety berm is located near the Shoreline Setback Area. A Certified Shoreline Survey is required unless the Planning Director determines that the proposed development clearly will be located outside of the Shoreline Setback Area. A Shoreline Setback Variance, which can only be granted under specific conditions, will be required if the development extends into the Shoreline Setback Area.

It is recommended that the seaward extent of the development be clearly located outside of the Shoreline Setback Area. A site plan identifying the shoreline and seaward extent of the development should be submitted with the SMA application, and the location should be staked for verification by Planning Department staff. In addition, all construction activity, including equipment operation and materials storage, should be conducted

mauka of the Shoreline Setback Area to prevent disturbance of shoreline vegetation and sand formations.

We would also like to emphasize the importance of several items addressed in the EA:

Fill used for berm construction should be obtained off site.

There will be no installation of lighting with the exception of two red lights on short poles.

As recommended by the U. S. Fish and Wildlife Service, electric power lines should be buried if possible. If the lines are not buried, the effects of the new lines on seabirds should be monitored and modifications should be made if adverse impacts are observed.

An archaeological inventory survey with subsurface testing should be conducted prior to construction or any ground disturbing activity. If significant cultural resources are found to be present, a mitigation plan will be required.

Please be advised that other issues and concerns may emerge during the SMA application process. Feel welcome to contact George Kalisik at 241-6677 if you wish to discuss this matter further.

Sincerely,

Keith Nitta
Keith Nitta,
Acting Deputy Director

cc: OEQC
DLMR-OCEA

Engineering Office

Mr. Keith Nitta
Acting Deputy Director
Planning Department
County of Kauai
4444 Rice Street, Suite 473, Bldg. A
Lihue, Hawaii 96766

Dear Mr. Nitta:

Subject: Draft Environmental Assessment for
Firing Range Improvements, Kekaha, Kauai

We appreciate your letter of March 24, 1994, expressing your concern regarding the subject project. We will contact you regarding the SMA Use Permit upon completion of the environmental assessment process.

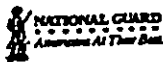
Thank you for participating in the review process for the draft environmental assessment. Your letter and this response will be appended to the final environmental assessment.

If there are any questions, please have your staff contact Ms. Jane Yamamoto, our Environmental Planner, in Honolulu at 735-4659.

Sincerely,

Jerry M. Matsuda
Jerry M. Matsuda, P.E.
Lieutenant Colonel
Hawaii Air National Guard
Contracting and Engineering Officer

cc: Colonel Gerald J. Silva, Chief of Staff
Hawaii Army National Guard



REF:OCEA:ISXK



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809
File No.: 94-508

MAR 29 1994

OFFICE OF THE COMMISSIONER
BOARD OF LAND AND NATURAL RESOURCES

DEPARTMENT
OF LAND AND NATURAL RESOURCES
EDWARD V. RICHARDSON
MAJOR GENERAL

AGRICULTURE DEVELOPMENT
PROGRAMS
AGRICULTURE RESEARCH
GRANTS AND SOILS RESEARCH
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES MANAGEMENT
CONSERVATION
PLANNING AND POLICY
NATURAL AND CULTURAL
LAND MANAGEMENT
SOILS
WATER AND LAND DEVELOPMENT



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL

APR 22 1994

STATE OF HAWAII
DEPARTMENT OF DEFENSE

STATE OF HAWAII
DEPARTMENT OF DEFENSE

OFFICE OF THE ADJUTANT GENERAL
STATE OF HAWAII

Engineering Office

Major General Edward V. Richardson
State of Hawaii
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

Dear General Richardson:

Subject: Comments on Draft Environmental Assessment for
Improvements to the Hawaii Army National Guard Firing
Range at Kekaha, Kauai

Thank you for giving our Department the opportunity to comment on
this matter. We have reviewed the materials you submitted and have
the following comments.

On pg. 5, 4.4 Land Use, you indicate that the subject site was
established by Governor's Executive Order number 1794 for use as a
rifle range and weekend training area to be under the control and
management of the Hawaii Army National Guard.

In addition, you indicate that the subject improvements will
trigger the need for a Conservation District Use Application from
the Department of Land and Natural Resources.

We note that a Conservation District Use Application is not
required for the proposed rifle range improvements. The subject
parcel has been set aside by Executive Order for a rifle range
facility and we have determined that the proposed improvements are
consistent with the intent of the Executive Order. As such,
further review by the Board of Land and Natural Resources is
unnecessary.

However, please transmit four copies of the final construction
plans for our review. We will endorse three sets and return them
to you. One set will be retained for our files.

In addition, we will forward our Department's Historic Preservation
Division comments when they become available.

General Richardson

-2-

File No.: 94-508

Honorable Keith W. Ahue, Chairperson
Board of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Ahue:

Subject: Environmental Assessment for
Firing Range Improvements, Kekaha, Kauai

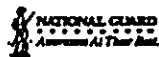
We appreciate your letter of March 29, 1994, stating that a Conservation
District Use Application will not be necessary for the rifle range since the
use was established by Governor's Executive Order No. 1794. We will be
submitting four copies of our construction plans for your review.

Thank you for participating in the review process for the draft environmental
assessment. Your letter and this response will be appended to the final
environmental assessment.

If there are any questions, please have your staff contact Lieutenant Colonel
Jerry M. Matsuda, Contracting and Engineering Officer, at 735-3522.

Sincerely,

Edward V. Richardson
Major General
Hawaii Air National Guard
Adjutant General



Thank you for your cooperation in this matter. Please feel free to
contact Sam Lemo at our Office of Conservation and Environmental
Affairs at 587-0377.

Very truly yours,

KEITH W. AHUE



University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 217 • 2330 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3680

April 7, 1994
EA-00033

Colonel Gerald J. Silva
Department of Defense
Hawaii National Guard
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

Dear Colonel Silva:

Draft Environmental Assessment
Hawaii Army National Guard Firing Range
Kekaha, Kauai

This document concerns improvements to a Hawaii Army National Guard Firing Range (HIARNG). The modifications to the range include construction of a new 25 meter basic range, a target storage building, impact and side berms, and electrical infrastructure to operate a public address system.

The Environmental Center has conducted a review of the referenced Draft Environmental Assessment (EA) with the assistance of Marshall Mock, Physical Science/Kauai Community College; and Chris Welch, Environmental Center.

The EA addressed the topics pertinent to the project in a generally appropriate manner. We concur with the conclusion that a negative declaration is proper for this EA. We offer the following comments on a couple areas of concern.

3.2 Economy

You note that keeping the guardsmen on island for their qualification has potential positive financial impacts on the Kauai economy. A quantification of this positive economic impact would greatly enhance the value of this statement. Also, it is noted that many other groups use the rifle range. Do they pay for the use or is it considered a Kauai community benefit? If this is a free benefit to the community, what responsibility will the users have in maintaining the new structures on the range?

3.5 Vegetation and Wildlife

In 4.2 you stated that the Kekaha Rifle Range is located on a calcareous sand beach. This type of substructure to impact berms would seem to be fairly permeable. The concern here is on

Colonel Gerald J. Silva
April 7, 1994
Page 263

the possible migration of lead from the rounds contained in the berm to adjacent coastal waters. Although the climate is arid (as stated in 4.3), periodic heavy rainfall could cause a movement of lead into the water that runs off or percolates into the ground and ends up in the ocean. Has the possibility of this occurring been addressed? Does the Army National Guard police the berm periodically to remove lead rounds? Another interest is whether the lead can enter the food web. Do the "cattle egrets and other birds attracted by the adjacent landfill" stop and feed in the area of the berms? Since M-16 rounds can deform and split on impact, lead from the rounds might be dispersed biologically.

3.6 Land Use

We have noted that you do not intend to use bright lights at the firing range for night exercises. It is assumed this includes the Pacific Missile Range Facility/Security night use of the range. Persons who do use the facility at night should be made aware of an astronomical observatory being constructed by a local astronomy group. The firing range is right below the southern horizon of the observatory's field of view. Any light from the firing range at night would destroy the clarity that the isolation Kekaha gives for viewing the night-time sky.

Another concern that needs to be addressed is the potential for stray rounds to endanger human health. Down range is a public beach and open ocean. Are these areas off limits to recreational usage during target practices? What method of information dissemination is used to advise beach-goers, surfers, and boaters of range exercises? This topic of civilian safety needs to be addressed.

3.9 Water Resources

You state that HIARNG has an Installation Spill Contingency Plan and a Spill Prevention Control and Countermeasure Plan for possible damage to groundwater and navigable waterways. Aside from the normal wastes associated with human activities that can be accommodated by a cesspool, are any other potentially harmful substances going to be used at the site?

Thank you for the opportunity to review this draft EA.

Sincerely,

John T. Harrison
Environmental Coordinator



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
1100 CAMPUS ROAD, HONOLULU, HAWAII 96822

May 5, 1994

HIDM

Mr. John T. Harrison, Environmental Coordinator
Environmental Center
University of Hawaii
Crawford Hall, Room 317
2550 Campus Road
Honolulu, Hawaii 96822

Dear Mr. Harrison:

Subject: Draft Environmental Assessment for Improvements
to the Firing Range at Kekaha, Kauai

We appreciate your letter of April 7, 1994, expressing your concerns about the subject project. Regarding the potential economic impact of the project, we believe the impact will be positive rather than negative and that the impact will be minor as stated in the environmental assessment (EA). The entire project is not large.

We agree that the possible leaching of lead from spent ballistics in the berm might potentially cause a problem eventually. Our inquiries to date have not been helpful in this regard. The lead in the end berm has been accumulating for about 35 years. This might make a topic of research by some of your environmental studies students.

The National Guard does have standard procedures for notifying persons using adjoining areas. The practice of firing has been going on for 35 years the range has been in use. As this EA does not introduce a new use, we did not include the standard notification procedures. We will be happy to have a copy sent to you.

The Installation Spill Contingency Plan is basically for use if a spill of a hazardous substance such as oil, fuel, or other might take place during construction or during an unplanned experience.

Copies of our construction plans will be on hand at the Kauai SWA hearing if your Kauai reviewers are interested.

Mr. John T. Harrison
May 5, 1994
Page 2

Thank you for participating in the draft review process. Your letter and this response will be appended to the final EA.

If there are any questions, please contact Major Richard Young, Facility Management Officer, at 735-4639.

Sincerely,

Richard N. Matzke, P.E.
Lieutenant Colonel
Hawaii Air National Guard
Contracting and Engineering Officer

cc: OEOC
Roger Fyjoka
Marshall Mock
Chris Welch