

ARMY TRAINING LAND RETENTION AT PŌHAKULOĀ TRAINING AREA

SECOND DRAFT
ENVIRONMENTAL IMPACT STATEMENT

VOLUME III: APPENDICES E-L

PŌHAKULOĀ TRAINING AREA, ISLAND OF HAWAII, HAWAII



U.S. ARMY

PREPARED FOR DIRECTORATE OF PUBLIC WORKS, U.S. ARMY GARRISON-HAWAII

PREPARED BY U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
UNDER CONTRACT W9128A19D0004

MARCH 2024

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NOTE ABOUT USE OF HAWAIIAN DIACRITICAL MARKINGS:

This document honors the proper use and presentation of Hawaiian language including use of diacritical marks, the glottal stop and the macron (‘okina and kahakō). When Hawaiian words are used in a proper name of an agency or organization that does not utilize diacritical marks, then official titles are shown without diacritical marks. Diacriticals may not appear in direct quotes or public comments. Elsewhere in this document, diacritical markings are used for Hawaiian terminology, proper names and place names.



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**NEPA and Other
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Appendix E

NEPA AND OTHER ENVIRONMENTAL PLANNING DOCUMENTS AND EXISTING MANAGEMENT MEASURES

The Army has developed a number of National Environmental Policy Act (NEPA) documents; Biological Opinions; Memorandums of Understanding; environmental planning, compliance, and conservation documents; and standard operating procedures (SOPs) for its ongoing activities within the State-owned land at Pōhakuoloa Training Area (PTA). Some of these documents are for all of PTA or all of U.S. Army Hawaii, and thus, cover activities beyond the State-owned land. This appendix lists 1) NEPA documents (Environmental Assessments and Environmental Impact Statements) and associated management measures; 2) Biological Opinions and Memorandums of Understanding and associated mitigation measures; 3) environmental planning, compliance, and conservation documents and associated best management practices (BMPs), SOPs, and management measures; and 4) SOPs the Army follows to minimize the environmental and socioeconomic impacts of its ongoing activities within the State-owned land.

PTA's environmental planning, compliance, and conservation documents; BMPs; SOPs; and management measures are periodically updated. This appendix reflects the versions of these documents, BMPs, SOPs, and management measures at the time of publication of the EIS. The Army also adheres to federal, state, and Army regulations, which are described in the EIS.

E.1 NEPA Documents and Associated Management Measures

Table E-1 lists the available Environmental Assessments and Environmental Impact Statements by the Army and other agencies for construction and use of training facilities and infrastructure within the State-owned land. In accordance with Hawai'i Administrative Rules Section 11-200.1-24(d)(7), **Table E-1** does not include NEPA analysis conducted via categorical exclusion; however, **Table E-1** does include NEPA analysis documented via Record of Environmental Consideration, which is required for certain categorical exclusions or actions covered by existing or previous NEPA documentation (32 Code of Federal Regulations 651.19). Additionally, in some cases construction and use of the training facilities and infrastructure predates the lease, predates NEPA regulations, or the NEPA documents have been lost over time; therefore, NEPA documents are not available for these situations.

| Table E-1: Facilities and Infrastructure Within State-owned Land | | |
|---|---|--|
| Facility/Infrastructure | Description | NEPA Document |
| Battle Area Complex | Digital live-fire range for mounted, dismounted, and aviation training | Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii, 2004 |
| Military Operations on Urban Terrain | Range with several buildings to simulate a village for practicing military operations in an urban setting | Environmental Assessment: Development and Use of Military Training Facilities on Pohakuloa Training Area, Hawaii, 2009 |
| Ammunition Supply Point | Facility where ammunition is securely stored for issue to and return by military units | Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii, 2004 Record of Environmental Consideration Unnumbered, July 14, 2014 |
| Ammunition Holding Area | Area where ammunition is temporarily stored while a military unit is training | Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii, 2004 Record of Environmental Consideration 938, July 5, 2006 Record of Environmental Consideration 944, July 5, 2006 |
| Cooper Air Strip | UAV airfield with storage buildings | Record of Environmental Consideration 2700, Aug 19, 2010 Record of Environmental Consideration Unnumbered, December 10, 2009 |
| Firing Point | Location used for live-fire and non-live-fire training by indirect-fire weapons (i.e., artillery, mortars, and rockets) | Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii, 2004 Record of Environmental Consideration 4522, March 13, 2019 Record of Environmental Consideration 4527, September 13, 2019 Record of Environmental Consideration 4528, October 21, 2019 Record of Environmental Consideration 4534, August 4, 2020 Record of Environmental Consideration 4610, April 30, 2020 |
| Portion of Range 14 in Training Area 9 | Multi-purpose live-fire range | Not available |

| Table E-1: Facilities and Infrastructure Within State-owned Land | | |
|---|---|---|
| Facility/Infrastructure | Description | NEPA Document |
| Landing Zone | Cleared area for landing and takeoff of helicopters and tilt-rotor aircraft | Environmental Impact Statement: Basing of MV-22 and H-1 Aircraft in Support of III MEF Elements in Hawaii, 2012 |
| Drop Zone | Cleared area used to drop equipment and personnel via parachute from aircraft | Not available |
| Forward Arming and Refueling Point | Cleared area with concrete pads for providing fuel and ordnance to helicopters and tilt-rotor aircraft | Environmental Impact Statement: Basing of MV-22 and H-1 Aircraft in Support of III MEF Elements in Hawaii, 2012 |
| Forward Operating Base | Entry-controlled position used to support a strategic goal or objective (e.g., medical facilities, airfields, and maintenance support facilities) | Environmental Assessment: Development and Use of Military Training Facilities on Pohakuloa Training Area, Hawaii, 2009 |
| Helicopter Dip Tank | Surface water feature where helicopters can fill buckets with water during firefighting operations | Programmatic Environmental Assessment: Implementation of the Integrated Wildland Fire Management Plan, 2006 Record of Environmental Consideration Unnumbered, July 24, 2007 |
| Roads and Training Trails | | Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii, 2004 Programmatic Environmental Assessment: Implementation of the Integrated Wildland Fire Management Plan, 2006 Environmental Assessment: Use of M1117 Armored Security Vehicles at Army Installations in Hawaii, 2008 |
| Firebreaks/Fuel Breaks | | Not available |
| Conservation Fence Units | | Programmatic Environmental Assessment: Construction of Large-Scale Fence Units, 2006 |

E.2 NEPA Documents and Associated Management Measures

- Environmental Impact Statement: Transformation of the 2nd Brigade, 25th Infantry Division (L) to a Stryker Brigade Combat Team in Hawaii (DA & USACE-POH, 2004).
 - Facilities Covered: BAX, Expand ASP with 3 new ammunition storage facilities, firing points, Ammunition Holding Area, training trails.
 - Training Covered: Mounted, Dismounted, Reconnaissance, Live-Fire (105mm mobile gun system, 120mm mortar, 155mm howitzer, 20 million rounds), Aviation Training.
 - Management Measures (from Table ES-22 of the Environmental Impact Statement):
 - Coordinate with State of Hawai'i Department of Land and Natural Resources to create additional public hunting check in stations.
 - Construct military vehicle trails to conserve existing natural features, including terrain and vegetative cover, to the extent practicable.
 - Where practicable, enhance existing site conditions to help screen the proposed fixed tactical internet tower and support shed from the surrounding area.
 - Implement dust control measures such as dust control chemical applications, washed gravel for surfacing, spraying water, or paving sections of trails to reduce fugitive dust associated with the use of training trails.
 - Establish a minimum 1,000-foot noise buffer around the Waiki'i Ranch property and the Kilohana Girl Scout Camp. Consider training guidelines that minimize nighttime training activities that involve weapons fire or aviation training activities within 2,000 feet of the Waiki'i Ranch and Kilohana Girl Scout Camp.
 - Continue to work with affected communities on noise buffers and potentially adjust the buffer size dependent upon these discussions.
 - Operate a public website that lists a schedule of upcoming U.S. Army Hawaii activities, including training and public involvement projects.
 - Place bollards around wellheads in coordination with utility and property owners to protect structures from potential damage.
 - Minimize or avoid cut slopes, where practicable.
 - Fence or flag where practicable any sensitive plant communities from activities.
 - Use native plants in any new landscaping or planting efforts where practicable.
 - Conduct more intensive surveys of lava tubes identified as potentially supporting native root dependent arthropods. Avoid lava tubes found to contain or support native root dependent arthropods, where practicable. Channel construction and training drainage away from lava tubes where practicable.
- Environmental Impact Statement: Construction and Operation of an Infantry Platoon Battle Course at Pōhakuloa Training Area, Hawai'i – Volume 1 (USAG-HI & USARPAC, 2013).

- Facilities Covered: This document does not cover any facilities within the State-owned land but it was added because the management measures for the Hawaiian goose are applicable throughout PTA.
- Management Measures (from Section 9.1 of the Record of Decision):
 - Enter into a conservation partnership project with the U.S. Fish and Wildlife Service for Hawaiian geese.
 - Mandatory briefs to inform leaders of their responsibility to protect Hawaiian geese.
 - Designate a leader observing range performance during training to ensure Hawaiian geese will not be directly targeted.
 - Cease training if take of a Hawaiian goose is observed and report the take to the U.S. Fish and Wildlife Service.
- Programmatic Environmental Assessment: Construction of Large-Scale Fence Units (USAG-HI, 2006b).
 - Facilities Covered: Fence units.
 - Management Measures (from Finding of No Significant Action and Section 4.0 of the Programmatic Environmental Assessment):
 - PTA Natural Resources Office will survey the proposed fence route prior to fence construction.
 - Flag endangered, threatened, or rare plant areas and reroute the fence to avoid these plants.
 - Limit clearing of ground cover and live vegetation from the fence corridor to no more than 6 feet in vegetated areas.
 - Prohibit cutting of live trees larger than 5 inches in diameter at breast height.
 - Route the fence on barren lava as much as possible to minimize impacts to native vegetation.
 - Route the fence line to avoid, and if possible, include known archaeological sites.
 - Avoid historic properties during fence construction.
 - All historic properties will be marked for avoidance and periodic monitoring will be taken by PTA cultural resources specialists to ensure construction and ground disturbance is limited to the pre-determined locations.
 - Conduct cultural resources pedestrian surveys prior to construction activities.
 - Complete mapping and survey of the lava tubes to determine whether heavy equipment can safely mobilize over the lava tubes.
 - Install a gate (with interpretive signage) to facilitate access to two identified trail sections of site 19528/5006.
 - Hunting activities within fenced areas will be coordinated through the Department of the Army police and will include briefing materials in an effort to educate hunters about sensitive cultural resources, restrictions on entering caves and to educate hunters about the effects of depositing mammal remains in cave entrances.

- Open hunting in other areas of PTA to offset the loss of mammal hunting.
- Implement the fuels management program, firebreaks, and weed management program.
- Programmatic Environmental Assessment: Pohakuloa Training Area Real Property Master Plan Adoption, Hawaii Island, Hawaii (USACE-POH & USAG-HI, 2020a).
 - Facilities Covered: None. This document only adopts the Real Property Master Plan. Separate NEPA would occur for Real Property Master Plan projects.
 - Management Measures: None proposed.
- Environmental Assessment: Implementation of the U.S. Army Garrison, Hawaii and U.S. Army Garrison, Pohakuloa Integrated Cultural Resources Management Plans (USAG-HI, 2017c).
 - Facilities Covered: None. This document only adopts the Integrated Cultural Resources Management Plan.
 - Management Measures: None proposed.
- Programmatic Environmental Assessment: Implementation of the Integrated Wildland Fire Management Plan (USAG-HI, 2006c).
 - Facilities Covered: Fire access roads, dip tanks.
 - Management Measures (from Section 4 of the Programmatic Environmental Assessment):
 - Access roads will be constructed with water bars to divert water from the road. In cases where access roads have a drainage ditch, the ditch will include erosion mitigation measures such as silt fences, check-dams, hay bales, or erosion control blankets. Fire access roads constructed on ash soils will be monitored and erosion will be assessed. Application of dust palliatives will be investigated for use to reduce the effects of wind erosion.
 - A burn plan will be completed in advance of ignition and will describe how the prescribed burn will be conducted, and include explanations of responsibilities, equipment support, fire prescription, weather constraints, contingency operations, risk assessment, and safety procedures.
 - Actions to mitigate the effects of exotic species introductions are: 1) thorough cleaning of all construction equipment prior to bringing it to PTA, 2) eradicating plants that are known to be 'invasive' once they have been detected, and 3) utilizing the fire access road maintenance schedule to eradicate non-native plants that have been introduced.
 - Site-specific archaeological surveys will be completed for all fire access roads and fuel management corridors prior to ground disturbance and implementation of fuel management activities. Subsurface surveys of the caves will be conducted to evaluate the potential for damage to the caves from activities occurring on the surface. Should any archaeological site lie in the path of intended construction, the construction path will be altered to the extent necessary to avoid all impacts to the site. Routes may also be altered, or use of heavy equipment may be limited if subsurface survey data shows caves are susceptible to damage. Archaeological sites will be marked with high visibility flagging. Construction crews will not enter any areas cordoned off with flagging for any reason. Periodic monitoring of all construction projects will take place by cultural resources staff to ensure no cultural resources are impacted. Any discoveries of suspected cultural

resources during this project will be immediately brought to the attention of cultural resources staff and the U.S. Army Garrison-Hawai'i Cultural Resource Manager. The Army will conduct a Section 106 consultation with the State Historic Preservation Office and Native Hawaiians in accordance with the National Historic Preservation Act outlining these mitigations. The Army will not proceed with construction activities until the Section 106 consultation is complete.

- Environmental Assessment: Development and Use of Military Training Facilities on Pohakuloa Training Area, Hawaii (USAG-HI, 2009).
 - Facilities Covered: Military Operations on Urban Terrain and Forward Operating Bases Outlaw, 428, and 438.
 - Management Measures (from Finding of No Significant Impact and Section 2.1.2 of the Environmental Assessment):
 - Continue to implement the required measures in the 2003 Biological Opinion and the new requirements from the 2008 Biological Opinion.
 - Complete the PTA Implementation Plan.
 - Construct fencing of entirety of Training Area 21 and perform subsequent ungulate removal.
 - Implement the ongoing and new minimization and conservation measures for nēnē in the vicinity of Range 1 and training activities east of Red Led Trail.
 - Continue implementation of the Integrated Wildland Fire Management Plan.
 - Continue implementation of the conservation measures outlined for reducing the impacts of invasive plants and animals.
 - Avoid endangered plants during construction of access roads and trails.
 - Review all equipment emplacement, construction, and road projects by the PTA Environmental Office to ensure consistency with Biological Opinion requirements.
 - Apply a dust palliative to road surfaces of the proposed training facilities.
 - Avoid construction in known and high probability sensitive natural and cultural resources.
 - Protect federally listed species by following the procedures in the PTA External Standard Operating Procedures.
 - Fence all of Training Area 21 to the east of Red Leg Trail to protect sensitive lava tubes and crevices that provide habitat for *Asplenium peruviana* var. *insulare* or *Silene hawaiiensis*. Remove ungulates from the enclosure.
 - Perform cultural resources pedestrian surveys of all project areas and archaeological monitoring of construction activities.
 - Conduct unexploded ordnance inspections prior to road widening, access trail construction, and target emplacement.
- Environmental Impact Statement: Basing of MV-22 and H-1 Aircraft in Support of III MEF Elements in Hawaii (DN, 2012).
 - Facilities Covered: Landing Zones and Forward Arming and Refueling Points.

- Management Measures (from Record of Decision):
 - Monitor conditions at the landing zones with highest risk for soil erosion. If soil erosion occurs, repair or maintenance the landing zones to reduce soil erosion.
 - Conduct cultural surveys of landing zones and then avoid or mitigate landing zones with cultural resources.
- Environmental Assessment: Use of M1117 Armored Security Vehicles at Army Installations in Hawaii (USAG-HI, 2008).
 - Facilities Covered: Roads, trails, ranges, tactical vehicle maneuver and training areas.
 - Management Measures (from Finding of No Significant Impacts):
 - Construct new energy-efficient facilities.
 - Develop master plans that would reduce vehicle travel.
 - Implement Executive Order 13423 goals to reduce greenhouse gas emissions.
- Programmatic Environmental Assessment: Army 2020 Force Structure Realignment (USAEC, 2013).
 - Management Measures: None proposed.

Biological Opinions and MOUs and Associated Mitigation Measures

- Routine Military Training and Transformation of the 2nd Brigade 25th Infantry Division (Light), Biological Opinion of the U.S. Fish and Wildlife Service (USFWS, 2003).
 - Construction of fence units to minimize threats by feral animals on federally listed plants, and indirectly enhance Hawaiian hoary bat habitat.
 - Institution of training restrictions and requirements including restriction of artillery training to established firing points and ranges, off-road maneuver in designated areas, survey and approval of new field bivouac sites by the PTA Natural Resources Office staff; measures to reduce dust, inspections for invasive species at construction sites, restriction of smoking to particular areas when training and in when training at specific locations (e.g., Palila critical habitat), and reporting all bird and bat strikes.
 - Execute biological studies such as those on the effects of dust on federally listed plants and native habitats; surveys for species presence, abundance, and habitat use by the Hawaiian petrel, Hawaiian hawk, and Hawaiian goose; surveys to determine species abundance and habitat use of the Hawaiian hoary bat; and impact of rodents on *Sophora chrysophylla*.
 - Survey of gulches and gullies in the Ke'āmuku parcel, along with the collection of seed from federally listed species.
 - Changes to the Integrated Wildland Fire Management Plan to address the establishment of fire/fuel breaks and fuels monitoring corridors, fire suppression measures, and implementation of the Fire Danger Rating System.
 - Invasive plant and animal species control within and adjacent to landing zones, trails, and roadsides; removal of invasive species from vehicles prior to transport; and the implementation of an education program on the consequence of invasive species on installation properties.

- Creation and maintenance of a buffer outside Palila critical habitat Area B to reduce and understand the impacts of Stryker off-road maneuvers.
- Additional Species and New Training Actions at Pohakuloa Training Area, Hawaii, Biological Opinion of the USFWS for Reinitiation of Formal Section Consultation (USFWS, 2008).
 - Annual reporting on Hawaiian goose research, conservation measures, and use of Range 1 (in Impact Area and Training Ranges) as presented in the 2008 biological assessment (USAG-HI, 2008b) and 2008 biological opinion (USFWS, 2008a).
 - Reporting on the application and success of conservation measures for *Silene hawaiiensis*, *Asplenium peruvianum var. insulare*, and *Solanum incompletum* as outlined in the 2003 and 2008 biological opinions and biological assessments.
 - Developing a Hawaiian goose monitoring protocol.
 - Minimizing impacts to the Hawaiian goose from training on PTA.
 - Reporting and transferring dead Hawaiian geese and Hawaiian hoary bats.
 - Removing of barbed wire from fences to protect the Hawaiian hoary bat.
 - Fencing and removing of ungulates from Training Area 21 and fencing to protect *Solanum incompletum*.
- U.S. Army Garrison, Pohakuloa Integrated Natural Resource Management Plan Installation-wide Impacts of Military Training on Hawaiian Geese (*Branta sandvicensis*) at Pohakuloa Training Area, Hawaii (USFWS, 2013).
 - Unit leaders are to be briefed to avoid and minimize impacts and inform troops of their responsibility to protect the Hawaiian goose on PTA, especially when driving and during live-fire exercises.
 - The Army may benefit the Hawaiian goose by funding an off-site project at Hakalau Forest National Wildlife Refuge, as recommended in the 2013 Biological Opinion, in a phased approach as the Refuge allows/permits work to progress. The project may include the construction and maintenance of two 20-acre predator-proof fences as well as personnel (one full-time equivalent) to maintain the fences, control predators, improve vegetation, and encourage the use of the fenced areas by the Hawaiian goose both passively and aggressively. The goal is to produce 21 adults from 26 fledglings per year over a 20-year period starting by year five.
- Memorandum of Understanding (MOU) between the U.S. Department of Defense and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds. The original MOU expired in 2019; an addendum signed on April 21, 2022, extends the MOU indefinitely or until either party determines the MOU needs to be revised. (DoD & USFWS, 2022).
 - Follow all migratory bird permitting requirements for intentional take under 50 Code of Federal Regulations Sections 21.22, 21.23, 21.26, 21.27, or 21.41.
 - Encourage incorporation of comprehensive migratory bird management objectives into relevant Department of Defense planning documents.
 - Manage military lands and non-military readiness activities in a manner that supports migratory bird conservation, habitat protection, restoration, and enhancement.

- Inventory and monitor bird populations on Department of Defense lands to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts work.
- Work cooperatively with the U.S. Fish and Wildlife Service and state and fish and wildlife agencies to promote timely development, effective review, and revisions of Integrated Natural Resources Management Plans, including any potential revisions to promote the conservation of migratory birds.
- Incorporate conservation measures addressed in regional or state bird conservation plans in the Integrated Natural Resources Management Plan development process.
- Allow the U.S. Fish and Wildlife Service and other partners reasonable access to military lands for conducting sampling or survey programs.
- Support the economic and recreational benefits of bird-related activities by allowing public access to military lands for recreational uses, such as bird watching and other nonconsumptive activities.
- Develop policies and procedures for facilities design that will promote the conservation of migratory bird populations and habitat.
- Prior to implementing any activity that has, or is likely to have, a measurable negative effect on migratory bird populations: identify the migratory bird species likely to occur in the area, assess and document, and engage in early planning and scoping with the U.S. Fish and Wildlife Service.
- Continue to promote the conservation of migratory birds on military lands.
- Use a best-practices approach for routine maintenance, retrofitting, and management actions to the extent they do not diminish military readiness.

Environmental Planning, Compliance, and Conservation Documents and Associated Best Management Practices, Standard Operating Procedures, and Management Measures

- Implementation Plan, Pohakuloa Training Area, Island of Hawaii (USAG-PTA, 2010).
 - Propagation and outplanting management actions.
 - Non-native plant control management actions.
 - Survey protocols for flora and fauna.
 - Rodent control management actions.
 - Ungulate control management actions.
 - Large-scale fencing management actions.
 - Invasive invertebrate control management actions.
 - Incipient weed program.
- Integrated Natural Resources Management Plan 2019-2023 (USAG-PTA, 2020c).
 - General training restrictions.
 - Hawaiian goose restrictions.
 - Federally listed wildlife restrictions.

- Palila critical habitat restrictions.
- Hawaiian hoary bat restrictions.
- Restrictions in Training Areas 1 through 22.
- Conservation measures.
- Plant survey, monitoring, genetic conservation, outplanting, and habitat improvement management actions.
- Invasive plants management actions.
- Wildlife management actions.
- Integrated Wildland Fire Management Plan (USAG-PTA, 2021g).
 - Pre-Suppression Actions: risk analysis; ignition prevention; firebreaks, fuel breaks, and fuel management; infrastructure, resources, and supplies; personnel safety; use of prescribed fire; water resources; firefighting training program.
 - Suppression Actions: fire response protocols, special considerations for firefighting on PTA, off-installation deployment.
 - Post-Fire Actions: records and reports, reviews and formal investigations, post-fire analysis.
 - Budget and Implementation.
- Integrated Cultural Resources Management Plan for the U.S. Army Garrison – Pōhakuloa, Hawai‘i Island (USAG-PTA, 2018c).
 - SOP 1: Compliance Procedures for National Historic Preservation Act Section 106.
 - SOP 2: Identify and Evaluate Historic Properties.
 - SOP 3: Unanticipated Discovery of Historic Properties and Inadvertent Discovery of Human Remains and/or Cultural Items.
 - SOP 4: Emergency Situations.
 - SOP 5: Native American Graves Protection and Repatriation Act: Planned Activities and Comprehensive Agreements.
 - SOP 6: Archaeological Resources Protection Act of 1979 Compliance Process.
 - SOP 7: Native Hawaiian Consultation.
 - SOP 8: Archaeological Collections Curation and Management.
 - SOP 9: Maintenance Procedures for Historic Buildings and Structures.
- Bradshaw Army Airfield Airspace Briefing (USAG-PTA, 2020e).
 - Identifies flight corridors and routes to minimize noise impacts and disruption to the local community.
 - Personnel must fly at 2,000 feet AGL or above during transition to and from PTA airspace, unless low cloud cover necessitates flying lower for safety reasons.

- Identifies noise sensitive areas that are either no-fly areas; avoidance areas; or the minimum altitude (greater than 2,000 feet AGL) personnel must fly at due to the use of the area (e.g., housing, cultural sensitivity, recreation).
- Public Hunting Policy Requirements and Procedures (USAG-PTA, 2018d).
 - Identifies hunter responsibilities, requirements to hunt, safety requirements, prohibited activities and restrictions, weapons procedures and restrictions, hunting areas and regulations, motor vehicle rules, dogs, and permits and fees.
- USAG-HI Regulation 200-4 Installation Hazardous Waste Management Plan (USAG-HI, 2018b).
 - This regulation established policies and procedures for handling, storing, and disposing of hazardous materials and waste across all USAG-HI installations. Policies and procedures have been developed to ensure hazardous materials and waste are treated in accordance with federal, state, DoD, and local regulations and to minimize generation of hazardous waste across all USAG-HI installations.
- U.S. Army Garrison-Hawaii Spill Prevention, Control, and Countermeasures Plan (USAG-HI, 2012).
 - The SPCCP has been prepared in accordance with the National and State Contingency Plan and contains guidance and procedures to identify locations and activities where the potential for harmful discharges from animal fat/vegetable oil, or petroleum, oil, and lubricants may occur; establish a spill prevention program; and identify procedures personnel must follow in response to a spill.
 - The SPCCP is applicable to all USAG-HI installations and contains site specific prevention, control, and countermeasures for PTA, that are applicable to State-owned Land, based on the facilities that use and store animal fat/vegetable oil, or petroleum, oil, and lubricants.
- Integrated Pest Management Plan, U.S. Army Garrison, Hawaii: 2015-2020 (USAG-HI, 2014).
 - Identifies responsibilities; necessary resources; administrative, safety, and environmental requirements; priorities for pest management.
- USARHAW Reg 350-19, Ranges and Training Areas (USARHAW, NDb).
 - This regulation established policies, procedures, and instructions to promote safe and sustainable use of training facilities. The Training Support System coordinates environmental issues on training lands including restrictions and environmental and cultural stewardship.
- U.S. Army Hawaii Integrated Training Area Management (ITAM) 5-Year Plan (USAG-HI, ND).
 - Four component program that is used to understand how the Army's training requirements impact land management practices, what the impact of training is on the land, how to mitigate and repair the impact, and communicate these issues to soldiers and the public. The 5-year plan is the Army's plan for managing the ITAM program for U.S. Army Hawaii.
- U.S. Army Garrison, Hawaii Installation Compatible Use Zone Study (USAG-HI, 2017b).
 - Army Compatible Use Buffer program (military departments to partner with private by avoiding land use conflicts while protecting and managing critical habitat for threatened and endangered species in the vicinity of the installation).

- Joint Land Use Study (collaborative land use planning effort with local governments that evaluates the planning rationale necessary to support and encourage compatible development of land surrounding the installation organizations to establish buffer areas around active installations).
- Programmatic Agreement Among the U.S. Army Garrison, Pōhakuloa Training Area, the U.S. Army Garrison, Hawai'i, the Hawai'i State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Routine Military Training Actions and Related Activities at United States Army Installations on the Island of Hawai'i, Hawai'i (DA, 2018b).
 - Identifies stipulations for Army undertakings for training and related activities.
- U.S. Army Hawaii Statewide Operational Noise Management Plan (USAPHC, 2010).
 - Locate/relocate ranges relative to natural impediments such as in valleys or behind large stands of trees.
 - Construct artificial berms or enclose small arms ranges within walls and baffles.
 - Orient noise sources toward the interior of the installation property.
 - Implement fly-neighborly programs that adjust aircraft training times and routes to lower the impact on the community to the greatest extent possible given mission requirements.
 - Adjust the timing, where feasible, of particularly disruptive activities to avoid conflicts with local events such as church times or holidays.
 - Keep the community informed (when feasible), making public any unusual increases in the intensity of training or if training is to be resumed after a period of inactivity.
 - Review of Environmental Assessments and Environmental Impact.
 - Statements to ensure that the noise impacts of the proposed actions are addressed and are consistent with the current Statewide Operational Noise Management Plan.
 - Physical monitoring of the noise environment (as opposed to computer modeling) when the noise environment is controversial, when a noise zone III exists in a noise sensitive area, and when a noise is unique and cannot be modeled.
 - Incorporate noise contours as a GIS layer so that the contours may be combined with other layers (such as land use) and referenced when siting new facilities.
- U.S. Army Garrison-Pohakuloa Memorandum for Record: Best Management Practices to prevent negative impacts to natural resources from construction activities (USAG-PTA, 2015b).
 - Inspect and clean all construction vehicles and earth-moving equipment to remove soil, seeds, and invasive animals before moving equipment on to PTA construction sites.
 - Confine all construction equipment to the PTA area.
 - Educate construction employees to be mindful of seed/soil on footwear and clothing to maintain clean vehicles to minimize the movement of soil and seeds from outside PTA.
 - Coordinate with the PTA Natural Resources Office if additional auxiliary construction support sites are located outside of the established construction footprint.

- Coordinate nighttime construction activities with PTA Natural Resources Office.
- Follow established Army protocols for the proper use and disposal of petroleum, oils, and lubricants when refueling or working on any construction equipment or vehicles.
- Follow all speed limits to minimize airborne dust that settles on endangered and threatened plants located close to access roads.
- Report any sightings of Hawaiian geese or Hawaiian hoary bats to the contract representation.
- Report immediately to the contract representative if a Hawaiian geese or Hawaiian hoary bat is injured or killed. Cease work in the immediate area until the PTA Natural Resources Office investigates the incident.
- Report immediately to the contract representative if any birds are discovered in underground lava tubes or openings in the lava. Cease work in the immediate area until the PTA Natural Resources Office investigates.
- Keep vehicles on established roads while in transit to the construction site.

Standard Operating Procedures

- Standard Operating Procedures Wildland Fire U.S. Army Garrison Pohakuloa (USAG-PTA, 2021g).
 - Identifies responsibilities, fire prevention requirements, pre-suppression actions, fire suppression actions, and post-fire actions, as well as a fire safety briefing.
- PTA Invasive Pest Prevention Standard Operation Procedures (USAG-PTA, 2018b).
 - Lists protocols for preventing the introduction of harmful invasives pests, including reptiles, amphibians, invertebrates, weeds, and the fungus that causes Rapid Ohi'a Death, into PTA.
- PTA Range Operations Standing Operating Procedures (USARHAW, 2022).
 - Identifies the regulations, general precautions, responsibilities, and instructions for using, working, or occupation of range facilities and maneuver areas at PTA. This document includes procedures for range access and scheduling; general range safety and restrictions; range operations and clearing procedures; air and airborne operations; procedures for use of training areas, observation posts, and ammunition holding areas; and requirements for special use munitions, artillery, mortars, burn pan operations.
- U.S. Army Garrison-Pohakuloa Training Area (PTA) External Standard Operating Procedures (USAG-PTA, 2018a).
 - This 350-page document identifies procedures, rules, and restrictions for units training at PTA. It includes responsibilities; administrative forms; range operations, maintenance, clearing; base operations; communications; public works procedures; conservation management restrictions; environmental compliance requirements; airfield and aircraft operations guidance and requirements; logistics (e.g., fuel and ammunition supply); emergency services; safety requirements (e.g., fire prevention, handling of ammunition and explosives, speed limit); and convoy routes and procedures.

State General Lease S-3849

State General Lease S-3849 (1964)

2010 Amendment to State General Lease S-3849

State General Lease S-3849 (1964)

RECORDATION REQUESTED BY:
U. S. Army Engineer Division,
Pacific Ocean

STATE OF HAWAII
BUREAU OF CONVEYANCES
RECEIVED FOR RECORD

LIBER 4821 PAGES 425 TO 444

AFTER RECORDATION, RETURN TO:

'64 AUG 20 PM 1:37

/s/ M. Adachi

U.S. Army Engineer Division,
Pacific Ocean
Phone: 542986

INDEXED /1/ EK REGISTRAR

RETURN BY: MAIL () PICKUP (X)
SPACE ABOVE THIS LINE FOR REGISTRAR'S USE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE GENERAL LEASE NO. S-3849
U. S. LEASE, CONTRACT NO. DA-94-626-ENG-80

1. THIS LEASE, made and entered into this 17th
day of August, in the year one thousand nine hundred
and sixty-four by and between the STATE OF HAWAII, represented
by its Board of Land and Natural Resources, whose address is
P. O. Box 621, Honolulu, Hawaii, 96809, and whose interest in
the property hereinafter described is that of fee simple
owner, for itself, its administrators, successors and assigns,
hereinafter called the "Lessor", and THE UNITED STATES OF
AMERICA, hereinafter called the "Government":

WITNESSETH: The parties hereto for the considera-
tion hereinafter mentioned covenant and agree as follows:

2. The Lessor hereby leases to the Government
three (3) parcels of land described on Exhibit "A" attached
hereto and hereby made a part hereof, all to be used for the
following purpose: Military purposes.

Serial A-105-1,243

3. TO HAVE AND TO HOLD the said premises for a term of sixty-five (65) years beginning August 17, 1964 and ending August 16, 2029; subject, however, to the rights of the Lessor and the Government respectively to terminate this lease in accordance with provisions 6 and 21 hereof.

4. The Government shall pay the Lessor rent at the following rate: ONE DOLLAR (\$1.00) for the term of the lease, the receipt and sufficiency whereof is hereby acknowledged.

5. The Government shall have the right, during the existence of this lease, to attach fixtures, and erect structures or signs, in or upon the premises hereby leased, which fixtures and structures or signs, so placed in, upon or attached to the said premises shall be and remain the property of the Government and may be removed or otherwise disposed of by the Government. In addition, the Government shall post and maintain signs on roads and trails entering dangerous areas to provide a warning of any dangerous or hazardous activities; provided, that the information placed on the posted signs anywhere within the demised premises shall not be incompatible with the terms of this lease and, in those instances where joint use of an area is permitted, the information placed on the signs may include the permitted activities.

6. The Government may terminate this lease at any time by giving thirty (30) days notice in writing to the Lessor.

7. Except as otherwise provided herein, the Government shall have unrestricted control and use of the demised premises including the right to fire all combat weapons

therefrom into the designated Pohakuloa Impact Area.

8. The Lessor will not be responsible for any loss, liability, claim, or demand for property damage, property loss, or personal injury, including but not limited to death, arising out of any injury or damage caused by or resulting from any act or omission of the Federal Government in connection with the Federal Government's use of the premises described herein.

9. In recognition of public use of the demised premises, the Government shall make every reasonable effort to stockpile supplies and equipment in an orderly fashion and away from established roads and trails and to remove or deactivate all live or blank ammunition upon completion of a training exercise or prior to entry by the said public, whichever is sooner.

10. The Government shall obtain the written consent of the Lessor prior to constructing any road or building of the type for which design and construction plans are normally required; provided, however, that such consent shall not be arbitrarily withheld. The Government agrees that its training roads which provide primary access within or across the demised premises will be maintained to normal standards for training area roads with due regard for preventing unnecessary erosion; provided, however, that the Government shall be under no obligation to maintain roads during periods when the necessary engineer troops are absent from the island of Hawaii.

10(a). The Government hereby agrees that all Government vehicles of any type will at all times be prohibited from using that portion of the demised premises indicated by a red

cross hatch on the map attached to and made a part of this lease. In addition, the Government hereby agrees that it will maintain at all times at least a two-strand wire fence along that part of the boundary bordering Parcel "C" colored in green on the said map.

11. In the interest of safety the Government shall have the right to interrupt traffic on the Saddle Road during training activities involving firing of and/or the passage of troops across the Saddle Road; provided, however, that the Government shall minimize interference with traffic by limiting stoppages thereof to 15 minute periods.

12. With the exception of artillery simulators, atomic bomb simulators and any similar devices, and explosives used in construction work, the Government shall not fire any live ammunition into any portion of the demised premises. This restriction does not apply to any portion of Parcel "A" deemed by the Government to be safe for smallarms firing. In addition, the Government shall not fire any weapons within three-fourths (3/4) of a mile of the Pohakuloa Ranger Station.

13. The Government shall take every reasonable precaution to prevent the start of any fire in the areas herein demised and shall take immediate and continuing action to extinguish any and all fires started by or resulting from Government training activities. Further, the Government shall establish and at all times maintain a standard operating procedure for fighting fires within or adjacent to the subject leased property resulting from Government training activities during its use and occupancy of the premises; provided, further, that Government personnel actually using

the premises shall be familiar with said standard procedure including the means of implementation.

14. In recognition of the limited amount of land available for public use, of the importance of forest reserves and watersheds in Hawaii, and of the necessity for preventing or controlling erosion, the Government hereby agrees that, commensurate with training activities, it will take reasonable action during its use of the premises herein demised to prevent unnecessary damage to or destruction of vegetation, wildlife and forest cover, geological features and related natural resources and improvements constructed by the Lessor, help preserve the natural beauty of the premises, avoid pollution or contamination of all ground and surface waters and remove or bury all trash, garbage and other waste materials resulting from Government use of the said premises.

15. Except as required for defense purposes in times of national emergency, the Government shall not deliberately appropriate, damage, remove, excavate, disfigure, deface or destroy any object of antiquity, prehistoric ruin or monument.

16. The Lessor shall have the right to erect signs and construct capital improvements within the leased property at locations mutually agreed upon by the parties hereto, in connection with water conservation, public water consumption, forestry, recreational and related purposes, said capital improvements including but not limited in any way to the construction, maintenance and/or improvements of roads and trails; provided, however, that notwithstanding any other provisions of this lease to the contrary, the Government

hereby accepts the responsibility and liability for repairs of any damage which can be demonstrated to have been the direct result of military activities, to improvements constructed by the Lessor subsequent to the date of this lease.

17. To the extent permitted by training requirements the Government will cooperate with the Lessor in the game development and hunting programs of the Lessor and, in connection therewith, the Government agrees that Parcels "A", "B" and "C" hereof shall remain available for the aforesaid programs of the Lessor and, further, that Parcels "B" and "C" and all that part of Parcel "A" which lies to the north of the Saddle Road shall be made exclusively available to the Lessor for hunting during the periods 1 July through 15 July and 1 December through 15 January and on national holidays from dawn to midnight and on weekends from midnight Friday through midnight Sunday during the periods 1 November through 30 November and 16 January through 31 January. The Lessor shall also have the right to construct a road along a mutually agreeable route through the northerly portion of Parcel "C" hereof.

18. The Lessor hereby agrees that, commensurate with the public use of the premises herein demised, it will take reasonable action during the use of the said premises by the general public, to remove or bury trash, garbage and other waste materials resulting from use of the said premises by the general public.

19. Subject to obtaining advance clearance from the plans and training office of the Government's controlling agency, or any other designated Government agency, officials and employees of the Lessor shall have the right to enter

upon the demised premises at all reasonable times to conduct any operations that will not unduly interfere with activities of the Government under the terms of this lease; provided, however, that such advance clearance shall not be unreasonably withheld.

20. All persons legally entitled under the provisions of this lease to be on the said premises shall have a nonexclusive right to use all Government roads and trails except when such use will interfere with the training activities of the Government or said roads and trails have been restricted, by a duly posted sign, as security or danger areas by the Government.

21. In the event that the leased property is not used by the Government for a period of three (3) consecutive years, this lease may be terminated upon ninety (90) days written notice from the Lessor to the Government, provided, however, that if prior to the expiration of the aforesaid 90-day period the Secretary of the Army shall find and determine that the leased property is required for military purposes and shall notify the Lessor in writing of this finding and determination, this lease will continue in effect; provided, further, that periods during which a national emergency has been declared by the President or the Congress of the United States and periods during which major combat elements are temporarily deployed away from the State of Hawaii shall not be included in the said three-year period. During such period of temporary deployment the parties hereto shall discuss and give consideration to and provide for the additional public use of the demised premises compatible with then

existing military training requirements. The Government will assure that current military standards concerning adequate utilization are applied to these premises and will assure that such use is known and is a matter of record and available to the Lessor upon request.

22. The Lessor reserves unto itself all ground and surface water, ores, minerals and mineral rights of every description on, in or under the demised premises but shall exploit or permit others to exploit the said ores, minerals and mineral rights only with the consent of the Government. Notwithstanding the foregoing reservation, the Government shall have the right to develop and use for road construction projects on the demised premises sources of coral, rock and similar materials occurring naturally on the said premises and to use said ground and surface waters for purposes incident to the rights granted by this lease.

23. The Government will not be responsible for any loss, liability, claim or demand for any property damage, property loss, or personal injury, including but not limited to death, arising out of injury or damage caused by or resulting from any act or omission of the Lessor or the general public in connection with their use of the premises described herein.

24. Any notice under the terms of this lease shall be in writing signed by a duly authorized representative of the party giving such notice, and if given by the Government shall be addressed to the Lessor at P. O. Box 621, Honolulu, Hawaii, 96809, and if given by the Lessor shall be addressed to the Division Engineer, U. S. Army Engineer Division, Pacific Ocean, Building 96, Fort Armstrong, Honolulu, Hawaii,

Attention: Real Estate Division or at such location and to such other agency as may be mutually agreed upon by the parties hereto.

25. The Government hereby agrees that the use and enjoyment of the land herein demised shall not be in support of any policy which discriminates against anyone based upon race, creed or color.

26. The Government shall not grant any interest in the demised premises; provided, however, that the Government shall have the right to grant the use of portions of the premises for temporary activities of Governmental agencies or their contractors in which case any land rental derived from such use of the premises shall be covered into the Treasury of the State of Hawaii.

27. Subject to obtaining the prior approval of the Government, the Lessor reserves the right to grant rights or privileges to others not inconsistent with the terms of this lease affecting the whole or any portion of the demised premises.

28. The Government agrees to reforest areas, as expeditiously as practicable and within a period mutually agreed upon, where it can be demonstrated that substantial forest cover, including trees, has been destroyed as a direct result of Government activities; provided, however, that the Lessor shall obtain advance Government approval of all future plantings proposed by the Lessor.

29. The Government shall surrender possession of the premises upon the expiration or sooner termination of this lease and, if required by the Lessor, shall within

sixty (60) days thereafter, or within such additional time as may be mutually agreed upon, remove its signs and other structures; provided that in lieu of removal of structures the Government abandon them in place. The Government shall also remove weapons and shells used in connection with its training activities to the extent that a technical and economic capability exists and provided that expenditures for removal of shells will not exceed the fair market value of the land.

30. (a) That, except as otherwise provided in this lease, any dispute concerning a question of fact arising under this lease which is not disposed of by agreement shall be decided by the Division Engineer, U. S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii, hereinafter referred to as said officer, who shall within a reasonable time reduce his decision and the reasons therefor to writing and mail or otherwise furnish a copy thereof to the Lessor. The decision of the said officer shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, the Lessor mails or otherwise furnishes to the said officer a written appeal addressed to the Secretary of the Army. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this condition, the Lessor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal.

(b) This Condition does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above: Provided, that nothing in this Condition shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

(c) That all appeals under this provision shall be processed expeditiously.

31. The Government's compliance with all obligations placed on it by this lease shall be subject to the availability of funds.

32. The Lessor's compliance with any obligations which may be placed on it by this lease shall be subject to the availability of funds and/or personnel.

33. The Lessor warrants that no person or selling agency has been employed or retained to solicit or secure this lease upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Lessor for the purposes of securing business. For breach or violation of this warranty the Government shall have the right to annul this lease without liability or in its discretion to deduct from the lease price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

34. No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this lease or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease if

made with a corporation for its general benefit.

35. (a) The Government may, by written notice to the Lessor, terminate the right of the Lessor to proceed under this lease if it is found, after notice and hearing, by the Secretary of the Army or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Lessor, or any agent or representative of the Lessor, to any officer or employee of the Government with a view toward securing a lease or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such lease; provided that the existence of facts upon which the Secretary of the Army or his duly authorized representatives makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event his lease is terminated as provided in paragraph (a) hereof, the Government shall be entitled (1) to pursue the same remedies against the Lessor as it could pursue in the event of a breach of the lease by the Lessor, and (2) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary of the Army or his duly authorized representative) which shall be not less than three or more than ten times the costs incurred by the Lessor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or

under this lease.

36. This lease is not subject to Title 10, United States Code, Section 2662.

IN WITNESS WHEREOF, the parties hereto have hereunto subscribed their names as of the date first above written.

STATE OF HAWAII

By *James P. Loney*
Chairman and Member
Board of Land and Natural
Resources

And By *R. L. Summers*
Member
Board of Land and Natural
Resources

THE UNITED STATES OF AMERICA

By *Eugene H. Merrill*

Eugene H. Merrill
Deputy Assistant Secretary of the Army (I&L)
(Installations)

APPROVED AS TO FORM:

Bert T. Kobayashi
Bert T. Kobayashi
Attorney General
State of Hawaii

Peter C. Lewis
Peter C. Lewis
Deputy Attorney General
State of Hawaii

STATE OF VIRGINIA }
COUNTY OF ARLINGTON } SS

On this 17th day of August, 1964, before me
appeared Eugene H. Merrill, to me personally known
who, being by me duly sworn, did say that he is the _____
DEPUTY ASSISTANT SECRETARY OF ARMY
(JAL, Installations), and that the seal affixed to
said instrument is the seal of the Department of the Army and that the
said instrument was signed and sealed in behalf of said United States
of America under the authority therein mentioned, and said Eugene H. Merrill
acknowledged said instrument to be the free act and
deed of said United States of America.

In witness whereof I have hereunto set my hand and official seal.

My Commission Expires November 6, 1966

Howard V. Kempter
NOTARY PUBLIC
Arlington County, Virginia

FORM 314 Certificate of Official Character.

Commonwealth of Virginia }
County of Arlington } to wit:

I, H. BRUCE GREEN, Clerk of the Circuit Court of the County aforesaid in the State of Virginia, the
same being a Court of record, do certify that Howard V. Kempter
whose genuine signature is attached to the foregoing certificate is, and was at the time of signing the same,
a Notary Public in and for the said County, duly commissioned and qualified, residing in said County and
duly authorized, by virtue of his office, to take acknowledgements to deeds and other writings, and to
administer oaths under the laws of this State. I further certify that the official acts of the said
Howard V. Kempter are entitled to full faith and credit; that I am
well acquainted with the handwriting of the said Howard V. Kempter
and verily believe his signature to the foregoing proof or acknowledgment to be genuine; and that his
attestation is in due form of law. I further certify that the laws of Virginia do not require the im-
print of the Notary's seal to be filed with the authenticating officer.

In testimony whereof I have hereunto set my hand and affixed the seal of the said Court this
17th day of August, 1964, and in the 189th year of the Common-
wealth.

H. Bruce Green Clerk

EXHIBIT "A"

TRACT A-105,^{1,2,3} POHAKULOA TRAINING AREA

PARCEL "A"

Land situated at Kaohe, Hamakua and Puuanahulu, North Kona, Hawaii.

Being portions of the Government lands of Kaohe and Puuanahulu.

Beginning at the southeast corner of this piece of land, the coordinates of the said point of beginning from Government Survey Triangulation Station "Omaokoili," being 5462.74 feet North and 14,081.19 feet West, thence running by azimuths measured clockwise from True South:

1. 111° 10' 6,000.00 feet along the Pohakuloa Impact Area;
2. 28° 30' 800.00 feet along the Pohakuloa Impact Area;
3. 118° 30' 1,400.00 feet along the Pohakuloa Impact Area;
4. 208° 30' 1,100.00 feet along the Pohakuloa Impact Area;
5. 113° 50' 9,600.00 feet along the Pohakuloa Impact Area;
6. 74° 20' 3,300.00 feet along the Pohakuloa Impact Area;
7. 116° 30' 2,900.00 feet along the Pohakuloa Impact Area;
8. 90° 48' 1,670.00 feet along the Pohakuloa Impact Area;
9. 110° 00' 4,700.00 feet along the Pohakuloa Impact Area;
10. 58° 00' 3,600.00 feet along the Pohakuloa Impact Area;
11. 22° 30' 1,300.00 feet along the Pohakuloa Impact Area;
12. 79° 40' 3,700.00 feet along the Pohakuloa Impact Area;
13. 85° 10' 3,000.00 feet along the Pohakuloa Impact Area;

14. 359° 29' 1,132.00 feet along the Pohakuloa Impact Area;
15. 89° 10' 21,730.00 feet along the Pohakuloa Impact Area;
16. 221° 36' 51" 5,539.10 feet along the remainder of the Government Land of Puuanahulu;
17. 183° 36' 51" 9,400.00 feet along the remainder of the Government Land of Puuanahulu;
18. 249° 06' 51" 11,000.00 feet along the remainder of the Government Land of Puuanahulu;
19. 306° 06' 51" 2,500.00 feet along the land of Waikoloa;
20. 300° 23' 51" 12,201.50 feet along the land of Waikoloa;
21. 175° 29' 01" 8,646.00 feet along the land of Waikoloa;
22. 181° 29' 01" 1,617.00 feet along the land of Waikoloa;
23. 191° 29' 01" 2,046.00 feet along the land of Waikoloa;
24. 174° 29' 01" 700.00 feet along the land of Waikoloa;
25. 237° 02' 31" 800.61 feet along portion of Kaohē;
26. 319° 59' 01" 9,000.00 feet along portion of Kaohē;
27. 287° 29' 01" 11,000.00 feet along portion of Kaohē;
28. 288° 40' 7,832.30 feet along "Parcel B" hereof;
29. 10° 53' 30" 2,713.32 feet along Parcel A of Governor's Executive Order 1719, and across the Saddle Road;
30. 288° 13' 2,247.05 feet along the southerly boundary of the Saddle Road;
31. 276° 47' 30" 207.36 feet along the southerly boundary of the Saddle Road;
32. 271° 54' 30" 4.00 feet along the southerly boundary of the Saddle Road;
33. 1° 54' 30" 2,600.00 feet along Parcel B of Governor's Executive Order 1719;
34. 271° 54' 30" 3,215.00 feet along Parcel B of Governor's Executive Order 1719;

35. 181° 54' 30" 2,598.25 feet along Parcel B of Governor's Executive Order 1719;
36. 271° 59' 937.10 feet along the southerly boundary of the Saddle Road;
37. 269° 44' 30" 2,115.14 feet along the southerly boundary of the Saddle Road;
38. 280° 44' 110.88 feet along the southerly boundary of the Saddle Road;
39. 290° 20' 1,036.00 feet along the southerly boundary of the Saddle Road;
40. 288° 44' 275.15 feet along the southerly boundary of the Saddle Road;
41. 22° 28' 45" 5,075.66 feet along Mauna Kea Forest Reserve and Parcel "C" hereof;
42. 354° 00' 5,350.00 feet along Parcel "C" to the point of beginning and containing a GROSS AREA OF 15,480 ACRES, more or less, excluding therefrom approximately 60 acres of Saddle Road, leaving a NET AREA OF 15,420 ACRES, more or less.

PARCEL "B"

Land situated at Kaohe, Hamakua, Hawaii, Hawaii.

Being a portion of the Government Land of Kaohe and also being a portion of Mauna Kea Forest Reserve.

Beginning at a point on the southwesterly boundary of this piece of land, also being the northwest corner of Parcel A of Governor's Executive Order 1719 dated 26 January 1956, the coordinates of said point of beginning from Government Survey Triangulation Station "Omaokoili" being 19,465.73 feet North and 22,857.15 feet West, thence running by azimuths measured clockwise from True South:-

1. 108° 40' 7,832.30 feet along Parcel A to the boundary of Mauna Kea Forest Reserve;
2. 224° 59' 01" 4,000.00 feet along a portion of the Government Land of Kaohe;
3. 279° 30' 16,000.00 feet along the remainder of Mauna Kea Forest Reserve;

4. 315° 30' 3,000.00 feet along the remainder of Mauna Kea Forest Reserve;
5. 32° 30' 1,700.00 feet along the remainder of Mauna Kea Forest Reserve;
6. 5° 25' 30" 354.25 feet along the remainder of Mauna Kea Forest Reserve;
7. 37° 00' 2,750.00 feet along the remainder of Mauna Kea Forest Reserve;
8. 85° 30' 950.00 feet along the remainder of Mauna Kea Forest Reserve to the boundary of Parcel A of Governor's Executive Order 1719;
9. 213° 45' 1,650.00 feet along Parcel A of Governor's Executive Order 1719;
10. 101° 18' 10,869.06 feet along Parcel A of Governor's Executive Order 1719 to the point of beginning and containing an AREA OF 1,944 ACRES, more or less.

PARCEL "C" Part of A-105-1 & 200 of A-105-3

Land situated at Kaohe, Hamakua and Humuula,
North Hilo, Hawaii, Hawaii.

Beginning at the most southerly corner of this piece of land, also being on the easterly boundary of the proposed Impact Area of Pohakuloa Military Reservation, the coordinates of the said point of beginning from Government Survey Triangulation Station "Omaokoili" being 9685.30 feet South and 2632.28 feet West, thence running by azimuths measured clockwise from True South:-

1. 156° 22' 3,297.35 feet along the proposed Impact Area of Pohakuloa Military Reservation;
2. 136° 30' 14,800.00 feet along the proposed Impact Area of Pohakuloa Military Reservation;
3. 154° 39' 1,540.00 feet along the proposed Impact Area of Pohakuloa Military Reservation;
4. 174° 00' 5,350.00 feet along Tract B of Pohakuloa Military Reservation;

5. 202° 28' 45" 2,100.00 feet along Tract B of Pohakuloa Military Reservation;
6. 262° 25' 2,604.15 feet along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938);
7. 324° 00' 1,525.54 feet along fence, along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938);
8. 258° 11' 1,988.55 feet along fence, along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938);
9. 305° 21' 10" 4,014.60 feet along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938);
10. 231° 30' 4,500.00 feet along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938);
11. 315° 00' 10,000.00 feet along the remainder of Mauna Kea Forest Reserve (Governor's Proclamation dated May 2, 1938) to the boundary between Humuula and Kaohe;
12. 39° 58' 12" 1,600.00 feet along Humuula;
13. 16° 57' 40" 5,307.56 feet along the remainder of Humuula;
14. 36° 58' 30" 5,718.57 feet along the remainder of Humuula;
15. 144° 20' 30" 171.84 feet along the northeasterly boundary of the Saddle Road to the boundary between Humuula and Kaohe;
16. 15° 12' 18" 4,768.28 feet along Humuula to the point of beginning, and containing a GROSS AREA OF 5,659 ACRES, more or less, excluding therefrom the Saddle Road, 100-foot wide right-of-way (52 acres, more or less) leaving a NET AREA OF 5,607 ACRES, more or less.

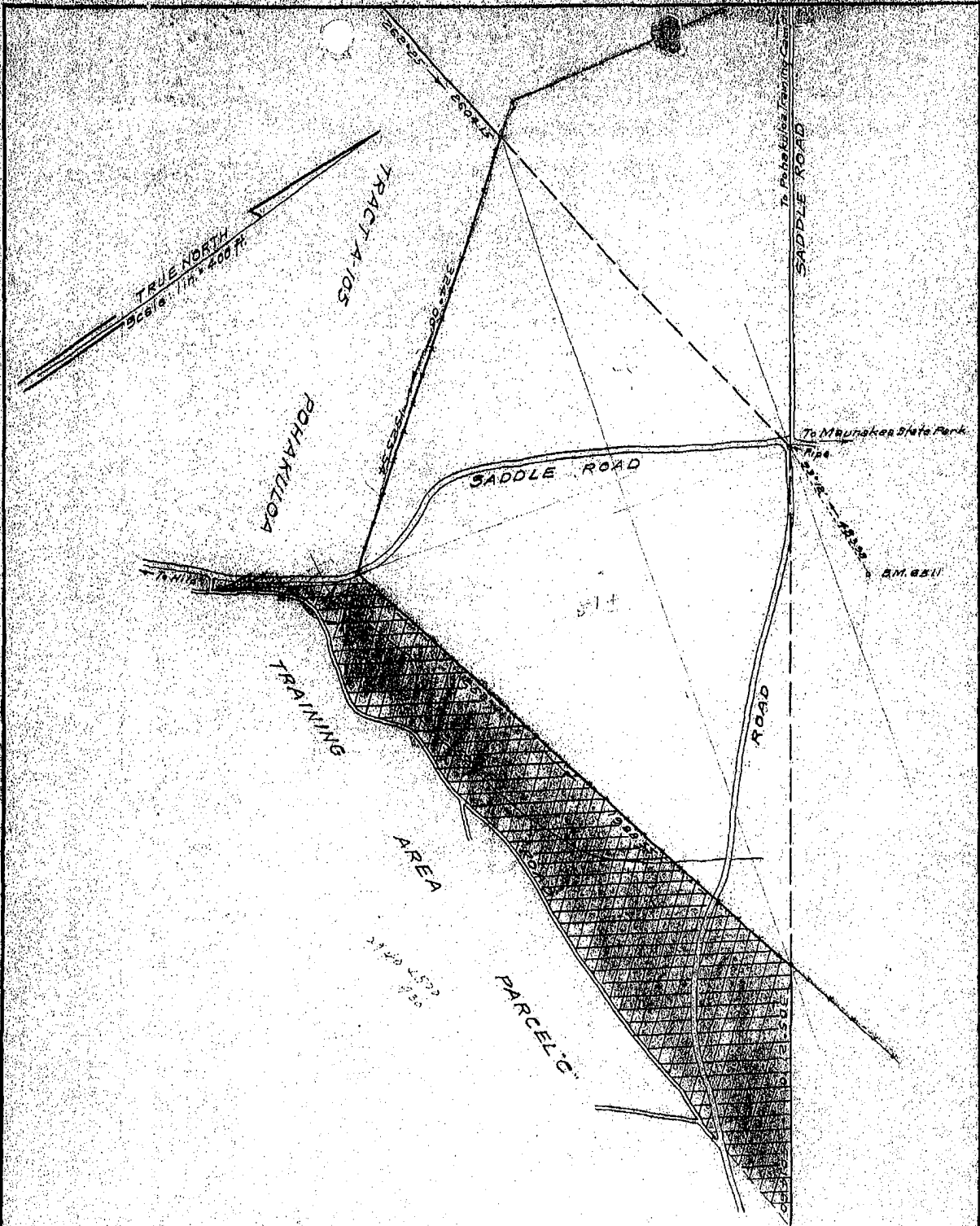


EXHIBIT "B"

*Map showing fence and roads near
Maunakea State Park*

JOB
G. BK

023

TAX MAP

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

308 F. NG

27 AUG 8 1964

PARCEL A
GOVERNORS EXECUTIVE
ORDER 1115

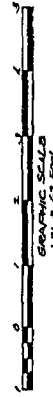
24,700' - 22.9 21,250' - 107.00'

1,365' JAIL
SADDLE ROAD
2,343' CLEAR
277,500' - 4.50'

PARCEL B
GOVERNORS EXECUTIVE
ORDER 1115

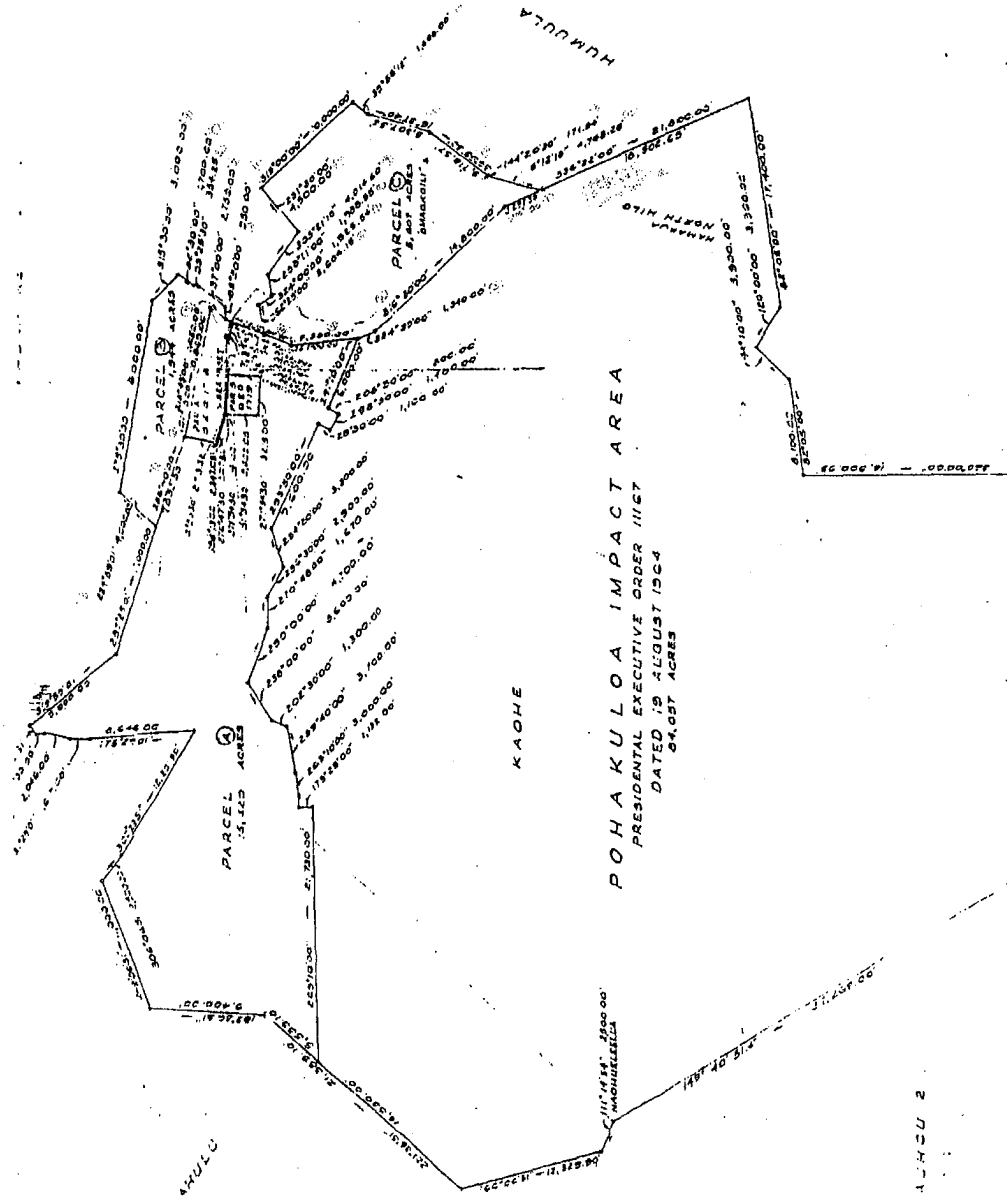
INSET
SCALE: 1 IN. = 100 FT.

TRUE NORTH
SCALE 1:6250



POHAKULOA TRAINING AREA
KAOHE, HAWAII, PUNAHOLOA NORTH KONA, HONOLULU, HAWAII
U.S. ARMY ENGINEER DIVISION PACIFIC SCEN
REAL ESTATE DIVISION

15 272



POHAKULOA IMPACT AREA
PRESIDENTIAL EXECUTIVE ORDER 11157
DATED 19 AUGUST 1964
64,087 ACRES

KAOHE

PARCEL A
15,143 ACRES

PARCEL B
1,200 ACRES

PARCEL C
1,200 ACRES

1-420 2

**2010 Amendment
to State General Lease S-3849**

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Total Number of Pages: _____
Tax Map Key Nos. (3)4-4-015:008,
4-4-016:005 and 7-1-004:007

AMENDMENT OF GENERAL LEASE NO. S-3849
U.S. Lease, Contract No. DA-94-626-ENG-80

THIS AGREEMENT, made and entered into this 6th day of April, 2010, and effective as of September 11, 2009, by and between the State of Hawaii, by its Board of Land and Natural Resources, hereinafter referred to as the "Lessor," and the UNITED STATES OF AMERICA, whose address is U.S. Army Corps of Engineers, Honolulu District, Fort Shafter, Hawaii 96858-5440, hereinafter referred to as the "Government";

WITNESSETH:

WHEREAS, General Lease No. S-3849 dated August 17, 1964, recorded in the State of Hawaii, Bureau of Conveyances in Liber 4821, Pages 425 to 444 was issued to the Government; and

WHEREAS, the Government desires that the general lease be amended; and

WHEREAS, the Board of Land and Natural Resources, at

its meeting held on September 11, 2009, has approved the amendment to General Lease No. S-3849 for the purposes of amending paragraph 22.

NOW, THEREFORE, the Lessor and Government covenant and agree that paragraph 22 of General Lease No. S-3849, is hereby deleted in its entirety and replaced with the following:

"The Lessor reserves unto itself all ground and surface water, ores, minerals and mineral rights of every description on, in or under the demised premises but shall exploit or permit others to exploit the said ores, minerals and mineral rights only with the consent of the Government. Notwithstanding the foregoing reservation, the Government shall have the right to develop and use coral, rock and similar materials occurring naturally on the said premises for the following construction activities; (a) road projects on the demised premises, (b) the Stryker Brigade Combat Team (SBCT) Battle Area Complex to be constructed partially on the demised premises and partially on lands set aside to the Government by Presidential Executive Order 11167 dated August 19, 1964; (c) the SBCT Tactical Vehicle Wash Facility to be constructed on lands set aside to the Government under Governor's Executive Order No. 1719 dated January 26, 1956; and (d) the SBCT Ammunition Holding Area #2 to be constructed on lands set aside to the Government under Presidential Executive Order 11167 dated August 19, 1964. In addition, the Government shall have the right to use ground and surface waters on, in or under the demised premises for purposes incident to the rights granted by this lease."

IN CONSIDERATION THEREOF, the Lessor and Government further agree that this Amendment of Lease Agreement is subject to all the covenants and conditions in the General Lease No. S-3849, except as herein provided.

This Amendment, read in conjunction with the General Lease No. s-3849 sets forth the entire agreement between the Lessor and Government; and the general lease as amended and modified hereby shall not be altered or modified in any particular except by a memorandum in writing signed by the Lessor and Government.

356925_1.DOC

-2-

DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

FOR OFFICIAL USE ONLY

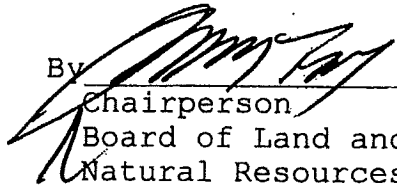
D-4

PRELIM. APPROV'D
Department of the
Attorney General

IN WITNESS WHEREOF, the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused these presents to be executed the day, month, and year first above written.

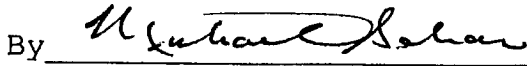
STATE OF HAWAII

Approved by the Board of Land and Natural Resources at its meeting held on September 11, 2009.

By 
Chairperson
Board of Land and Natural Resources *MEM*

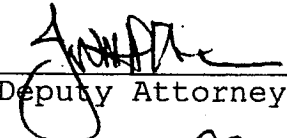
LESSOR

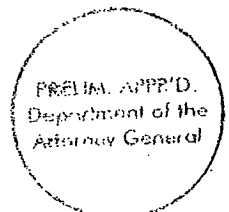
UNITED STATES OF AMERICA

By 
Michael Sakai
Its Realty Contracting Officer
US Army Corps of Engineers,
Honolulu District

GOVERNMENT

APPROVED AS TO FORM:


Deputy Attorney General
Dated: 11/23/09



Court-Ordered Management Plan for Leased Lands at Pohakuloa

Electronically Filed
FIRST CIRCUIT
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IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAI`I

| | | |
|-----------------------------|---|-------------------------------|
| CLARENCE CHING and MARY |) | CIVIL NO. 14-1-1085-04 GWBC |
| MAXINE KAHAULELIO, |) | (Declaratory Judgment) |
| |) | |
| Plaintiffs, |) | |
| |) | |
| vs. |) | COURT ORDERED DLNR MANAGEMENT |
| |) | PLAN FOR LEASED LANDS AT |
| |) | POHAKULOA; APPENDIX I-IV |
| SUZANNE CASE, in her |) | (INCLUDING EXHIBITS "B"- "H") |
| official capacity as |) | |
| Chairperson of the Board of |) | |
| Land and Natural Resources |) | |
| and state historic |) | |
| preservation officer, BOARD |) | |
| OF LAND AND NATURAL |) | |
| RESOURCES, DEPARTMENT OF |) | |
| LAND AND NATURAL RESOURCES, |) | |
| |) | |
| Defendants. |) | |
| |) | |

COURT ORDERED DLNR MANAGEMENT
PLAN FOR LEASED LANDS AT POHAKULOA

For good cause shown herein,

IT IS HEREBY ORDERED as follows:

I. INTRODUCTION

The remaining duration of the Lease term is relatively short and the United States has initiated land condition assessments and recently provided an executive summary of a land condition report for the leased area at Pohakuloa (Appendix II). These considerations, together with other unique circumstances associated with the leased area at Pohakuloa (i.e. ongoing military training activity, vast acreage, and enforcement limitations) have guided the parameters of this Court-Ordered Management Plan ("**COMP**") for Leased Lands at Pohakuloa. The goal of the COMP is to assess compliance with Lease requirements for appropriate removal of unexploded ordnance ("**UXO**") and debris associated with ongoing military training. This assessment is needed to ensure compliance with the Lease. This COMP is subject to available funding, safety and/or national security limitations. The Department of Land and Natural Resources ("**DLNR**") shall use available and reasonable efforts, that are commensurate with its constitutional, statutory, and contractual duties herein, to seek appropriate levels of funding to implement this COMP.

II. INSPECTION PROTOCOL

1. Periodic Inspections

The Land Division of DLNR will conduct periodic inspections of the leased area. It is recommended by the Court, but not a mandatory component of this COMP, that these inspections be conducted at least once every year. The inspections will cover the inspection categories contained in the inspection form format attached hereto as Appendix I. The inspection report shall include: (a) a map of what areas were inspected; (b) photographs that depict the condition of the areas inspected; and (c) a narrative that identifies how much time was spent conducting the inspection and how many acres were inspected. It is recommended by the Court, but not a mandatory component of this COMP, that the inspection report contain a recommendation of: (a) areas that should be visited on the next inspection; and (b) any necessary corrective action. It is recommended by the Court, but not a mandatory component of this COMP, that inspections should attempt to cover 500 acres per inspection year.

Upon completion of an inspection report, DLNR shall make available (electronic copy is acceptable) a copy

of the inspection report to the Native Hawaiian Legal Corporation ("NHLC").

2. Notice of Inspection

It is recommended by the Court, but not a mandatory component of this COMP, that NHLC be provided at least thirty days advance notice of a planned inspection and that NHLC be permitted to designate up to two individuals to observe the inspection, subject to satisfactory completion of any advance security clearance as required by the United States. The observer(s) so designated shall not direct or interfere with the inspection, and shall not be permitted to photograph or record any portion of the inspection. Any reports or documentation of the inspection by the observer(s) shall be provided to DLNR.

3. Priority Areas to Be Inspected

The area just north of Lava Road and east of Kaua Road is a high priority for inspection. See Appendix IV at Exhibit F at 002660, 002664, 00265, 002668; Exhibit G; Exhibit H at 31-32. High priority shall be given to inspecting these specific areas highlighted in these documents to see if military debris remains in these areas. In addition, the nine areas identified in Appendix

II should be inspected by DLNR staff. Finally, the areas highlighted in Appendix IV at Exhibit B at 001172, 001207, 1216, 1218; Exhibit C at 002249, 002277, 002279; Exhibit D at 25 and 39; and Exhibit E at P000124 should also be inspected. While these areas are priority areas, subsequent inspections should include areas that have not been inspected previously.

4. Transparency

This COMP and the inspection reports shall be made publicly available and accessible electronically.

5. Recommendations for Corrective Action

It is recommended by the Court, but not a mandatory component of this COMP, that the inspection report contain recommendations for corrective actions, if any corrective actions are necessary. Recommendations for corrective action should include a projected or reasonable estimated time within which to take action.

6. Department of the Army Inspection Reports

It is recommended by the Court, but not a mandatory component of this COMP, that DLNR obtain and review periodic, semi-annual inspection reports from the United States in the general form attached as Appendix III, and provide any necessary assistance or support in seeking federal funding for cleanup of UXO and utilizing military personnel for non-CERCLA cleanup of military debris or other contaminants attributable to the United States activities under the Lease.

Potential federal funding sources for cleanup of active training areas include the Defense Environmental Restoration Program ("**DERP**"), the Compliance Clean-up ("**CC**") Program, and the Management Decision Evaluation Package ("**MDEP**") for Range Facilities and systems Modernization ("**VSRM**").

DATED: Honolulu, Hawai'i, April 20, 2021.

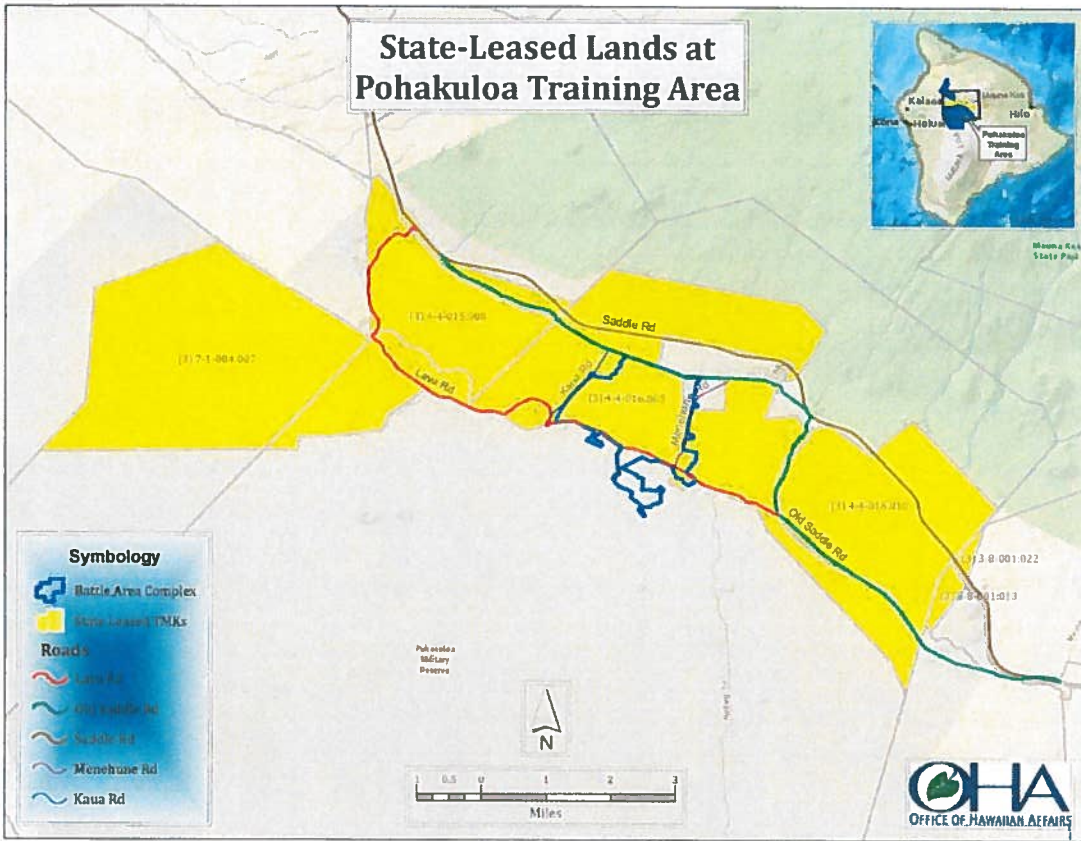
/s/ Gary W.B. Chang



JUDGE OF THE ABOVE-ENTITLED COURT

CLARENCE CHING and MARY MAXINE KAHAULELIO vs.
SUZANNE CASE, in her official capacity as
Chairperson of the Board of Land and Natural
Resources etc, et al.
Civil No. 14-1-1085-04 GWBC
COURT ORDERED DLNR MANAGEMENT PLAN FOR LEASED LANDS
AT POHAKULO

State-Leased Lands at Pohakuloa Training Area



APPENDIX I

INSPECTION REPORT
Commercial/Industrial/Resort/Other Business

General Information

Document Number: GLS 3849 or RPS _____

Character of Use Military purposes

Inspection Date: 12/20/18 Inspection Time: 10:00 a.m.

Land Agent: Gordon Heit

TENANT INFORMATION

Name: United States of America (Dept. of Army)

Home Phone: _____

Address: P.O. Box 4607

Business Phone: _____

Hilo, Hawaii

Fax: _____

Contact Person: Lt. Col. Loreto V. Borce, Jr.

Contact Phone: 969-2407

SITE INFORMATION

TMK: (3) 4-4-015:008, (3) 4-4-016:005, (3) 7-1-004:007

Area: 22.971 acres, more or less

Site Address: Pohakuloa Training Area

Hamakua, North Kona, Island of Hawaii

FISCAL INFORMATION

| ITEM | N/A | CURRENT= COMPLIANCE | DEFAULT = NON-COMPLIANCE | COMMENTS |
|---------------------|-----|------------------------|-----------------------------|----------|
| Rent | X | | | |
| Liability Insurance | X | | | |
| Fire Insurance | X | | | |
| Bond | X | | | |
| | | | | |

FIELD INSPECTION RESULTS (refer to Field Inspection Worksheet)

| ITEM | N/A | COMPLIANCE | NONCOMPLIANCE | COMMENTS/RECOMMENDATIONS |
|------------------|-----|------------|---------------|--------------------------|
| Subleases | X | | | |
| Improvements | X | | | |
| Premises | | X | | |
| Character of Use | | X | | For Military Purposes |

Field Inspection Worksheet
Commercial/Industrial/Resort/Other Business

File Review

LICENSES/PERMITS/CONSENTS

| ITEM | DLNR Approval Docs in File | | | COMMENTS/NOTES/LISTS |
|---|----------------------------|-----|----|--|
| | N/A | YES | NO | |
| Subletting | X | | | attach copy of list or map if applicable |
| Improvement Construction Buildings | | | X | note deadlines for % completion Some structures (i.e. Quonset huts) were built prior to the inception of the Lease. The Lease file does not indicate plan approval for any recent building or construction. |
| Improvement Construction Other structures/misc. | | X | | note deadlines for % completion Plan submitted and approved by Chairperson for the installation of electrical substations within the lease area. |

Field Inspection

| ITEM | SATISFACTORY? | | | COMMENTS/RECOMMENDATIONS |
|--|---------------|-----|----|--|
| | N/A | YES | NO | |
| SUBLEASES | | | | |
| Consents approved | X | | | |
| Use adheres to lease purpose | X | | | |
| IMPROVEMENTS | | | | |
| <u>Buildings/Residences:</u> roof | | X | | |
| paint | | X | | |
| exterior | | X | | |
| interior | | X | | |
| <u>Structures:</u> roads | | X | | |
| walkways | | X | | |
| fencelines | | X | | |
| others | | | | |
| PREMISES | | | | |
| clean, sanitary, orderly | | X | | See comments and recommendations below |
| appropriate storage/use of hazardous materials | | X | | |
| CHARACTER OF USE | | | | |
| adheres to lease purpose | | X | | Military purposes |

| ITEM | SATISFACTORY? | | | COMMENTS/RECOMMENDATIONS |
|--------|---------------|-----|----|--------------------------|
| | N/A | YES | NO | |
| Other: | | | | |

The designated use of this lease is for "Military Purposes". Historical and current uses of the area include military training and firing ranges used to fire weapons from the leased area into the Pohakuloa Impact Area, which is located on federally owned lands within Presidential Executive Order 1167.

Prior to the execution of this lease, the leased area was used by the military for military maneuvers and target practice pursuant to a Maneuver Agreement with the Territory of Hawaii. Pre-lease activity included an impact area as well as anti-tank and artillery ranges.

During an inspection of the leased area in December 2014 and subsequent follow-up, three areas of concern were reported to Land Division, including: (1) a former Bazooka range associated with pre-lease activity; (2) a site containing numerous heavily-damaged target vehicles (with all fluids previously removed) used as targets for live-fire training; and (3) an above-ground site containing a quantity of spent artillery shells. The abandoned bazooka range and the storage of target vehicles do not indicate any violation of the terms of the lease, as contamination associated with the bazooka range predated the lease and storage of target vehicles with contaminants removed is consistent with the purposes of the lease. The presence of the above-ground site containing a quantity of spent artillery shells resulted in an 'unsatisfactory' notation on the December 23, 2014 inspection report.

During follow-up on the December 2014 inspection, two additional sites were identified as locations within the leased area that were being evaluated by the military. These consisted of two former landfill sites, one of which (landfill 1 - approx 285,297 sq. ft.) predated the lease and another (landfill 2 - 225,297 sq. ft.) which was used from 1979 to 1993 for solid municipal waste. Landfill 2 was capped when it was closed with an impermeable liner and then covered with cinder, which is consistent with lease requirements permitting burial of trash. The landfill sites are the subject of ongoing monitoring by the military and the State Department of Health, and no major deficiencies were identified in the most recent inspections.

Each of the areas of concern discussed above has been satisfactorily remediated. The former bazooka range was the subject of an extensive surface clearance effort with Native Hawaiian Veterans (NHV) as the primary contractor. Teams of workers used heavy equipment and helicopters to remove contaminated debris, and the demobilization process was completed by December 3, 2015 with no accidents or injuries. The site containing target vehicles was cleaned and the vehicles removed. The site containing spent artillery shells was the subject of a cleanup process using non-CERCLA funds, consisting of a team of workers physically removing the debris and placing it into a 10-yard roll-off container for removal.

In 2018, the military provided the Land Division with an executive summary of a land condition report relating to the leased area. The land condition report summary was part of an Environmental Condition of Property (ECOP) prepared by the military for use in determining if a property is suitable for acquisition, construction, or divestment. The ECOP investigation and reporting for Phase I and II was completed in June 2017. Extensive soil sampling was conducted and areas were identified based on possible contamination associated with historical land uses. Based on historical uses, the findings identified areas where there was a presence or likely presence of hazardous substances or petroleum products, including the two landfill sites identified above. The findings also identified a Tank gunnery range that predated the lease, a possible former burn pan/cinder pit, a former Davey Crockett Weapons System Range with the potential for the presence of radiological material, and various specific training areas and firing points. In addition to the land condition report summary, a draft periodic report was received referencing a large fire in the training area that occurred during the bi-annual RIMPAC training exercises.

The inspection conducted on December 20, 2018 began with a safety and range orientation briefing, followed by a physical inspection targeted toward gaining an overall view of the leased area and assessing any new areas of concern identified in the executive summary and the draft periodic report. The physical inspection began with a visit to Puu Ahi, an elevated area that provided a vantage point suitable for an overall view of the leased area.

The pre-lease Tank gunnery range has not been used for Tank gunnery exercises since the late 1970s. Upon inspection, the overall condition of the area was satisfactory, but some debris was identified which consisted of abandoned wooden and metal railroad track debris. There were no spent artillery shells observed or other types of military debris associated with the projectiles used for the Tank gunnery range. Although there is also no readily identifiable source of funding for clean up of this range, Deputy Garrison Commander Gregory R. Fleming indicated that a cleanup using non-CERCLA funds will be conducted by military personnel, and should be completed within a one to two year time frame. The former burn pan area was located and described as an area where a "burn pan" (a metal container approximately 20 feet long by 4 feet wide) may have been used for disposal of military debris. The area was identified as an area of concern based on its possible historical use, and there were no indications of any lease violations associated with the overall condition of the area, which was satisfactory. The former Davey Crockett Weapons System Range was the subject of a previous site investigation and Human Health Risk Assessment (HHRA). As a result of soil sampling and scientific analysis, the site assessment and HHRA found only background levels of contamination with no adverse human health impacts associated with exposure to the soil. The State Department of Health has concurred with the HHRA findings. The former Davey Crockett Weapons System Range and its associated impact area (which is off the leased area) are monitored both by the State Department of Health and the Nuclear Regulatory Commission. Two of the more heavily used firing points were identified during the inspection, and these firing points (as well as the firing point area for the former Davey Crockett Weapons System Range) were in satisfactory condition with no apparent lease violations. The area where the fire occurred during the RIMPAC exercises was observed from Puu Kea, an elevated vantage point. Landfill 2 was also visited during the December 20, 2018 inspection, as well as water tanks accessible by helicopters which are used for fire control within the Pohakuloa training area and surrounding areas. At the conclusion of the inspection, a debriefing was held and staff was provided additional information about fire prevention measures used at Pohakuloa Training Area, which are extensive. The US Fish and Wildlife is the primary agency responsible for addressing the recent fire, its impacts and any recommended actions to minimize future fire risks in this fire-prone area.

Current recommendations include continued landfill monitoring and debris removal, and completion of the recommended cleanup and remediation actions discussed above. Land Division has recommended that all reasonable avenues of future funding be explored and further assessment conducted. In addition, options were discussed to allow live or remote viewing of training activities. Possible options include review of digital post-training video from the Battle Area Complex (BAX) or scheduling of live observations of firing points used during upcoming training exercises. Based on the foregoing, the leased area is in satisfactory condition.

APPENDIX II

Executive Summary
ECOP Phase I and II
Pohakuloa Training Area, Hawaii

An Environmental Condition of Property (ECOP) is an investigation in which the current environmental condition of the property is determined by examining current and historical uses of the property and adjoining properties. The results of an ECOP are used to determine if a property is suitable for acquisition, construction, or divestment. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 requires Federal agencies to evaluate the environmental condition of property and to take remedial action as necessary to protect human health and the environment before transferring property.

An ECOP was performed for the 22,971 acres of the State of Hawaii-owned, U.S. Army (Army)-leased lands within Pohakuloa Training Area (PTA), Hawaii (Subject Site). The Army lease (Hawaii State Lease No. S-3849; U.S. Lease DA-94-626-ENG-80) identifies the acreage as three parcels: Parcel A (A-105-1), Parcel B (A-105-2) and Parcel C (A-105-3). This ECOP serves as the means to establish the baseline environmental conditions at the Subject Site and meets the Department of Defense (DoD) requirement for preparation of an ECOP under provisions of the Base Redevelopment and Realignment Manual (DoD 4165.66-M, March 1, 2006), Section C8.3. The ECOP was performed in compliance with the ASTM International Standard Practice, ASTM E1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). The ECOP investigation and reporting for Phase I and II was executed beginning in June 2016 and completed in June 2017.

ASTM E1527-13 defines a Recognized Environmental Condition (REC) as "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." ASTM E1527-13 includes four REC land classifications including (1) *de minimis* conditions, (2) RECs, (3) Historical RECs (HRECs), and (4) Controlled RECs (CRECs). The ECOP found that the Subject Site includes site-specific RECs as summarized in the table on the following page.

The ECOP determined the following results for the Subject Site by parcel based on the HRECs, CRECs, and potential RECs.

Parcel A (A-105-1, 15,420 acres, TMKs 3-4-4-015:008, 3-7-1-004:007, and portions of 3-4-4-016:005):

- Former Landfill 2 (~3.5 acres): This landfill was closed in 1993 and covered in 1996. Long-term management at the landfill is currently being conducted. Area is classified as ECOP Area Type 4 (an area where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial action necessary to protect human health and the environment have been taken).
- Portion of Range 13/13A (~40 acres): From 1962 to 1968, the Davy Crockett Weapons System was intermittently used at this range. The body of the Davy Crockett Weapons System spotting round was made of a depleted uranium alloy. A site investigation and Human Health Risk Assessment (HHRA) was completed and found no adverse human health impacts likely to occur as a result of exposure to the uranium present in the soil at PTA under current land uses. The State of Hawaii Department of Health concurred with the HHRA findings. Area classified as ECOP Area Type 4.
- Remainder of Parcel A is classified as ECOP Area Type 7 (an area that is unevaluated or requires additional evaluation). Recommended for additional evaluation based on the historical land uses.

Parcel B (A-105-2, 1,944 acres, portion of TMK 3-4-4-016:005):

- The entire parcel is classified as ECOP Area Type 1 (an area where no release or disposal of hazardous substances or petroleum products or their derivatives has occurred, including no migration of these substances from adjacent areas) due to limited training usage.

Parcel C (A-105-3, 5,607 acres, portion of TMK 3-4-4-016:005):

- The entire parcel is classified as ECOP Area Type 7. It is recommended for additional evaluation based on the historical land uses.

Summary of HRECs, CRECs, and Potential RECs

| | Site Name | PTA Lease Parcel | TMK | HREC, CREC, or Potential REC | Location Description |
|---|---|---------------------------------------|---------------|--|---|
| 1 | Former Bazooka Range | Parcel A A-105-1 | 3-7-1-004:007 | Unexploded ordnance (UXO), munitions and explosives of concern (MEC), metals | Former firing range. |
| 2 | Former Tank gunnery Range | Parcel A A-105-1 | 3-4-4-015:008 | UXO, MEC | Site identified north of the Military Operation and Urban Terrain (MOUT) Area in the 1959 Range Control map. Area is visible on current aerial photos. |
| 3 | Current Burn Pan Area | Parcel A A-105-1 | 3-4-4-016:005 | Potential MEC, metals, dioxins | Burn pan is located off of Subject Site. |
| 4 | Potential Former Burn Pan | Parcel A A-105-1 | 3-4-4-016:005 | Potential MEC, metals, dioxins | Former potential burn pan/cinder pit area at Puu Puahi. No documentation located. |
| 5 | Former Davy Crockett Weapons System Range | Parcel A A-105-1 | 3-4-4-016:005 | CREC - potential radiological materials | Range 13/13A and south of the cinder pit of Puu Puahi. HHRA completed and found no adverse human health impacts are likely to occur as a result of exposure to the uranium present in the soil. State of Hawaii Department of Health concurs with HHRA. |
| 6 | Former Target Vehicle Storage Site at FARP 18 | Parcel C A-105-3 | 3-4-4-016:005 | Potential petroleum, oil and lubricants (POL) constituents and metals. | Former Target Vehicle Storage Site at FARP 18. Debris has been removed. Soil contamination confirmed in ECOP Phase II. |
| 7 | Landfill 2 | Parcel A A-105-1 | 3-4-4-016:005 | Controlled REC - Remedial Action completed | Closed, capped former landfill. |
| 8 | Former Debris Pile TA 21 | Parcel C A-105-3 | 3-4-4-016:005 | Potential POL constituents and metals | Former metal debris pile TA 21. Material has been removed from site. |
| 9 | All TAs/FPs | Parcel A A-105-1, Parcel C A-105-3 | various | UXO, MEC, metals | Heaviest use anticipated at the 400 Series FP based on past use. |

APPENDIX III



BY TO
INATION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND, PACIFIC
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
745 WRIGHT AVENUE, BUILDING 107, WHEELER ARMY AIRFIELD
SCHOFIELD BARRACKS, HAWAII 96857-5000

Office of the Garrison Commander

Semi-Annual Inspection Report
(July – December 20XX)
State General Lease No. S-3849
Pohakuloa Training Area

Purpose: To provide a status of activities/actions on the Parcel of Land Leased by the United States from the State of Hawaii, under State General Lease Number S-3849. This parcel of land is on the island of Hawaii and is referred to as Pohakuloa Training Area (PTA).

NEW ACTIONS:

1. July 20XX - Fire in Training Area 1 (see attached map): This fire occurred during a training activity. The total amount of area affected was XX acres. The fire was XX% within the leased parcel. Surveys conducted after the fire was extinguished indicated that no known cultural/historical resources were destroyed. Threatened and/or Endangered Species were affected by the fire, though none were eliminated from existence. The Army is working with the U.S. Fish and Wildlife Services regarding this issue.
2. The bi-annual RIMPAC exercise occurred from July XX-XX 20XX. During that time all training activities were conducted under the established standard operating procedures. Units training were represented by the following countries (not all inclusive): United States, Japan, Korea, Philippines, and Malaysia. During this exercise a large fire occurred within the limits of the lease. After fire surveys determined that no cultural/archeological sites were affected. No endangered species were deleted from existence. A follow-on report was provided to the U.S. Fish and Wildlife Service (enclosure).
3. The Annual Lightning Forge training exercise was partially conducted on PTA. No special actions were required as a result of the training exercise.
4. A new Programmatic Agreement (PA) which covers all routine and recurring activities at PTA is in its final stages of execution. The Agreement covers all Army training actions on the island of Hawaii, including actions on the leased parcel.

UPDATES ON PREVIOUSLY REPORTED ACTIONS:

1. On...

THOMAS J. BARRETT
COL, U.S. Army
Commanding

APPENDIX IV

EXHIBITS AND TRANSCRIPT FROM THE TRIAL

EXHIBIT “B”

H-01438

4-4
Draft Rev. 9/25/98
**ARCHAEOLOGICAL INVESTIGATIONS OF
TWO WORK AREAS FOR THE LEGACY
RESOURCE MANAGEMENT PROGRAM
AT POHAKULOA TRAINING AREA,
HAWAI'I ISLAND, HAWAII**

FINAL
March 1998



GANDA

Garcia and Associates

Consultants in Cultural and Natural Resources

**729 Emily Street, Suite B
Honolulu, HI 96813**

CIVIL NO. 14-1-1085-04 GWBC

PLAINTIFFS

EXHIBIT 22

IN EVIDENCE FOR IDENTIFICATION

REC'D _____, 2015

CLERK, 14th DIVISION
001163

EXHIBIT "B"

previously inspected for archaeological sites pursuant to proposed artillery firing points, a firebreak/road route, and location of the Pu'u Leilani quarry (Streck 1986b).

1.1.2 Work Area 2

Work Area 2 is located within Training Areas 5 and 6, immediately south of Pu'u Pōhakuloa and Bradshaw Airfield. The parcel is bounded by Saddle Road, Lava Road, and Menehune Road and is entirely within the Hāmākua District. The most relevant previous surveys include Welch's (1993) investigation of Saddle Road and the Shapiro et al. (1998) inventory along Redleg Trail. Work Area 2 (ca. 486 ha. or 1,200 ac.) is classified as low to moderate in cultural resource sensitivity and site densities were anticipated in the range of zero-to-one per km² (Hammatt and Shideler 1991:5, 11). In general, the north half is characterized by open pasture and the south by aa and mixed lava flows. Extensive military use is evidenced by dirt roads, firing points, new buildings, a helicopter pad, rock constructions, and recent debris.

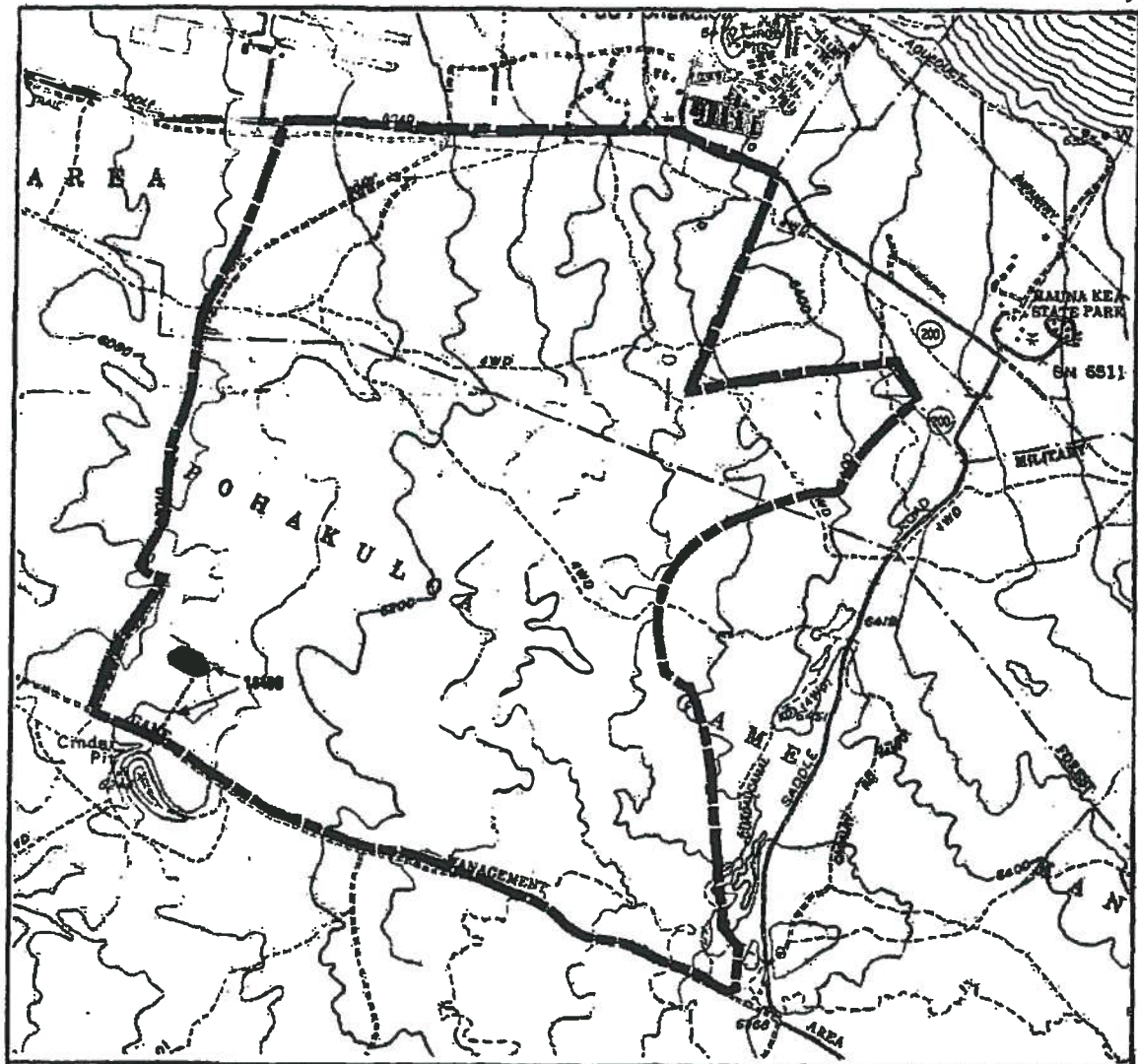
1.2 ENVIRONMENTAL SETTING

Elevation in the PTA ranges from 4,060 ft (1,238 m) amsl in the northwest corner to 8,880 ft (2,707 m) amsl in the southeast area (cf. Hommon and Ahlo 1983:6). Annual rainfall varies from 4 inches (102 mm) to 16 inches (406 mm). Fogs and occasional frosts occur in the area. Temperatures average about 60°F (15.6°C) in the lower elevations and 50°F (10°C) in the higher elevations. The upper altitudes are characterized by cooler winter temperatures (cf. Hommon and Ahlo 1983:10; Streck 1992:100).

The majority of the PTA is covered by pahoehoe and aa lava flows from Mauna Loa with a smaller area in the north PTA covered by soil and lava from Mauna Kea (Stearns and MacDonald 1946; Hommon and Ahlo 1983:7). Three of the Mauna Loa flows are from the recent past and date to A.D. 1843, 1859, and 1935. The pahoehoe lava flows contain subterranean geologic features such as tubes and blisters, some of which extend hundreds of meters beneath the ground. The tubes are most often entered by large collapsed sinks. Some of the pahoehoe flows formed surface chills of volcanic glass and dense, fine-grained basalt.

In Work Area 1, much of the lava underlying the northeast section is hawaiite from Mauna Kea (Wolfe and Morris 1996) and consists of "aa and blocky aa" interspersed with dense pahoehoe. These flows are dated before 10,000 B.P. The remaining part of the area is dominated by weathered pahoehoe, some aa, and interspersed by *kīpuka*. The earliest of these flows in the southwest are between 5,000 and 3,000 years B.P. (k1y). They are surrounded by younger flows dated between 3,000 to 1,500 B.P. (k2) and another further east (k3) dated to 1,500 and 750 B.P. (Figure 2).

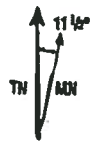
Work Area 2 is dominated by two early lava flows: one from Mauna Kea (1) dated before 10,000 B.P. and the other from Mauna Loa (k2) dated from 3,000 to 1,500 B.P. The former flow tends to consist of aa and blocky aa while the latter tends to consist of an old and badly weathered pahoehoe (Figure 2). Much of this latter terrain has been heavily disturbed by military activities.

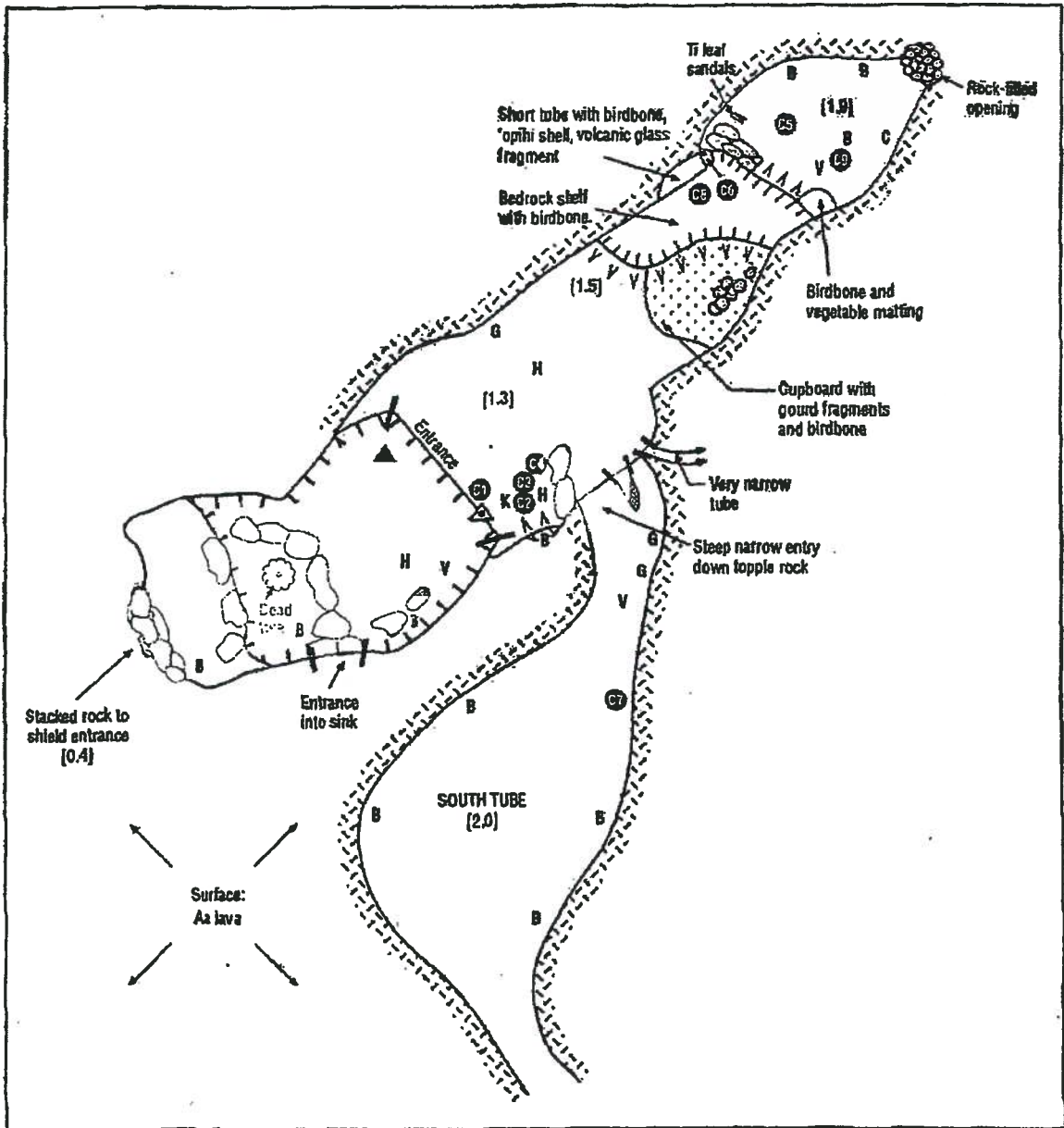


**Figure 9. Archaeological site locations:
Work Area 2.**

-  Work Area 2 boundary
-  Archaeology site

Source: USGS 7.5' Ahuinoa, HI (1982)
USGS 7.5' Puu Koli, HI (1982)

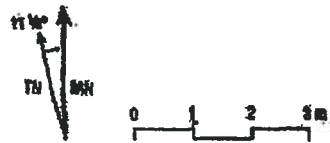




Legend

- | | | |
|-----------------------------|-----------------------------|------------------------|
| ▲ Site identification tag | ✕ Entrance | B Birdbone |
| ▲ Mapping datum (Maio tree) | ✕ Bedrock shelf | C Charcoal |
| ⌒ Sink edge | ⬢ Rocks, cobbles, boulders | G Gourd fragment |
| ⌒ Tube wall | ⊙ Sample/artifact collected | H Hammerstone |
| [0.0] Ceiling height (m) | ⊙ Midden area | K Kokoi nut |
| | | V Volcanic glass piece |

Figure 12.
Map of Feature C at Site 19490.



The northeast end of the main tube is blocked with boulders and large rocks. This rear area contains scattered charcoal and bird bone (e.g., *Pterodroma phaeopygia*), especially concentrated along the wall crevices. Along the south wall is a midden area (2 × 2 m) on the soil floor containing 'opihi shell, kukui nut pieces, charcoal flecks, bird bone, and volcanic glass. A charcoal sample (Sample C9) from a burned firebrand in this region 9.3 m inside the tube produced a C¹³ corrected radiocarbon age of 160 ± 70 years B.P. and calibrated date of A.D. 1640 to 1950 (Appendix D).

Two, small, adjacent openings from the main tube lead down a narrow toppled rock entry into a south chamber (10 × 5 × 2 m high). A continuous surface distribution of cultural debris is noted throughout the lower tube surface (e.g., bird bone, a few firebrands, vegetable matings, gourd fragments, and a volcanic glass blade). Bird bone and gourd fragments are especially concentrated along the wall crevices.

Collected items from Feature C include fish bone and bird bone samples, charcoal, volcanic glass, and a grinding stone and pestle (see below). Two pieces of artifact glass were submitted for source analysis (Appendix E) and were found to be characteristic of the Pohakuloa Basalt/Glass chemical group (cf. Jackson and Miksicek 1994).

- Feature D Feature D is a small blister shelter (ca. 3.3 × 2 × 1 m high) containing bird bone and two volcanic glass fragments. Two aa rocks are placed along the entrance to provide a step down onto the interior floor.
- Feature E Feature E is a small tube (4 × 2 × 1 m high) located 25 m east of Features A through D. Its cultural elements include an ash concentration and a volcanic glass blade. A basalt hammerstone was found about 3 m outside the tube on a mixed lava surface. Recent military debris (e.g., ammunition boxes) littered the vicinity.
- Feature F Feature F is a short trail (ca. 23.5 m long) through aa in the west site region (Figure 14). It is visible from the lava tubes (Features A through D) and is located 62 m west of Feature A. The trail is constructed of pahoehoe slabs (averaging 40 cm in diameter) aligned east-west to provide stepping stones across the aa. Located approximately 10 m south of the trail is a short (1.3 m long by 0.4 m high) stacked wall of pahoehoe slabs of probable recent manufacture as suggested by construction techniques and military debris.
- Feature G Feature G is an *ahu* located on a slight rise about 20 m northeast of Feature E. It is constructed of multiple-stacked aa cobbles and pahoehoe slabs and averages 0.6 m high and wide.

EXHIBIT “C”

H-02191

Final Report

**PHASE I ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR SBCT GO/NO GO
MANEUVER AREAS AT U.S. ARMY POHAKULOA TRAINING AREA, KA'OHE
AHUPUA'A, HĀMĀKUA DISTRICT AND PU'UANAHULU AHUPUA'A, NORTH KONA
DISTRICT, ISLAND OF HAWAI'I, HAWAI'I (TMKs 3-4-4-16:01 and 3-7-1-04:07)**

Prepared For:

U.S. Army Engineer District, Honolulu
CEPOH-EC-E, Building 252
Fort Shafter, HI 96858-5440

Contract No. DACA83-03-D-0011
Task Order No. 0001



Prepared By:

Garcia and Associates
146 Hekili St., Suite 101
Kailua, HI 96734



April 2005

CIVIL NO. 14-1-1085-04 GWBC
PLAINTIFFS EXHIBIT 25
IN EVIDENCE FOR IDENTIFICATION
REC'D _____, 2015

CLERK, 14th DIVISION

GANDA Report No. 2051-1

EXHIBIT "C"

002226

T315 (Figure 4). The number of military features which are actually within the current project area, however, cannot be ascertained from their report. According to Langlas *et al.* (1999:ii), military features consist primarily of small c-shape shelters and walls. Military refuse and bullet casings were found in association with these features. Features were assessed as "not significant and not eligible for listing on the National Register of Historic Places (NRHP)."

The portion of the current project area within Training Area 6 is relatively close to three previously recorded sites (5002, 5003, and 14638; see Figure 4). Site 5002 consists of several sections of stone wall to the south and east of Training Area 6. These walls were probably built for cattle by Parker Ranch late in the nineteenth century (Welch 1993:47). Site 5003 is a cave shelter to the northeast of Training Area 6 (Bayman *et al.* 2001:26-31). Volcanic glass was observed both inside and outside the cave by Welch in 1990 (Welch 1993:47-51). Excavation by Welch (1993) produced lithic material and midden within stratified deposits. Test excavation confirmed that the cave had previously been utilized by Hawaiians, probably sometime after A.D. 1630 (Welch 1993:81). Later investigation by the University of Hawai'i produced similar information, but returned somewhat earlier dates (2 σ calibrated A.D. 1618-1681 and A.D. 1444-1636). Site 14638 is a "Lithic Workshop Complex" south of Training Area 6 (Bayman *et al.* 2001:11-20). It covers an 18 by 38 m area and is comprised of volcanic glass nodules, basalt flakes, basalt adze preforms, bird bone, stone enclosures, and lava blisters (Welch 1993:52; Bayman *et al.* 2001:11). The University of Hawai'i Field School excavated a hearth feature at this site which returned a 2 σ calibrated range of A.D. 1405-1531.

2.4.1 Discussion

Various researchers have developed pre-Contact land-use interpretations for PTA and the Saddle Region generally (Athens and Kaschko 1989, Ciegorn 1998, Hommon and Ahlo 1983, Streck 1992, Williams 2002).

Hommon and Ahlo (1983:57) suggest that the Saddle Region was likely used on a temporary basis by travelers passing through the region on one of two travel "corridors"; one following the North Kona-Hamakua District boundary and one following the route of the current Saddle Road. The travel corridors likely facilitated the distribution of Mauna Kea adze blanks and occupation sites were predicted to occur in greater numbers within these corridors. Activities in the Saddle were focused on specific resource procurement such as hunting of 'u'au for food, hunting of honeycreepers for feathers, and local procurement of volcanic glass. Occupation of sites was likely on a seasonal basis by a very small population.

Athens and Kaschko (1989:89) later interpreted Saddle Region land-use intensity patterns to reflect the development of a complex stratified social organization on Hawai'i Island characteristic of the Expansion Period as defined by Kirch (1985:303-305) and in accord with Hommon's (1986) inland expansion hypothesis. As such, land-use in the Saddle Region corresponded with demand for elite goods such as feather adornments and food delicacies such as the immature 'u'au. Hammett and Shideler (1991:42) suggest a burst of such activities associated with the reign of 'Umi-a-Loa.

Subsequent declines in the intensity of human use of the region may correlate with over-exploitation of bird populations (Athens and Kaschko 1989:90), over-exploitation of other upland resources (stone tools, forest products), changes in sociopolitical structure, and decreased demand for Saddle Region resources (Streck 1992:106).



Figure 30. GANDA Site 126, view to southeast.

GANDA Site: 127

Site 127 is a pit complex composed of three excavated *pāhoehoe* pits in Training Area 19. (Figure 31). One pit was located with GPS. No cultural materials were observed.

The pit complex may have been utilized for bird hunting by Hawaiian hunters in pre-Contact or early historic times. Detailed mapping is recommended for these sites as well as sampling of any deposits found within the pits.

Feature 1 is a single *pāhoehoe* pit measuring 1.6 by 1.0 m. Cobbles are loosely piled along the western portion of the feature.

Features 2 and 3 are *pāhoehoe* pits situated approximately 100 m east of Feature 1. Feature 2 measures 1.5 m in diameter and Feature 3 is .8 m in diameter. Cobbles have been loosely piled on the western flank of the pit.

GANDA Site: 128

Site 128 is a cave located at the northern end of Training Area 16 (Figure 32). The cave is formed at the basal margin of a sink. The cave opening measures 4.1 m wide by 1.0 m high and faces east. A large amount of military debris was observed on the surface at the entrance.

Although there is no clear evidence of traditional Hawaiian or early historic cultural modification, the cave is quite suitable for a temporary shelter and appears to have moderately good

excavation potential. Since it is known that such geologic features have a higher than average likelihood of containing traditional Hawaiian cultural remains, it is recommended that Site 128 be fully mapped and photographed. Furthermore, the cave interior should be intensively investigated for cultural remains. If remains are found, test excavation should be performed.

GANDA Site: 129

Site 129 is a lithic scatter situated on the lower eastern slope of Pu'u Ke'eke'e within Training Area 16 (Figure 33). The scatter is in an exceptionally disturbed area. It is near a dirt road that leads into the *pu'u* and is just downslope from a military defensive position. Military debris was also observed in the area.

The scatter consists of five waterworn pebbles and one possible scoria abrader. These materials clearly do not match the surrounding geology and must have been imported to the site. It is unclear, however, when this happened and by whom. It is therefore recommended that Site 129 be further investigated. Future work should include intensive inspection of the surrounding 20 m area, mapping, and test excavation if further evidence of cultural activity is found. The possible scoria abrader should be examined by a lithic specialist.

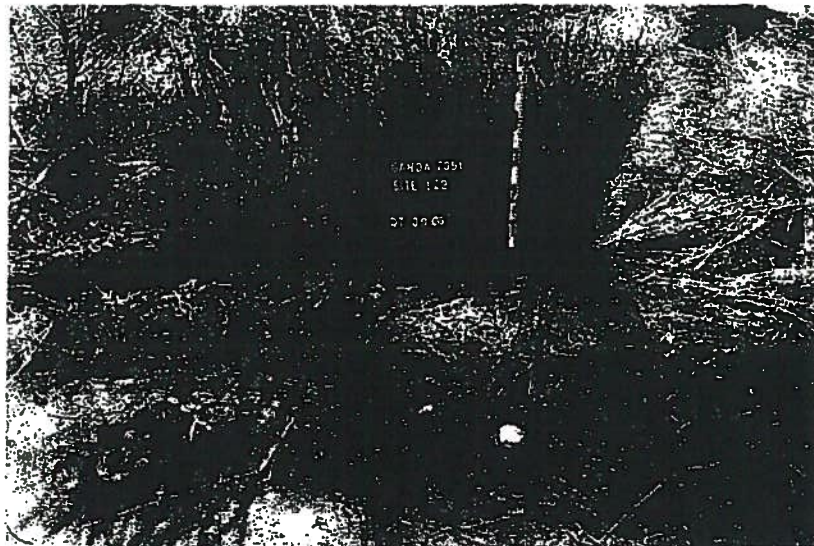


Figure 33. GANDA Site 129, view to northwest.

EXHIBIT “D”



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
DIRECTORATE OF PUBLIC WORKS
947 WRIGHT AVENUE, WHEELER ARMY AIRFIELD
SCHOFIELD BARRACKS, HAWAII 96857-5013

ENVIRONMENTAL BASELINE SURVEY

For
Return of a Portion of Lands Leased from the State of Hawaii
(State Lease #S-3849)
Pohakuloa Training Area, Hawaii

November 2012

Prepared for:

Real Estate Branch
Planning Division
Directorate of Public Works
U.S. Army Garrison, Hawaii

Prepared by:

Environmental Division
Directorate of Public Works
U.S. Army Garrison, Hawaii

EXHIBIT "D"

CIVIL NO. 14-1-1085-04 GWBC
PLAINTIFFS **EXHIBIT 34**
IN EVIDENCE FOR IDENTIFICATION
REC'D _____, 2015

CLERK, 14th DIVISION

**SUBJECT: EBS for Return of a Portion of Lands Leased from the State of Hawaii
(State Lease #S-3849), Pohakuloa Training Area, Hawaii**



Photo IR-2.6 mi: Blank Ammunition. Small arms blank ammunition observed close to Gate SR-2.

SUBJECT: EBS for Return of a Portion of Lands Leased from the State of Hawaii (State Lease #S-3849), Pohakuloa Training Area, Hawaii



Photo MKT-2.9 mi: Blank Ammunition. A small amount of blank ammo observed at this location very close to Gate 4 off new Saddle Road.

EXHIBIT “E”

Final
First Five-Year Review
Pohakuloa Training Area
Landfills 1 and 2 (POTA-03 & 06)
ISLAND OF HAWAII

October 2014



U.S. Army Environmental Command
2450 Connell Rd., Building 2264
Fort Sam Houston, Texas 78234-7664



Directorate of Public Works
United States Army Garrison, Hawaii
948 Santos Dumont Avenue
Building 105, Wheeler Army Airfield
Schofield Barracks, Hawaii 96857-5013

Contract No.: W91ZLK-05-D-0009
Delivery Order 0004

P000170

CIVIL NO. 14-1-1085-04 GWBC
PLAINTIFFS **EXHIBIT 31**
IN EVIDENCE FOR IDENTIFICATION
REC'D _____ 2015

EXHIBIT "E"

CLERK 14th DIVISION

Table 4-1b: POTA-06 Landfill 2
Summary of Inspections During the Review Period

| B. Type of Waste | | | |
|-----------------------------|---|--|-----------------|
| 7/13/2009 | X | n/a | |
| 9/30/2009 | X | n/a | |
| 1/29/2010 | X | n/a | |
| 4/6/2010 | X | n/a | |
| 7/7/2010 | X | n/a | |
| 3/25/2011 | X | n/a | |
| 6/23/2011 | X | n/a | |
| 9/8/2011 | X | n/a | |
| 4/17/2012 | X | n/a | |
| 9/6/2012 | X | n/a | |
| 3/28/2013 | X | n/a | |
| 9/13/2013 | X | n/a | |
| IV. Additional Observations | | | |
| 7/13/2009 | X | Permanent gas vent identification tags/markers need to be attached to each gas vent | Next Inspection |
| 9/30/2009 | X | Permanent gas vent identification tags/markers attached to each gas vent and gas vents painted | 9/30/2009 |
| 1/29/2010 | X | Identification tage on gas vents | |
| 4/6/2010 | X | Identification tage on gas vents | |
| 7/7/2010 | X | None | |
| 3/25/2011 | X | None | |
| 6/23/2011 | X | None | |
| 9/8/2011 | X | Project sign fastener detached. Reattached | 9/8/2011 |
| 4/17/2012 | X | None | |
| 9/6/2012 | X | Re-secured project sign and replaced fence cap. | 9/6/2012 |
| 3/28/2013 | X | Observed possible UXO while performing inspection of fence. Informed Range Control. Changed PM contact info on project sign. | 3/29/2013 |
| 9/13/2013 | X | None | |

P000124

EXHIBIT “F”

H-02196

GANDA Project 2049

FINAL

**PHASE II ARCHAEOLOGICAL RESEARCH OF PROPOSED
BATTLE AREA COMPLEX (BAX) & ANTI-ARMOR LIVE FIRE
AND TRAINING RANGE (AALFTR) TRAINING AREAS FOR
STRYKER BRIGADE COMBAT TEAM (SBCT) U.S. ARMY
POHAKULOA TRAINING AREA,
ISLAND OF HAWAII, HAWAII (TMK 3-4-4-16:1)**



Prepared for:

U.S. Army Engineer District, Honolulu
CEPOH-EC-E, Building 252
Fort Shafter HI 96858-5440



CONTRACT No. DACA83-01-D-0013

Task Order No. 0014

Prepared by:

Garcia and Associates
146 Hekili St., Suite 101
Kailua, HI 96734

April 2006



CIVIL NO. 14-1-1085-04 GWBC
PLAINTIFFS **EXHIBIT 26**
IN EVIDENCE FOR IDENTIFICATION
REC'D _____, 2015

CLERK, 14th DIVISION

EXHIBIT "F"

002625

Williams (2002)

An archaeological Phase I survey was conducted by Ogden of approximately 1,183 acres east of Redleg Trail (see Figure 9) and Phase II excavations of sites previously identified south and east of the survey area (Williams 2002). A total of 35 sites were identified, including pre-Contact habitation sites, excavated pits, shrines, cairns, and newly identified volcanic glass quarries (termed "chill glass"). The volcanic glass quarries, numbering over 197 individual quarries, were grouped into separate site numbers according to spatial associations between the features. Four of the volcanic glass quarry sites (Sites 21667, 21669, and 21670 and 21671) overlap the eastern portion of AALFTR and AALFTR Extension. Subsurface testing was conducted at Site 18673, located in the current project area. The site was previously recorded by Shapiro *et al.* (1998) prior to the Williams (2002) study. Williams notes the site deposit was thin, except in intact hearths near the entrance, and contained bird bone, gourd fragments, volcanic glass, and charcoal.

Shapiro *et al.* (1998)

BioSystems conducted an archaeological survey and aerial reconnaissance of a 1,000-m-wide corridor centered on Redleg Trail (see Figure 9) (Shapiro *et al.* 1998). The survey identified ten sites in the corridor, evaluated as pre-Contact Hawaiian sites associated with habitation (lava tubes and C-shape), ceremony or burial, transportation (trail) and quarrying of basalt material. Two of the habitation sites are within the current project area (Sites 18671 and 18673). Site 18671 is a small lava tube shelter with a scant cultural deposit near the light zone. Datable material collected from the light zone and inner chamber of the lava tube produced respective, calibrated date ranges of AD 1630 to 1955 and AD 1478 to 1680. Site 18673 is an extensive lava tube system with several internal features (e.g., hearths, alignments, clearings and rock uprights) denoting sleeping, cooking and ceremonial areas. Abundant cultural material was collected from the site, including hearth ash and charcoal, burned wood, grass matting, gourd pieces, a sling stone or bird cooking, and a volcanic glass "blade", 'opihi shells and bird bone. Three charcoal samples collected from three areas of the site produced different calibrated date ranges spanning between AD 1280 and 1680.

Shapiro and Cleghorn (1998)

BioSystems conducted an archaeological survey of two areas at PTA (Shapiro and Cleghorn 1998). One of the study areas (Work Area 2) included Training Area 5, which overlapped the northeast corner of BAX (see Figure 9). Only one site (Site 19490) was identified in the BAX. Site 19490 is a pre-Contact complex of features (Features A-E), including four lava tubes, two trails, a C-shape, four *ahu* and a surface scatter of volcanic glass flakes. Abundant cultural material was identified in the lava tubes, particularly Feature C, including two *ti* leaf sandals, gourds, burned wooden poles, a hammerstone, vegetable matting, bird and fish bone, 'opihi shell, *kukui* shell and volcanic glass. Military debris was also noted on the surface of the site. Charcoal from a burned firebrand in Feature C produced a calibrated date range of AD 1640 to 1950. A sample of volcanic glass also collected from Feature C was analyzed as material characteristic of the Pohakuloa Basalt/Glass (Hawaii) chemical group (cf. Jackson and Miksicek 1994).

Phase I Survey; Roberts *et al.* (2004a)

GANDA conducted a Phase I survey and identification of all sites in the BAX and AALFTR portions of the project area (see Figure 9) (Roberts 2004a). The Phase I work originally identified 24 potential archaeological sites, 15 of which were determined to be archaeological sites during the current Phase II work (see Table 1). All 15 sites are pre-Contact sites attributable to habitation, quarrying, possible bird hunting and travel (trails).

5.0 FIELD METHODS

Intensive archaeological survey of the three study areas focused on data collection necessary to evaluate site significance and to determine mitigation treatments for significant cultural resources. Tasks included preparation of detailed site descriptions, drawing of scaled and gps-generated site maps, limited excavations (where possible) and photographic documentation.

Due to the presence of unexploded ordnance in the various study areas, the field crew was accompanied by a team of UXO specialists from Donaldson Enterprises, Inc (DEI) during all field activities. Prior to subsurface testing, the ground was tested for buried UXO with a magnetometer.

All aspects of the fieldwork, including schedule, personnel, archaeological findings and evaluations, were documented in a daily log. Sites were thoroughly recorded on site and feature record forms specifically designed for PTA. Most of the newly recorded sites were mapped to scale using a meter tape and declinated compass. Scale maps were created for a representative number of features at the excavated pit complexes (Sites 23621, 23463, and 23622). All of the volcanic glass quarries were mapped using a gps and are displayed on GIS maps included in this report. Scale maps of representative features in Site 23455 were completed during a previous study (See Appendix C in Roberts et al. 2004b). Digital and 35mm photographs were taken of all the sites.

Test units were excavated at several sites to assess the nature and depth of cultural deposits and to collect datable samples for radiocarbon dating. The test units were excavated by natural soil layers, within 10-cm arbitrary levels. Excavated materials were screened through 1/8-inch mesh. Subsurface cultural features were fully exposed, drawn to scale, bisected if necessary, and profiled. At least two walls were profiled of each excavation unit and descriptions of soils and sediments were recorded following U.S. Soil Conservation Service standards and munsell color notations. Photographs were taken of all subsurface features, profiles, and plan views.

6.0 RESULTS

The following section provides descriptions, testing results and radiocarbon information (if applicable) for the 24 sites currently documented in the project area (Figures 10 and 11; see Table 3).

All 24 sites are classified as pre-Contact Hawaiian sites attributable to short-term habitation, possible bird hunting, quarrying, and transportation. All cultural material collected from the sites are tabulated and provided in the Laboratory Analysis Section 7.0 of this report. Sites are presented below by individual study areas (BAX, AALFTR, and AALFTR Extension) and organized - in numerical order - by their State site number, prefaced by 50-10-31. Each description contains a header table providing a brief summary of the site including possible significance evaluations according to NRHP criteria defined in Section 9.0 of this report.

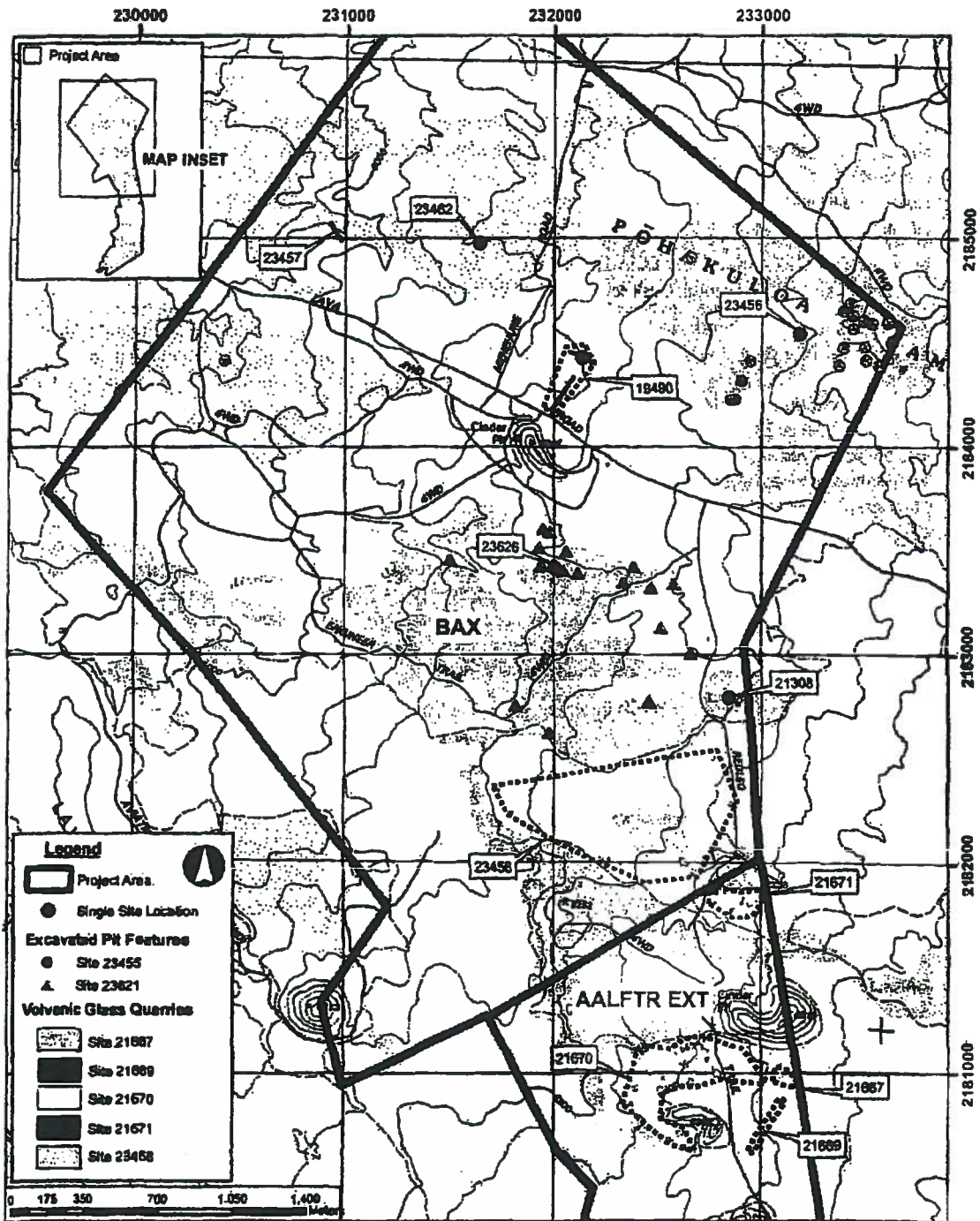


Figure 10. USGS 7.5 Minute Puu Koli Quad Showing Site Locations in Northern Portion of Project Area

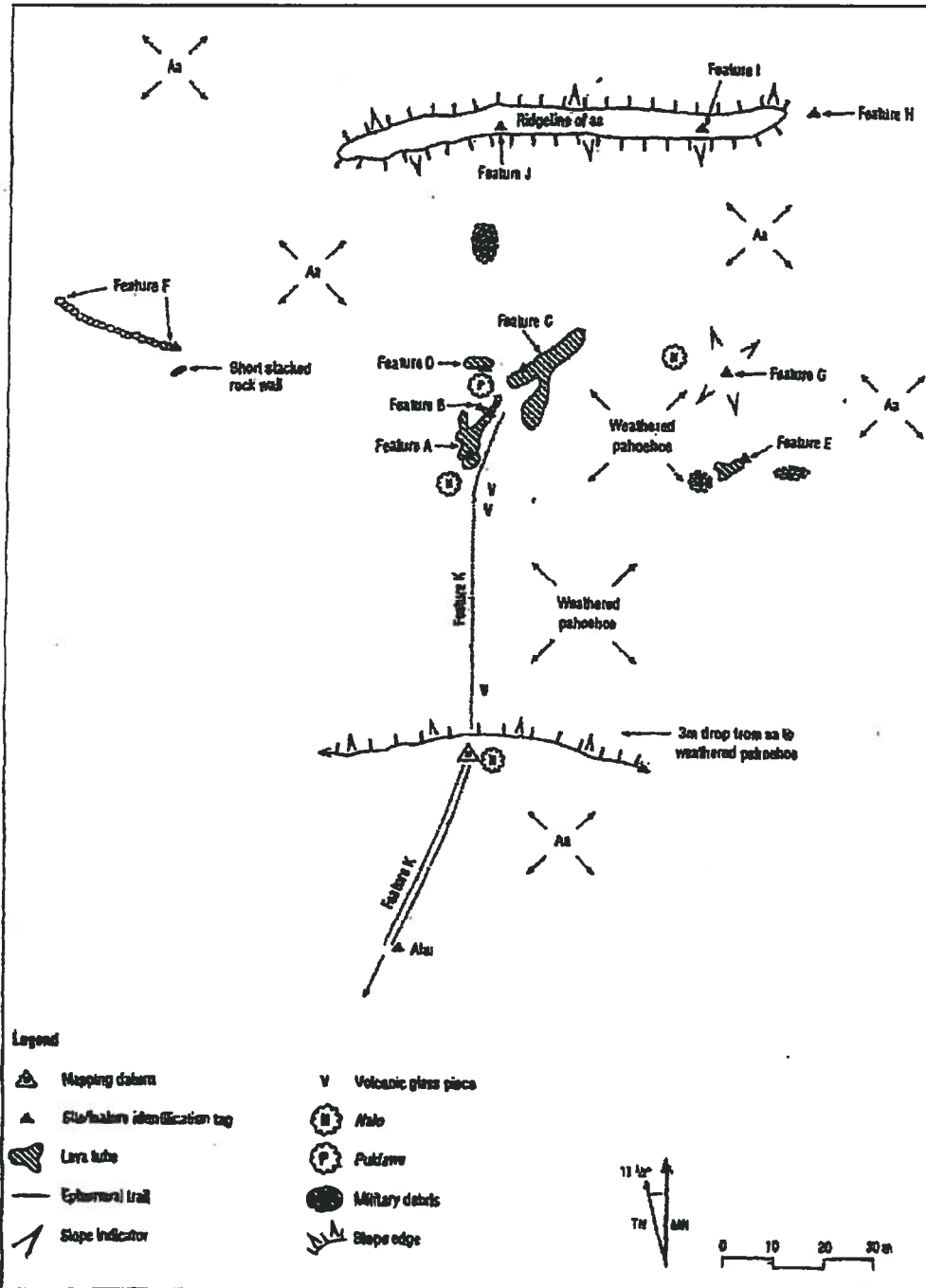


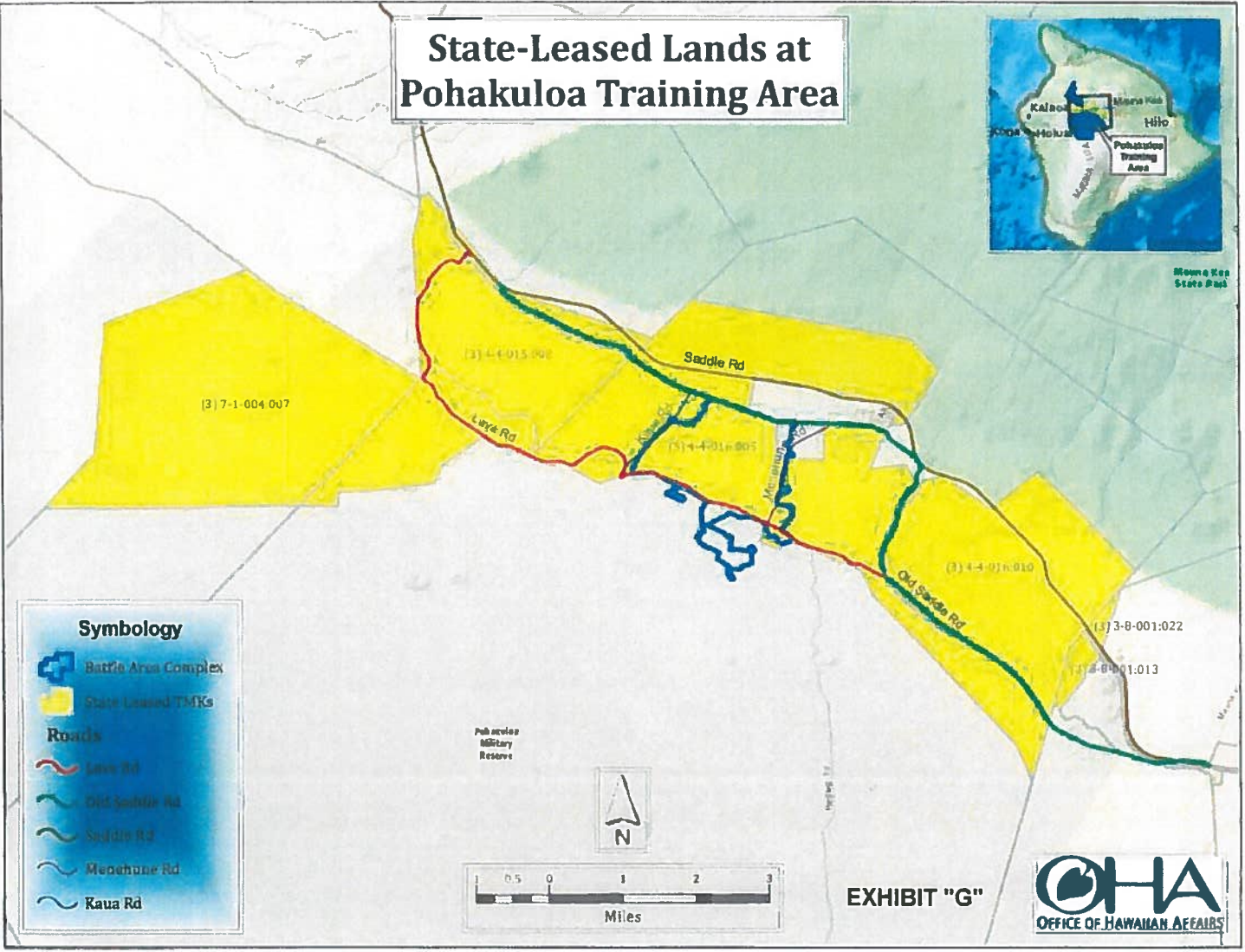
Figure 12. Plan View of Site 19490 Complex (From Shapiro and Cleghorn 1998)

EXHIBIT “G”

State-Leased Lands at Pohakuloa Training Area



Moorea Sea State Park



Symbology

- Battle Area Complex
- State Leased TSMs
- Roads**
- Lays Rd
- Old Saddle Rd
- Saddle Rd
- Menehune Rd
- Kaula Rd

Public Use Military Reserve



EXHIBIT "G"



EXHIBIT “H”

PERMISSION TO COPY DENIED, HRS 606.13, etc.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAII

Electronically Filed
Intermediate Court of Appeals
CAAP-18-0000432
25-JUL-2018

02:59 PM

CLARENCE CHING and MARY MAXINE)
KAHAULELIO,)

Plaintiffs,)

v.)

Civil No.
14-1-1085-04 (GWBC)

SUZANNE D. CASE, in her official)
capacity as Chairperson of the)
Board of Land and Natural Resources)
and State Historic Preservation)
Officer, BOARD OF LAND AND NATURAL)
RESOURCE; DEPARTMENT OF LAND AND)
NATURAL RESOURCES,)

Defendants.)

TRANSCRIPT OF PROCEEDINGS

before the HONORABLE GARY W. B. CHANG Judge, 14th
Division, presiding, on Wednesday, September 30, 2015.

FURTHER JURY-WAIVED TRIAL

APPEARANCES:

DAVID FRANKEL, ESQ.
SUMMER SYLVA, ESQ.
For the Plaintiffs

DANIEL MORRIS, ESQ.
For the State

NIKKI BEAVER CHEANG, CRR, CSR-340
OFFICIAL COURT REPORTER
STATE OF HAWAI'I

EXHIBIT "H"

1 A. Well, from our maps, uh-huh.

2 Q. I want to ask you about what you saw on the
3 land the State leases at Pohakuloa to the U.S., just
4 that area, okay, the area north of Lava Road.

5 A. Right.

6 Q. Okay. Actually, before I go there -- well,
7 other than the cultural sites that you saw, what did you
8 see on the land the State leases at Pohakuloa to the
9 U.S.?

10 A. Other than the cultural --

11 THE COURT: Can you be more specific, what
12 area of land you're talking about.

13

14 BY MR. FRANKEL:

15 Q. Sure. This area north of Lava Road.

16 A. Mm-hm.

17 Q. East of Kaua Road and west of Menehune
18 Road, and south of the blue line that's parallel to
19 Saddle Road, and that area's all marked in yellow on
20 this map; right?

21 A. Yes, yes.

22 Q. And maybe I'm going to include a little bit
23 east of Menehune Road where the blue goes a little
24 farther east of Menehune Road.

25 A. Okay.

1 Q. Is that clear what I'm talking about?

2 A. Yeah, I think so.

3 Q. So other than historic and cultural
4 sites --

5 A. Mm-hm.

6 Q. -- what did you see in this area?

7 A. Well, basically the construction going on,
8 which is what we were monitoring as well, and you know,
9 Army stuff.

10 Q. Be more descriptive about the Army stuff.
11 What Army stuff did you see on the ground there?

12 A. Oh, on the ground, um, well, spent Army
13 things, rounds and munitions and unexploded ordinance
14 and things like that.

15 Q. Where did you see this unexploded
16 ordinance?

17 A. All over.

18 Q. Can you describe the age of the debris that
19 you saw.

20 A. I mean, what I can say is that, you know,
21 you would have anything from new stuff. You can tell
22 because it's not oxidized, and then old stuff which is
23 oxidized, you know, it kind of rusted and things like
24 that, I mean, yeah, all different ages.

25 Q. Who is in the field with you?

Land Retention Estate Assumptions

Appendix H

LAND RETENTION ESTATE ASSUMPTIONS AND DIFFERENCES

As noted in **Section 2.3**, for analysis purposes, this Environmental Impact Statement assumes:

- There would be no difference in ongoing activities in the State-owned land retained under the land retention estates selected for analysis (i.e., fee simple title, lease, easement).
- A new lease or easement for the State-owned land would include the same conditions as the current lease, except for conditions that are no longer relevant (e.g., lease paragraphs 11 and 12), and assumed Army obligations based on State requirements in the Court-Ordered Management Plan (COMP) for the Department of Land and Natural Resources to inspect Army compliance with the lease.
- The Army would adhere to applicable State processes / administrative requirements (e.g., administrative rule changes to establish a new subzone with military uses in the conservation district per Hawai'i Administrative Rules Chapter 13-5) under a new lease or easement.
- Ongoing activities, lease/easement conditions, assumed Army obligations based on State requirements in the COMP, and applicable State processes / administrative requirements would be the same under lease and easement.

Consequently, the only difference between retention via fee simple title and retention via a new lease or easement is that under a new lease or easement the Army would adhere to lease/easement conditions, assumed Army obligations due to the COMP, and applicable State processes / administrative requirements. Because ongoing activities, lease/easement conditions, assumed Army obligations due to the COMP, and applicable State processes / administrative requirements would be the same under lease and easement, the impacts for lease and easement would be the same; therefore, this Environmental Impact Statement only analyzes fee simple title and lease.

If the Army were to retain the State-owned land via lease, then it is assumed the Army would be held to a new lease that contains the same or very similar conditions as the existing lease and the addition of assumed Army obligations based on State requirements in the COMP; therefore, there would be no change from current Army and State rights, requirements, and limitations in a new lease. Alternatively, if the Army were to retain the State-owned land via fee simple title, then the Army would not be held to the conditions of a new lease or assumed Army obligations based on State requirements in the COMP; however, the Army would still conduct many of the same actions as in the current lease conditions due to existing Army policies and requirements.

Because it is assumed Army and State rights, requirements, and limitations in a new lease and COMP requirements would not change if the State-owned land were to be retained via lease, **Table H-1** presents assumed changes in Army and State rights, requirements, and limitations and COMP requirements if the State-owned land were to be retained via fee simple title. The table groups current lease conditions and assumed Army requirements based on State requirements in the COMP into categories (i.e., State rights, State obligations, limitations on training, Army obligations, and COMP) for ease of comprehension of the potential differences. The table does not present lease administrative conditions, such as lease length, lease termination, and lease dispute processes, because these conditions would have no impact on the State's rights or the environmental resources analyzed in the Environmental Impact Statement. The first column of the table summarizes the current lease conditions (the paragraph number within the current lease where the specific lease condition is found is provided in parentheses) and assumed Army requirements based on State requirements in the COMP. The second column of the table indicates whether the Army or State right, requirement, or limitation would still apply or be met under fee simple title and the associated justification. The third column of the table indicates whether there would be a difference in potential impacts on the current environment (i.e., change from existing conditions of the natural, cultural, and human environment) between retention via lease and fee simple title and the associated justification.

Note that **Table H-1** only addresses State-owned land retained. Army and State rights, requirements, and limitations in the lease (including the 2010 lease amendment) and COMP requirements would not apply for any State-owned land not retained; therefore, the potential impacts from State-owned land not retained would differ from the State-owned land retained.

Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title

| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
|--|--|--|
| State Rights | | |
| Army shall obtain written consent of the State prior to certain construction (10) | No. The Army would no longer be subject to this administrative requirement. | No. There would be no difference in potential impacts on the current environment due to the loss of this State right/administrative requirement. |
| State can erect signs and construct capital improvements (water conservation, public water consumption, forestry, recreation) at locations mutually agreed by both parties (16) | No. The State would lose its right to erect signs and construct capital improvements. | No. There would be no difference in potential impacts on the current environment due to the loss of this State right. |
| State has the right to construct a road along a mutually agreeable route through the northerly portion of Parcel C (17) | No. The State would lose its right to construct a road through Parcel C. | No. There would be no difference in potential impacts on the current environment due to the loss of this State right. |
| State has the right to enter State-owned land to conduct operations that would not interfere with Army activities (19) | No. The State would lose its right to enter and conduct activities in the State-owned land retained. | No. There would be no difference in potential impacts on the current environment due to the loss of this State right. |
| State has the right to use roads and trails within the State-owned land (20) | No. The State would lose its right to use roads and trails in the State-owned land retained. | Yes. The State rarely uses roads and trails in the State-owned land, but there would be a difference in potential impacts on the environment due to the loss of State use of the roads and trails. |
| State has groundwater, surface water, ores, and mineral rights. Army has right to use coral, rock, and similar materials. Army has right to use groundwater and surface water. (22) (Includes 2010 lease amendment text) | No. State would not have rights to groundwater surface water, ores, and mineral rights on, in, or under the State-owned land retained. The Army would gain rights to ores and minerals on, in, or under the State-owned land retained. | No. There would be no difference in potential impacts on the current environment due to change in these rights. |

| Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title | | |
|--|--|---|
| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
| State has the right to grant rights or privileges to others, consistent with the lease (27) | No. The State would lose its right to let others use the State-owned land retained. | No. There would be no difference in potential impacts on the current environment due to the loss of this State right. |
| State Requirements | | |
| State will take reasonable action to remove or bury solid waste resulting from public use of the State-owned land (18) | No. The State would no longer be responsible for disposing of solid waste from the public on State-owned land retained. | No. There would be no difference in potential impacts on the current environment due to transfer of this responsibility from the State to the Army. |
| Limitations on Training | | |
| Fire all combat weapons into the impact area (7) | Yes. Army would continue to fire into the existing impact area. | No. There would be no change in Army firing into the impact area; therefore, there would be no difference in potential impacts on the current environment. |
| Stockpile supplies and equipment orderly and away from established roads or trails (9) | Yes. Army would continue current practices for stockpiling supplies and equipment in designated areas such as the Ammunition Supply Point, Ammunition Holding Areas, and storage buildings. | No. There would be no change in Army processes for stockpiling supplies and equipment; therefore, there would be no difference in potential impacts on the current environment. |
| No vehicles in proximity to the Mauna Kea Recreation Area, currently known as the Gilbert Kahele Recreation Area (10a) | Yes. Army would continue to not permit training, firing, or maneuvering within 1,500 meters of the Gilbert Kahele Recreation Area per the Pōhakuloa Training Area Range Operations Standard Operating Procedures (2022). | No. There would be no change in Army activities within 1,500 meters of the Gilbert Kahele Recreation Area; therefore, there would be no difference in potential impacts on the current environment. |

Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title

| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
|---|---|---|
| No small arms firing into the State-owned land, except in Parcel A (12) | Yes. Within the State-owned land, the Army would continue to only fire small arms into Parcel A in accordance with Pōhakuloa Training Area Range Operations Standard Operating Procedures (2022). | No. There would be no change in Army small arms firing within the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |
| No live fire within 0.75 mile of the Pōhakuloa Ranger Station (12) | Not Applicable. The Pōhakuloa Ranger Station, formerly located off-installation along Old Saddle Road to the north of the boundary between Training Areas 4 and 6, no longer exists. | No. This lease condition is no longer applicable; therefore, there would be no difference in potential impacts on the current environment. |
| Avoid destruction of vegetation, wildlife and forest cover, geological features, and related natural resources and improvements; help preserve the natural beauty of the premises; avoid pollution or contamination of ground and surface waters; remove or bury all solid waste (14) | Yes. Army would continue current environmental protection practices per the Integrated Natural Resources Management Plan, U.S. Army Garrison, Pōhakuloa (USAG-HI) External Standard Operating Procedures (2018), and Department of Defense Instruction 4715.23. | No. There would be no change in Army environmental protection practices; therefore, there would be no difference in potential impacts on the current environment. |
| Avoid damaging cultural/historic resources (15) | Yes. Army would continue to follow federal and State laws, to the extent practicable, for cultural/historic resources and the Integrated Cultural Resources Management Plan. | No. There would be no change in Army protection of cultural and historic resources; therefore, there would be no difference in potential impacts on the current environment. |
| Cooperate with the State in game development and hunting programs and allow public hunting within the State-owned land (17) | Yes. Army would continue to cooperate with the State and maintain current hunting areas and programs in the State-owned land retained. | No. There would be no change in Army management of hunting areas and programs; therefore, there would be no difference in potential impacts on the current environment. |

| Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title | | |
|--|---|--|
| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
| Army Obligations | | |
| Post and maintain signs on roads and trails entering dangerous areas, provided the information on the signs is not incompatible with the lease (5) | Yes. Army would continue to post signs warning of dangerous areas in accordance with Army policies and procedures such as the U.S. Army Garrison, Pōhakuloa (USAG-HI) External Standard Operating Procedures (2018) and the Pōhakuloa Training Area Range Operations Standing Operating Procedures (2022). | No. There would be no change in Army identification of dangerous areas; therefore, there would be no difference in potential impacts on the current environment. |
| Remove or deactivate live or blank ammunition (9) | Yes. Army would continue removing or deactivating live and blank ammunition upon completion of a training exercise in accordance with the Pōhakuloa Training Area Range Operations Standard Operating Procedures (2022) and the U.S. Army Garrison, Pōhakuloa (USAG-PTA) External Standard Operating Procedures (2018). Army would continue to only be required to cleanup closed ranges. | No. There would be no change in Army processes for removing and deactivating live and blank ammunition; therefore, there would be no difference in potential impacts on the current environment. |
| Maintain roads to prevent erosion (10) | Yes. Army would continue to adhere to current road maintenance procedures such as in the Integrated Training Area Management program. | No. There would be no change in Army maintenance of roads within the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |
| Maintain a fence along a part of the boundary bordering Parcel C (10a) | Yes. Army would continue to maintain some form of a barrier such as a two-wire fence along this portion of the Parcel C boundary. | No. There would be no change in the existence and maintenance of the fence; therefore, there would be no difference in potential impacts on the current environment. |
| Minimize interference with traffic on Saddle Road (now known as Old Saddle Road) by limiting stoppages to 15 minute periods (11) | Not applicable. The portion of Old Saddle Road within the State-owned land is no longer publicly accessible. | No. This lease condition is no longer applicable; therefore, there would be no difference in potential impacts on the current environment. |

Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title

| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
|---|---|--|
| Prevent and fight fires associated with training (13) | Yes. Army would continue to adhere to the Integrated Wildland Fire Management Plan, Standard Operating Procedures Wildland Fire U.S. Army Garrison Pōhakuloa, and U.S. Army Garrison, Pōhakuloa (USAG-HI) External Operating Procedures (2018). | No. There would be no change in fire prevention and fighting within the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |
| Army cannot grant any interest in the land, except for temporary activities or contractors, in which case any land rental shall be covered into the Treasury of the State of Hawaii (26) | No. Army would be able to grant interest in the land and would not be required to pay any land use fees to the State. | No. Army has no plans to grant interest in the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |
| Reforest areas where Army has substantially destroyed forest cover (28) | No. Army would not be required to reforest areas substantially deforested but would continue to manage forested areas and vegetation in accordance with the Integrated Natural Resources Management Plan and Integrated Training Area Management program based on funding availability. | No. Army would retain the State-owned land prior to the end of the current lease under either land retention estate, so Army activities would continue and Army would not reforest deforested areas within the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |
| Remove signs, remove or abandon in place structures, remove weapons and shells from training to the extent technically and economically capable within 60 days of lease expiration or as mutually agreed (29) | No. Army only would remove or abandon signs and structures as needed to support the mission. Army only would be required to cleanup closed ranges. Army would continue current practices for removing or deactivating live and blank ammunition upon completion of a training exercise in accordance with the Pōhakuloa Training Area Range Operations Standard Operating Procedures (2022) and the U.S. Army Garrison, Pōhakuloa (USAG-PTA) External Standard Operating Procedures (2018). | No. Army would retain the State-owned land prior to the end of the current lease under either land retention, so Army activities would continue and Army would not remove signs, structures, and weapons and shells within the State-owned land retained; therefore, there would be no difference in potential impacts on the current environment. |

| Table H-1: Current Lease Conditions and COMP Requirements Compared to Retention via Fee Simple Title | | |
|--|--|--|
| Pōhakuloa Training Area 1964 Lease and 2010 Lease Amendment Conditions and COMP Requirements | Would State or Army Right, Requirement, or Limitation Still Continue Under Fee Simple Title? | Would There Be A Difference In Potential Impacts on the Current Environment Between Retention via Lease And Fee Simple Title? |
| Court-Ordered Management Plan (COMP)—Ching v. Case (2021) | | |
| Army will enable periodic inspections of the State-owned land by Department of Land and Natural Resources and Native Hawaiian Legal Corporation (II[1]). | No. Army would no longer be subject to the COMP or any similar requirements in a new lease. | No. There would be no change in environmental resources from current conditions due to the end of periodic State lease compliance inspections; therefore, there would be no difference in potential impacts on the current environment. |
| Army will comply with corrective actions in the Department of Land and Natural Resources inspection reports (II[5]). | No. Army would no longer be subject to the COMP or any similar requirements in a new lease. Three State inspections to date have identified no corrective actions. | No. There would be no change in environmental resources from current conditions due to the end of periodic State lease compliance inspections; therefore, there would be differences in potential impacts on the current environment. |
| Army will provide copies of periodic and semi-annual inspection reports of the State-owned land to Department of Land and Natural Resources (II[6]). | No. Army would no longer be subject to the COMP or any similar requirements in a new lease. | No. There would be no change in environmental resources from current conditions due to the end of providing Army inspection reports to the State; therefore, there would be differences in potential impacts on the current environment. |

Cultural Impact Assessment



**Revised Cultural Impact Assessment Report for the Army Training Land Retention of
Pōhakuloa Training Area**

Ka'ohē Mauka Ahupua'a, Hāmākua District and Humu'ula Ahupua'a, North Hilo District

TMKs: [3] 4-4-015:008, [3] 4-4-016:005, [3] 3-8-001:013 & 022, and [3] 7-1-004:007

Prepared by



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LEAD AUTHOR AND RESEARCHER

Trisha Kehaulani Watson, J.D., Ph.D.

ASSOCIATE AUTHORS AND RESEARCHERS

Ethan McKown, M.A.
Kepā Maly
Onaona Maly

ASSISTANT AUTHORS AND RESEARCHERS

Pono Fernandez, M.A.
Kulani Elizabeth Boyne, B.S.
Catharine Thetford
Nathan DiVito
Fred LaChance
Matthew Kawaiola Sproat
Rosanna Thurman, M.A.

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Note on Hawaiian Orthography

In keeping with the standard established by Hawaiian scholars¹ who have published vital work in the perpetuation of Hawaiian knowledge, this document does not italicize Hawaiian words. This effort was best articulated by Noenoe Silva in 2004 in her ground-breaking work *Aloha Betrayed*:

I have not italicized Hawaiian words in the text in keeping with the recent movement to resist making the native tongue appear foreign in writing produced in and about a native land and people. Readers will also notice that not all of the Hawaiian text has modern orthography (i.e., the ‘okina to mark the glottal stop and the macron to mark the long vowel). I choose to quote text as is without imposing the marks, which were not developed until the mid-twentieth century. This allows readers literature in Hawaiian to see the original spelling and perhaps glean alternative and/or additional meanings. Particularly for names of people, I conservatively avoid using the marks, except in cases where such spelling has become standards (e.g., Kalākaua) or where the meaning of the name has been explained or is obvious (Silva, 2004).

Hawaiian is both the native language of the pae ‘āina of Hawai‘i and an official language of the State of Hawai‘i. Some reports will leave Hawaiian words italicized if part of a quote; this report does not. In the narrative, the report uses diacritical markings to assist readers, except in direct quotes, in which the markings used in the original text are maintained. Contextual translations are provided when appropriate. A glossary is not provided. Online dictionaries are readily available for use at www.wehewehe.com.

¹ See also University of Hawai‘i Style Guide (2021), which states, “In general, do not italicize Hawaiian words (there are exceptions). Hawaiian and English are the two official languages of the State of Hawai‘i. ...”

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Abbreviations and Acronyms

A.B.C.F.M.: American Board of Christian Foreign Missions

Act 50: Act 50 Session Laws of Hawaii 2000 or Act 50 SLH 2000

AMSL: Above Mean Sea Level

Article XII, Section 7: Article XII, Section 7 of the Hawai'i State Constitution

BPBM: Bernice Pauahi Bishop Museum

Ca.: circa

CFR: Code of Federal Regulations

Ching: *Ching v. Case*, 449 P.3d 1146 (Haw. 2019)

CIA: Cultural Impact Assessment

DoD: Department of Defense

EIS: Environmental Impact Statement (for the Army Training Land Retention at Pōhakuloa Training Area)

DKI Highway: Daniel K. Inouye Highway

DLNR: Department of Land and Natural Resources

EIS: Environmental Impact Statement

HAR: Hawaii Administrative Rules

Haw.: Hawaii

HDOT: State of Hawaii Department of Transportation

HEPA: Hawaii Environmental Policy Act

HRS: Hawaii Revised Statutes

Ka Pa'akai: *Ka Pa'akai O Ka 'Āina v. Land Use Commission*, 94 Haw. 31 [2000]

L.C.A.: Land Commission Awards

NARA: National Archives and Records Administration

NEPA: National Environmental Policy Act

NHO: Native Hawaiian Organization

NHPA: National Historic Preservation Act

No.: Number

NRHP: National Register of Historic Places

OEQC: Office of Environmental Quality and Control

OHA: Office of Hawaiian Affairs

PA: Programmatic Agreement

PTA: Pōhakuloa Training Area

Pub. L.: Public Law

SIHP: State Inventory of Historic Places

SLH: Session Laws of Hawaii

SOP: Standard Operating Procedure

TA: Training Area

TCP: Traditional Cultural Property

TMK: Tax Map Key

UH: University of Hawaii

USARHAW: U.S. Army Hawaii

U.S.: United States

USACE: United States Army Corps of Engineers

USAG-HI: U.S. Army Garrison Hawai'i

USGS: U.S. Geological Survey

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Executive Summary

Group 70, Inc. and Honua Consulting, LLC prepared this Cultural Impact Assessment in support of an Environmental Impact Statement being prepared by the U.S. Army Corps of Engineers, Honolulu District for the U.S. Army Garrison-Hawaii. The Environmental Impact Statement analyzes the environmental and cultural impacts of the proposed retention of up to approximately 22,750 acres of State of Hawai'i (State)-owned land at Pōhakuloa Training Area (PTA).

The main objectives of this Cultural Impact Assessment are to analyze and assess the impact of the Proposed Action, its alternatives, and mitigation measures on cultural practices and features associated with State-owned land (project area) to promote responsible decision making. These objectives are guided by the Office of Environmental Quality Control "Guidelines for Assessing Cultural Impacts" adopted November 19, 1997 (OEQC 2012:11-13). These objectives were achieved by collecting ethnographic data from archival and contemporary resources relevant to the project area to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project area.

The results of archival and ethnographic research yielded numerous cultural resources, practices, and beliefs associated with the project area and the broad geographical area. Impacts to cultural resources from the Proposed Action and the continuation of ongoing military activity, as reflected in interviews and surveys, relate to access. Although current access policies exist and allow limited access, they are deemed inadequate by interviewees and survey respondents who desire safe and regular access to the PTA project area to engage in cultural practices in which the 'āina (the land) is a significant contributing resource for various cultural practices and beliefs, including mālama 'āina. Although cultural practices and beliefs are, therefore, somewhat isolated from their setting due to limited cultural access within parts of the PTA project area, this is due to public safety concerns. The continuation of current military activity within portions of the PTA project area would not reduce the number of days when areas can be accessed for cultural activities, and the Army would continue to provide cultural access to cultural resources, but current limitations on access are likely to continue into the foreseeable future.

Additionally, adverse impacts would continue within the PTA project area from the introduction of physical elements that have altered the setting in which cultural practices take place. This is a general concept repeated throughout informants' comments that the Saddle Region itself, including the project area, is a sacred setting, which is altered by the presence of military activity, and in particular, by military activity that continues to adversely impact the landscape. Other impacts discussed by interviewees for the project area, such as physical alteration on cultural resources, are associated with past actions within the project area and are currently mitigated by existing agreements, including the 2018 Programmatic Agreement for PTA (DA 2018).

Recommendations identified or informed by interviewees to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action include formalizing a cultural access request process through consultation with Native Hawaiians and cultural practitioners. This formalized cultural access request process would enable Native Hawaiians and cultural practitioners opportunities to promote and preserve cultural practices, beliefs, and resources. In addition, it is recommended the Army consider options to provide unlimited cultural access to specific locations and resources, determined in consultation with Native Hawaiians and cultural practitioners, associated with cultural practices and beliefs.

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1.0 Introduction

Honua Consulting and G70 prepared this Cultural Impact Assessment (CIA) as a part of a larger Environmental Impact Statement (EIS) being prepared by the U.S. Army Corps of Engineers, Honolulu District, that analyzes the environmental and cultural effects of the proposed retention of up to approximately 22,750 acres of State of Hawai'i (State) owned land at Pōhakuloa Training Area (PTA). The CIA was prepared to comply with Hawai'i Environmental Policy Act (HEPA) requirements (Hawai'i Revised Statutes Chapter 343, and Hawai'i Administrative Rules Chapter 11-200.1).

Approximately 100,000 acres of PTA are under the direct ownership or control of the U.S. Army, while approximately 23,000 acres are owned by the State of Hawai'i and have been leased to the Army since 1964. (These lands are referred to in the Environmental Impact Statement as "State-owned land." For the purpose of this CIA, the terms "State-owned land" and "State-leased land" shall be considered synonymous.) The 23,000 acres link the centrally located U.S. Government-owned Cantonment to the training areas north and south of the Cantonment. The retention of State-owned land, also referred to in the EIS and throughout the current document as the project area, is a real estate/administrative action that would enable continued military use of the State-owned land. The EIS to which this CIA is appended evaluates the potential impacts of alternatives that meet the Purpose and Need of the project. Alternatives analyzed in the EIS include 1) maximum retention of State-owned land, 2) modified retention, 3) minimum retention, and 4) a no action alternative, under which the Army would not retain State-owned land after the terms of the current lease expire in 2029.

The main objectives of this CIA are to analyze and assess the impact of the Proposed Action, its alternatives, and mitigation measures on cultural practices and features associated with the project area to promote responsible decision making. These objectives are guided largely by the Office of Environmental Quality Control "Guidelines for Assess Cultural Impacts" adopted November 19, 1997 (OEQC 2012:11-13). These objectives were achieved by collecting ethnographic information from archival and contemporary resources relevant to the project area to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project area.

PTA is located between the volcanoes of Mauna Loa, Mauna Kea and Hualālai, in an area referred to as the "Saddle Region" (**Figure 1**). PTA is the largest contiguous United States (U.S.) military live-fire range and maneuver training area in Hawai'i. The training area covers 132,000 acres, consisting of impact areas, firing ranges, an airfield, and maneuver areas. PTA has been used for more than 60 years and is the primary ground maneuver tactical training area that provides the U.S. Indo-Pacific Command with capabilities to support home-station training, joint training with other U.S. military units, and multinational training with other Indo-Pacific region militaries.

1.1 Proposed Action

The Army proposes to retain up to approximately 22,750 acres of State-owned land prior to the expiration of the current lease in 2029 to ensure training is not interrupted. The Army Proposed Action does not include retention of approximately 250 acres of the State-owned land that is administered by the Department of Hawaiian Home Lands (DHHL). The purpose of the proposed action is to enable the Army to continue to conduct ongoing activities on the State-owned land, including those activities needed to meet its ongoing training requirements.

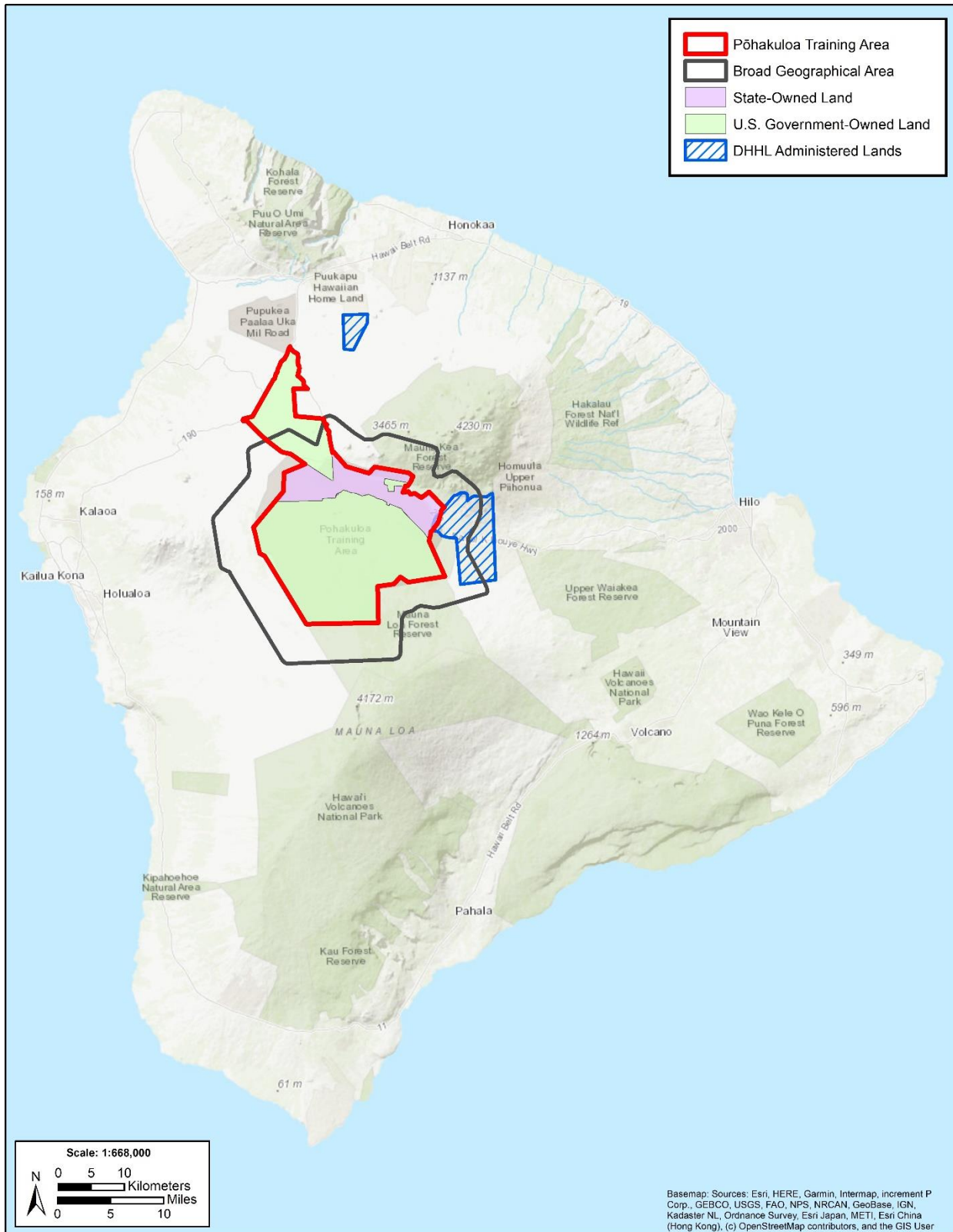


Figure 1. Location

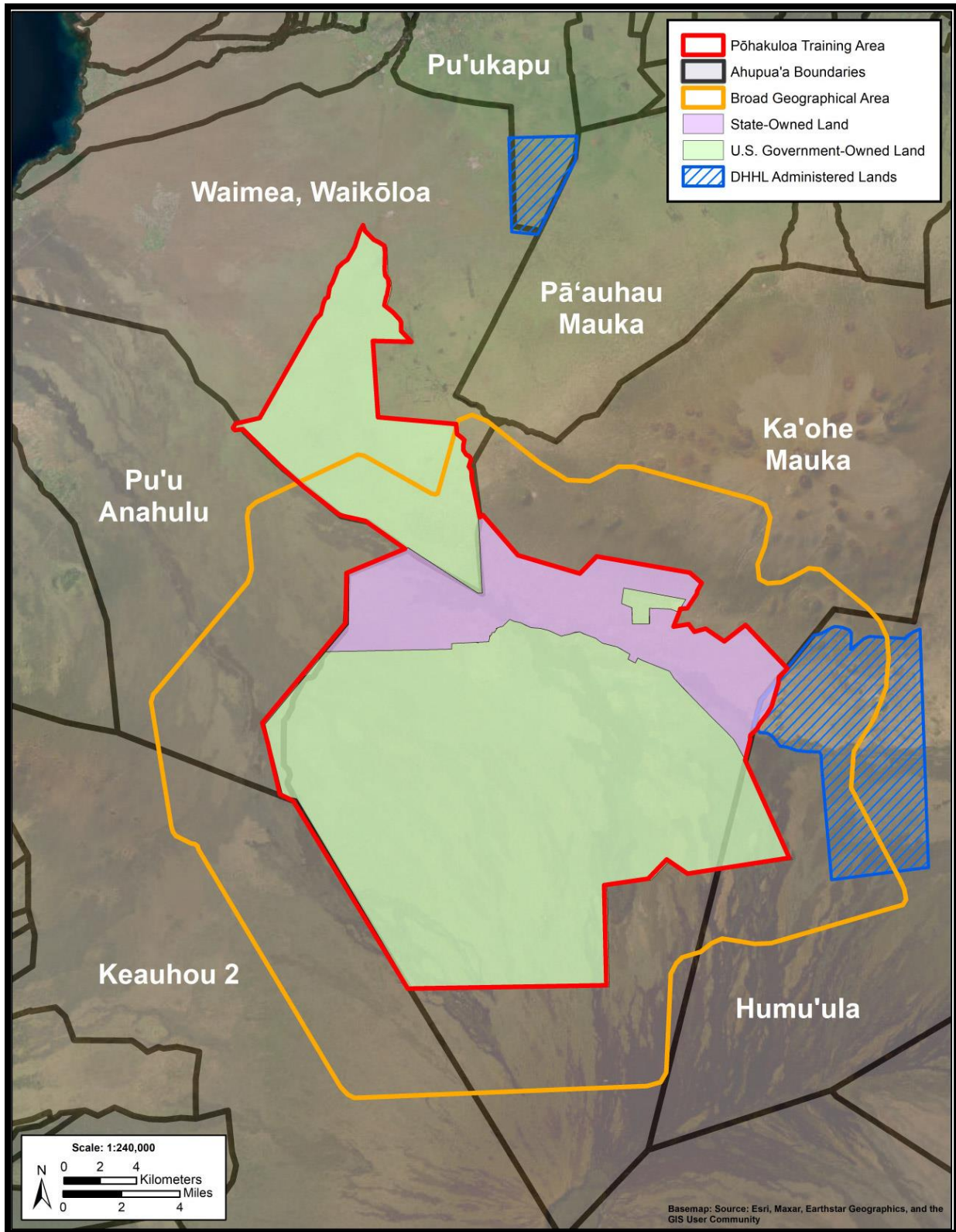


Figure 2. Project Area and Broad Geographical Area with Ahupua'a

The Proposed Action is a real estate action (i.e., administrative action) that would enable continuation of ongoing activities on the State-owned land retained by the Army. It does not include construction, modernization, or changes to ongoing activities on State-owned land retained. Additionally, the Proposed Action does not include changes to the use, size, or configuration of the special use airspace overlying the State-owned land. The type, volume, and conduct of training, maintenance and repair activities, and resource management actions that occur at PTA were described in the *Programmatic Agreement among the U.S. Army Garrison, Pōhakuloa Training Area, the U.S. Army Garrison, Hawaii, the Hawaii State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Routine Military Training Actions and Related Activities at the United States Army Installations on the Island of Hawai'i, Hawai'i*. Current activities within the State-owned land were previously analyzed in separate NEPA documents, as discussed in the EIS, and future construction, modernization, or changes in ongoing activities within the retained State-owned land would require separate NEPA (and potentially HEPA) compliance, as applicable. The EIS provides additional details of the Proposed Action.

Following arrangement for retention of the State-owned land, the Army would continue to conduct Army ongoing activities (military training; facility, utility, and infrastructure maintenance and repair activities; resource management actions; and associated activities such as emergency services) on the retained State-owned land. The Army also would continue to permit and coordinate ongoing activities (training and other activities such as public use programs) on the retained State-owned land by other PTA users, including Department of Defense (DoD) agencies, international partners, local agencies, and the community.

1.2 Regulatory Framework

The Proposed Action requires compliance with the National Environmental Policy Act of 1969 (NEPA). NEPA requires federal agencies to examine the direct and indirect environmental impacts that may result from the Proposed Action and alternatives, including potential impacts to “historic and cultural resources” (40 United States Code 1502.16(a)(8)). NEPA requirements ensure that environmental information is available to public officials and citizens for review before decisions are made and before actions are taken. The EIS will address relevant laws and regulations to provide decision makers with a comprehensive overview of the regulatory issues associated with the Army’s Proposed Action.

The EIS to which this CIA is appended was also prepared in accordance with HRS Chapter 343 and HAR Chapter 11-200.1. The Hawai'i statute and rules for the environmental impact assessment process (collectively referred to as HEPA) require project proponents to assess Proposed Actions for potential impacts on the environment including cultural practices and cultural resources. Act 50, Session Laws of Hawai'i (SLH) 2000, amended HRS 343-2 to include disclosure of the effects of a Proposed Action on the cultural practices of the community (used in the current document to mean people living in the towns, cities, and rural areas around the project area, who do not necessarily share the same ethnic group) and State, particularly the Native Hawaiian community.

This document supports NEPA and HEPA processes by compiling information on existing conditions of cultural resources, practices, and beliefs known to exist within the State-owned land.

1.2.1 Regulatory Background Under HRS 343

According to Act 50, SLH 2000 (which amended HRS 343), “Articles IX and XII of the State Constitution, other State laws, and the courts of the State impose on government agencies a duty to promote and

protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.” To assist decision makers in the protection of cultural resources, Chapter 343, HRS and HAR §11-200.1 rules for the environmental impact assessment process require project proponents to assess proposed actions for their potential impacts to cultural properties, practices, and beliefs.

Act 50 recognized the importance of protecting Native Hawaiian cultural resources and required that EISs include the disclosure of the effects of a proposed action on the cultural practices of the community and State, and the Native Hawaiian community in particular. This CIA includes information relating to practices and beliefs of a particular cultural or ethnic group or groups. The information was obtained through public scoping, community meetings, ethnographic interviews, and oral histories.

1.3 Project Area Description

The project area for the Proposed Action consists of approximately 23,000 acres of State-owned land currently leased by the U.S. Government. The project area encompasses five Tax Map Key (TMK) parcels: [3] 4-4-015:008, [3] 4-4-016:005, [3] 3-8-001:013 & 022, and [3] 7-1-004:007. The project area for the Proposed Action includes portions of two relatively large ahupua‘a in the Saddle Region of Hawai‘i Island, Ka‘ohe Mauka ahupua‘a and Humu‘ula ahupua‘a. Some historic maps show a small portion of Pu‘u Anahulu ahupua‘a also in the project area. The vast majority of PTA is within Ka‘ohe Mauka ahupua‘a (**Figure 2**).

The Integrated Cultural Resource Management Plan for the U.S. Army Garrison – Pōhakuloa (2018) describes the region in which PTA is located:

At the center of the island is the high-elevation Saddle Region or interior plateau, formed by the convergence of lavas from Mauna Kea, Mauna Loa, and Hualālai. Most of PTA is located on the Saddle, at elevations from about 5,000 to 8,800 feet amsl. The northwest portion of PTA, the Ke‘āmuku Maneuver Area, extends from 5,000 to 2,500 feet amsl on the northwest leeward slope of Mauna Kea. Large areas of the Saddle are pāhoehoe and ‘a‘ā lava flows from Mauna Loa. The flows contain subsurface features such as lava tubes and lava blisters; the lava tubes form extensive and sometimes interconnected networks of underground passageways that are accessed from the surface by collapsed openings. Other volcanic constructs in the Saddle Region include pu‘u (spatter or scoria cones). Older lava flow surfaces are preserved in pāhoehoe, which are islands of pre-existing terrain and vegetation surrounded by more recent lava flows. Mauna Kea eruptions are represented by sediment covered flows with some lava tubes and pu‘u, some of which are now surrounded by Mauna Loa flows (USAGHI-PTA, 2018).

1.3.1 Training Areas, Facilities, Utilities, and Infrastructure

The State-owned land includes Training Areas (TAs) 1–15, 18, 19, and 20, and portions of TAs 16, 17, 21, and 22 (including the northern portion of TA 22B), which accounts for 22 of the 24 TAs at PTA. The TAs are used for maneuver and weapons training and include a variety of training and support facilities, utilities, and infrastructure. U.S. Government-owned facilities within the State-owned land include live-fire and non-live-fire firing points; ranges for mounted, dismounted, and aviation training; and support facilities such as ammunition storage areas and helicopter and tilt-rotor aircraft landing zones. U.S. Government-owned utilities within the State-owned land include electricity (electrical distribution lines and the installation’s only electrical substation), potable water facility (pump stations, storage tanks, chlorination system, and distribution pipe), fire protection water

(storage tank and distribution pipe), and communications equipment. U.S. Government-owned infrastructure within the State-owned land includes roads (65 miles), training trails (94 miles), and firebreaks/fuel breaks. The State-owned land supports larger than company-sized units (i.e., battalion and brigade) for live-fire and maneuver exercises. (See EIS for additional information.)

1.3.2 Project Area and the Broad Geographical Area

This CIA identifies and assesses potential impacts to cultural practices through a careful inventory of the natural and cultural environment with particular attention to archaeological sites, culturally significant landforms, places, and flora and fauna.

The assessment of cultural impacts from the Proposed Action is not limited to the State-owned land and considers “cultural resources, practices, and beliefs within the broad geographical area” (OEQC 2012:12). The OEQC guidelines recommend that an “ahupua‘a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action” (OEQC 2012:11). Since the current project area is not easily bounded by a single ahupua‘a, and with the intent to maintain a consistently developed “broad geographical area”, this analysis considers a three mile buffer around the State-owned land and U.S. Government-owned land at PTA within the Saddle Region (**Figure 1** and **Figure 3**). The Saddle Region, historically also known as part of the ‘āina mauna², is generally known as the area between Mauna Kea, Mauna Loa, and Hualālai, although the area is not officially defined. Langlas et al. (1999) note that the Saddle Region is “at an elevation of about 1,800 to 2,100 m (6,000 to 7,000 ft) in the two large ahupua‘a Ka‘ohe and Humu‘ula.”

Creating a broad geographical area in the form of a three mile buffer around the Proposed Action’s project area (State-owned land) and Government-owned land in the Saddle Region affords an opportunity for the analysis to be consistently “greater than the area over which the proposed action will take place” (OEQC 2012:11).

The CIA does not, nor does it intend to, identify all cultural resources within this broad geographical area; rather the CIA assesses how the Proposed Action within the State-owned land would potentially affect cultural practices associated with the project area and broad geographical area. This study therefore considers two areas: the project area (State-owned land) and the broad geographical area. The level of inquiry and study is most intensive within the project area with additional considerations for the broad geographical area where appropriate.

The project area includes State-owned land. The project area is located primarily within the ahupua‘a of Ka‘ohe Mauka in the moku of Hāmākua with a small area of the western portion of the Humu‘ula ahupua‘a in the moku of Hilo.

The broad geographical area includes a three mile buffer around the State-owned land and U.S. Government owned lands in the Saddle Region. This area is located largely in the ahupua‘a of Ka‘ohe Mauka in the moku of Hāmākua, but also stretches into the western portion of Humu‘ula ahupua‘a in the moku of Hilo, the southern portion of Waikōloa (Waimea) ahupua‘a in the moku of (South) Kohala, and the ahupua‘a of Keauhou and Pu‘u Anahulu in the moku of (North) Kona (**Figure 2**).

² The Department of Hawaiian Home Lands, which administers land in the broad geographical area, refers to the upper reaches of all mountain lands as ‘āina mauna through the ‘Āina Mauna Legacy Program.

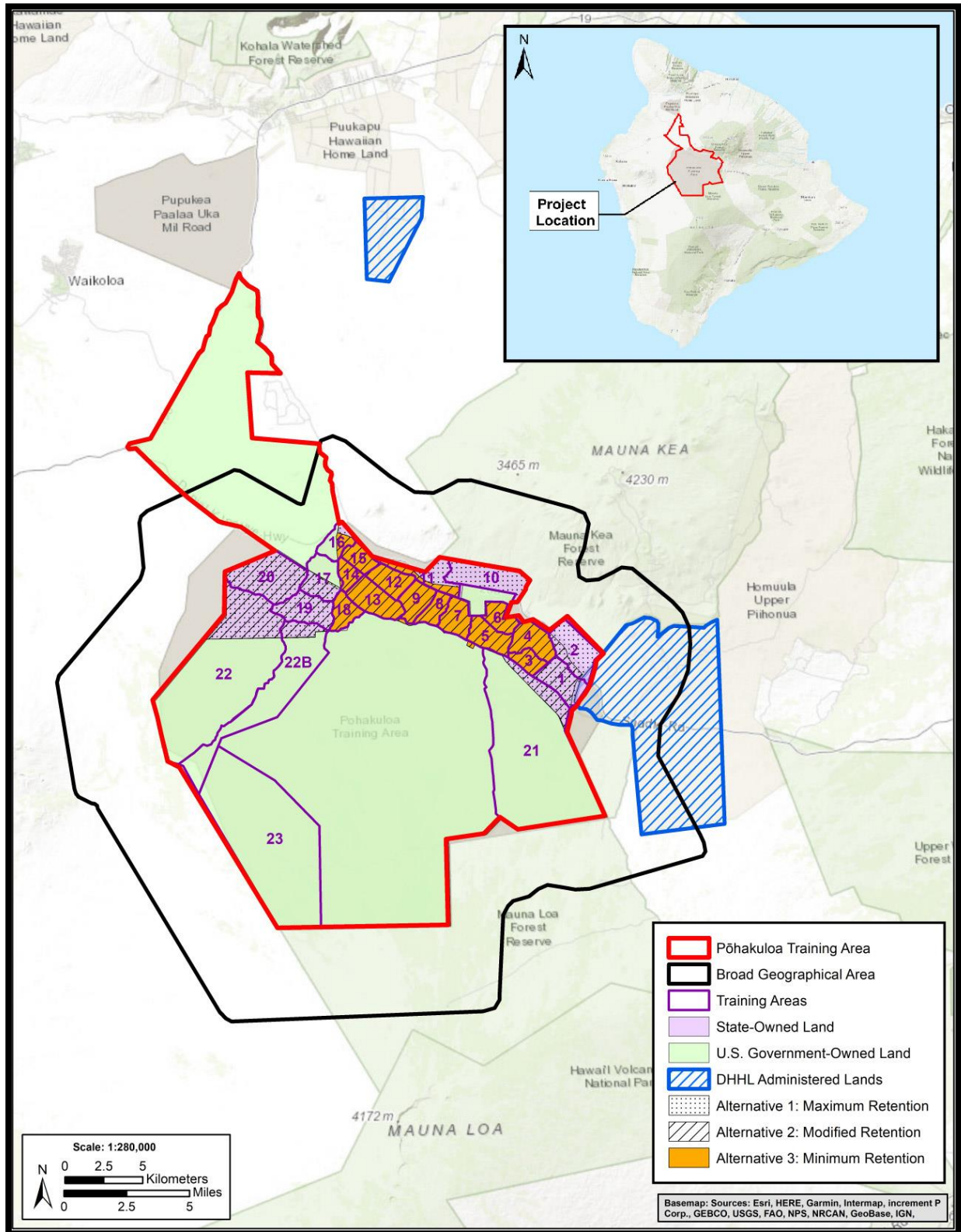


Figure 3. Project Area with Training Areas and Broad Geographical Area

1.4 Limitations of the Study

This study was initiated during the COVID-19 pandemic when in-person contact was limited. Online surveys were conducted to solicit knowledge from the public while limiting in-person contact. It was often difficult, however, to ascertain whether survey respondents had “expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area” or whether they had “knowledge of the area potentially affected by the proposed action” (OEQC 2012:12), since some of the feedback received was too generalized or did not relate to the direct project area or its broad geographical area.

The second phase of research attempted to resolve this challenge by directly contacting knowledgeable individuals to request their participation in one-on-one interviews (**Appendix C; Section 2.2**), which were subsequently compiled and utilized for the current study. The individuals interviewed were assumed to be familiar with the project area because of their self-identification. The willingness or comfort-level of Native Hawaiians and other ethnic groups to participate in the study and disclose their mana’o (knowledge) remains a limiting factor in the current study. Overall, interviewees were given every opportunity to share as much as they were comfortable with sharing.

All interviewees had access to maps of the project area from the EIS Public Notice (see Section 2.2.1). Maps were not provided during the interviews because providing project maps during an interview does not always help the interviewee differentiate between a specific project area and a more general area, since the Native Hawaiian concept of the cultural landscape may be different than that understood by a defined project area relative to a Proposed Action. Therefore, a limitation of the current study is that cultural resources, practices, and beliefs identified by interviewees may not have a conclusive association with the project area.

1.5 Confidential Information Withheld

Although interviewees were typically willing to share generalities on cultural resources, practices, and beliefs associated with the project area, at times, they may have withheld specific details on cultural practices if it was not appropriate to share in a public document. These details may include how and where certain cultural practices take place. As stated in the previous section, interviewees were given every opportunity to share as much as they were comfortable with sharing.

1.6 Conflicting Information

Item I of the OEQC content guidelines asks preparers of CIAs to include a “discussion concerning any conflicting information in regard to identified cultural resources, practices, and beliefs” (OEQC 2012:13). While interviewees sometimes shared conflicting information on the meaning of a place name or the specific details of mo’olelo, this level of conflict was not understood to be critical to the results of the study, particularly since many of the interviewees are representing a culture whose beliefs and practices are based on oral traditions, which often differ among family or other groups.

2.0 Methodology

The main objective of this CIA is to analyze and assess the impact of the Proposed Action, its alternatives, and mitigation measures on cultural practices and features associated with the project area to promote responsible decision making. These objectives are guided by the Hawai'i State Office of Environmental Quality Control (OEQC) "Guidelines for Assessing Cultural Impacts" adopted November 19, 1997 (OEQC 2012:11-13).

The OEQC guidelines recommend that preparers of CIAs implement the following protocols detailed in **Table 1**.

| Table 1. Consistency with OEQC Guidelines for Assessing Cultural Impacts (OEQC 2012:12) | |
|---|----------------------------|
| OEQC Guidelines | CIA Discussion |
| Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices, and beliefs found within the broad geographical area, e.g., district or ahupua'a. | Section 2.2 |
| Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action. | Section 2.2 |
| Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area. | Section 2.2 |
| Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research. | Chapters 3, 4, 5, and 6 |
| Identify and describe the cultural resources, practices, and beliefs located within the potentially affected area. | Sections 4.3, 5.3, and 6.3 |
| Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices, and beliefs identified (see Chapters 8 and 9). | Chapters 8 and 9 |

Ethnographic archival documentation and data obtained from ethnographic interviews were compiled to meet these objectives. Methods for archival research and ethnographic interviews are presented in **Sections 2.1** and **2.2**, respectively.

The OEQC guidelines also specify various content recommendations for CIAs, which are presented in **Table 2**.

| Table 2. Consistency with OEQC Recommendations for Content (OEQC 2012:13) | |
|--|---------------------------------|
| OEQC Guidelines | CIA Discussion |
| A discussion of the methods applied. | Chapter 2 |
| Results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area. | Chapter 5 and Section 6.2 |
| Constraints or limitations which might have affected the quality of the information obtained. | Section 1.4 |
| A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken. | Section 2.2 |
| Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained. | Section 2.2.3 and 1.5 |
| Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area. | Section 2.2.2.1 |
| A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched and the level of effort undertaken. | Section 2.1 |
| This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases. | Sections 1.5, 1.7, 2.1.1, 2.1.2 |
| A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site. | Sections 2.3.1 and Chapter 6 |
| A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area affected directly or indirectly by the proposed project. | Section 6.3 |
| An explanation of confidential information that has been withheld from public disclosure in the assessment. | Section 1.5 |
| A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs. | Section 1.7 |
| An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place. | Section 2.4 and Chapter 8 |
| A bibliography of references and attached records of interviews which were allowed to be disclosed. | Chapter 11 and Appendix C |

This CIA provides a review of cultural resources, practices, and beliefs that are known to have occurred within the project area or were likely to have occurred based on the resources present in the area and known practices associated with those resources. This review demonstrates a good faith effort based on the best data available to disclose the presence of cultural resources, practices, and beliefs associated with the project area.

The following sections describe the methods and procedures that were implemented to address the six OEQC protocol recommendations for CIAs, including archival research (**Section 2.1**); identification, consultation, and interviews of knowledgeable individuals and/or organizations (**Section 2.2**); methods to identify cultural resources, practices, and beliefs within each project area and broad geographical area (i.e., potentially affected area) (**Section 2.3**); analysis of potential impacts on those cultural resources, practices, and beliefs from the Proposed Action (**Section 8.0**); and mitigation measures to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action (**Section 9.0**).

2.1 Archival Research Methods

Foundational research for the CIA began with an assessment of archival documents, oral traditions (oli [chants], mele [songs, poetry], pule [prayers], and/or hula [dance]), historical maps, and Hawaiian language sources including books, manuscripts, and newspaper articles. This research focused on identifying recorded cultural resources present on the landscape, including Hawaiian and non-Hawaiian place names; landscape features (ridges and gulches); archaeological features (kuleana [tenured land] parcel walls, house platforms, shrines, heiau [places of worship], etc.); culturally significant areas (viewsheds, unmodified areas where gathering practices and/or rituals were performed); and significant biological, physiological, or natural resources.

Primary references used in the research for this document included, but were not limited to: land use records, including the Hawaiian Land Commission Awards (LCA) records from the Māhele ʻĀina (Land Division) of 1848; the Boundary Commission Testimonies and survey records of the Kingdom and Territory of Hawaiʻi; and historical texts authored or compiled by W. Ellis (1963), J.P. ʻĪī (1983), S.M. Kamakau (1964, 1976, 1992), D. Malo (1951); and records of the American Board of Commissioners of Foreign Missions (A.B.C.F.M.) (1820–1860), I. Bird (1964), G. Bowser (1880), A. Fornander (1918–1919), C. Wilkes (1970), and many other native and foreign writers. The study also includes historical records authored by nineteenth-century visitors and residents of the surrounding geographical areas.

Historical and archival resources were located in the collections of the Hawaiʻi State Archives, Survey Division, Land Management Division, and Bureau of Conveyances; the Bishop Museum Library and Archives; the Hawaiian Historical Society and the Hawaiian Mission Children’s Society Library; University of Hawaiʻi-Hilo Moʻokini Library; the National Archives and Records Administration (NARA); the Library of Congress; the National Oceanic and Atmospheric Administration National Library; the Smithsonian Institution Natural History and National Anthropological Archives libraries; the Harvard Houghton Library; the United States Geological Survey (USGS) Library; the Paniolo Preservation Society and Parker Ranch collections; private family collections; the collection of Kumu Pono Associates LLC, and USAG-HI.

In addition to the broad range of primary references listed above, other source documents were researched to broaden the cultural background of the project area, as outlined below.

2.1.1 Historical Accounts

A collection of narratives written by Native Hawaiian authors and nineteenth-century historians are presented throughout this CIA, recording history, the occurrence of events and travel, and traditions of place names. Several of the mo'olelo were translated here from the original Hawaiian by Kepā Maly.

Among the most significant sources of native mo'olelo are the Hawaiian language newspapers which were printed between 1838 and 1948, and the early writings of foreign visitors and residents. Most of the accounts that were submitted to the papers were penned by native residents of areas being described and noted native historians. Several traditions naming places in Humu'ula, Ka'ohē, and the larger 'āina mauna (mountain lands) have been located in these early writings. Those accounts describe native practices, the nature of land use at specific locations, and native lore, providing a means of understanding how people related to their environment and sustained themselves on the land (Maly and Maly 2005: 18).

As Puakea Nogelmeier (2010) discusses, there are benefits to a methodology that properly researches and considers Hawaiian language resources. Nogelmeier strongly cautions against a monorhetorical approach that marginalizes important native voices and evidence from consideration, specifically in the field of archaeology. For this reason, this CIA consciously employs a polyrhetorical approach, whereby historical accounts, regardless of language, are researched and considered (Nogelmeier, 2010).

Over the last 30 years, Kepā Maly has reviewed and compiled an extensive index of articles published in the Hawaiian language newspapers, with particular emphasis on those narratives pertaining to lands, customs, and traditions. Parts of the archival research used in this CIA were previously compiled and published by Kepā and Onaona Maly and others, who are cited.

2.1.2 Historical Maps

Historical maps were used to locate places, names, features, and resources pertinent to the current study. Surveyors of the nineteenth and twentieth centuries documented features and resources on the landscape throughout Hawai'i.

Historical maps were georeferenced, to the extent possible, using ESRI ArcMap 10.8.1 software and overlaid with geographic information system (GIS) shapefiles of the project area. Note that historical maps prepared using older cartographic methods do not always accurately depict the physical landscape, which can limit georeferencing. Historical maps were carefully studied, and the features detailed therein were aggregated and categorized to help identify relevant cultural features. From these, new maps were created that more thoroughly capture the range of resources in the project area.

2.1.3 Previous Ethnographic Studies and Interviews

Previous ethnographic studies and interviews provide valuable ethnographic information that is no longer attainable (e.g., from previous generations or elders). This CIA researched publicly available ethnographic studies of the project area.

2.1.4 Archaeological and Biological Studies

The current study uses information from archaeological studies to help identify cultural practices that occurred in the project area.

Information regarding recorded archaeological sites helps inform the development of a CIA by indicating practices that may have occurred at tangible (i.e. physical) cultural resources. For example, the practice of uhaul humu pōhaku (dry-stone stacking) and making petroglyphs and petrographs within a project area may be indicated by previously recorded archaeological sites in the project area with dry-stone stacked walls and/or evidence of petroglyphs. Cultural beliefs may also be indicated by the presence of heiau or shrines within a project area.

Similarly, this CIA also uses information from biological studies to identify whether biological resources present within the project area which may be associated with cultural resources, practices, and beliefs, such as the practice of lā'au lapa'au, which is the Traditional Hawaiian³ practice of wellness, health, and healing. Flora and fauna in the broad geographical area are not identified or considered unless identified in the ethnographic research. Flora or fauna that are not identified in biological studies as candidate, threatened, or endangered may not be identified or considered unless specifically identified by informants as being present in the project area and utilized as part of a cultural practice.

2.2 Interview Selection and Methods

Per the OEQC guidelines (2012:12–13), this section outlines a discussion of the methods applied to identifying individuals and/or organizations “with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area”, “with knowledge of the area potentially affected by the proposed action” and/or who are “familiar with cultural practices and features associated with the project area.”

2.2.1 Public Outreach to Identify Potential Informants

Three public outreach methods were used to identify potential individuals who have expertise and knowledge of cultural resources, practices, and beliefs relevant to the project area and broad geographical area, and who might be willing to participate in a one-on-one interview. These three methods are described below.

2.2.1.1 *Ka Wai Ola*

To provide notice to the general public as to the opportunity to participate in the CIA, Honua Consulting, LLC placed public notices in the Office of Hawaiian Affairs *Ka Wai Ola* for the months of October 2020 and November 2020. It was republished in December 2022. **Figure 4** below provides

³ “Traditional Hawaiian” in this document refers to Hawaiian customs, practices, and beliefs that have been shared through multiple generations of Hawaiians.

a copy of this notice. A description of the online survey is in **Section 2.2.1.2**, and summaries of the online responses for the project area are in **Section 5.1.1**.

**ENVIRONMENTAL IMPACT STATEMENT -
PŌHAKULOLOA TRAINING AREA**

The Department of the Army is in the beginning stages of the preparation of an Environmental Impact Statement (EIS) that analyzes the environmental and cultural effects of the proposed retention of up to approximately 23,000 acres of State-owned land at Pōhakuloa Training Area. The EIS is being prepared in accordance with National Environmental Policy Act (NEPA), Hawai‘i Revised Statutes Chapter 343, and Hawai‘i Administrative Rules Chapter 11-200.1. The project area is comprised of Tax Map Keys 4-4-015:008; 4-4-016:005; 3-8-001:013 & 022; and 7-1-004:007 in the ahupua‘a of Ka‘ohe Mauka on the Island of Hawai‘i. At a minimum, the EIS shall consider three (3) action alternatives and a no action alternative. A Cultural Impact Assessment (CIA) will be prepared as part of the EIS. The CIA team is seeking consultation with practitioners, Native Hawaiian Organizations, stakeholders, and other individuals. Specifically, consultation is sought on a) identification of an appropriate geographic extent of study, b) historic or existing cultural resources that may be impacted by the proposed project, c) historic or existing traditional practices and/or beliefs that may be impacted by the proposed project, and d) identification of individuals or organizations that should be sought out for consultation on the CIA. Individuals or organizations may complete the CIA survey online at <https://www.surveymonkey.com/r/PohakuloaCIA> or contact the CIA team at community@honuaconsulting.com or (808) 392-1617. Questions or inquiries unrelated to the CIA will be directed to the EIS project team for review and response. ■

Figure 4. Ho‘olaha Lehulehu (Public Notice)

2.2.1.2 Social Media

In addition to the ad in *Ka Wai Ola*, Honua Consulting, LCC placed a notice on their Facebook and Instagram accounts that announced the availability of the preparation of the CIA and linked the online survey. The notice specifically targeted the entirety of Hawai'i Island to identify potential persons who may be interested in participating and sharing information relevant to this study. Additionally, this eliminated any arbitrary selection of participants in this assessment. By making participation available to any interested party, the current study sought to maximize opportunity for participation to the widest group of individuals possible.

The online survey contained twenty-one questions to solicit preliminary information on the respondent's biographical details; potential association with the project area; knowledge of cultural resources, practices, and beliefs associated with the project area; awareness of any potential impacts to cultural resources, practices, and beliefs that may result from the Proposed Action; recommendations for potential mitigation measures; and an invitation to share additional information or documents. **Appendix B** contains a full copy of survey questions and responses received.

Two hundred thirty-six individuals provided responses to the online survey. The information given by these respondents provided preliminary information and informed the full analysis for the current study. Survey respondents were provided the contact information of Honua Consulting, LLC, but none of the respondents contacted Honua Consulting, LLC for a one-on-one interview. Summaries of the online responses for the project area are in **Sections 5.1.1** and **6.2**.

2.2.1.3 Outreach to Specific Organizations and Individuals

In addition to the public notices, Honua Consulting, LLC conducted outreach to specific organizations and individuals known to have knowledge and/or an association with the project area. These organizations and individuals were assembled from the list of Native Hawaiian Organizations (NHOs) and other parties provided by USAG-HI who identified their interest in being contacted about the project area. See **Appendix A** for the complete contact list for organizations and individuals contacted.

The interview team contacted each individual, some representing NHOs, from the list mentioned above via email. If an individual was not reached, it was determined the individual was not available for an interview. When individuals declined to be interviewed, this was documented in writing wherever possible (e.g., an email response). A communication log was maintained by Honua Consulting, LLC during this process.

2.2.2 Interview Selection Criteria

The goal of the outreach process discussed above was to obtain interviews based on the willingness of potential interviewees to participate in an ethnographic interview. Individuals were selected for a one-on-one interview based on the following OEQC (2012:12–13) recommendations:

- Have expertise concerning the types of cultural resources, practices, and beliefs found within the project area and/or the broad geographical area;
- Have knowledge of the area potentially affected by the Proposed Action;

- Have a historical or genealogical relationship to the project area;
- Were referred by other cultural practitioners (used in the current study to indicate an individual who regularly engages in, interprets, and guides others in cultural practices and beliefs), cultural resource professionals, or other interviewees;
- Are a documented NHO; and/or
- Have taken part in previous National Historic Preservation Act Section 106 consultation for the project area.

2.2.2.1 Biographical Information for Interviewees

Kamana Kapele

Mr. Kapele is self-employed and retired. He currently lives in Kealakekua on Hawai'i Island. He was born on O'ahu and raised in Kāne'ohe until the mid-1960s, when his family then moved to Hawai'i Island. Mr. Kapele represents his family, the Kapele 'ohana.

Mr. Kapele's association with the project area is through his own namesake. Pu'u Kapele, a prominent geographic feature in the project area, is associated with his family name. He is also associated with the ki'i and shrine next to the pu'u.

Dr. Kū Kahakalau

Dr. Kahakalau is an educator, researcher, activist, and cultural practitioner. Dr. Kahakalau lives in Kukui Haile above Waipi'o Valley. She was born and raised in Honolulu. Dr. Kahakalau represents Kū-A-Kanaka, a Native Hawaiian social enterprise which is registered as an interested party with PTA.

As a researcher, educator, and cultural practitioner, Dr. Kahakalau brings a wealth of knowledge regarding Native Hawaiian practices and customs that take place in the area. Dr. Kahakalau stated that the entirety of the land at Pōhakuloa was culturally significant, and that any adverse impacts to the land by the Army represent adverse impacts on the integrity and psyche of Native Hawaiians, beyond the adverse impacts to the land itself.

Carl Sims

Mr. Sims is a part-time taro farmer and landscaper. He currently lives in Waipi'o Valley. Mr. Sims was born and raised in Hāmakua, specifically in Waipi'o Valley. As such, he is an active member within the community. Mr. Sims is associated with the project area through Native Hawaiian practices. He specifically mentioned Pu'uhuluhulu and making offerings to the associated kuahu.

Mr. Sims brings an awareness and understanding of how impacts on Mauna Kea and the general area of Pōhakuloa can also impact downstream environments and communities. He believes that the current trainings and Pōhakuloa can eventually adversely impact downstream areas such as Waipi'o in addition to negatively impacting the immediate area.

Dr. Michelle Noe Noe Wong-Wilson

Dr. Wong-Wilson is retired from the University of Hawai'i system. She is executive director of the Lālākea Foundation, a 501(c)(3). She has lived on the island of Hawai'i since 1989, and was born and raised in Kailua, O'ahu.

Dr. Wong-Wilson represents herself, her 'ohana, and the Hawaiian Civic Club of Hilo through her role as president. Dr. Wong-Wilson is associated with the project area, stating that she is a part of the "land basin" of the area. She noted that the land basin between Mauna Kea and Mauna Loa is highly significant. Dr. Wong-Wilson also explained that the military activities in the area are a major concern and pose a negative impact to herself, her 'ohana, and the organizations she is a part of and represents.

2.2.3 Interview Procedure and Documentation

Conducting one-on-one interviews and documenting information provided by knowledgeable individuals was an important data source for the current study. Interviews were conducted by Honua Consulting, LLC using the following protocols:

- Establishing a connection with the interviewee;
- Asking for permission to record the interview and receiving written consent to use the interviewee's data in the current study;
- Establishing the purpose of the interview to support development of a CIA for the Proposed Action and solicit information on the interviewee's knowledge of cultural resources, practices, and beliefs associated with the project area and potential impacts on those cultural elements from the Proposed Action;
- Asking twenty-one questions to solicit information on the interviewee's biographical details; association with the project area; knowledge of cultural resources, practices, and beliefs associated with the project area; awareness of any potential impacts to cultural resources, practices, and beliefs that may result from the Proposed Action; recommendations for potential mitigation measures; and an invitation to share additional information or documents. **Appendix C** contains a full list of the interview questions; these are the same questions asked during the public survey.

Based on the preference of the interviewee, three interviews were conducted over the telephone; one interview was conducted in person.

Once completed, interviews were reviewed and documented by:

- Honua Consulting, LLC compiling a summary of the discussion based on interview notes and recordings to highlight key themes relevant to the current study (interviews were not fully transcribed);
- Sending the draft summary to the interviewee to review/edit and provide written consent to use the summary in the CIA; and
- Producing a finalized summary, incorporating any interviewee edits, to be included in the CIA as an appendix (see **Appendix C**) and to be used for the impact analysis and mitigation recommendations.

All material, including recordings of interviews, remain the property of the interviewee, which is consistent with professional standards for the development of CIAs and the treatment of indigenous informants globally. Information on consent of interviewees to participate in this project is available from Honua Consulting, LLC upon request.

2.3 Methods for Identification of Cultural Resources, Practices, and Beliefs

One of the core objectives of this CIA is to identify cultural resources, practices, and beliefs located within the project area and broad geographical area. Cultural resources as indicators of the relationship of people to their environment include not only culturally significant archaeological sites, but many other tangible and intangible elements of culture. In the Native Hawaiian belief system, for example, a landscape feature tied to mo'olelo, the name of a regionally specific wind, or the land itself can serve as a significant cultural resource. Cultural practices are the activities, methods, or customs associated with a community's belief system, such as the practice of gathering plants for traditional medicine or caring for ancestral remains. Beliefs reflect a community's world view and are at the core of a shared culture, such as the Native Hawaiian belief in the genealogical connection between people and kalo (taro, *Colocasia esculenta*).

The identification of these cultural elements was accomplished by synthesizing all data collected through archival research and ethnographic consultation compiled during the current study. Archival research facilitated identification of cultural resources, practices, and beliefs that once occurred or were associated with the project area prior to the U.S. military leases of the State-owned land. Ethnographic research helped corroborate archival data while also providing first-hand identification of cultural resources, practices, and beliefs from affected ethnic groups and individuals with knowledge of and/or historical/genealogical relationship to the project area. While the authors recognize the ethnic diversity of the State of Hawai'i, Native Hawaiians are the predominant ethnic group that expressed concern about the project area and Army activities on State-owned land. No other ethnic groups provided responses to this study.

2.3.1 Determining Direct or Indirect Significance

In addition to identifying cultural resources, practices, and beliefs within each project area and broad geographical area, this CIA also needed to pinpoint the location where identified practices occur and where resources may be situated within the project area. The location of identified practices and resources was used to help facilitate a determination of their "direct or indirect significance or connection to the project site" (OEQC 2012:13).

Tangible cultural resources and their associated practices and/or beliefs can often be directly tied to the project area, whereas intangible practices and beliefs can be more difficult to place within a specific geographically bounded area. This concept was expressed by several individuals contacted for the current study. The practice and belief system of mālama 'āina (caring for the land), for example, is not easily bounded by a cartographic boundary or land ownership but may be landscape wide. The determination of direct or indirect connection of practices and beliefs to the specific project area is thus complicated by the fluid nature of some practices and beliefs and was not always confirmed by informants. Informants' comments were taken at face value, and there was no need to confirm connection beyond their response.

2.4 Impact Analysis Methods

Once cultural resources, practices, and beliefs within the project area and broad geographical area were identified, the potential impacts from the Proposed Action and its alternatives on those cultural resources and practices were identified and analyzed.

Impacts were identified from concerns shared during the survey and interview process. Two questions were formulated to solicit this information from the interviewee:

- Are you aware of any resources that may be impacted by such a project? What might those impacts be? (Question 13)
- Are you aware of any traditions or customs that may be impacted by such a project? What might those impacts be? (Question 15)

Interviewees' responses to these questions were then assessed for two key factors:

- The stated impact's direct and/or indirect association with the project area (e.g., is this impact associated with the physical extent of the State-owned land, the broad geographical area, an area beyond the broad geographical area, or some undisclosed/undefined area?).
- The stated impact's applicability to cultural practices, beliefs, and/or resources attested to be in and/or recorded within the project area and/or its broad geographical area.

Identified impacts with a direct and/or indirect association with cultural practices, beliefs, and resources recorded within the project area and/or its broad geographical area were then evaluated within the OEQC framework to analyze (OEQC 2012:13):

- “the potential effect of any proposed physical alteration on cultural resources, practices, or beliefs”;
- “the potential of the proposed action to isolate cultural resources, practices, or beliefs from their setting”; and
- “the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.”

To help determine the extent of certain repeated impact concerns, some impacts were quantified by counting the number of interviewees who shared the same impact concern (e.g., repeat concerns about impacts to access).

The analysis also considers the effects of the long-term continuation of current activities for land to be potentially retained by the military, as is described for each project area. For land not retained, the impacts of reduced training were considered, as well as impacts from actions the military may take to restore the land (e.g., potential removal and/or detonation of unexploded ordnance [UXO], soil remediation activities, etc.).

For specific methods related to the evaluation of access, see **Section 7.4**.

2.5 Mitigation Recommendation Methods

Per the OEQC guidelines (OEQC 2012:12), this CIA also assesses mitigation measures for identified cultural resources, practices, and beliefs. The CIA authors identified and reviewed current management efforts to assess the ability of the existing Section 106 mitigation “to avoid, minimize, rectify, or reduce the project’s adverse impacts” on cultural practices, resources, and beliefs (OEQC 2012:22). The CIA authors also considered the ability of current efforts to mitigate impacts assessed by the three criteria outlined in **Section 2.4**. If the CIA authors determined current management efforts did not mitigate impacts to cultural practices, resources, and beliefs, the CIA authors developed new mitigation measures based on information received from interviewees.

3.0 Cultural Context

This section provides a contextual framework for understanding a broad range of interconnected cultural resources, practices, and beliefs that generally occurred throughout the project area and the broad geographical area. This information provides the necessary background for identifying and analyzing significant cultural resources, practices, and beliefs that may be impacted by the Proposed Action. The practices and beliefs covered in this section are intended to inform analyses within this CIA, but the research is not restricted to these items and the research methodology is designed to facilitate identification of existing practices and beliefs, if any are present.

3.1 Mālama ‘Āina

To Native Hawaiians, the land itself is a significant cultural resource and has genealogical connections to the Hawaiian people. Native Hawaiians also assign great cultural significance in the land in which they are born and originate. This overarching connection to the land is central to the Native Hawaiian belief system and, as such, results in associated cultural practices and beliefs. Paramount among them is the practice of mālama ‘āina or caring for the land. This can mean preserving, protecting, maintaining, or even tending (as in agriculture) the land. For example, traditional agricultural and subsistence practices consider the health and well-being of the entirety of the land, since the land itself also needed to be cared for in addition to the community’s needs.

3.2 ‘Ike Ku‘una (Traditional Knowledge)

The Traditional Hawaiian practice of sharing knowledge permeates many Native Hawaiian cultural practices and beliefs. Mele, oli, pule, and hula are some of the performative ways Hawaiians have passed on oral traditions and knowledge by using lyrical, musical, and artistic expression. Such practices serve as historical repositories of Hawai‘i’s traditional social and political history and contain explanations of native knowledge and management systems.

3.3 Ceremonial Practices and Performances

Cultural practices such as mele, oli, pule, and hula are also performed as ceremonial practice. These types of ceremonial practices and performances may be carried out at distinct cultural sites, such as heiau, which are significant physical structures constructed by Native Hawaiians as sites of worship and spiritual practice. Such practices may also be carried out in association with the celebration of Makahiki. Makahiki is another significant ceremonial cultural practice that centers on “rituals, prayers, offerings, and processions” performed over a four-month period to ask “Lono, the god of agriculture, to bestow plenty in the coming year” (Hommon 2013:99).

Native Hawaiians also engage in numerous ceremonial practices and performances centered around sharing genealogies and origin stories through mele, oli, and hula. Understanding the genealogies in Native Hawaiian creation stories are important for understanding Native Hawaiian traditional beliefs, because they speak to the kinship that exists between Native Hawaiians and the land.

The Kumulipo, for example, is a Native Hawaiian genealogical prayer chant that is divided into two parts, the first focusing on the pō (spirit world) and second on the ao (the world of living men) (Beckwith 1970:310–311):

The first part tells of the birth of the lower forms of life up through pairs of sea and land to the mammals known to the Native Hawaiians before the discovery by the Europeans: the pig, the bat, the rat, and the dog. The second period opens up with the breaking of light, the appearance of the woman La'ila'i and the coming of Kane the god, Ki'i the man, Kanaloa the octopus, together with two others, Moanaliha-i-ka-waokele (Vast expanse of wet forest), whose name occurs in romance as a chief dwelling in the heavens, and Ku-polo-liili-ali'i-mua-o-lo'i-po (Dwelling in cold uplands of the first chiefs of the dim past), described as a long-lived man of very high rank. There follow over a thousand lines of genealogical pairs, husband and wife...

Another Native Hawaiian genealogical account that is often chanted (performed) tells of Wākea (the expanse of the sky, the male) and Papahānaumoku (Papa, who gave birth to the islands, the female), also called Haumea-nui-hānau-wāwā (Great Haumea, born time and time again). Hawai'i, the largest of the islands, was the first-born of these island children. The birth of the islands is commemorated in various mele ko'ihonua (genealogical chants describing the formation of the earth).

These same god-beings, or creative forces of nature who gave birth to the islands, were also the parents of the first man (Hāloa); from this ancestor all kalo and Native Hawaiians are descended (Malo 1951; Beckwith 1970; Pukui and Korn 1973). It is this cultural attachment to the natural world and heavens above that defines and shapes the beliefs and cultural practices of Native Hawaiians (Maly and Maly 2005:4–10).

Native Hawaiians also engage in ceremonial practice and ritual for the care of the dead, burial remains, and funerary objects. Green and Beckwith (1926:180–181) described Native Hawaiian burial practices, including a purification ceremony, cave burial, and associated chant:

The burial was in old days always held at night and was attended by men alone. Relatives (two, four, or six in number according to the weight of the corpse) acted as bearers. Those who lifted the body would “kahoā” or “intercede” with it in some such words as “Ke hele ala oe, e hoomaha oe!” that is, “You are departing, rest yourself, do not make yourself a burden!” Should they find the body very heavy to lift, they would inquire of the dead who was holding him back, by naming each relative in turn until at some name the body grew lighter.

The rite of pi kai or “sprinkling with salt water” must be performed upon all the bearers and those who are going to the grave. This purification ceremony is also performed all about the house and yard in order “to drive out bad spirits from the house after a death and keep the good.” A calabash of water containing salt and a bit of olena root or of mauuakiaki grass is used for this purpose. This sprinkling of the house insures [sic] the return of the spirit in a clean state; without such a purifying rite it might return in anger and cause trouble in the house. Anyone attending a burial should also be sprinkled with salt water lest the spirit of the dead follow him home and do him mischief. Another means of keeping away wrathful spirits is to plant before the door a species of caladium called ape. Some persons in order to drive away evil spirits and keep them out, place under their bed-mats the leaves of the ti plant, of the ape, and of a certain banana called “lau-pala o ka maia lele,” that is, “yellow-leaf of the lele (flying) banana.”

The customary place of interment in old days was a cave in which the body was deposited. Often the mats were there opened, a pillow made of braided pandanus leaves stuffed hard with shredded leaves was placed under the head, and food left to supply the wants of the dead, should the dead revive. In the cave, the last ceremony was performed by a near relative, who circled the body with twigs of burning sandalwood to purify the air of the cavern. Before leaving the cave, the ohana, including the immediate family, relatives, and connections by marriage, chanted the following song:

| | |
|---|--|
| <i>Aloha na hale o maua i makamaka ole!</i> | Grief for our home without our friend! |
| <i>Ka alanui hele mauka o Huliwale.</i> | The road that leads to the mountain Gainless-Search. |
| <i>E huli ae ana au i makana ia oe, a-a-a</i> | I am seeking a gift for you, alas! |
| <i>Aloha wale, e-, kaula, a-a-a!</i> | Boundless love, O (name of the dead), between us, alas! |

3.4 Mo'olelo

Mo'olelo is the practice of storytelling and developing oral histories for the purpose of transmitting knowledge and values intergenerationally. Mo'olelo are expressions of native beliefs, customs, practices, and history. Mo'olelo are particularly critical in protecting and preserving traditional culture in that they are the primary form through which information was transmitted over many generations in the Hawaiian Islands and particularly in the Native Hawaiian community.

Storytelling, oral histories, and oration are widely practiced throughout Polynesia and are important in compiling the ethnohistory of the area. Hawaiian newspapers were particularly valued for their regular publication of different mo'olelo about Native Hawaiian history. Far less information about the cultural history of the Native Hawaiian people would be available today were it not for the printing and publication of mo'olelo in these newspapers.

Mo'olelo are largely dependent upon place. The land often served as muse for Traditional Hawaiians because places regularly inspired the mo'olelo that created the foundation for oral histories, which in turn were critical to Native Hawaiian epistemologies (systems of knowledge) and pedagogies (teaching methodologies).

Several of the mo'olelo used in this CIA were translated from the original Hawaiian by Kepā Maly; other mo'olelo were translated as part of this research by Native Hawaiian language experts. These mo'olelo date back to the first-hand accounts of those who traveled through the project area. Pertinent excerpts from the articles and papers are provided in this CIA. Some of these excerpts are provided verbatim, but in an effort to be judicious, summaries are provided for particularly voluminous accounts.

3.5 ‘Inoa ‘Āina (Place Names)

Traditionally, the practice of naming localities served a variety of functions, including to explain:

1) places where the gods walked the earth and changed the lives of people for good or worse; 2) heiau or other features of ceremonial importance; 3) triangulation points such as ko‘a (ceremonial markers) for fishing grounds and fishing sites; 4) residences and burial sites; 5) areas of planting; 6) water sources; 7) trails and trail side resting places (o‘io‘ina), such as a rock shelter or tree-shaded spot; 8) the sources of particular natural resources/resource collection areas, or any number of other features; or 9) notable events which occurred at a given area. Through place names knowledge of the past and places of significance was handed down across countless generations (Maly and Maly 2013:4).

An extensive collection of native place names is recorded in the mo‘olelo published in Hawaiian newspapers. The narratives in this CIA provide access to a rich collection of place names from the State-owned land and broad geographical area.

3.6 Kilo (Environmental and Weather-Related Observational Practices)

Kilo is the Hawaiian practice of making environmental and weather-related observations as well as the name for people who examine, observe, or forecast weather. Kilo “references a Hawaiian observation approach which includes watching or observing [the] environment and resources by listening to the subtleties of place to help guide decisions for management and pono [correct or proper procedure] practices” (‘Āuamo Portal 2021). Practices associated with kilo include the naming of regionally specific rains, wind, and pu‘u (hill, peak) that can be culturally significant to a particular area.

3.7 Ka‘apuni (Travel and Trail Usage)

Travel was an essential practice in Traditional Hawai‘i and was known by different names, including ka‘apuni, huaka‘i, or ka‘ahele. Traveling by sea had distinct names as well, such as ‘aumoana. Traveling through the mountains was sometimes referred to as hele mauna.

Native Hawaiians traversed the landscape using a complex network of foot-trails called ala or ala hele. These foot trails were used by nearly all members of Native Hawaiian society. Physical traces are still evident on the landscape in the form of worn bedrock, stone alignments, coral markings, or water-worn boulders laid across rough terrain (Hommon 2013:107; Apple 1965). Major coastal trails connected neighboring ahupua‘a, while inland trails traversed the various ecological zones of individual ahupua‘a, such as from coastal fishing grounds to cultivated lands in the island interior. Mountain trails permitted access overland to other areas of the island.

3.8 Agricultural and Subsistence Practices

Native Hawaiians continue to engage in a range of subsistence practices, including cultivating kalo and ‘uala (sweet potato, *Ipomoea batatas*), and procuring marine and land-based resources for food and other sustenance needs. Kalo was traditionally grown wherever there was adequate rainfall; however, river valleys where lo‘i could be built provided ideal conditions for growing and were among the most agriculturally productive. Kalo is still grown for subsistence today.

Drier areas, which could not support kalo cultivation, were traditionally planted with ‘uala. Other cultigens were also grown traditionally including pia (arrowroot, *Tacca leontopetaloides*), kō (sugarcane, *Saccharum officinarum*), kī (ti, *Cordyline terminalis*), mai‘a (banana, *Musa x paradisiacal*), and niu (coconut, *Cocos nucifera*). Like kalo, these cultigens continue to be cultivated by Native Hawaiians today.

Although domestic pigs and fowl were traditionally available, the sea offered an abundant source of animal food (Kirch 1985:2–3). The coastal exploitation of marine resources in Hawai‘i has always focused on fishing, aquaculture, and the collection of various species of limu (seaweed) and marine invertebrates.

Many subsistence practices contributed to the economy and determined land use (Kirch 1985:2–3). The balance between saltwater food sources and freshwater food sources was delicate and crucial for subsistence practices. The boundaries of ahupua‘a were determined based on agriculture and food practices and resource availability. Each ahupua‘a ideally carried the necessities for agricultural and subsistence practices. Ahupua‘a were self-sufficient and each had their own production pattern based on their resources (Kirch 1985:2). In times of drought, flood, or other natural disruptions, Traditional Hawaiians relied on neighboring land sections for support.

Agriculture continued to develop into the modern era with the introduction of foreign metal tools and new ethnic groups who tended introduced crops, such as rice. Native Hawaiians and other ethnic groups worked on plantations while continuing to engage in subsistence agricultural on a community or family scale through the early to late Historic Period.

The ocean is an essential part of Native Hawaiian culture. Hawaiian language resources, like those presented in *Ka ‘Oihana Lawai‘a* (Kahā‘ulelio 2006), demonstrate the extensive techniques, methods, tools, practices, and beliefs associated with fishing and aquaculture. Kahā‘ulelio (2006) described in detail over forty different fishing methods.

Pig hunting was practiced historically by Native Hawaiians and other ethnic groups and continues to be an important cultural practice for Native Hawaiians and other ethnic groups. A 2015 court case declared pig hunting a protected right for a Native Hawaiian on land associated with his kuleana land that was not specifically signed or fenced to indicate private property; expert and kama‘āina testimonies stated the practice played an important role in ancient Hawaiian subsistence living and was still being passed down and practiced today (State v. Palama, 136 Haw. 543, 364 P.3d 251 (Ct. App. 2015)).

In 2018, the Hawai‘i Division of Forestry and Wildlife (DOFAW) posted an online survey to collect information from hunters in Hawai‘i about public hunting land use during 2017, and 1,198 hunters responded to the survey. Hunters’ responses supported the role of hunting in cultural and subsistence practices. The survey included questions about “each hunter’s license, hunting history, spending, hunting locations, game harvest, organization membership status, and comments about various topics related to hunting” (DOFAW 2018:3). When asked for the “three most important reasons” for hunting, 1,198 hunters responded that they hunted (in order from most to least popular answer) to acquire wild game meat (63%), to spend time in nature (61%), to spend quality time with family and friends (54%), for recreation and sport (54%), for subsistence hunting (39%), because hunting is a tradition in their family (36%), and for trophy hunting (6%) (DOFAW 2018:6). In addition, 93 percent of hunters wrote in a reason to this question, including, but not limited to, “spiritual connection and cultural or religious reasons” (DOFAW 2018:6). Forty-six percent of the

1,198 hunters responded that less than nine meals per month were supplemented with the game that was hunted, 36 percent supplemented nine to 30 meals per month, and seven percent supplemented more than 30 meals per month (DOWFAW 2018:8). When asked how many game animals were harvested on public hunting areas, 577 hunters responded in total and reported harvesting 1,885 mammals on Hawai'i Island for the year 2017 (DOFAW 2018:14, 16–18), and 227 hunters responded and reported harvesting 1657 game birds on Hawai'i Island for the game bird season from November 2017 to January 2018 (DOFAW 2018:20, 22–26).

3.9 Traditional Gathering Practices

Traditional gathering practices include a broad range of natural resource gathering for subsistence, craftwork and woodwork, medicine, and other needs. Native plants, especially, are still sought after by Native Hawaiians for lā'au lapa'au, the practice of Traditional Hawaiian medicine. Prior to European contact, lā'au lapa'au was widely practiced, but the introduction of foreign medicine would contribute to the decline of the practice. The tradition has nonetheless survived and continues to this day. Lā'au lapa'au practitioners are found throughout the islands and Hawaiian families continue to employ these practices to contribute to their overall health and well-being.

Native plants are also used in the practice of making lole (clothes). Kapa (commonly known as barkcloth) was the traditional material used to create the fabric for lole. The manufacturing of kapa was an important cultural practice for women (Furer 1981). Pacific and Hawaiian kapa were known for its wide range of colors and the application of watermarks.

3.10 U hau Humu Pōhaku (Stone Construction)

Pōhaku were of great importance to Native Hawaiians (Malo 1951:19). U hau humu pōhaku is the practice of dry-stone stacking. The term references the way rocks were placed in an overlapping fashion to create sturdy structures. Hawaiians employed this method widely, including in the construction of habitation, terrace walls, heiau, ahu, or cairns. Traditionally, numerous names were used to describe rocks of different sizes and compositions.

4.0 Archival Research and History

This chapter provides a cultural contextual overview of archival data and research obtained for the PTA project area. **Section 4.1** presents aspects of the natural environment, cultural landscape, and archaeological sites in the project area and broad geographical area. **Section 4.2** presents an archival history of the project area and broad geographical area from the Traditional Hawaiian period through the present. **Section 4.3** presents a review of ethnographic research studies that have occurred across the project area and broad geographical area.

Numerous studies have been conducted on this area, but very few have utilized Hawaiian language resources and knowledge about this area. There are relevant documents of native testimonies given by kānaka Hawai‘i (Hawaiians) who lived on this land. Efforts to identify and include historic accounts, including those from Hawaiian language resources, were a primary focus of this study.

While conducting the research, primary references included, but were not limited to: land use records, including the Hawaiian Land Commission Awards (L.C.A.) records from the Māhele ‘Āina (Land Division) of 1848; the Boundary Commission Testimonies and Survey records of the Kingdom and Territory of Hawai‘i; and historical texts authored or compiled by – D. Malo (1951); S.N. Haleole (1862-1863); J.P. I‘i (1959); Kupahu (1865); S.M. Kamakau (1961, 1964, 1976, 1991); Wm. Ellis (1963); records of the American Board of Commissioners of Foreign Missions (A.B.C.F.M.) (1820–1860); Chas. Wilkes (1845); Alexander & Preston (1892–1894); A. Fornander (1916–1919 and 1996); Isabella Bird (1964); G. Bowser (1880); and many other native and foreign writers. The study also includes several native accounts from Hawaiian language newspapers (compiled and translated from Hawaiian to English by K. Maly), and historical records authored by nineteenth century visitors, and residents of the region.

4.1 Archival Research

Archival research was conducted for the natural environment, cultural landscape, and archaeological sites to search for historical recordation of cultural resources, practices, and beliefs that may have occurred in the project area. The results of that research are contained in the following sections.

4.1.1 Natural Environment

Native Hawaiians developed and maintained prosperous and symbiotic relationships with their natural environment, such that “Hawaiian culture does not have a clear dividing line of where culture ends and nature begins” (Maly 2001:1). The practice of identifying and naming various aspects of the natural environment imbued cultural significance into the rains, the winds, and other natural features. Several of these environmental aspects within the PTA project area and broad geographical area are discussed below.

4.1.1.1 Wai

An important element of Native Hawaiian ethnoecology is the identification and use of freshwater resources. Fresh water (wai) is of tremendous significance to Native Hawaiians and is closely associated with many Hawaiian gods, including Kāne.

There are five surface water features within the PTA project area and broad geographical area: Waikahalulu Gulch, Pu'u Ko'ohi Stream, Pōhakuloa Gulch, Pu'u Pōhakuloa Stream, and 'Auwaikekua Gulch. These five surface water features are non-perennial, meaning they do not flow continuously and may only have flowing water after precipitation events. There are three springs located within the broad geographical area on the slopes of Mauna Kea: Hopukani (Houpookāne), Waihū, and Liloe.

4.1.1.2 Rains

Akana and Gonzalez in *Hānau Ka Ua: Hawaiian Rain Names* explain the significance of the rain in Native Hawaiian culture:

Our kūpuna had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on the trees, the scent it carried, and the effect it had on people (Akana and Gonzalez, 2015:xv).

No specific rain names were identified within the project area. **Table 3** presents a selection of known rains that may be associated with broad geographical area.

| Rain Name | Definition and Additional Information | Source |
|-------------|---|----------------------------------|
| Kīhenelehua | Kīhene Lehua means "bundle off Lehua blossoms". Associated with Hāmākua and Maliki, Hawai'i, and with the Pūhenelehua rain | Akana and Gonzalez, 2015:80 |
| Lilinoe | A mist associated with the mountain and cliffs of Hawai'i Island; also the name of a peak on Maunakea, Hawai'i, and the goddess of mists. | Akana and Gonzalez, 2015:162-163 |
| Pupūhale | Pupūhale means "remaining near house". Associated with Hāmākua. | Akana and Gonzalez, 2015:248 |
| Kēhau | Related to hau. Dew and mist associated with Mauna Kea. | Akana and Gonzalez, 2015:73 |
| Lana'ula | Rain associated with Ha'ikū, Hawai'i Island | Akana and Gonzalez, 2015:133 |
| 'Ehu | Mist that is lighter than the Uhiwai, Noe, and 'Ohu, but heavier than the 'Ehuehu. Associations throughout Hawai'i. | Akana and Gonzalez, 2015:22 |
| 'Ohu | Mist that is lighter than Uhiwai and Noe, but heavier than 'Ehu and 'Ehuehu. Associations throughout Hawai'i. | Akana and Gonzalez, 2015:213 |

4.1.1.3 Winds

Winds, like rains, can be unique and distinctive to an individual location. The following wind names may be associated with the project area and the broad geographical area.

| Wind Name | Definition and Additional Information | Source |
|--------------|--|------------------|
| Hū'ē'hu | A strong, northwesterly wind. Associations throughout Hawai'i. | Andrews 1922:208 |
| Kī'u Inu Wai | Kiu Inu Wai means "water drinking Kiu". Known as a wind from the mountains known to be cold and strong. Associations throughout Hawai'i. | Andrews 1922:208 |
| Kī'u | A strong, northwesterly wind known to be cold and strong. Associations throughout Hawai'i. | Andrews 1922:298 |

4.1.1.4 Pu'u

As defined by Pukui and Elbert (1986:358), a pu'u is a "... hill, peak, cone, hump, mound, bulge, heap, pile ...". For the purposes of this CIA, researched pu'u were limited to those shown on historical and modern quadrangle maps and a sample of geological names and place names are included in this study. Pu'u are significant in the Hawaiian culture and are known to be used for cultural ceremony or as burial sites. They are also critical in wayfinding and serve as landmarks for travelers.

A list of pu'u located on State-owned land and the broad geographical area is provided in **Table 8** in **Section 4.1.2.1**. Of the listed pu'u, Pu'u Kapele and Pu'u Ke'eke'e are associated with existing cultural practices and beliefs, as described further in **Section 6.2**.

4.1.1.5 Traditional Plants

This subsection provides an overview of native and traditional plants found at PTA and their associated cultural uses. There are a far greater number of plant resources within the broad geographical area that are not documented in this assessment. This assessment seeks to provide an overview of the plant species present within the project area and broad geographical area that are associated with cultural practices and beliefs.

While there is an extensive body of literature on the traditional uses of plants by Native Hawaiians, the volcanic terrain of the project area created natural limitations on the flora that could survive in such a harsh environment. Nonetheless, the plants present within the project area would have historically allowed for practices associated with the gathering of plants for food, medicine, and spiritual practices.

USAG-HI PTA operates a natural resource program that aims to conserve the area's endangered floral species. Gathering of some plant resources may be limited by existing State and federal laws for protected species, which would place limits on cultural practices even if the Army did not retain State-owned land. Depending on the regulations in place under State or federal laws, these laws may prohibit the use of, or taking, of protected species.

Twelve species of native plants have been documented on State-owned land (USAG-PTA, 2020; USAG-PTA 2022), as detailed below in **Table 5**.

| Scientific Name | Common/Hawaiian Name |
|-----------------------------------|------------------------------------|
| <i>Chenopodium oahuense</i> | ‘āweoweo |
| <i>Myoporum sandwicense</i> | naio |
| <i>Sophora chrysophylla</i> | māmane |
| <i>Dodonaea viscosa</i> | Florida hopbush, ‘a‘ali‘i |
| <i>Sida fallax</i> | ‘ilima |
| <i>Leptecophylla tameiameia</i> | pūkiawe |
| <i>Euphorbia olowaluana</i> | alpine sandmat, ‘akoko |
| <i>Osteomeles anthyllidifolia</i> | Hawai‘i hawthorn, ‘ūlei |
| <i>Dubautia scabra</i> | rough dubautia, kupaoa |
| <i>Myrsine lanaiensis</i> | lanai colicwood, kōlea |
| <i>Santalum ellipticum</i> | coastal sandalwood, ‘iliahi a lo‘e |
| <i>Wollastonia integrifolia</i> | grassland nehe, nehe |

Both oral histories and previous studies note the cultural value of flora resources in the area. McCoy and Orr (2012: 24-25) note that ‘ulei may have been eaten, used for dye, and the hardwood of the shrub was used for tool-making. Pūkiawe, ‘a‘ali‘i, naio, kōlea, ‘ohia lehua, māmane, and ‘iliahi were used traditionally in Native Hawaiian culture for the manufacture of wooden tools, dyes, and poisons (Krauss 1993; Abbott 1992).

Because these species also grow at lower elevations and closer to population centers, it is unlikely that these resources were harvested from the Saddle Region for the purposes listed above. It is more likely that these plants were collected for firewood or tool maintenance and repair (i.e., strong levers for quarrying stone, bird-catching poles, etc.) in the event of travel into the Saddle Region to harvest other resources, like birds and lithic materials (Williams et al. 2002; Williams 2002).

In addition to the 12 native plants listed in **Table 5**, there are also 20 native plants that are federally and State-listed on PTA, as shown below in **Table 6**.

| Table 6. Protected Plants Documented on Pōhakuloa Training Area | | |
|---|---------------------|--------------------|
| Scientific Name | Common Name | Federal Protection |
| <i>Asplenium peruvianum var. insulare</i> | fragile fern | E |
| <i>Exocarpos menziesii</i> * | heau, 'iliahi | E |
| <i>Festuca hawaiiensis</i> * | Hawaiian fescue | E |
| <i>Haplostachys haplostachya</i> * | honohono | E |
| <i>Isodendrion hosakae</i> | aupaka | E |
| <i>Kadu coriacea</i> * | kio'ele | E |
| <i>Lipochaeta venosa</i> | Spreading nehe | E |
| <i>Neraudia ovata</i> | ma'aloa | E |
| <i>Portulaca sclerocarpa</i> * | po'e | E |
| <i>Portulaca villosa</i> | 'ihi | E |
| <i>Schiedea hawaiiensis</i> | mā'oli'oli | E |
| <i>Sicyos macrophyllus</i> | 'anunu | E |
| <i>Silene hawaiiensis</i> * | Hawaiian catchfly | T |
| <i>Silene lanceolata</i> * | lance-leaf catchfly | E |
| <i>Solanum incompletum</i> * | popolu kū mai | E |
| <i>Spermolepis hawaiiensis</i> | Hawaiian parsley | E |
| <i>Stenogyne angustifolia var. angustifolia</i> * | creeping mint | E |
| <i>Tetramolopium arenarium var. arenarium</i> * | Mauna Kea pāmakani | E |
| <i>Vigna owahuensis</i> | O'ahu cowpea | E |
| <i>Zanthoxylum hawaiiense</i> * | a'e | E |
| Federal Status: E = Endangered, C = Candidate, T = Threatened | | |
| *Documented on State-owned land | | |

Several of the protected flora species found in the project area and broad geographical area are associated with cultural practices and beliefs, as detailed below.

Heau, 'iliahi (Exocarpos menziesii)

This particular species of heau or 'iliahi of the *Exocarpos* genus is found on Mauna Loa on Hawai'i Island within the project area. 'Iliahi is a native evergreen shrub or tree which is known for its alluring scent. The powder derived from the heartwood of 'iliahi was used by traditional Hawaiians to scent hand-beaten kapa. It has also been noted that Native Hawaiians gathered materials from the 'iliahi tree were used for musical instruments (Krauss 1993). Late in the eighteenth century, it became known across the oceans that 'iliahi was growing in the islands, and Hawaiian sandalwood became a commodity amongst traders, so much so that Kamehameha Nui placed a kapu or protective order on the 'iliahi in order to conserve the tree and its forests. However, as more foreign trade came through Hawai'i, the numbers of 'iliahi trees dwindled and such foreign impact on both the 'āina and Native Hawaiians, between the grueling work of harvesting the wood and focus shifting from traditional livelihood to the trade of this natural resource (Abbott 1992).

Honohono (Haplostachys haplostachya)

Honohono is an endemic plant belonging to the mint family. Once found on Kaua'i, Maui, and at Pu'ukapele and Waiki'i on Hawai'i Island, it is now only known to live on Kīpukakālawamauna at 5,200 feet on Hawai'i Island. It has been noted that the endemic honohono was rare even upon the arrival of Captain Cook to the Hawaiian islands, and therefore since that time, collection and study of this plant has not been extensive. However, it can be inferred that, due to its rarity, Native Hawaiians had practical uses for such a plant either for medicine or other daily life (Krauss 1993).

Ma'aloa (Neraudia ovata)

Ma'aloa, also known as 'oloa, is one of the plants that was used by Native Hawaiians to make kapa cloth. Its bark was harvested and beaten in a specific manner to create the cloth used for clothing, household items, and other important materials for daily life (Buck 1957). According to scholars Malo and Kamakau, kapa made from ma'aloa is a superior white material. While the practice of making kapa from ma'aloa does not seem to be as common as the production of kapa from the wauke plant, such 'oloa kapa was associated with religious ceremonies, especially in the consecration of a heiau luakini. A very long piece of 'oloa kapa was made by females of the ali'i or chiefly rank, and decorated the ki'i of the heiau, a representation of the god Kū (Abbott 1992). Ma'aloa has also been used in traditional Hawaiian medicine to cure constipation (Chun 1994).

Po'e (also 'Ihi Mākole) (Portulaca sclerocarpa)

Po'e was used medicinally by Native Hawaiians. The entire plant of the po'e was mixed with the 'awikiwiki vine and the bark of the 'ōhi'a 'ai (mountain apple). The mixture was then pounded, water was added, and the entirety was strained and heated. Upon cooling, it was applied as a salve to treat itchy skin or skin disorders (Krauss 1993).

‘Ihi (Portulaca villosa)

The ‘ihi, related to the ‘ihi mākole above, is an endemic plant, and a member of the Purslane family, variants of which were used medicinally with other lā‘au to treat asthma, PMS, and joint pain (Leonard, 1998).

Pōpolo Kū Mai (Solanum incompletum)

Native Hawaiians traditionally used the berries of the pōpolo kū mai to make a dark purple dye (Krauss 1993). As traditional practices are revived, many practitioners of the fiber arts use pōpolo today to dye their kapa and other materials.

4.1.1.6 Native Birds

Table 7 provides a list of the protected native bird species found within the project area and broad geographical area. Thereafter, an overview is provided of the cultural association with the species, if any.

| Table 7. Federally Listed Endangered or Threatened Animals Observed at Pōhakuloa Training Area | | | | |
|---|---------------------------------|--------------------|------------------|--------|
| Scientific Name | Common Name | Federal Protection | State Protection | TYPE |
| <i>Asio flammeus sandwichensis</i> * | Pueo, Hawaiian short-eared owl, | | E | |
| <i>Branta sandvicensis</i> * | Nēnē, Hawaiian Goose | T | E | Bird |
| <i>Buteo solitaires</i> * | ‘Io, Hawaiian Hawk | | E | Bird |
| <i>Pterodroma sandwichensis</i> | ‘Ua‘u, Hawaiian Petrel | E | E | Bird |
| <i>Oceanodroma castro</i> | Band-Rumped Storm Petrel | E | E | Bird |
| <i>Lasiurus cinereus semotus</i> | ‘Ōpe‘ape‘a, Hawaiian hoary bat | E | E | Mammal |
| Federal and State Status Key: E = Endangered, C = Candidate, T = Threatened | | | | |
| * Observed on State-owned land | | | | |
| Source: <i>Army Training Land Retention at Pōhakuloa Training Area Draft Environmental Impact Statement</i> | | | | |

‘Io (Buteo solitaires)

The ‘io, or the *Buteo solitaires*, is the endemic and endangered hawk currently found on the island of Hawai‘i. It is one of two birds of prey native to Hawai‘i. The ‘io generally has two distinct phases of color—the adult dark phase which is usually a blackish brown, and a light phase which is mostly buff with some variations. The adult male ‘io have been measured at 15.5 inches and the adult females at

18 inches. 'Io nests are large structures built of twigs and sticks, usually secured in low-lying branches of 'ōhi'a trees (Munro 1944).

According to multiple sources, the 'io was considered sacred to some families, perhaps an 'aumakua or a deified ancestor. The lofty heights to which it would fly made the 'io a symbol of royalty. For that reason, the name 'Iolani, or royal hawk, was given to people or places of royal status, including Kamehameha IV Alexander 'Iolani Kalanikualiholiho. It has been noted that the feathers of the 'io were used by Native Hawaiians in kāhili feather standards, and were likely not eaten (Handy and Handy 1991). It is also believed that the 'io was associated with the god Kū, who could take the shape of an 'io (Krauss 1993).

Nēnē (Branta sandvicensis)

The nēnē, or *Branta sandvicensis*, is the Hawaiian goose endemic to the Hawaiian islands and is known to be found on both Maui and Hawai'i Island, especially the northwestern slope of Hualālai in North Kona in the late 1800s. Its Hawaiian name comes from the word nē, the whispering sound of a persistent murmur, calling upon the sound the large fowl makes. The nēnē prefers to forage for its food on the mountains of Hawai'i Island and Haleakalā, and moves down towards the lowlands to breed. Its breeding season is between August and April, and it is reported that they prefer to return to the same nest year after year. It is purported that the nēnē would migrate between Maui and Hawai'i, and sometimes stray off course to the other Hawaiian islands (Munro 1944). Nēnē are known to eat 'ōhelo and pūkiawe berries, and nestle in the pūkiawe (Kepler 1998). These geese were the larger of the Hawaiian birds, and thus its longer feathers were used to make large ceremonial feather standards or kāhili. David Malo also documents that nēnē were among the birds used for food in traditional times (Buck 1957). Once listed as an endangered species in 1967, the success of recovery programs has allowed this rare bird to be taken off the list in 2019 and is now considered a threatened species. Ethnographic data expressed concern for the nearby Keauhou Ii Nēnē Sanctuary located at the base of Hualālai.

'Ua'u (Pterodroma sandwichensis)

The 'ua'u is the *Pterodroma sandwichensis* petrel, an endangered and endemic sea bird. Currently, the majority of known 'ua'u nests on Hawai'i Island are located at Hawai'i Volcanoes National Park or on the lower slopes of Mauna Loa. From a distance, it appears to have a white head, but its forehead, cheeks and underparts are white and the rest of its head is black. The rest of its body is dark brown, and has been measured at 15.5 inches long. It is likely that the 'ua'u did not roam far from the main Hawaiian islands, and has been threatened by mongoose and feral pigs and cats. The 'ua'u nests in holes under the roots of trees and stones, usually at elevations of 1,500 to 5,000 feet. Its nesting season is between April and May. Despite some reports that the birds were used as food, there are other accounts of 'ua'u as 'aumākua, considered sacred to particular families.

Bird Catching

Bird catching likely occurred in broad geographical area. Bird catching was conducted by the lawai'a manu or kia manu (bird catchers). Their knowledge of the mountain lands, trails, shelters, and resources was widely valued throughout the nineteenth century, and the bird catchers often served as guides. Several traditional accounts describe the methods of catching native birds to collect their feathers or birds which were considered delicacies in the Hawaiian diet. Several methods of bird catching were widely practiced by Native Hawaiians. Maly (2005:32-38) aggregates and presents an extensive body of resources illustrating the practice. Accounts from the later period in the life of

Kamehameha I reported that, as a result of growing commercial activities in the islands, traditional methods of harvesting resources and catching birds were changing (Kamakau, 1961; Emerson, 1895).

Malo (1951) wrote: “The feathers of birds were the most valued possession of the ancient Hawaiians. The feathers of the mamo were more choice than those of the o-o because of their superior magnificence when wrought into cloaks (ahu). The plumage of the iiwi, apa-pane and amakihi were made into ahu-ula, cloaks and capes, and into mahi-ole, helmets” (76). **Figure 5** is an image of an ‘ahu’ula.

While researching various ethnographic records on the Bernice Pauahi Bishop Museum, Maly (2005: 38-40) reviewed Hawaiian language papers (handwritten and typed) collected by island historian, Theodore Kelsey. Kelsey was born in Hilo in the late 1800s and collected the stories of Hawaiian elders and translating their writings. Among his papers found at the Bishop Museum (BPBM Archives – SC Kelsey; Box 1.5) are notes on various aspects of Hawaiian culture, including bird catching. Kelsey’s informant was the elder Reverend Nālimu, who shared his account of bird catching, both as a means of providing feathers used for making Hawaiian emblems of royals and as a food source with other birds. The account specifically references localities in the uplands of the Hilo District and is a first-hand description of traditional or customary practices which had broad application in the mountain regions.



Figure 5. ‘Ahu’ula (cloak), circa 1800, Hawai’i, maker unknown. Gift of Lord St Oswald, 1912. CC BY-NC-ND 4.0. Te Papa (FE006380) <https://collections.tepapa.govt.nz/object/91240>

4.1.2 Cultural Landscape

“Cultural landscape,” as used in the current study, refers to a geographical area whereby cultural beliefs and practices are expressed tangibly and intangibly on a physical landscape. Much like the named elements of the natural environment in the previous section, the elements discussed in this section help facilitate identification of cultural resources, practices, and beliefs that may be directly or indirectly associated with a project area and/or its broad geographical area.

4.1.2.1 Inoa ‘Āina (Place Names)

Inoa ‘āina (place names) reveal the history of place, people, and the depth of their traditions. Although fragmented, the surviving place names describe a rich culture. The occurrence of place names demonstrates the broad relationship of the natural landscape to the culture and practices of the Hawaiian people. In “A Gazetteer of the Territory of Hawaiian,” Coulter observed that Hawaiians had place names for all manner of features, ranging from “outstanding cliffs” to what he described as “trivial land marks” (1935:10). In 1902, W.D. Alexander, former Surveyor General of the Kingdom (and later Government) of Hawai‘i, wrote an account of “Hawaiian Geographic Names.” Under the heading “Meaning of Hawaiian Geographic Names” he observed:

It is very difficult, if not impossible, to translate most of these names, on account of their great antiquity and the changes of which many of them have evidently undergone. It often happens that a word may be translated in different ways by dividing it differently. Many names of places in these islands are common to other groups of islands in the South Pacific, and were probably brought here with the earliest colonists. They have been used for centuries without any thought of their original meaning... (Alexander, 1902:395)

This assessment referenced historical maps to identify place names across the project area and broad geographical area. These maps are presented in **Figure 6**, **Figure 7**, and **Figure 9**. **Table 8** provides a summarized list of pu‘u referenced from the maps (but excludes those pu‘u which are on the summit area or windward face of Mauna Kea, as these areas are outside the broad geographical area of the study).

| Pu‘u on State-owned Land | Pu‘u on Government-owned Land | Pu‘u in Broad Geographical Area |
|---------------------------------|--------------------------------------|--|
| Pu‘u Ahi | Keamuku | Koko‘olau |
| Pu‘u Kapele | Mahoelua | Pu‘u Ahumoa |
| Pu‘u Ke‘eke‘e | Na Pu‘u Kulua | Pu‘u Haiwahine |
| Pu‘u Ko‘ohi | Naohuele‘elua | Pu‘u Manao |
| Pu‘u Koko | Pu‘u He‘ewai | Pu‘u o Kau |
| Pu‘u Mau‘u | Pu‘u Papapa | Pu‘u o Kauha |
| Pu‘u Kea | Pu‘u Pohakuloa | Pu‘u Koli |
| | | Pu‘u Ulaula |

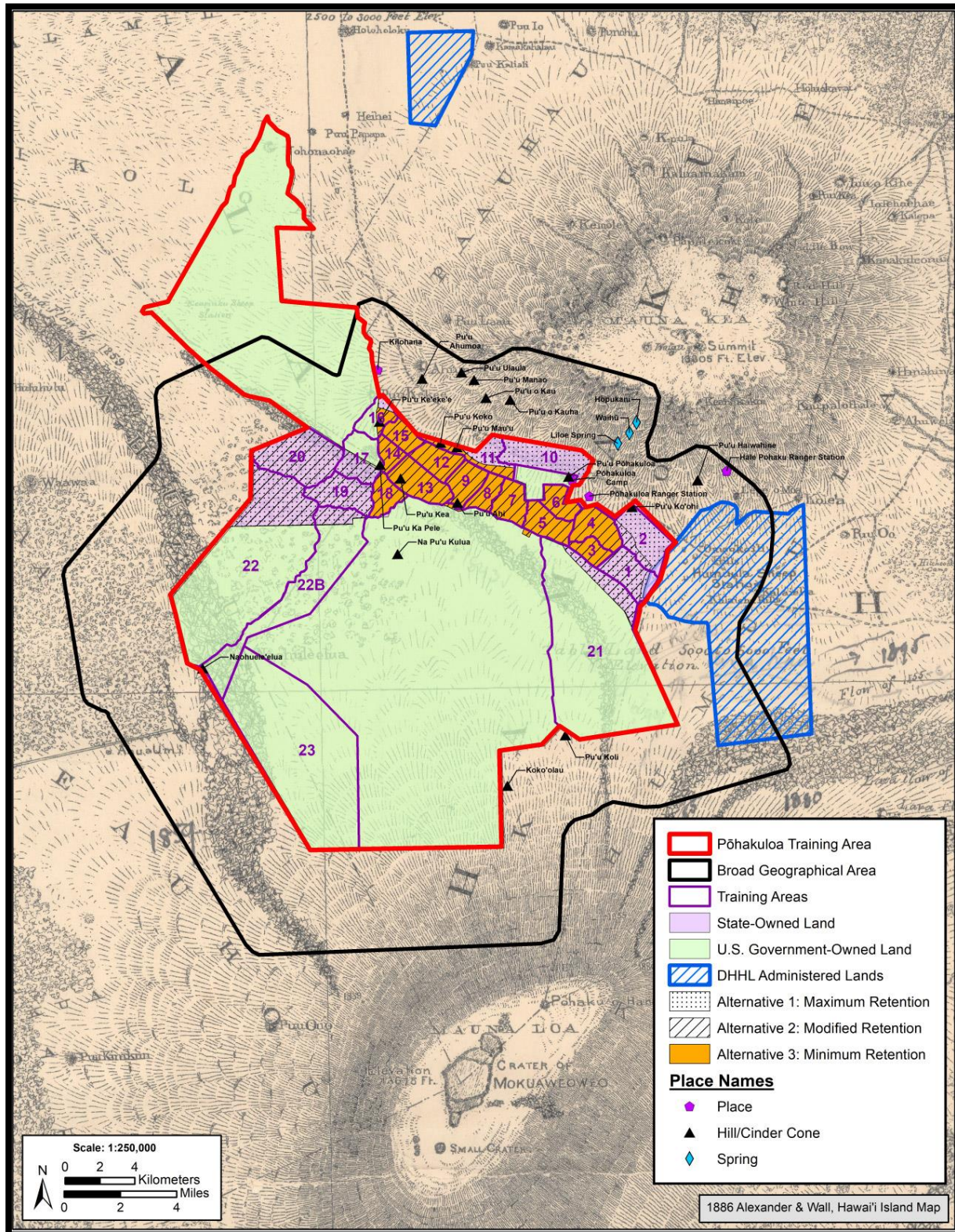


Figure 6. Wall, W.A. and Alexander, W.D. (1886)

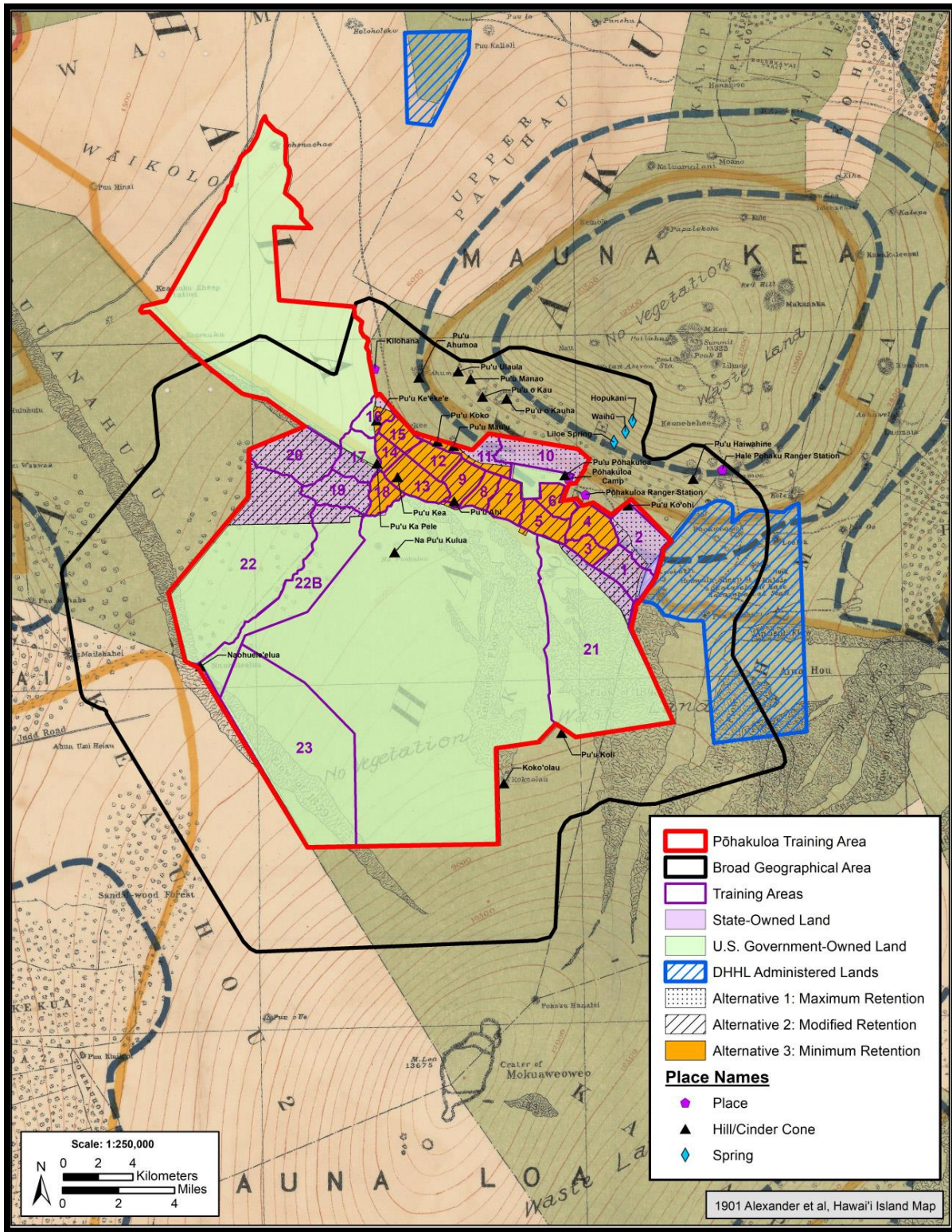


Figure 7. Donn, John M. et al. (1901)

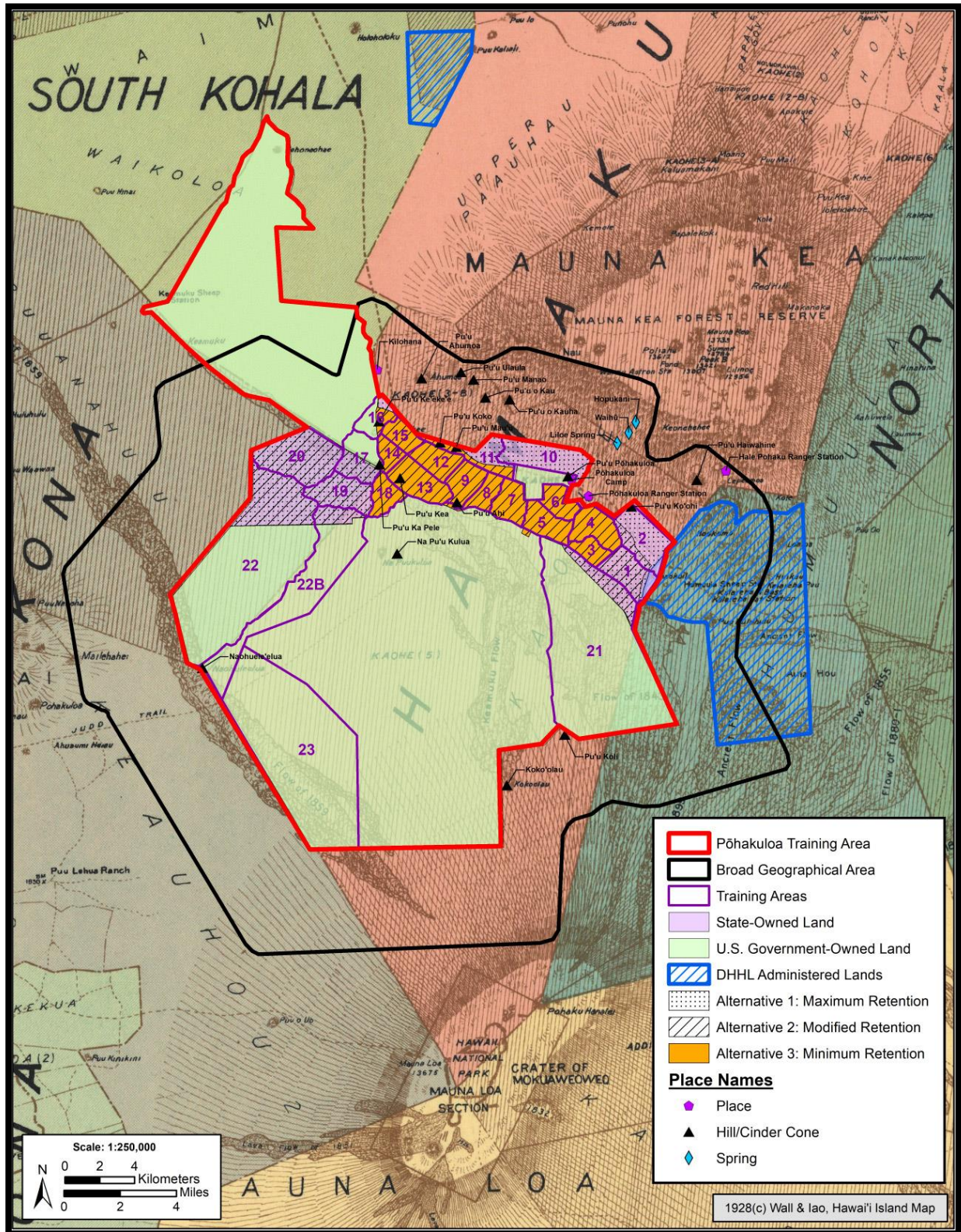


Figure 8. Wall, Walter E. (1928)

4.1.2.2 *Mo'olelo, Oli, and 'Ōlelo No'eau*

The following subsections detail selected mo'olelo, 'ōlelo no'eau, and oli associated with the broad geographical area or the project area.

Queen Emma's Ascent of Mauna Kea (1882)

One of the significant historical accounts of travel across the 'āina mauna to Mauna Kea is associated with a journey made by the Dowager Queen Emma (Rooke) Kaleleonālani in 1882. It is an important account, as it is still discussed by the descendants of participants in the trip, some of whom carry names commemorating the journey, and because it is also celebrated in a number of mele (chants).

The trip of Queen Emma to Mauna Kea to conduct a ceremonial bath in Waiau is one of significant symbolism. It is believed that the Queen sought to demonstrate her lineage and godly connections, and to perform a ceremonial cleansing in the most sacred waters of Kāne. The mele composed as a result of the trip refer to Mauna Kea as the piko of Wākea, and also reference a number of named places on this cultural landscape including Ahumoa, Waiki'i, Pu'u Mau'u, Pu'u Kapele, and Kalai'eha. Other Haku mele (composers of chants and songs), recounted the events, scenery, and significance of the journey in a series of mele. A number of these mele are housed in the collection of the BPBM, and have been published in *He Lei no 'Emalani* (2001). Selections from the collection of mele – one, directly from the museum collection (translated by Maly in 2000), and the others published in 2001 – focusing on places visited on and around Mauna Kea, follow below. The translations from *He Lei no 'Emalani* were prepared by Mary Kawena Pukui, Theodore Kelsey, and M. Puakea Nogelmeir (2001). Annotations have been added at a few lines where place names of Mauna Kea and the 'āina mauna occurred and were not recognized as such at the time of publication.

1882

He Inoa Pii Mauna no Kaleleonalani (Na Kaniu Lumaheihei o Kapela i haku)

In the Name of Kaleleonalani, Ascending the Mountain (Composed by Kaniu Lumaheihei Kapela)

Kaulana ke anu i Waikii

Famous is the cold of Waiki'i,

Oo i ka ili o ka Lani

Piercing the skin of the Chiefess.

E aha ana la Emalani

What is it that Emalani is doing?

E walea a nanea ae ana

Relaxing and enjoying,

I ka leo hone o ka Palila

The sweet voices of the *Palila*,

Oia manu noho Kuahiwi

Those birds that dwell upon the
Mountain

Kikaha o ka Iwi-Polena

The 'Iwi-polena soars overhead,

Ko Hoa ia e like ai

It is like your companion.

| | |
|-----------------------------------|--|
| <i>Hoolulu Kapena Kaulani</i> | Captain Kaulani called us to shelter, |
| <i>Ina ae hoi kakou</i> | If we should continue. |
| <i>Kaalo ana Ahumoa mamua</i> | We then passed before Ahumoa, |
| <i>A kau i ke one heehee</i> | Rising to the sliding cinders (Onehehe'e). |
| <i>A imua, a i hope o ka Lani</i> | The Chiefess moved forward and backwards. |
| <i>He ihona loa ana Kilohana</i> | Descending the length of Kilohana. |
| <i>Noho ana o Pumauu i ka lai</i> | Pu'u Mau'u sits in the calm, |
| <i>Au mai ana o Puukapele</i> | Pu'ukapele juts out, |
| <i>Kaala i kuu maka ke aloha</i> | My eyes rise up with love. |
| <i>Komo i ka olu o Kalaieha</i> | We entered the cool of Kalaieha, |
| <i>Eia mai ke Kuini Emalani</i> | Here is Queen Emalani |
| <i>Ua wehe i ka pua mamane</i> | The blossom of the māmane has opened. |
| <i>E o ke Kuini Emalani</i> | Respond Queen Emalani |
| <i>Kaleleonalani he Inoa</i> | Kaleleonalani is the name. |

[BPBM Archive, Mele Collection, call #fHI.M50; Maly, translator]

He Moolelo Kaa Hawaii no Laukaieie (1894)

"He Moolelo Kaa Hawaii no Laukaieie..." (A Hawaiian Tradition of Laukaieie) was published in *Nupepa Ka Oiaio* between January 5, 1894, and September 13, 1895. The mo'olelo was submitted to the paper by Hawaiian historian Moses Manu. The mo'olelo recounts the travels of Pūpū-kani-'oe and her companions.

The following narrative, translated by Kepā Maly, have been excerpted from the mo'olelo.

March 9, 1894

Pūpū-kani-'oe and her companions from Lehua and Ka'ula sailed in their canoe, passing Kaho'olawe, guided by the sharks of those waters. They entered the channel of 'Alenuihāhā and her companions, who had never before seen Hawai'i, saw the mountains of Mauna Kea, Maunaloa and Hualālai rising above. Ka-welone-a-ka-lā-i-Lehua inquired of Pūpū-kani-'oe the names of those places on Hawai'i. She answered, telling them that they were the mountains on which dwell the women who wear the

kapa hau (snow garments) and who covered the lands down to where the woods were found. Pūpū-kani-'oe then chanted:

| | |
|---|--|
| <i>Ma'ema'e i ka hau ka luna o Mauna Kea,</i> | Pure as the snows atop Mauna Kea |
| <i>Ōpū iho la iluna o ka hinahina,</i> | Little clumps settled upon the hinahina |
| <i>Ka pua luhiehu a ka māmane,</i> | Adorned with the blossoms of the māmane, |
| <i>He lama wale ala no ke ike aku,</i> | It looks like a light when seen, |
| <i>Aloha mai nei hoi ka Aina...</i> | There is such love for the land... |

Warriors Traveled the Mountain Paths and Met in Battle on the 'Āina Mauna

Among Kamakau's traditions are found the history of Keawe-nui-a-'Umi and his brother Ke-li'i-o-Kaloa, who shared the rule over Hawai'i. When it was learned that Ke-li'i-o-Kaloa was abusing his people, Keawe-nui-a-'Umi determined to depose Ke-li'i-o-Kaloa. The warring parties traveled across the mountain lands, with Keawe-nui-a-'Umi's war parties marching from Hilo, Puna, and Ka'ū across the plateau between Mauna Kea and Mauna Loa, towards 'Ahu-a-'Umi, the temple built by his father. Kamakau reported:

When Keawe-nui-a-'Umi learned of the unjust rule of Ke-li'i-o-kaloa and the burdening of the common people, he was filled with compassion for the chiefs and commoners of Kona. Therefore he made himself ready with his chiefs, war lords, war leaders, and warriors from Hilo, Puna, Ka-'u to make war on Kona. The war parties [met] at the volcano (pit of Pele) before going on to battle along the southern side of Mauna Kea and the northern side of Mauna Loa. The mountain road lay stretched on the level. At the north flank of Hualalai, before the highway, was a very wide, rough bed of lava – barren, waterless, and a desert of rocks. It was a mountain place familiar to 'Umi-a-Liloa when he battled against the chiefs of Hilo, Ka-'u, and Kona. There on that extensive stretch of lava stood the mound (ahu), the road, the house, and heiau of 'Umi.⁴ It was through there that Keawe-nui-a-'Umi's army went to do battle against his older brother, Ke-li'i-o-kaloa.

When the chiefs of Kona heard that those of Hilo were coming by way of the mountain to do battle, Ke-li'i-o-kaloa sent his armies, but they were defeated by the armies from Hilo. The armies of Kona were put to flight. When the armies of Hilo reached the shore of Kona the war canoes arrived from Ka-'u and from Hilo. The battle was [both] from the upland and from the sea. Ke-li'i-o-kaloa fled and was killed on a lava bed. The spot

⁴ It is reached "by a fourteen mile journey from Holualoa up the old Judd trail, or by an eighteen or twenty mile trip from Kealakekua, via Pu'ulehua and Kanahaha... It is on the slope of Hualalai, at between 4,500 and 5,000 feet elevation, with Mauna Kea and Mauna Loa towering snow-clad, much farther away."

where he was killed was called Pu'u-o-Kaloa (Kaloa's hill), situated between Kailua and Honokohau... (Kamakau, 1961:35-36; M.K. Pukui, translator)

In the next generation, Lono-i-ka-makahiki, grandson of 'Umi-a-Liloa, was also called upon to battle, this time against the invading forces of the Maui chief, Kama-lālā-walu. Once again, the warriors of Hawai'i made use of the mountain land trails to meet the final challenge on the plains of Waimea. The warriors from Ka'ū, Puna, and Hilo districts passed by Mauna Kea to join in the battle below Pu'u 'Oā'oaka, in Waimea:

Kama-lala-walu, the heedless chief, paid no attention, but followed the advice of two old men of Kawaihae who counseled falsely. One of them was name Puahu-kole. They said, "Pu'uoā'oaka is a good battlefield and will be a great help to the chief. All the canoes should be taken apart because the warriors may desire to run back to the canoes and depart in secret for Maui. The best thing to do is to cut up the canoes and outriggers, for there are canoes enough in Hawaii. When it is conquered, there will be many canoes from Kona and Ka-'u. There will be much property and wealth for the Maui chiefs." The chief, Kama-lala-walu, listened to the advice of Puhau-kole and his companion. Their suggestions were carried out, and the canoes were broken up. Then Kama-lala-walu's fighting men went up to the grass-covered plain of Waimea.

After Kama-lala-walu's warriors reached the grassy plain, they looked seaward on the left and beheld the men of Kona advancing toward them. The lava bed of Kaniku and all the land up to Hu'ehu'e was covered with the men of Kona. Those of Ka-'u and Puna were coming down from Mauna Kea, and those of Waimea and Kohala were on the level plain of Waimea. The men covered the whole of the grassy plain of Waimea like locusts. Kama-lala-walu with his warriors dared to fight. The battlefield of Pu'oa'oaka was outside of the grassy plain of Waimea, but them of Hawaii were afraid of being taken captive by Kama, so they led to the waterless plain lest Maui's warriors find water and hard, waterworn pebbles. The men of Hawaii feared that the Maui warriors would find water to drink and become stronger... (Kamakau, 1961:58; M.K. Pukui, translator)

Travel Across the 'Āina Mauna in the Time of Kamehameha

Stephen Desha, Sr., editor of *Ka Hoku o Hawaii*, and a group of his peers published many historical accounts for the education of Hawaiian readers in their native history. One account, "He Moolelo Kaa no Kekūhaupio, Ke Koa Kaulana o ke Au o Kamehameha ka Nui" (A Tradition of Kekūhaupio, the Famous Warrior in the time of Kamehameha the Great), describes the time leading up to Kamehameha's securing his rule over the island of Hawai'i and was published from December 16, 1920, to September 11, 1924, in *Ka Hoku o Hawaii* (Desha, 2000; Frazier, translator). When Kamehameha (Pai'ea) inherited the god Kūkā'ilimoku from Kalani'ōpu'u, there was dissension among some of the chiefs. Fearing that treachery might arise, Kekūhaupi'o traveled with Kamehameha from Ka'ū towards Kīlauea, to 'Ōhaikea, and then went on to Mauna Kea and Lake Waiau, where Kamehameha made a ceremonial offering:

...When Pai'ea had completed the ceremonial offering, Kekūhaupi'o encouraged them to go, as it was not known what secret harm might come after them, as some of the chiefs had treacherous thoughts. Because of this thought by Kekūhaupi'o he directed them to leave the customary pathway, and to travel where they could not be followed. They

climbed straight up from that place to a certain part of Mauna Loa and came down seaward at a certain part of Ka'ū named Ōhaikea. They spent the rest of that night in a cave called Alanapo. The next morning, after Kamehameha had made his ceremonial offering and prayer to Kūkā'ilimoku, they left that place and climbed up another mountain trail till they reached the summit of Mauna Kea. At a place close to Lake Waiau, Kamehameha again made an offering. They were unable to remain there for long because of the cold, and so they descended to Waimea at a place called Moana by the ancients, going straight down to the wide plain of Waimea... (Desha, 2000:93-94)

Following the battle of Moku'ōhai ca. 1782, reference to travel across the 'āina mauna was again made. Kamakau reported that the sacred chief, Keawemauhili, his wife, Ululani, and their daughter, Kapi'olani, traveled from Kona to the uplands, across Mauna Kea, and down to Pā'auhau (1961:122). Desha (2000) elaborated on the account, by which the small party traveled for safety, to the mountain lands, passing the slopes of Mauna Kea and continued on the mountain trail to Hilo.

After the battle ended at Moku'ōhai, Keawemauhili and his family were held captive and transported to the Kaumalumu section of Kona. Then, with the help of faithful friends, they escaped, traveling to the uplands of Kona, past Mauna Kea, and on to Hilo. It was reported:

...Keawemauhili, Ululani his wife, and their small daughter Kapi'olani were secretly helped to flee. They were taken to Kaumalumu, North Kona, by Kaleipaihala as ordered by the ilāmuku Kanuha. When Keawemauhili went ashore at that place of North Kona, he sought escape for them by a mountain trail which ascended to the gap between Hualālai and Mauna Kea, taking that path in order to arrive at their home in Hilo. The pathway was very tangled with forest growth. There were five of them on this journey, with Keawemauhili choosing the way, and Ululani following her husband, and the kahu [servants] who were carrying Kapi'olani. There were many impediments in the path but the important thing was to survive. The chill and bitter rain and entanglement of ferns and other obstructions were disregarded. At times Ululani carried her beloved daughter because their personal servants were heavily burdened with their bedding which was carried in calabashes on carrying sticks. While they were patiently ascending, Kapi'olani cried because of the strangeness of this mountain way. This grieved the parents of the beloved child but they were unable to help. When they entered into the fern wilderness, Kapi'olani wailed loudly because of this troublesome pathway, causing them to have qualms, because when Kīwala'ō's forces were put to flight, many people had fled into the forest and were being widely sought by the victorious warriors of Kamehameha's side. At this time they were climbing in darkness because they had fled at nightfall. However dawn was breaking at the time they entered the fern wilderness and were pushing through it. When it was full daylight and while they were moving on the mountain trail, the wailing of Kapi'olani was very loud which burdened the minds of Keawemauhili and his wife. At this time, the wails of Kapi'olani guided some of Kamehameha's warriors who were Kohala people, and they met the escapees. The leader of these warriors saw this distinguished man of noble stature, and the thought came to him that this must be the ali'i Keawemauhili of whom they had only heard. The leader said to Keawemauhili: "Stand and speak! Are you perhaps Keawemauhili, the ali'i of the Hilo districts...?" (Desha, 2000:153)

The account is continued with the eventual safe return of Keawemauhili mā to Hilo, and little other mention of the journey over the mountain lands.

The Rivalry between Poli'ahu and Pele

One of the prominent late historic writers was W.D. Westervelt, who resided in Hawai'i between 1889 and 1939. Westervelt wrote of the conflicts between Pele and Poli'ahu and told them how Poli'ahu came to gain control over the northern portion of Hawai'i, while Pele retained dominance over the arid and volcanically active southern part of Hawai'i. In his tradition of "Pele and the Snow-Goddess," Westervelt reported an eruptive event that took place after Hawaiian settlement (contrary to geological research) of the island group, explaining how Laupāhoehoe and Onomea Arch were formed:

Poliahu... loved the eastern cliffs of the great island of Hawaii – the precipices which rise from the raging surf which beats against the coast known now as the Hamakua district. Here she sported among mortals, meeting the chiefs in their many and curious games of chance and skill. Sometimes she wore a mantle of pure white kapa and rested on the ledge of rock overhanging the torrents of water which in various places fell into the sea... (1963:55)

Westervelt then wrote that once, Poli'ahu and her companions were competing in the sport of hōlua (sledding) on the slopes of Mauna Kea, south of Hāmākua. There appeared among them a beautiful stranger, who was invited to participate in the sport with them. However, the woman instead:

...threw off all disguise and called for the forces for fire to burst open the doors of the subterranean caverns of Mauna Kea. Up toward the mountain she marshaled her fire-fountains. Poliahu fled toward the summit... Soon she regained strength and threw the [snow] mantle over the mountain... the lava chilled and hardened and choked the flowing, burning rivers... The fire-rivers, already rushing to the sea, were narrowed and driven downward so rapidly that they leaped out from the land, becoming immediately the prey of the remorseless ocean.

Thus the ragged mass of Laupāhoehoe was formed, and the great ledge of the arch of Onomea, and the different sharp and torn lavas in the edge of the sea which mark the various eruption of centuries past (Westervelt, 1963:61-63).

Through these mo'olelo, the practice of hōlua becomes associated with the broad geographical area, which is closely associated with the deities of the area (i.e., Pele, Poli'ahu, Lilinoe, Kahoupokane, Waiiau).

'Ōlelo No'eau

'Ōlelo no'eau are another source of cultural information about the area and a form of mo'olelo, as they are oral traditions passed down through Hawaiian pedagogy. 'Ōlelo no'eau means "wise saying," and encompasses a wide variety of literary techniques and multiple layers of meaning common in the Hawaiian language. Considered to be the highest form of cultural expression in old Hawai'i, and still considered as such today, 'ōlelo no'eau provide understanding of the everyday thoughts, customs, and lives of those that created them.

The 'ōlelo no'eau presented here relate to land divisions near the project area that may give insight to knowledge about and Hawaiian cultural value and perspectives regarding the location. These 'ōlelo no'eau are found in Pukui's *'Ōlelo No'eau: Hawaiian Proverbs & Poetical Sayings* (1983).

- Poli'ahu, ka wahine kapa hau anu o Mauna Kea ('Ōlelo No'eau # 2687)

Poli'ahu, the woman who wears the snow mantle of Mauna Kea; Poli'ahu is the goddess of snows; her home is on Mauna Kea.

- Mauna Kea, kuahiwi ku ha'o i ka mālie ('Ōlelo No'eau # 2147)

Mauna Kea standing alone in the calm

- E ho'i na keiki oki uaua o na pali ('Ōlelo No'eau # 288)

Home goes the very tough lads of the hills; These lads of the hills were the cowboys of Pu'uwa'awa'a and Pu'uanahulu, who were well known for their endurance

- Hele a 'ilio pī'alu ka uka o Hāmākua ka lā. ('Ōlelo No'eau # 728)

Like a wrinkled dog is the upland of Hāmākua in the sunlight; An uncomplimentary remark about an aged, wrinkled person. Line from a chant.

- Ka ua kīhene lehua o Hāmākua. ('Ōlelo No'eau # 1568)

The rain that produces the lehua clusters of Hāmākua.

4.1.2.3 Mele

Honua Consulting completed searches of mele associated with the project area and larger geographical area (Elbert and Mahoe, 1970).

"Pōhakuloa" by Gary Haleamau and Keala H. Lindsey

Pōhakuloa nānea ia
Pōhakuloa nahenahe mai, nahenahe mai

Ke ola mau loa me ke aloha
Pōhakuloa nahenahe mai, nahenahe mai
Pōhakuloa me Mauna Kea
me Mauna Loa nahenahe mai, nahenahe mai

Pōhaku pahoehoe pōhaku Pele
Ala nui ki kie kie nānea ise mālie, nānea ise mālie

Hā'ina 'ia mai ana ka puana
Pōhakuloa nahenahe mai, nahenahe mai
Hā'ina 'ia mai ana ka puana
Pōhakuloa nahenahe mai

The mele conveys Pōhakuloa's still, calm, and peaceful environment situated between Mauna Kea and Mauna Loa. Pōhakuloa was also known to be the road traveled and frequented by the goddess Pele as written in the fourth verse. The composers reference the different types of lava flow left by Pele along the roadway.

“Pu’u Huluhulu” by Eliza Ha’aeo

| | |
|------------------------------------|---|
| Ho’omakaukau ko kaula ‘ili | Make ready your lariat |
| I luna o ka pu’u Kanakaleonui | Put it over the throat, of the man with the big voice |
| Ho’olohe i ke kani o nā manu | Heed the cry of birds |
| O never mind ua hina pū ua hiki nō | Never mind, you will fall, it is done |
| O never mind ua hina pū ua hiki nō | Never mind, you will fall, it is done |
| | |
| O ‘oe ka i huia ihola | You are the one who was met |
| Ka mana’o e pua pua’i ‘ala | My constantly recurring thought |
| Eia o Pu’uohulu | Here is a group of special people |
| Ulu nō wau ua hiki nō | I am inspired, it is done |
| Ulu nō wau ua hiki nō | I am inspired, it is done |
| | |
| I loko o ka ulu la’au | There in the forest, |
| E ki’i ana i na pipi kuni’ole | Catching the unbranded cattle |
| Ho’olei i hola ke kaula ‘ili | Caught by the throw of the rawhide rope |
| O never mind a komo ‘oe a komo’ole | Never mind if you come in or not |
| O never mind a komo ‘oe a komo’ole | Never mind if you come in or not |
| | |
| Pa’a hola ka pipi kuni’ole | The unbranded steer is held tight |
| Ho’opili i ke kumu mamani | Bound to the mamane tree |
| Pa’a hola ka lio i ka alu | The horse holds fast to the slack |
| O never mind a lilo ‘oe pau ela no | Never mind if it’s lost to you, that’s how it is |
| O never mind a lilo ‘oe pau ela no | Never mind if it’s lost to you, that’s how it is |
| | |
| Kau mai ka hau o Mauna Kea | The snows settle on Mauna Kea |
| Ka makani hu’ihu’i ke kino | The cold wind is upon the body |
| E huli ho’i nei kēia | So this one turns to go back |
| O never mind a ho’i au a ho’i’ole | Never mind if you return or not |
| O never mind a ho’i au a ho’i’ole | Never mind if you return or not |

This mele is associated with various names including “Kaula’ili”, “Pu’u Huluhulu” or “Pu’uohulu”. This is a mele is about Paniolo on the slopes of Mauna Kea, Mauna Loa, and the Kohala mountains. This area was known to have many barren pu’u, but only one cinder cone was covered in trees. The paniolo referred to the tree covered hill as Pu’uohulu or Pu’uhuluhulu – the hill with the fur.

“Poli’ahu” by Frank Kawaikapuokalani Hewett

Wai maka o Poliahu, I ka ‘eha a ke aloha
 Kaumaha i ka ha’alele, O ‘Aiwohikūpua
 Anuanu ka ‘iu kēhau, O Mauna Kea
 A’ohe āna ipo aloha, E ho’opumehana
 Kau mai ka hali’a aloha, O ka wā mamua
 Pū’olu ka wai o Nohi, Ku’u mehameha
 He lei ko aloha, No ku’u kino
 Pili poli hemo’ole, No nā kau a kau

Hui:

Ho'i mai (e ho'i mai)

E ku'u ipo

E ho'i mai (e ho'i mai)

E pili kāua

E ho'i mai (e ho'i mai 'oe)

E ho'i mai 'oe ē, ē

E ho'i mai 'oe

Poli'ahu is the snow goddess of Maunakea. This mele speaks of 'Aiwohi, a chief from the island of Kaua'i who started a journey to meet the beautiful princess, Lā'ieikawai, in Puna. As such, this mele is associated with the mo'olelo detailed in **Section 4.1.2.2**.

4.1.3 Historic Archaeological Sites

Historic and archaeological sites on the State-owned land, as compiled by Kleinfelder/GANDA, are listed and described in the following table (**Table 9**); some sites are identified by their State Inventory of Historic Places (SIHP) numbers. Discussions regarding these sites are provided in the Archaeological Literature Review (**Appendix J** in the EIS) and **Chapter 3** of the EIS. The impact analysis as completed by Kleinfelder/GANDA is also included in the impact analysis section of this CIA.

| Site Number | Location | Description | Period |
|----------------|---------------------------|---|-------------|
| 50-10-31-5002 | TA 5 | Ranch wall | Historic |
| 50-10-31-5003 | TA 6 | Habitation lava tube | Traditional |
| 50-10-31-5009 | TA 17 | Trail | Traditional |
| 50-10-31-14638 | TA 5 | Habitation lava tubes, rectangular house foundation, artifact scatter, pavement | Traditional |
| 50-10-31-19490 | TA 5 | Habitation lava tubes, trails, C-shape | Traditional |
| 50-10-30-19509 | TA 22 | Habitation lava tube | Traditional |
| 50-10-30-19529 | TA 22 | Habitation lava tube | Traditional |
| 50-10-31-21351 | TA 5 | Lithic workshop complex | Traditional |
| 50-10-31-21744 | TA 5 | Lithic scatter | Traditional |
| 50-10-31-21745 | TA 5 | Habitation lava blister | Traditional |
| 50-10-31-21746 | TA 4 | Mound/excavation complex | Unknown |
| 50-10-31-22941 | TA 4 | Lava blisters | Traditional |
| 50-10-31-23450 | TA 15 | Habitation, overhang shelter, artifact scatter, pictographs | Traditional |
| 50-10-31-23452 | TA 1, 3-9, 13, 14, 16, 17 | Ranching fence line | Historic |

Table 9. Historic and Archaeological Sites on State-owned Land

| Site Number | Location | Description | Period |
|----------------|---------------------------|-------------------------------|-------------|
| 50-10-31-23455 | TA 5 | Pāhoehoe pits | Traditional |
| 50-10-31-23456 | TA 5 | Possible habitation enclosure | Traditional |
| 50-10-31-23457 | TA 7 | Trail | Traditional |
| 50-10-31-23462 | TA 7 | Cairn | Unknown |
| 50-10-31-23562 | TA 5 | Habitation lava tube | Traditional |
| 50-10-31-23563 | TA 5 | Modified outcrop/wall | Traditional |
| 50-10-31-23565 | TA 5 | Volcanic glass quarry | Traditional |
| 50-10-31-23566 | TA 5 | Habitation lava tube | Traditional |
| 50-10-31-23568 | TA 5 | Habitation lava tube | Traditional |
| 50-10-31-23572 | TA 5 | Habitation complex | Traditional |
| 50-10-31-23575 | TA 5 | Habitation lava blister | Traditional |
| 50-10-30-23694 | TA 22 | Lava tube and burial | Traditional |
| 50-10-31-23842 | TA 1 | Habitation platform/terrace | Unknown |
| 50-10-31-23843 | TA 1 | Enclosure/mound complex | Unknown |
| 50-10-31-23844 | TA 1 | Mound | Unknown |
| 50-10-31-23845 | TA 1 | Mound | Unknown |
| 50-10-31-23846 | TA 1 | Ranching enclosure | Historic |
| 50-10-31-23847 | TA 3 | Ranching alignments | Historic |
| 50-10-31-23848 | TA 3 | Mound | Historic |
| 50-10-31-23849 | TA 4 | Mound | Historic |
| 50-10-31-23850 | TA 4 | Ranch corral | Historic |
| 50-10-31-23851 | TA 4 | Habitation lava tube | Unknown |
| 50-10-31-23852 | TA 1, 3-9, 13, 14, 16, 17 | Rock wall and enclosure | Historic |
| 50-10-31-23853 | TA 4 | Habitation lava tube | Unknown |
| 50-10-31-23854 | TA 3 | Volcanic glass quarry | Traditional |
| 50-10-31-23856 | TA 4 | Pāhoehoe pits | Traditional |
| 50-10-31-24326 | TA 7 | Blister cave and pit complex | Unknown |
| 50-80-10-24327 | TA 7 | Cairn | Unknown |
| 50-80-10-24328 | TA 7 | Wall, C-shape | Unknown |
| 50-10-31-26728 | TA 5 | Habitation lava tube | Traditional |

Table 9. Historic and Archaeological Sites on State-owned Land

| Site Number | Location | Description | Period |
|----------------|----------|--|-------------|
| 50-10-31-26729 | TA 5 | Habitation lava tube blister | Traditional |
| C-020305-01 | TA 22 | Lava tube | Unknown |
| C-031705-01 | TA 22 | Lava tube | Traditional |
| C-031705-02 | TA 22 | Lava tube | Traditional |
| C-031705-03 | TA 22 | Lava tube | Traditional |
| C-031705-04 | TA 22 | Lava tube | Traditional |
| C-031705-05 | TA 22 | Lava tube | Traditional |
| C-031705-06 | TA 22 | Lava tube | Traditional |
| PL-PTA-02 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-03 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-04 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-05 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-06 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-029 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-030 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-031 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-032 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-033 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-034 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-061 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-062 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-063 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-064 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-065 | TA 21 | Volcanic glass quarry | Traditional |
| PL-PTA-066 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-067 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-068 | TA 21 | Volcanic glass quarry and artifact scatter | Traditional |
| T-012805-02 | TA 22 | Habitation lava tube | Traditional |
| T-020305-02 | TA 22 | Habitation lava tube | Traditional |
| T-020701-02 | TA 6 | Artifact scatter | Traditional |

Table 9. Historic and Archaeological Sites on State-owned Land

| Site Number | Location | Description | Period |
|-------------|----------|-----------------------|-------------|
| T-031709-01 | TA 18 | Mound | Unknown |
| T-041906-01 | TA 22 | Habitation lava tube | Unknown |
| T-041906-02 | TA 22 | Habitation lava tube | Unknown |
| T-041906-03 | TA 22 | Habitation lava tube | Unknown |
| T-043094-02 | TA 22 | Habitation lava tube | Unknown |
| T-043094-03 | TA 22 | Habitation lava tube | Unknown |
| T-043094-04 | TA 22 | Habitation lava tube | Unknown |
| T-043094-05 | TA 22 | Habitation lava tube | Unknown |
| T-050906-01 | TA 22 | C-shape | Unknown |
| T-070104-01 | TA 5 | Artifact scatter | Traditional |
| T-071306-01 | TA 22 | Enclosure | Unknown |
| T-080206-01 | TA 1 | Enclosure | Unknown |
| T-082306-01 | TA 22 | Cairn | Unknown |
| T-082306-02 | TA 22 | Modified outcrop | Unknown |
| T-082306-03 | TA 22 | Lava tube | Unknown |
| T-082306-04 | TA 22 | Pāhoehoe pit | Unknown |
| T-082306-05 | TA 22 | Pāhoehoe pit | Unknown |
| T-092202-01 | TA 3 | Volcanic glass quarry | Traditional |
| T-092202-02 | TA 3 | Artifact scatter | Traditional |
| T-092202-03 | TA 3 | Artifact scatter | Traditional |
| T-092202-04 | TA 3 | Artifact scatter | Traditional |
| T-092202-05 | TA 3 | Artifact scatter | Traditional |
| T-092899-01 | TA 22 | Habitation lava tube | Traditional |
| T-100606-01 | TA 22 | Mound | Unknown |
| T-100606-02 | TA 22 | Mound | Unknown |
| T-111402-01 | TA 3 | Artifact scatter | Traditional |
| T-111402-02 | TA 3 | Volcanic glass quarry | Traditional |
| T-111402-05 | TA 3 | Volcanic glass quarry | Traditional |
| T-111402-06 | TA 3 | Volcanic glass quarry | Traditional |

4.1.3.1 Habitation

While the environment within the Saddle Region was not suitable for permanent habitation, there is clear archaeological evidence and oral histories that indicate the area was used for short-term habitation and shelters for Hawaiians traveling through the area. Lava tubes, in particular, made suitable shelters (**Figure 9** and **Figure 10**), and various artifacts have been found in lava tubes at PTA (**Figure 12**, **Figure 13**, and **Figure 14**).

It was previously established in the 2012 Ethnographic Study and in previous studies that the area “were not inhabited on a permanent basis prior to European contact.... Instead, there is a wealth of data pointing to temporary but repeated uses for different purposes” (McCoy and Orr, 2012: 27, citing McCoy 1991). Langlas et al. also identified “late-prehistoric and historic period occupation caves and trails” (1999: 17, citing Rosendahl, 1977). Langlas et al. also noted “habitation caves in the western portions of the PTA” that were dated in the ranges of AD 900–1700 (1999).



Figure 9. Habitation Cave, U.S. Army Garrison Pōhakuloa Training Area (2012)



Figure 10. Lava tube that was likely used as a shelter, U.S. Army Garrison Pōhakuloa Training Area (2015)



Figure 11. Gourd found in a historic site located in a lava tube, U.S. Army Garrison Pōhakuloa Training Area



Figure 12. Cooking stones located in a lava tube habitation site, U.S. Army Garrison Pōhakuloa Training Area (2015)



Figure 13. Item, speculated to be ho'okupu, an offering, found in a lava tube, U.S. Army Garrison Pōhakuloa Training Area (2015)

4.1.3.2 Quarrying

Traditionally, quarrying has occurred throughout the Pacific for various purposes (Burton, 1984). Quarrying for basalt and volcanic glass has already been documented within the broad geographical area, including North Kona near Pu'u Wa'awa'a. McCoy et al. conducted an archaeological study published in 2011 that demonstrated the relationship between localized traditional communities and volcanic glass quarrying. Also important is the conclusion that this resource would be traded with neighboring communities through inter-community exchange (McCoy et al., 2011).

The practice of quarrying was previously established in McCoy and Orr (2012). Of this practice they wrote, "Some areas of PTA, as well as surrounding lands, were heavily quarried by pre-Contact Hawaiians to extract materials for stone tool manufacture". McCoy and Orr identified two types of stone quarried at PTA: volcanic glass and basalt.

Quarrying existed extensively throughout the pae 'āina of Hawai'i. The Mauna Kea region contained an exceptionally high amount of basalt, and to access this valuable resource, people would travel from

across Hawai'i Island. Based on its size of nearly 8 miles, it is believed that the Mauna Kea adze quarry was the primary source of quarried basalt for the entire island.

The adze quarry region can be considered its own cultural landscape and has been identified by practitioners as an important cultural site (Langlas et al., 1999). Radiocarbon dating shows the quarry being utilized by Hawaiians over 1,000 years ago (1000 AD), with use increasing over the next few centuries. The quarry is generally considered to be located between 8,600 and 13,000 feet in elevation on the slope of Mauna Kea. The quarry area includes surface quarries, subsurface quarries, religious and ceremonial shrines, work areas, and habitation areas or shelters. The Mauna Kea quarry is considered unique among basalt quarries throughout the Hawaiian Islands and an important cultural resource.

The 2012 Ethnographic Study noted that the Pōhakuloa Chill Glass Quarry Complex “is comprised of over 500 quarry features in a 170-hectare area on the k4 lava flow” (McCoy and Orr, 2012: 27, citing Williams, 2004). They further note “The k4 flow is dated to AD 1650-1750. The largest site, Site - 21666, is about 146.5 ha and contains 388 features.” (McCoy and Orr, 2012: 27, citing Williams, 2004). The study also states that only 810 of the 4,050 hectares of the Mauna Loa flow had been surveyed. It is unclear if additional surveys of this area have been undertaken since this time.

4.1.3.3 Stone Tool Manufacture

The traditional Hawaiian ko'i, an axe or adze, was an important tool for traditional or customary practices. The ko'i was a widely utilized tool by Hawaiians, as it was used for carving, cutting, and other purposes (**Figure 14**). Hawaiians primarily made their ko'i from basalt because the hardness of the material made it suitable for cutting and carving.

Ko'i were fashioned first by identifying a suitable piece of basalt. A haku kako'i (hammerstone or other pieces of hard stone used to shape the ko'i) would then be used to begin shaping the head of the ko'i. Malo (1951: 51) wrote of the ax-makers (known as po'e kākō'i).

1. The ax [adze] of the Hawaiian was of stone. The art of making it was handed down from remote ages. Ax-makers were a greatly esteemed class in Hawaii nei. Through their craft was obtained the means of felling trees and of cutting and hewing all kinds of timber used in every sort of woodwork.

Ko'i were critically important tools in the traditional Hawaiian culture. Ko'i of all sizes were regularly used through the islands. Large ko'i were used in canoe making and for felling trees, whereas Hawaiians used small ko'i as a tool to carve items for traditional cooking and habitation.



Figure 14. Ko'i (hafted adze), 1700s, Hawai'i, maker unknown. Gift of Lord St Oswald, 1912. CC BY-NC-ND 4.0. Te Papa (FE000334) <https://collections.tepapa.govt.nz/object/145329>

4.1.3.4 *Uhau Humu Pohaku (Dry Stone Stacking)*

Pōhaku were of great importance to Native Hawaiians (Malo, 1951: 19). Traditionally, numerous names were used to describe rocks of different sizes and compositions. The practice of construction with stone, or stone masonry, is called uhau humu pohaku (**Figure 15**). The term references the way rocks were placed in an overlapping fashion to construct habitation structures, terrace walls, heiau, ahu or cairns.



Figure 15. Stone platform on Pu'u Koli, located at the south end of Training Area 21, U.S. Army Garrison Pōhakuloa Training Area (2012)

This practice has enjoyed a considerable revival in recent years. The State of Hawai'i Department of Transportation has even developed an Ahu Program Guide which outlines the "The Ahu Program." The program "is a partnership between HDOT and local communities to guide the installation process of signs and/or stone ahu markers along ahupua'a boundaries on State roads. The installation of ahu markers through this program is a voluntary community effort towards recognizing the traditional geographic boundaries of our islands" (HDOT 2012).

Archaeological evidence shows that this practice occurred within the PTA lands. Emerson (1885) describes an ahu that was likely located in State-owned land, "I have located an ahu 18 feet long, 7 feet wide, and 4 feet high on the East side of the well-known Alanui Kui leading across the ancient aa from the flow of 1859 to Puu Ka Pele and Waimea. The direction of the road, as far as visible is N. 20 E. magnetic. About 40 feet South of the ahu is the edge of the aa bank. At about 90 feet is another similar descent of say 7 or 8 feet."

This may very well have been one of the altars built by 'Umi, described in Hawaiian (translated by Maly) in the following section, as documented in the *Ke Au Okoa* newspaper in 1865.

Heiau of the Mountain Lands Described in "Na Kaa o Kekahi Elemakule o Hawaii" (1865)

Among the early accounts penned by Native Hawaiian writers which reference features associated with the 'āina mauna is an 1865 account, originally collected in 1853. Hawaiian language newspaper *Ke Au Okoa* published an article titled “Na Kaa o Kekahi Elemakule o Hawaii” May 8–22, 1865, taken from the stories collected by Jules Remy, a French man who came to Hawai‘i in 1851. While introducing the article, it is stated that Remy dwelt in Hawai‘i for about three years, during which time he became proficient in the Hawaiian language. Remy traveled around the islands, documenting sites and events he witnessed and recording histories that were related to him. His narratives, written in French, reached Hawai‘i and were translated into Hawaiian by W.D. Alexander (*Ke Au Okoa*, May 8, 1865).

“Na Kaa o Kekahi Elemakule Hawaii” was collected by Remy in March 1853 when he visited Ho‘opūloa, South Kona. Upon landing, Remy recorded that he was warmly greeted by the people on the shore, and among the many people gathered, he observed an elderly gentleman. He was “stout and broad-chested, and on the account of his age, his hair was reddish gray.”

Remy learned that the man was Kanuha,⁵ a man of chiefly descent, born before the time that Alapa‘i-nui died in 1752 (*Ke Au Okoa*, May 8, 1865). Remy noted that Kanuha was nearly 116 years old and in good health. Due to his advanced age, he spoke with authority on ancient customs and the history of the Hawaiian people (*Ke Au Okoa*, May 8, 1865).

Among the traditions which Kanuha told Remy was an account of the ascent of ‘Umi to the position of king on the island of Hawai‘i. In the account, Kanuha describes the history behind the construction of the famed heiau (temple) ‘Ahu-a-‘Umi and the construction of three other heiau on the ‘āina mauna – one on Mauna Kea, one on Mauna Loa, and one on a hill near the Ka‘ohe-Waikōloa boundary. In addition to ‘Ahu-a-‘Umi, these heiau included Pu‘u Ke‘eke‘e (an area of a known pu‘u in Ka‘ohe, near Pu‘u ka Pele), Mauna Halepōhaku (on Mauna Kea), and Pōhaku o Hanalei (on Mauna Loa). By description, and in some cases, by physical features on the ground, these heiau were situated in the lands of Humu‘ula (perhaps two of the heiau), Ka‘ohe, and Keauhou.

It is noted here that in his own work Abraham Fornander acknowledged the age and authority of Kanuha, but he also found inconsistencies in the genealogical relationship of individuals mentioned by Kanuha (1973:99-101). In particular, Remy reported that Kanuha conveyed to him that ‘Umi went to war with Keli‘iokaloa, a chief of Kona. Historical accounts by native writers and Fornander record that Keli‘iokaloa was the son of ‘Umi and that he became king of Kona for a time following his father’s death (Fornander, 1973:99-101). It should be considered here that this historical inconsistency may actually be attributed to Remy’s own hand, rather than the narratives of Kanuha.

Regardless of the possible genealogical differences, one of the unique qualities of the account is that it provides otherwise unrecorded documentation regarding the construction and occurrence of heiau in the high mountainous region of Hawai‘i. The following narratives, with excerpts of the original Hawaiian and translations of the accounts (translated by Maly), are taken from Remy’s recording of Kanuha’s story (Maly 2005: 26-29).

⁵ Kanuha is found in several historical accounts recorded by Kamakau (1961) and Fornander (1973).

Ke Au Okoa**Na Kaa o Kekahi Elemakule o Hawaii.****May 22, 1865**

Umi ruled in place of Hakau, and his friends Koi and Omaokamau dwelt with him. Piimaiwaa, Umi's war leader dwelt in Hilo. With Umi, there was also his trusted companion Pakaa, and his priest Lono. At this time, Umi ruled the eastern side of Hawaii, while on the western side, his relative Keliokaloa, ruled and dwelt at Kailua... In the time that he dwelt in Kailua, Keliokaloa was known as an evil chief, he cut down the coconut trees and desecrated the cultivated fields. It was because of these evil deeds that Umi made preparations to go to war against him. Umi marched to battle, joined by his famous warrior, Piimaiwaa, and his companions Koi and Omaokamau. Also with him were his favorite, Pakaa, and his priest Lono.

The Hawaiian narrative then reads:

Ke Au Okoa**Na Kaa o Kekahi Elemakule o Hawaii.****Mei 22, 1865**

Mawaena o **Maunakea** a me Hualalai ka hele pualu ana o ua alii nei me kona manao e iho ae i Kailua. Aole nae i kali o Keliokaloa, aka, ua pii nui aku oia me kona poe koa e houka aku ia Umi. Ua halawai na puulu kaa a i elua maluna o kekahi wahi papu i hoopuni ia e na mauna ekolu, a i kapaia hoi ke Ahu a Umi. Kaa mai o Laepuni ma (he mau kanaka makaainana pili alii ole) ia Umi, a aneane e make o Umi ia laua, lele mai o Piimaiwaa e kokua iaia, a oia ka mea nana i hooholo ae ka lanakila ma ko Umi aoao. Aohe mau mea nui i hai ia mai, aka, me he mea la, ua make ke alii o Kailua iloko oia kaa ana. Ma keia kaa ana, ua lilo holookoa ia Umi ke Aupuni, a lilo iho oia ke alii ai moku o ka mokupuni o Hawaii. I mea e ili aku ai ka hoomanao ana no ia kaa ua hanauna aku a ia hanauna aku, ua kukulu ae la ia i ke ahua, e o ia nei a hiki i keia wa ke ahua a Umi...

May 22, 1865

Between **Mauna Kea** and Hualalai the chief and all his party traveled, with the thought of descending to Kailua. Keliokaloa did not wait though, but instead, traveled with his warriors to meet Umi in battle. The two armies met on a broad open plain, surrounded by the three mountains, at the place [now] called Ahu a Umi. There, Laepuni and them (people who were unattached to a chief) fought with Umi. Umi was almost killed, but Piimaiwaa leapt in and helped him, it was he who turned the battle in the favor of Umi's side. There is not much else that is said, but, it is known that the chief of Kailua died in the battle. Thus, with this battle, the entire kingdom was gained by Umi. He became the chief that controlled the entire island of Hawaii. *So that the battle would be remembered from generation to generation, he [Umi] built the stone altar, that remains to this day, the altar [ahua] of Umi...*

The narrative records that early in 'Umi's life, the priests Nunu and Wawa had discerned 'Umi's nature, and foretold that his god Kā'ili, made with a feather from the god Halulu, had empowered him. Indeed, 'Umi was a religious chief and made many temples for his god. Among the temples were:

Ke Au Okoa

Na Kaa o Kekahi Elemakule o Hawaii.

Mei 22, 1865

...Ua kukulu no hoi ia he heiau malalo o Pohaku Hanalei, a ua kapaia o ke ahua o Hanalei; a ma na aoao o Maunakea e hele ala i Hilo, ua kukulu no ia i ke kolu a ka heiau, ma kahi i kapa ia o Puukekee⁶; a ma Mauna Halepohaku malaila ia i kukulu ai i ka ha o na heiau, a malaila no hoi i olelo ia ai ua noho o Umi malaila me kona mau kanaka. Ua olelo ia o Umi he alii noho mauna, no kona aloha i kona poe kanaka, nolaila, ua hoi aku ia i waenakonu o ka mokupuni ilaila kona wahi i noho ai me kona poe kanaka, a na kona makaainana e noho ana ma na kapakai, e lawe mai i ka ai na lakou, mai kela pea, keia pea...

May 22, 1865

...He [Umi] also built a heiau below Pohaku Hanalei, it is called the ahua o Hanalei [altar of Hanalei]; and on the side Mauna Kea, by where one travels to Hilo, he built the third of his temples, at the place called Puukekee [also written Puu Keekee in historical texts]; and there at Mauna Halepohaku he built the fourth of his temples; there it is said, Umi dwelt with his many people. It is said that Umi was a chief who dwelt upon the mountain, it was because of his love of his people, that he [Umi] returned and dwelt in the middle of the island [Ahu-a-Umi], that is where he dwelt with his beloved people. His commoners lived along the shores, and they brought food for them [in the uplands], from one side of the island to the other...

4.1.3.5 *Parietal Art (Petroglyphs and Petrographs)*

McCoy and Orr (2012) identify the prevalence of petroglyphs and petrographs (also pictographs) throughout the Hawai'i Islands.

Hawaiians made the following types of rock art: pecked, grooved, and bas-relief petroglyphs, and painted pictographs. Pecking, however, was the predominant technique employed (citing Lee 2001:589). Common motifs include anthropomorphic figures and geometric elements, such as cupules (referred to as piko, or umbilical cord holes). The human figures tended to change in form over time from stick figures (similar to those found in the Marquesas Islands) to triangular-

⁶ Puukekee (Pu'u Kēke'e or Pu'u Ke'eke'e) is a hill that sits on the boundary between Waikōloa, Kohala, and Ka'ohe, Hāmākua.

torso figures, and then to more muscled forms. Other less common motifs are footprints, canoe sails (not attached to canoes), and ceremonial regalia. Images of animals like fish, turtles, and sea mammals, are very rare (citing Lee 2001:590). Cox and Stasack (1970:63) noted a surprising lack of interest in nature or natural forms generally (e.g., so few animals and vegetation) on the part of Hawaiians. They further noticed that houses, clothed figures, water, fire, volcanic activity, and geographical features were also conspicuously absent.

For the most part, archaeologists have largely ignored Hawaiian rock art (citing Lee 2002:79). In 1924, Kenneth Emory (1924) conducted one of the first attempts to study Hawaiian rock art. Unfortunately, he came to feel that petroglyphs were not very important, setting the tone for subsequent “dismissive” attitudes towards rock art in the decades to follow (citing Lee 2001:590). It was not until the 1970s, with Cox and Stasack’s (1970) *Hawaiian Petroglyphs*, did anyone undertake serious investigations into Hawaiian petroglyphs (following this, see Lee and Stasack 1999).

Hawai‘i Island has an abundance of petroglyph sites compared to the other major Hawaiian Islands (citing Lee 2002:79). In fact, Hawai‘i Island has the largest numbers, densest concentrations, and greatest variety of forms and styles in the Islands; consequently, most petroglyph research has been focused on Hawai‘i Island sites (citing Cox and Stasack 1970:51). Petroglyphs on Hawai‘i Island are most commonly found on pahoehoe flows and inside lava tube caves (citing Lee 2001:589). For example, the Ka‘u region is where most lava tube petroglyphs are found (citing Cox and Stasack 1970:13).

McCoy and Orr identify Site 50-10-31-21303 as having recorded petroglyphs. According to the 2018 PA, Site -21303 is an unevaluated lava tube of unknown function located in Training Area 21.

4.1.3.6 Trails

Langlas et al. found: “Caves and trails dominate the archaeological sites in the PTA” (1999: 17). It was also established in the 2012 Ethnographic Study that trails played an important role in the distribution of quarried materials in the region, allowing for communities from around the island to utilize and benefit from this natural and cultural resource (McCoy and Orr, 2012: 28).

One trail that ran through State-owned land is Alanui Kui, which was part of the Alanui ‘Aupuni trail system. Mills (2002) provides a more detailed history of the extensive trail system that ran throughout all Hawai‘i Island.

Travel across the ‘āina mauna is documented in native traditions, which describe ala hele (trails) passing from the coastal lowlands through the forest lands, along the edge of the forests, across the plateau lands of the Pōhakuloa-Ka‘ohe region, and to the summit of Mauna Kea. These ala hele approached Mauna Kea from Hilo, Hāmākua, Kohala, Kona, and Ka‘ū, five of the major districts on the island. Only Puna, which is cut off from direct access to the mountain lands, apparently did not have a direct trail to the ‘āina mauna. Thus, people traveling to Mauna Kea from Puna traveled through the lands of Waiākea, Hilo or Keauhou, Ka‘ū to reach Humu‘ula and the slopes of Mauna Kea.

In the early 1860s, Hawaiian historian Samuel Mānaiakalani Kamakau provided several early Hawaiian historical accounts of the ‘āina mauna. In Kamakau’s description of the rise of ‘Umi to

power, we learn of his conquest of Hilo and the route traveled from Waipi'o, Hāmākua, crossed Mauna Kea via the trail that ran across Humu'ula-Pi'ihonua and through Kaūmana, to the royal community on Hilo Bay:

It was decided to make war on the chiefs of Hilo and to go without delay by way of Mauna Kea. From back of Ka'umana they were to descent to Hilo. It was shorter to go by way of the mountain to *the trail of Poli'ahu and Poli'ahu's spring [Waiiau]* at the top of Mauna Kea, and then down toward Hilo. It was an ancient trail used by those of Hamakua, Kohala, and Waimea to go to Hilo. They made ready to go with their fighting parties to Mauna Kea, descended back of Hilo, and encamped just above the stream of Wai-anuenue... (Kamakau, 1961:16-17)

By the early 1820s, foreign visitors, in the company of native guides, began making trips across the 'āina mauna and to the summit of Mauna Kea. Based on their accounts, travel in the region through the middle 1800s followed the old trails or cut across new areas where dense forest growth and new lava flows covered older routes. By the 1850s, the Kingdom of Hawai'i entered into a program of improving ancient trails and identifying new routes, by which to improve travel between various locations and facilitate commerce. The earliest recorded improvements, describing work government on a trail around Mauna Kea, document work on the Waimea-Kula'imano trail (cutting across the lands of Ka'ohe, Hāmākua and Hilo). The route ran above the forest line and to the coast of Hilo, and in 1854 was improved to accommodate wagon travel.

In the latter 1850s, as leases were given out for the lands of Humu'ula and Ka'ohe, and the sheep and bullock hunting interests grew, the 1854 route was maintained and the upper trail between Kula'imano-Makahalanaloa was improved to the Kalai'eha vicinity. In 1862, the Kingdom again initiated a program to improve the government roads across the 'āina mauna. Two routes were proposed, one between Hilo and Waimea via Kalai'eha, and the second to improve on the trail from Kalai'eha towards Kula'imano-Makahalanaloa, and around through Hanaipoe-Mānā and Waimea. These trails, termed Alanui Aupuni, were appropriated and work was completed by the late 1860s. The routes appear on island maps through 1901 with subsequent designations as trails on later maps.

By the early 1870s, the ancient trail between Kalai'eha and the summit of Mauna Kea was improved into a horse trail by the Spencers, lessees of the Mauna Kea mountain lands. Other routes, accessing outlying ranching stations, such as at Pu'u 'Ō'ō and Puaka (Pua'ākala), Lahohinu, and Hānaipoe had also been improved by lessees, with routes running around the mountain and down to Hilo, or out to Waimea. In the leases of the Crown Lands and Government Lands, it was specified that improvements, including trails, reverted to the Crown or Government upon termination of the leases. Until the late 1940s and early 1950s, these trails and government roads were primarily used by lessees for transportation of goods and cared for by the lessees. There are also numerous accounts by visitors to the 'āina mauna documenting travel in the region. By the late 1890s, the Kohala road supervisor reported that while the mountain roads belonged to the Government, they were all but private by the nature of their use.

Little work was done on the Kalai'eha-Hilo section of the road (trails) after the 1870s. The trail was accessed by ranchers, with routes diverging to Kalai'eha and Pu'u 'Ō'ō, as described in survey records, journals, and kama'āina testimonies. It was also periodically used by visitors to the mountain lands, usually those who were traveling to view Mauna Loa lava flows or to make the ascent of Mauna Kea. It was not until 1942 that the route was modified as a vehicular road to what became the Saddle Road, following in areas the native trail and historic route, and cutting across new lands in other areas. The

“Saddle Road” was formally turned over to the Territory in 1947, after which the general public was given an opportunity to travel to the mountain lands unhindered.

Between the 1930s and 1940s, improvements were made to the Kalai’eha-Waipunalei section of the road to Waimea as a part of the Civilian Conservation Corps (CCC) and Territorial Forestry programs, with work also being done by the Parker Ranch. Likewise, the Kalai’eha-Waiki’i route was maintained by the ranch and improved by the United States Army in 1942.

In 1963, interest in Mauna Kea emerged as a site for a telescope. Hawai’i-based scientists Walter Stieger (with the University of Hawai’i) and Howard Ellis (with the National Weather Service’s Mauna Loa Weather Station) facilitated trips by Dr. Gerard Kuper and Alike Herring (both associated with the University of Arizona and NASA) to the summits of Mauna Loa and Mauna Kea. The Mauna Kea route basically followed the old foot trail from Kalai’eha, past Kalepeamo, Keonehe’ehe’e, and up to the summit. Over the years, the old trail was modified for horses and pack animals, and after World War II, for the occasional four-wheel drive vehicles that ascended the mountain. In 1964, Pu’u Poli’ahu on Mauna Kea had been chosen as the site for the first telescope, and State funds were released for grading a road to Pu’u Poli’ahu, to facilitate construction and access by the scientists. Since 1964, the primary route of access up the mountain slopes has remained generally the same, although new accesses and realignments of the earlier route were made as additional development in the summit region occurred.

4.2 Archival History

The history of the project area and the broad geographical area provides important details on the evolution, change, or disappearance of cultural resources, practices, and beliefs over time. An overview of three main historical eras is presented in the following three sections.

4.2.1 Traditional Historical Context

The historic records of Native Hawaiian writers share that Mauna Kea and Mauna Loa were storied peaks, as were the surrounding ‘āina mauna, or mountain lands. The natural resources and mountains were believed to be manifestations of various creative forces of nature and were revered by Native Hawaiians.

In pre-Western contact Hawai’i, all land and natural resources were held in trust by the high chiefs (ali’i ‘ai ahupua’a or ali’i ‘ai moku). The use of lands and resources were given to the hoa’āina (native tenants), under the governance of the ali’i and their representatives or land agents (Konohiki), who were generally lesser chiefs as well.

The land of Humu’ula – extending from sea level to the 9,000-foot elevation on Mauna Kea, and above the 13,000-foot elevation on Mauna Loa – is apparently named for a type of stone (Red jasper stone) that was used in making ko’i (adze). The place name of Ka’ohe – a land area extending from sea level to the summits of Mauna Kea and Mauna Loa – may be literally translated as “The-bamboo” or named for a type of kalo (taro) that may have been common in the region (cf. Pukui et al., 1974).

Native Hawaiian traditions and historical accounts describe the lands of Humu’ula and Ka’ohe – those areas extending from shore to around the 6,000 foot elevation – as having once been covered with dense forests, and frequented by native practitioners who gathered forest-plant resources, birds, and food. These lands, which comprise the larger ‘āina mauna, were frequented by individuals who were

traveling to the upper regions of Mauna Kea to worship, gather stone, bury family members, or deposit the piko (umbilical cords of new-born children) in sacred and safe areas; and by those who were crossing from one region of the island to another.

Traditions and historical records show that the deification and personification of the land and natural resources, and the practices of district subdividing and land use as described above, were integral to Hawaiian life, and were the product of strictly adhered to resource management planning. In this system, the people learned to live within the wealth and limitations of their natural environment, and were able to sustain themselves on the land and ocean. It is in this cultural system that illustrates the significance of the lands of Ka'ohē, Humu'ula and the neighboring 'āina mauna.

4.2.2 Post-Contact and Kingdom History

In 1848, the Hawaiian system of land tenure was radically altered by the Māhele 'Āina (Division of Lands). This change in land tenure was promoted by the missionaries, the growing Western population, and business interests in the island kingdom (Maly 2005: 266).

The Māhele 'Āina defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the Konohiki. As a result of the Māhele, all land in the Kingdom of Hawai'i came to be placed in one of three categories: Crown Lands (for the occupants of the throne); Government Lands (to support public works and government programs); and Konohiki Lands (for the chiefs associated with the Kamehameha lineage and rise to power).

Subsequently, the ho'āina were granted the right to claim parcels of land for their personal use from lands situated in the three categories of land listed above. The "Enabling" or "Kuleana Act" laid out the framework by which native tenants could apply for, and be granted fee-simple interest in "Kuleana" lands, and confirmed their rights to access to, and collection of resources necessary to their life upon the land in their given ahupua'a.

The lands awarded to the ho'āina became known as "Kuleana Lands." All of the claims and awards (L.C.A.) were numbered, and the L.C.A. numbers remain in use today to identify the original owners of lands in Hawai'i.

Following the Māhele 'Āina of 1848, which established a system of fee-simple property rights in Hawai'i, individual ali'i and the Government began entering into leasehold agreements with parties for vast tracts of land throughout the islands. These large tracts of land were more readily available to lessees who sought to develop a wide range of business interests (Maly 2005: 371).

Early leases in the area date back to 1857 (Keoni Ana to F. Spencer), and the operations of Francis Spencer's Waimea Grazing and Agricultural Company. The lease took in all of the mountain lands, to the summit of Mauna Kea, across Ka'ohē to its Mauna Loa boundary. Activities were all tied to sheep and cattle ranching. Subsequently, in 1870, the lease was acquired by Parker Ranch, which held most of the Ka'ohē mountain lands until their removal from the lease in 1905 for the Mauna Kea Forest Reserve.

4.2.3 Agricultural and Subsistence History

As described in the historical journals and communications cited in this study, by the 1820s, populations of wild cattle (bullocks), sheep, goats, pigs, and dogs increased to a point where they were causing impacts to the landscape, and at times, even harassing travelers. Between the 1830s and 1850s, the Kingdom established a program, which it managed through local agents, for taking wild cattle, sheep, and other stock from the mountain lands as needed for hides, tallow, and meat, or in payment for services rendered.

Land use records from Kingdom and Government collections for the lands of Humu'ula and Ka'ohe (project area), and the neighboring 'āina mauna (the broad geographical area) date back to at least the 1840s. Early communications describe the taking of wild cattle, sheep, goats, and pigs from the region, through rights granted by, or on behalf of, the King. By the 1850s, formal leases of the Crown and Government land holdings were granted to ranchers on the mountain lands – while plantation interests were granted leases, and in some instances, fee-simple interests on the lowlands.

Ranching emerged in the islands with the introduction of cattle. Seen for its potential to create new exports and influence the local economy, ranching would grow over the decades to become a significant cultural influence in Hawai'i and on Hawai'i Island in particular. Ranching in Hawai'i traces its origins to Hawai'i Island, specifically the late 18th century when cattle and sheep were first gifted to Kamehameha I (Desilets et al., 2017: 9). The cattle grew sharply in numbers, and soon large numbers of cattle were roaming wild throughout that Hawaiian Islands (Harrington, 2019). Over the next two centuries, the culture and commerce around ranching would increase significantly (**Figure 17**).

To manage the growing population of cattle, Kamehameha brought the vaqueros from Mexico, who had the expertise to manage the cattle with horses. Hawaiians could not initially pronounce the term vaqueros, so they would attempt to use the term “españoles” (Spanish speaking males) instead. Unable to pronounce this term properly, the term “paniolo” was created.

The paniolo were regarded with great esteem. While they were not intended to remain in the islands, soon marriages between the paniolo and the local population resulted in Hawaiian paniolo (**Figure 17**). The paniolo are a distinct cultural group, or folk society, comprised of numerous ethnicities including Mexicans, Hawaiians, Portuguese, and others (Mills et. al, 2013). Records show that ranching and the paniolo utilized the project area and broad geographical area significantly before the lands were acquired by the Army.

Ranching still occurs in the adjacent lands, although no ranching activities currently take place within the project area.



Figure 16. Cattle ranching at Parker Ranch (Hawai'i Island). Hawai'i State Archives, Paniolo Collection, PP-13-6-006 (ca. 1930)



Figure 17. “Typical Hawaiian Cowboys” – Hawai‘i State Archives, Paniolo Collection, PP-13-6-015 (n.d.)

4.2.4 Military History

Tensions between the Kingdom and foreigners grew in the late nineteenth century. It is noted that “from 1826 until 1893, the United States recognized the independence of the Kingdom of Hawaii, extended full and complete diplomatic recognition to the Hawaiian Government, and entered into treaties and conventions with the Hawaiian monarchs to govern commerce and navigation in 1826, 1842, 1849, 1875, and 1887” (Pub. Law No. 103-150, 1993). The friendly relationship that had existed between the United States and the Kingdom of Hawai‘i would end abruptly on January 14, 1893, when United States Minister John L. Stevens, assigned to the sovereign and independent Kingdom of Hawai‘i, conspired with a small group of non-Hawaiian residents of the Kingdom of Hawai‘i, including citizens of the United States, to overthrow the indigenous, lawful, and sovereign Government of Hawai‘i.

In furtherance of the conspiracy to overthrow the Government of Hawai‘i, the United States Minister and naval representatives had armed naval forces invade the sovereign Hawaiian nation on January 16, 1893 and position themselves near the Hawaiian Government buildings and ‘Iolani Palace to intimidate Queen Lili‘uokalani and her Government (Pub. Law No. 103-150, 1993). Then on January 17, 1893, a Committee of Safety that represented the American and European sugar planters, descendants of missionaries, and financiers led a coup d’état against the Hawaiian monarchy, causing Queen Lili‘uokalani to yield her authority out of concern for her people. This committee then proclaimed the establishment of a Provisional Government.

One of the results of this coup d’état was the seizure and continued State control over “ceded lands.” Ceded lands are those that were controlled by the Kingdom of Hawai‘i as “Government or Crown lands” (Van Dyke, 2008), when Queen Lili‘uokalani yielded her authority to the United States in 1893. The self-proclaimed “Provisional Government” installed itself into power until 1894. The successor government, the Republic of Hawai‘i, ceded these lands, defined as “all public, Government or Crown lands, public buildings or edifices, ports, harbors, military equipment, and all other public property of every kind” (Van Dyke, 2008), to the United States under the 1898 Joint Resolution of Annexation (30 Stat. 750), by which the United States accepted the absolute fee and ownership of the ceded lands.

While the acceptance of fee and ownership of the ceded lands would have long-standing political impacts, this transfer did not have immediate impacts on most on-going land uses that occurred at the end of the nineteenth century. Despite the upheaval in Honolulu, the leases and ranching activities across the ‘āina mauna remained unchanged until the twentieth century when an increased need for U.S. military activities in the islands emerged.

The broad geographical area was first used for U.S. military training during World War II by U.S. Marine Corps as an artillery live-fire training area. After the end of WWII, control of the area was transferred to the Hawaii Territorial Guard. In 1956, territorial Governor Samuel Wilder King signed Executive Order No. 17192 for approximately 758 acres at PTA for “. . . uses and purposes of the United States of America, to be under the control and management of the Department of the Army.” King was the son of James A. King, who assisted in the 1893 coup d’état against the Kingdom of Hawai‘i and its sovereign Queen Lili‘uokalani. The elder King subsequently became the minister of the interior for the self-proclaimed Provisional Government of Hawai‘i. The 758 acres signed over by Governor King encompasses the Cantonment and Bradshaw Army Airfield.

In 1956, PTA was permanently established as a training site through a formal Maneuver Agreement between the Territory of Hawai‘i and the United States. The Maneuver Agreement granted exclusive use of 99,200 acres to the U.S. Government to conduct training. In 1964, President Lyndon B. Johnson issued Executive Order No. 111673 and authorized 84,057 acres of the 99,200-acre training area for fee simple (i.e., owned completely without any limitations or conditions) use of the United States. This 84,057-acre area encompasses the U.S. Government-controlled land south of the State-leased land, including the impact area.

4.3 Previous Ethnographic Studies

Use of previous studies for this report included 1) studies previously commissioned and approved for use by USAG-HI, and 2) publicly available ethnographic studies of the project area and broad geographical area.

4.3.1 Langlas et al. (1999)

Charles Langlas, Thomas R. Wolforth, and James Head. Archaeological, Historical, and Traditional Cultural Property Assessment for the Hawai'i Defense Access Road A-AD-6(1) and Saddle Road (SR 200) Project, Paul H. Rosendahl, Ph.D., Inc., April 1999.

In 1999, Paul Rosendahl supervised an archaeological and traditional cultural property inventory survey for the Hawaii Defense Access Road A-AD-6(1) and Saddle Road (SR 200). Nineteen sites were recorded during that survey, excluding 35 modern military sites that were evaluated as not significant. Three of these sites occur on State-owned land. The study was commissioned by the U.S. Federal Highways Administration.

The survey included a historical and ethnographic study. The purpose of this study was to a) identify Native Hawaiian cultural sites or other historic sites, which might be affected by the project, b) describe the Native Hawaiian cultural or historical context of those sites, c) evaluate the Hawaiian cultural or historic significance of the sites to determine whether they are eligible for listing on the NRHP, and d) assess the effects of the project on significant sites and recommend mitigation to any adverse effects (Langlas et al. , 1999).

4.3.1.1 Ritual Sites Previously Identified by Henry Auwae

Interviews conducted with Henry Auwae in 1996 identified the likely presence of “Native Hawaiian burials and ritual sites within the project area” (Langlas et al., 1999: 7). The study also noted “ritual sites would generally be considered ‘traditional cultural properties,’ as described in National Register Bulletin 38” (Langlas et al., 1999: 7). In their section on Traditional and Hawaiian Cultural Sites, they noted:

All of the information on the sites comes from "Papa" Henry Auwae. He believes he is the only individual alive today who still has knowledge of either the burials or the ritual sites, and that appears to be the case. A considerable attempt was made to locate additional informants with knowledge of Native Hawaiian sites in the project area, without success. Older Hawaiians in Waimea (Sonny Kaniho, Johnny Lindsey) and Hilo (Genesis Lee Loy, Pua Kanahale) and Native Hawaiian Organizations in both areas were asked if they knew of any kūpuna who might have such knowledge, but they could not suggest anyone. In this century, the Hawaiians familiar with the project area would mainly have been the Hawaiian cowboys who worked for Parker Ranch at Ke'āmuku, Waiki'i, and Humu'ula, and for Shipman at Pu'u 'Ō'ō Ranch. Men like Willie Kaniho, who lived at Humu'ula, and David Kaiawe, who worked Pu'u 'Ō'ō Ranch, may have gained knowledge of traditional sites. But if so, that knowledge did not pass down to Willie's son Sonny Kaniho (Int. 1) or to David's nephew John Kaiawe (pers. comm.). It is not difficult to understand why Henry Auwae's knowledge of these sites is unique. Early in this century when he was a boy, he journeyed several times through the Saddle together with his great-grandparents. They both had specialist knowledge of ritual sites, and they pointed those sites out to him as they traveled. His great-grandmother was an expert healer (kahuna lā'au lapa'au) and his great-grandfather was a prophet (kalua), who came from a line of prophets. Mr. Auwae has not revisited the sites since that time (1999: 134).

Through his interviews, Henry Auwae (also known throughout the Hawaiian community as “Papa” Auwae) identified several ritual sites in that study's project area.

| Ritual Sites, Burials and Homesteads | General Description |
|---|---|
| Papa Hemolele | Described as a flat area mauka of the old trail from Waimea to Humu'ula, south of Waiki'i Gulch. It was identified as a part of rest and prayer. Three stone ahu were said to be associated with this ritual site. It is likely within PTA but outside the State-owned land. |
| 'Āina Kao | Identified as a ritual site in Pi'ihonua, near the southwest corner of Pu'u 'Ō'ō Ranch. An aerial survey conducted for the 1999 study confirmed it was covered by the 1935 lava flow. |
| Pu'u Kamokumoku (also known as Pu'u Kala'i'ehā) | Identified as a place where powerful kālua (prophets) lived. |
| Burials and Homesteads 1 | Papa Auwae identified two areas that were used for habitation and/or burial sites. He recalled visiting people who lived near the Ke'āmuku Sheep Station as a child with his great-grandmother, specifically a Kahaealii family. He noted numerous Hawaiian graves in the area. |
| Burials and Homesteads 2 | In addition to the site above, Papa Auwae identified villages in the Saddle area, on the lower slopes of Mauna Kea. He also noted that several springs were also at that elevation. He personally knew of Hawaiian burials in that area. He also specifically noted the locations of Hawaiian burials in the Bradshaw Field at PTA. He believed that these areas were heavily bulldozed by the Army and destroyed by these actions. |

The Langlas et al. study specifically found:

Four of the ritual sites discussed above are potentially eligible for the National Register of Historic Sites as traditional cultural properties; the other two are not. 'Āina Kao is gone, covered by the lava. The Pu'u Kamokumoku area is too diffuse to be easily considered a traditional cultural property, and Mr. Auwae did not want that sort of status for it. Of the four-remaining sites, 'Āina Kahukahu, 'Āina 'Ākau, 'Āina Hānau and Papa Hemolele, none is presently being used by Hawaiian religious practitioners. In general, however, Hawaiians believe that heiau and other ritual sites still have mana (religious power) because of their previous use. In Western terms, they are still sacred sites (1999: 141).

4.3.2 Maly (1999)

Kepā Maly. Mauna Kea Science Reserve and Hale Pōhaku Complex Development Plan Update: Oral History and Consultation Study, and Archival Literature Research, Kumu Pono Associates LLC, February 1, 1999.

Portions of this 1999 study were utilized for this assessment.

4.3.3 Maly and Maly (2002)

Kepā Maly and Onaona Maly. *He Wahi Mo'olelo No Ka'ina A Me Nā 'Ohana O Waiki'i Ma Waikōloa (Kalana O Waimea, Kohala), A Me Ka'ina Mauna: A Collection of Traditions and Historical Accounts of the Lands and Families of Waiki'i at Waikōloa (Waimea Region, South Kohala), and the Mountain Lands, Island of Hawai'i (TMK Overview Sheet 6-7-01)*, Kumu Pono Associates LLC, 2002.

Portions of this 2002 study were utilized for this assessment.

4.3.4 Maly (2005)

Kepā Maly, *A Collection of Native Traditions, Historical Accounts, and Oral History Interviews for: Mauna Kea, the Lands of Ka'ohe, Humu'ula and the 'Āina Mauna on the Island of Hawai'i*, Kumu Pono Associates LLC, March 30, 2005.

Portions of this 2005 study— particularly the background research—were utilized for this assessment with permission from Maly.

4.3.5 McCoy and Orr (2012)

Patrick McCoy and Maria Orr. Final Report: *Ethnographic Study of Pōhakuloa Training Area and Central Hāmākua District, Island of Hawai'i, State of Hawai'i*. Prepared for Dawson Group Inc. November 2012.

This was the only study commissioned by the Army that attempted to identify properties at PTA that may be eligible for the National Register because of traditional religious or cultural significance. These sites are often referred to as "traditional cultural properties" or "TCPs". The report provides a figure defining the project area and place names (**Table 11**).

| Table 11. Place Names from 2012 McCoy and Orr Ethnographic Study ⁷ |
|---|
| Kohala |
| Waimea |
| Māmalahoa Hwy |
| Kawaihae |
| Waikōloa |
| Queen Ka‘ahumanu Highway |
| Hualālai |
| Keāmuku |
| Waiki‘i |
| Papa Hemolele |
| Mauna Kea |
| Humu‘ula |
| Mauna Kea State Park |
| Humu‘ula Saddle |
| Humu‘ula Sheep Station |
| Saddle Road |
| ‘Āina Kao |
| ‘Āina Hanau |
| ‘Āina Akau |
| ‘Āina Kahukahu |
| Ponahawai |
| Hilo |
| Ahu a ‘Umi Heiau |
| Mauna Loa |

A summary of the findings of this study is provided in **Table 12**.

⁷ The spelling of the place names in **Table 11** was referenced from McCoy and Orr’s 2012 study.

| Traditional or Contemporary Practice | TCP Determination |
|---|---|
| Quarrying and Stone Tool Manufacture | Properties associated with practice not considered eligible for consideration as TCPs (McCoy and Orr 2012: 10) |
| Bird Hunting | Past associations with bird hunting do not provide adequate justification of associated locations as TCPs (McCoy and Orr 2012: 11) |
| Human Burial Practices | “Although human burial practices apparently have occurred within the boundaries of PTA, there is no indication that it was a common practice in the area. Further, modern human burials have not occurred within PTA during present times, and no active community traditions relating to burials at PTA have been identified. For these reasons, the possibility of pre-Contact burial practices is examined for in any area of PTA being considered eligible for consideration as a TCP” (McCoy and Orr 2012: 12) |
| Ceremonial and Ritual Practices and Religious Beliefs | Do not appear to qualify for consideration as TCPs |
| Journeying (Huaka'i) | “There does not appear to be sufficient reason to consider areas within PTA used during <i>hauka'i</i> (sic) as eligible for consideration as TCPs” (McCoy and Orr 2012: 15) |
| Hunting of Feral Ungulates | Not warranted to consider properties within PTA as potential TCPs |
| Scattering of Cremation Remains | Practice not known to have occurred prior to 50 years ago and individually are not significant events in the broad pattern of history |
| Ranching Activities | Not eligible for consideration as TCPs |

The study concludes:

The focus of this ethnographic analysis was to evaluate whether any portions of PTA would qualify for nomination as TCPs under NRHP. The results of the analysis indicate that traditional Native Hawaiian cultural practices, as well as contemporary cultural practices, did occur within the boundaries of PTA in the past. However, none of the areas within PTA appear to qualify for consideration as TCPs under established National Park Service (NPS) criteria used to determine eligibility for listing in the NRHP (McCoy and Orr 2012: 5-6).

This is the only identified ethnographic or traditional cultural property study commissioned by the Army for study and/or assessment of traditional cultural properties (TCPs) within PTA.

5.0 Online Survey and Interviews

5.1.1 Survey Responses

As described in **Section 2.2.1**, an online survey was initiated in an attempt to reach a broad section of the public and to collect preliminary information for the study. The survey was first created in September 2020 and made publicly available starting October 1, 2020, with the public notice in the October 2020 *Ka Wai Ola*. The survey remained open and available for any member of the public through December 31, 2022, at which time it was closed. There were 62 total responses prior to the completion and publication of the DEIS, with a 39 percent completion rate.

A republication of the public notice was placed in the *Ka Wai Ola* in December 2022. Another ad was taken out on social media (Facebook and Instagram) for the entire island of Hawai'i Island. The number of responses rose from 62 to 240. The total number of responses was 240, with a 63 percent completion rate.

One respondent asked to have their responses disregarded from the CIA. The low completion rate was likely due to individuals looking to see the questions of the survey but not complete the survey. The completed responses are provided in their entirety in **Appendix B** with the exception of any surveys where no responses were provided or those that asked to be redacted.

Respondents to the survey expressed knowledge of cultural resources, practices, and beliefs within the area and noted the following as being pertinent to the project area. These are summarized below.

Mo'olelo referenced by survey respondents for the project area include mo'olelo of Umi-a-Līloa (associated with a heiau) and Pele. A survey respondent shared that Kamalalawalu and Lanukaula battled in the area in the story of Lonoikamakahiki. The same survey respondent also shared that the broad geographical area is specifically mentioned as a place Hi'iakaikapoliopole first traveled after she fled Pele.

Ceremonial practices mentioned by survey respondents include the practice of celebrating Makahiki; caring for burial sites of iwi kūpuna in the project area; and visiting heiau.

Mālama 'āina is also apparent in respondents' mentions of intangible cultural resources of importance in the project area and the broad geographical area. This includes caring for resources such as traditionally important plants and the land itself as a significant cultural resource that is managed and cared for.

Subsistence practices such as pig hunting were mentioned by survey respondents. In general, respondents shared that hunting served as a means to feed their families, communities, and engage with their environment. Some respondents noted that hunting was also a means to connect with cultural values.

Traditional gathering practices of important plants were referenced by respondents.

Celebrations of Makahiki and hunting occur on the State-owned land. It is unclear how many of the other cultural practices and beliefs have occurred and/or are occurring within the State-owned land versus the broad geographical area around the project area. None of the survey respondents clarified

specific locations where these practices and resources occur and are located, and survey respondents were not contacted to provide clarifying information.

5.1.2 Interview Responses

One-on-one interviews were conducted with four individuals associated with the PTA project area. After the interview, a summary of the discussion was sent to the interviewee to review, and the finalized summary, as approved by the interviewee, is in Appendix C. The current section lists the cultural resources, practices, and beliefs each interviewee mentioned that pertained to the State-owned land and the broad geographical area. For a list of effects to cultural resources, practices, and beliefs from continued military activity in the PTA project area as identified by interviewees, see **Section 6.3**. For a list of the interviewees' mitigation recommendations for the PTA project area, see **Section 9.2**. Biographical information for each interviewee is provided in **Appendix C**.

5.1.2.1 Mr. Kamana Kapele

The interview with Mr. Kamana Kapele was conducted by Ms. Trisha Watson from Honua Consulting, LLC, on September 12, 2021. Mr. Kapele shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Kapele noted that Pu'u Kapele, the ki'i, and the shrine are all cultural resources. He noted that Pu'u Kapele is fenced off due to the endangered species of plants found in the habitat, specifically honohono (an endemic mint), which is also a cultural resource.

Cultural Practices and Beliefs

- Mr. Kapele noted that his family makes regular visits to the site for spiritual and religious practices. He noted that his traditional and customary association with the project area is centered on Pu'u Kapele. However, he also noted that Native Hawaiian traditional and customary beliefs suggest that there is connectivity between sacred spaces, and that other prominent pu'u in the area, including Pu'u Ke'eke'e, are also culturally significant.

5.1.2.2 Dr. Kū Kahakalau

The interview with Dr. Kū Kahakalau was conducted by Mr. Matthew Sproat from Honua Consulting, LLC, on October 15, 2022. Dr. Kahakalau shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Dr. Kahakalau mentioned the sacred sites include a heiau built by Umi-a-Liloa (which has not been found physically but is mentioned in historic records) and Pu'u Ke'eke'e. There are also iwi kupuna burial sites in the area as well as shelters. Dr. Kahakalau also noted that many other pu'u and geographic features in the area are culturally significant.
- Dr. Kahakalau mentioned that other resources gathered in the area include pōhaku, māmane, and a'ali'i. The a'ali'i in the area have a deeper and darker color than elsewhere,

adding to the plants' cultural significance. There is also a current practice of water gatherers that has been ongoing.

Cultural Practices and Beliefs

- Dr. Kahakalau and a group of Native Hawaiian practitioners have three years' of kūpuna celebrations and ceremonies where they access Pōhakuloa.
- Dr. Kahakalau explained that traveling from one place to another is a cultural practice. As such, all the paths that go through Pōhakuloa were utilized by kūpuna to provide access across the island. These paths have also been used during modern times.
- Dr. Kahakalau noted that gathering and hunting are also cultural practices that take place in the area. These subsistence lifestyle practices carry cultural significance.

5.1.2.3 Mr. Carl Sims

The interview with Mr. Carl Sims was conducted by Mr. Matthew Sproat from Honua Consulting, LLC, on October 15, 2022. Mr. Sims shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Sims noted that there are endemic species of plants that are wholly unique to the environment of the area.
- Mr. Sims also explained that the nearby adze quarries are culturally significant.
- Mr. Sims also mentioned that the most significant cultural resource in the area is the freshwater aquifer and watershed in the area which feeds the lowlands.

Cultural Practices and Beliefs

- Mr. Sims noted that he and other Native Hawaiians conduct various cultural practices in the area. Protocols include acknowledging ancestors and those who came before them; saying prayers for guidance; and offering ho'okupu.
- Others practice gathering plants for la'aulapa'au and cultural practices (particularly during the hula festival, Merrie Monarch).
- Regarding hunting, Mr. Sims explained that people use the area for hunting regularly (including himself a few times a year).

5.1.2.4 Dr. Michelle Noe Noe Wong-Wilson

The interview with Dr. Michelle Noe Noe Wong-Wilson was conducted by Mr. Matthew Sproat from Honua Consulting, LLC, on October 15, 2022. Dr. Wong-Wilson shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Dr. Wong-Wilson explained that the area is the geographic center of Hawai'i Island and is therefore culturally significant.

- Dr. Wong-Wilson noted the archaeological resources including stone structures that are associated and correlated with geographic locations, navigation, or astronomical bodies.
- According to Dr. Wong-Wilson, there are iwi and burials in the area. There is a significant likelihood that these burials were for ali'i.
- Water is another resource in the area that could be considered culturally significant.
- Dr. Wong-Wilson noted that of the native plants in the area, the a'ali'i have a specific color that is different than other varieties in Hawai'i.

Cultural Practices and Beliefs

- Dr. Wong-Wilson noted that cultural practices in the area include hunting, gathering, and learning about archaeological connections.

6.0 Identified Cultural Resources, Practices, and Beliefs

This section provides a summary overview of cultural resources, practices, and beliefs identified for the PTA project area and the broad geographical area based on the results of archival research and consultation and interviews.

6.1 Summary of Data Obtained from Archival Research

Archival research revealed numerous cultural resources, practices, and beliefs associated with the State-owned land and the broad geographical area. There are several mo'olelo associated with the broad geographical area ('āina mauna) as well as place-based knowledge in several inoa 'āina associated with landscape features within the PTA project area and the broad geographical area. Pu'u across the project area and broad geographical area are named. There are also specific names of winds and rains that may cover the broad geographical area.

The broad geographical area and project area were historically associated with a variety of resource gathering, including adze and glass quarrying. It is unknown from archival research to what extent the practices of gathering bird feathers occurred within the project area, but likely occurred in the broad geographical area. There are also many native plant species in the project area and broad geographical area, several of which are culturally significant and several of which are federally and State protected. The broad geographical area also served as a trail thoroughfare which connected many of the districts of the island, as shown in the evidence of habitation caves and archaeological resources.

There are many known archaeological sites on State-owned land as detailed in **Section 4.1.3**. Isolated artifacts with Traditional Hawaiian contexts have also been found within the project area. These archaeological resources indicate traditional uhaul humu pōhaku (stone stacking) and noho (temporary habitation) have occurred within the project area. There is also archaeological evidence of iwi kupuna and burial practices occurring in the project area.

Ranching became the predominant land use in the broad geographical area following the Māhele. Cattle, sheep, goats, and pigs were introduced, and hunting became a more common practice in the broad geographical area.

6.2 Summary of Data Obtained from Survey and Interviews

The data obtained from this project's initial community outreach and online survey yielded preliminary information about the cultural practices and beliefs that are associated with the broad geographical area.

The concept of mālama 'āina was a recurring theme among survey respondents and interviewees. This expressed connection to the land is central to the Native Hawaiian belief system and results in associated cultural practices and beliefs. Data from many survey respondents and the four interviewees can be extrapolated to show mālama 'āina as an identifiable cultural practice and belief associated with the project area and broad geographical area.

One survey respondent and two interviewees specifically mentioned the Makahiki celebrations which are held annually at Pu'u Kapele. There were 10 survey respondents who mentioned various

pu'u as being named cultural resources. These pu'u range across both the project area and broad geographical area.

Twenty survey respondents and three interviewees mentioned the numerous archaeological resources located on the project area and broad geographical area. These resources include stone structures, heiau, shelters, ahu, and iwi kupuna. Survey respondents which mentioned archaeological resources did not provide specific locations.

Four survey respondents and three interviewees shared that subsistence hunting is a cultural practice that occurs both on the project area and the broad geographical area. Additionally, four survey respondents and two interviewees noted that gathering plants is an ongoing cultural practice for both lei making and la'au lapa'au in the broad geographical area but did not identify if the practice occurs on the project area.

6.3 Impacts to Cultural Resources, Practices, and Beliefs

This section summarizes effects to cultural resources, practices, and beliefs from continued Army activities in the PTA project area as identified by interviewees during one-on-one interviews conducted for the current study. These effects are identified here, as stated by each interviewee, and will be analyzed in **Chapter 8.0**.

Mr. Kapele

- Impacts to sacred sites from Army activities such as live-fire training.
- Impacts to access of important cultural and religious sites.

Dr. Kahakalau

- Impacts to land and water resources from Army activities such as live-fire training.
- Impacts to flora and fauna from Army activities such as live-fire training.
- Impacts from wildland fires.
- Impacts to access of important cultural and religious sites.

Mr. Sims

- Impacts to water resources from Army activities such as live-fire training.
- Impacts to flora and fauna from Army activities such as live-fire training
- Impacts to access of important cultural and religious sites.

Dr. Wong-Wilson

- Impacts to Native Hawaiians with cultural beliefs and connections to 'āina.
- Impacts to access of important cultural and religious sites.

7.0 Access Policies

7.1 Cultural Access

Cultural access to State-owned land is secured through a USAG-HI cultural access process. The process is sponsored through USAG-HI CRM staff, who secure names and information for submission to military police a minimum of five days in advance.

7.1.1 Cultural Access Discussion

Although the Army maintains an access policy, access and/or the perceived lack of access, whether directly or indirectly, were routinely reiterated during interviews for the project area. All four interviews mentioned access; excerpts from the summary interviews in **Appendix C** are provided here:

Mr. Kapele

- “Mr. Kapele had previously been able to access Pu‘u Kapele without escort, prior to blockades on the old hunting roads, along with fencing which was constructed after the bypass. He noted that visiting Pu‘u Kapele was not associated with a specific time, but rather that he would access it whenever he felt called to do so.”
- “Mr. Kapele also noted that another impact would be the continued barring of access to important cultural and religious sites.”
- “Mr. Kapele has been working with personnel at Pōhakuloa regarding access. He believes that access to his spiritual areas, including Pu‘u Kapele, should be free access.”

Dr. Kahakalau

- “...in order to gain access to the sacred places, Dr. Kahakalau said practitioners have to work hard with the military. It was easier with the former Commander who was local and married to a Native Hawaiian. For example, with the new Commander, practitioners have to ride in military vehicles to access sacred sites. Practitioners must also be accompanied. For individual practitioners, getting a permit is quite difficult.”
- “Dr. Kahakalau explained that they have been denied access on specific dates, and noted that from the perspective of the Army, their training dates are more important than cultural practitioners.”

Mr. Sims

- “While the Army has stated that the Army has not restricted access to the area, Mr. Sims says that this is not true.”

Dr. Wong-Wilson

- “... (Dr. Wong-Wilson) believes that if access weren’t restricted, there would be more practitioners who would access the area.”
- “The general public is denied access to the 23,000 acres.”

- “Dr. Wong-Wilson explained that to get access, one would have to reach out to the public affairs officer. However, in practice, only a small group of practitioners (6-7 individuals) have historically been granted access.”
- “As such, access is very limited to the community and general public, which is an impact to traditions and customs.”

7.1.2 Access Research

Prior to Army control of the area, the project area was accessible to travelers, as is documented throughout this study, whether under the governance of Hawaiian chiefs or, later, under private ownership. Numerous historical accounts document travel throughout the Saddle Region. Those accounts are included herein. Currently, public access to the project area is restricted, as it is to all military installations.

Access for cultural practice is, as is with any public access request, allowed on a case-by-case basis at the discretion of the Army, and requires an escort for the duration of their time at PTA. There are no SOPs in place for how access is granted with the exception of hunting, which has a regulated program established for recreational hunting. In September 2018, the *Programmatic Agreement among the U.S. Army Garrison, Pōhakuloa Training Area, the U.S. Army Garrison, Hawaii, the Hawaii State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Routine Military Training Actions and Related Activities at the United States Army Installations on the Island of Hawai‘i, Hawai‘i* (2018 PA) was executed. There is no provision or stipulation in the 2018 PA that prevents or restricts cultural access.

7.2 Hunting Access

As noted in **Section 3.8**, modern hunting has largely been a product of foreign contact. From the introduction of modern weaponry to the introduction of foreign game, much of the hunting that occurs in Hawai‘i today did not occur prior to the arrival of foreigners. Nonetheless, modern hunting is an important practice for many community members and practitioners who rely on hunting for subsistence.

Under State hunting regulations, hunting is open to the public within six designated hunting areas (TAs 1 through 4 and 9 through 16) on weekends and U.S. holidays. The availability of units open for hunting is subject to training schedule compatibility and a permit from the PTA Commander. It is also a requirement that these activities “do not conflict with the military mission.” This allowance for recreational hunting can include, to a limited extent, customary practices associated with modern hunting. While modern hunting is a customary cultural practice, it should be noted that PTA’s hunting program was established for recreational hunting activities.

Requests for any such uses are made through the Deputy Garrison Commander or the Commander at PTA. If approved, this individual will coordinate any request(s) with Range Control and others whose operations may be affected. Appropriate access control procedures are established for each approved outdoor recreation activity. Public recreational activities have been conducted at PTA and include archery in TAs 5 and 6; guided hikes; and hunting for birds, pigs, sheep, and goats within specific areas.

8.0 Analysis of Impacts from the Proposed Action and Alternatives

This chapter analyzes the impacts presented in **Section 6.3** to assess the potential impact of the Proposed Action and its alternatives on cultural resources, practices, and beliefs relevant to the project area.

The Proposed Action for this environmental analysis is a real estate action (i.e., administrative action) that would enable continuation of current activities on State-owned land. It does not include construction or proposed changes to the current levels or types of activities conducted within the State-owned land (e.g., training, maintenance and repair activities, natural and cultural resources management, or access policies). Potential future actions that are not part of the current Proposed Action would require separate NEPA (and possibly HEPA) and NHPA compliance.

Note that effects to archaeological sites (that may be culturally important) are assessed within the PTA ATLR EIS and the accompanying Archaeological Literature Review (Appendix J to the PTA ATLR EIS). The effects to cultural practices and beliefs that may be associated with such archaeological sites are addressed in the current section.

8.1 Alternative 1: Maximum Retention

8.1.1 Land Retained

Under Alternative 1, the Army would retain approximately 22,750 acres of the State-owned land. The Army would continue to have unrestrained access between the Cantonment, impact area and training ranges, and Ke'āmuku parcel; and conduct Army ongoing activities. The Army would continue to permit and coordinate ongoing activities on all the State-owned land by the Army and other PTA users. Alternative 1 is considered the baseline land retention alternative with respect to the area of land that would continue to be used and managed by the Army.

Section 6.3 lists potential impacts to cultural resources, practices, and beliefs associated with the PTA project area as stated by interviewees consulted for the current study. These potential impacts are evaluated here within the framework of Item J of the OEQC's content guidelines (2012:13), which states that an assessment of cultural impacts should include the following:

An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

Within the framework of the OEQC content guidelines (OEQC 2012:13), a repeated impact noted by the interviewees for the PTA project area includes physical alteration on cultural resources from continued ongoing military activities. Interviewees noted physical impacts from general Army activities and live-fire training (Mr. Kapele, Dr. Kahakalau, Mr. Sims) and wildland fires associated with Army activities (Dr. Kahakalau). Physical impacts on historic and cultural resources associated with Army activities are mitigated through existing mitigation measures (see **Section 9.1**).

A second general impact noted by interviewees (Mr. Kapele, Mr. Sims, and Dr. Wong-Wilson) and placed within the framework of the OEQC content guidelines (OEQC 2012:13) includes the isolation of cultural practices and beliefs from their setting due to limited cultural access. After the realignment of Saddle Road (DKI Highway), physical barriers were installed blocking previously used access roads that were utilized by cultural practitioners to access sites of religious and cultural importance (M. Kapele). Interviewees (Mr. Kapele and Dr. Wong-Wilson) noted that access to sites associated with traditional and customary practices (such as Pu'u Kapele) are granted by the Army on a case-by-case basis and require an escort.

Although cultural practices and beliefs are somewhat isolated from their setting due to limited cultural access within the PTA project area, this is due to public safety concerns. The continuation of current Army activities within the PTA project area would not reduce the number of days when areas can be accessed for cultural activities, and the Army would continue to provide cultural access per the current access policy. Existing long-term access limitations would, however, continue into the foreseeable future.

8.1.2 Land Not Retained

The Army would not retain approximately 250 acres of the State-owned land. The land not retained is currently administered under DHHL.

There has not been archaeological surveying conducted for the State-owned land not retained under Alternative 1. The Army, however, would no longer be responsible for management of any cultural resources in the State-owned land not retained after expiration of the lease. The State would be solely responsible for the management of resources on the State-owned land, and it is assumed the State would adopt the Army's resource management commitments.

Current cultural access limitations on State-owned land not retained would, in theory, be lifted. Unlimited cultural access would support and benefit cultural practices and beliefs as detailed by survey respondents and interviewees. Potential lease compliance and restoration actions at the end of the lease may result in temporary limitations on access due to public safety concerns.

The parameters for compliance with the lease conditions for the State-owned land not retained would be defined and determined after completion of this CIA, but they would comply with Section 106 and its implementing regulations. Impacts on cultural resources would continue to be mitigated in compliance with these existing regulatory requirements.

Additionally, the lifting of current limitations on cultural access on land not retained would open the area to public access and a potential increase in foot traffic on and around cultural resource sites. Public access is sometimes linked to physical impacts on cultural resources.

8.2 Alternative 2: Modified Retention

8.2.1 Land Retained

Under Alternative 2, the Army would retain approximately 19,700 acres of the State-owned land. Additionally, the Army would retain all U.S. Government-owned utilities and associated access throughout the State-owned land to enable continued safe operation of U.S. Government-owned land and retained State-owned land.

Impacts to cultural resources, practices, and beliefs under Alternative 2 would be the same as under Alternative 1 since limited cultural access would remain. The Army would continue to adhere to cultural resource programs that mitigate physical alteration of cultural resources. The Army would also maintain its existing cultural access policy.

8.2.2 Land Not Retained

The Army would no longer have access to approximately 3,300 acres of maneuver area, facilities, and roads and training trails in the State-owned land not retained. Most of this area is critical habitat designated by USFWS for Palila. The State-owned land that would not be retained has limited facilities and infrastructure, has Palila critical habitat training restrictions, is mostly physically separated from the rest of the State-owned land by DKI Highway, and has cinder cones in the portion that is south of DKI Highway.

There has not been archaeological surveying conducted for the State-owned land not retained under Alternative 2. The Army, however, would no longer be responsible for management of any cultural resources in the State-owned land not retained after expiration of the lease. The State would be solely responsible for the management of resources on the State-owned land, and it is assumed the State would adopt the Army's resource management commitments.

Current cultural access limitations on State-owned land not retained would, in theory, be lifted. Unlimited cultural access would support and benefit cultural practices and beliefs as detailed by survey respondents and interviewees. Other than hunting, survey respondents and interviewees did not specifically mention cultural practices which occur on the State-owned land not retained under Alternative 2. Potential lease compliance and restoration actions at the end of the lease may result in temporary limitations on access due to public safety concerns.

The parameters for compliance with the lease conditions for the State-owned land not retained would be defined and determined after completion of this CIA, but they would comply with Section 106 and its implementing regulations. Impacts on cultural resources would continue to be mitigated in compliance with these existing regulatory requirements.

Additionally, the lifting of current limitations on cultural access on land not retained would open the area to public access and a potential increase in foot traffic on and around cultural resource sites. Public access is sometimes linked to physical impacts on cultural resources.

8.3 Alternative 3: Minimum Retention

8.3.1 Land Retained

Under Alternative 3, the Army would retain approximately 10,100 acres and 11 miles of select roads and training trails within the State-owned land. The approximately 10,100 acres contains vital training and support facilities and associated maneuver areas necessary for USARHAW to continue to meet its ongoing training requirements on the State-owned land.

Impacts to cultural resources, practices, and beliefs under Alternative 3 would be the same as under Alternative 1 since limited cultural access would remain. The Army would continue to adhere to cultural resource programs that mitigate physical alteration of cultural resources. The Army would also maintain its existing cultural access policy.

8.3.2 Land Not Retained

Under Alternative 3, the Army would not retain 12,900 acres of State-owned land. The 12,900 acres of State-owned land not retained under Alternative 3 is used as unrestricted maneuver areas, which is approximately 30 percent and 56 percent of the unrestricted maneuver areas on PTA and the State-owned land, respectively.

Impacts under this alternative would be similar to Alternative 2, Land Not Retained, with a potentially higher level of short-term impacts from land restoration activities over a larger area that may add limitations and/or restrictions on cultural access. If restoration activities were successfully achieved with minimal impact to cultural resources, long-term beneficial impacts would result with the removal of limitations on cultural access for Native Hawaiians and cultural practitioners. Lastly, a greater percentage of land would be opened to public access under Alternative 3, potentially resulting in increased foot traffic to cultural resources sites and possible associated physical alterations.

8.4 No Action Alternative

Under the No Action Alternative, no State-owned land would be retained at PTA after expiration of the lease, and there would be no training on State-owned land. The No Action Alternative would result in the same impacts as Alternatives 2 and 3, Land Not Retained, with the highest level of impacts from restoration activities. As discussed with Alternatives 2 and 3, if restoration actions were successfully achieved with minimal impact to cultural resources, long-term beneficial impacts would result with the removal of limitations on cultural access for Native Hawaiians and cultural practitioners. The greatest percentage of land would, however, be opened to public access under the No Action Alternative, potentially resulting in increased foot traffic to cultural resources sites and possible associated physical alterations. The State would be solely responsible for the management of resources on the State-owned land, and it is assumed the State would adopt the Army's resource management commitments.

9.0 Mitigation

This chapter of the CIA considers existing mitigation agreements and presents recommendations for the future to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action to cultural resources, practices, and beliefs within the project area.

9.1 Existing Mitigation and Management Measures

The USAG-HI operates a cultural resources program to oversee cultural resource management at PTA. The cultural resources program is responsible for maintaining an inventory of cultural resources; conducting fieldwork to identify, evaluate, and manage cultural resources; conducting periodic site inspections and installing protection measures to avoid or minimize impacts on sites; consulting with NHOs and other parties; and providing education to Soldiers about the importance of cultural resources.

Potential physical alteration on cultural resources from ongoing activities on State-owned land have been considered through Section 106 consultation processes. Ongoing activities within the PTA project area are subject to provisions within the existing 2018 PA among the U.S. Army Garrison, Pōhakuloa Training Area, the U.S. Army Garrison, Hawaii, the Hawai'i State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Routine Military Training Actions and Related Activities at the United States Army Installations on the Island of Hawai'i, Hawai'i (DA 2018). The PA contains stipulations that mitigate adverse physical effects on historic properties, which includes the types of cultural resources assessed in the current study.

The Army's *Integrated Cultural Resources Management Plan for the U.S. Army Garrison – Pōhakuloa* also describes guidelines pertaining to the management of cultural resources under the Army's stewardship at PTA and lists their application to each of nine Standard Operating Procedures for managing cultural resources (DA 2018).

9.2 Interviewees' Recommendations

Interviewees shared several mitigation recommendations for the Proposed Action, excerpts from their interview summaries are presented below by project area. See **Appendix C** for a full summary of interviewee's comments related to mitigation.

- Mr. Kapele “believes that access to his spiritual areas, including Pu‘u Kapele, should be free access”
- Dr. Kahakalau “believes that the way to mitigate the impact is to not renew the lease agreements and end training at Pōhakuloa”.
- Mr. Sims “believes that the land not being leased to the military for training purposes would mitigate the negative impacts to the environment, water, flora, and fauna”. Further, Mr. Sims “believes the best mitigation measure would be to allow more access by cultural practitioners. Allowing people access for cultural practices should be ‘set in stone’”.
- Dr. Wong-Wilson notes that “[S]hould the military be able to retain the 23,000 acres ... there needs to be greater access allowed to the public.”

9.3 Recommendations of the Current Study

The current study's recommendations for mitigation measures to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action to cultural resources, practices, and beliefs are informed by the analysis presented in **Section 8.0** and the interviewee recommendations presented in **Section 9.2**. This study recommends that the Army formalize a cultural access request process through consultation with Native Hawaiians and cultural practitioners. This formalized cultural access request process would enable Native Hawaiians and cultural practitioners opportunities to promote and preserve cultural practices, beliefs, and resources. In addition, it is recommended the Army consider options to provide unlimited cultural access to specific locations and resources, determined in consultation with Native Hawaiians and cultural practitioners, associated with cultural practices and beliefs.

10.0 Conclusion

This CIA has presented ethnographic research from archival and contemporary resources relevant to the PTA project area to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project area to assess the extent to which these resources may be impacted by the Proposed Action and its alternatives. The CIA then identified potential mitigation measures that can be feasibly undertaken to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action.

The results of archival and ethnographic research yielded numerous cultural resources, practices, and beliefs associated with the project area and the broad geographical area. Paramount among the impacts to cultural resources, practices, and beliefs from the Proposed Action and the continuation of ongoing military activity is access to the PTA project area. Although current non-formalized limited access policies exist for PTA, interviewees deem the access policy inadequate. Interviewees desire safe, unlimited, and regular access to the PTA project area to engage in cultural practices in which the 'āina (the land) is a significant contributing resource for various cultural practices and beliefs, including mālama 'āina. Although cultural practices and beliefs are, therefore, somewhat isolated from their setting due to limited cultural access within the PTA project area, this is due to public safety concerns. The continuation of current military activity within portions of the PTA project area would not reduce the number of days when areas can be accessed for cultural activities, and the Army would continue to provide limited cultural access to cultural resources, but current limitations on access are likely to continue into the foreseeable future.

Additionally, adverse impacts would continue within the PTA project area from the introduction of physical elements that have altered the setting in which cultural practices take place. This is a general concept repeated throughout informants' comments that the Saddle Region itself, including the project area, is a culturally rich setting which is altered by the presence of military activity.

Other impacts discussed by interviewees for the project area, such as physical alteration on cultural resources, are associated with past actions within the project area and are currently mitigated by existing agreements, including the 2018 PA (DA 2018).

Recommendations identified by interviewees to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action include formalizing a cultural access request process through consultation with Native Hawaiians and cultural practitioners. This formalized cultural access request process would enable Native Hawaiians and cultural practitioners opportunities to promote and preserve cultural practices, beliefs, and resources. In addition, it is recommended the Army consider options to provide unlimited cultural access to specific locations and resources, determined in consultation with Native Hawaiians and cultural practitioners, associated with cultural practices and beliefs.

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**Revised Cultural Impact Assessment Report for the Army Training Land Retention of
Pōhakuloa Training Area**

Appendix A: Individuals and Organizations Contacted

Prepared by



January 2024

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Individuals and Organizations Contacted

| First | Last | Title | Organization, if applicable |
|----------------|-----------------|----------|---|
| Kealoha | Pisciotta | Ms. | Mauna Kea Anaina Hou |
| Kalani | Flores | Mr. | University of Hawai'i, Hilo |
| Maulili | Dickson | Mr. | Nā Kālai Wa'a |
| Hailama | Farden | Mr. | Association of Hawaiian Civic Clubs |
| Kaleo | Paik | Ms. | Ala Kahakai Trail Association |
| Haaheo | Guanson | Dr. | Pacific Justice and Reconciliation Center |
| Taffi | Wise | Ms. | |
| Nicole | Lui | Ms. | |
| Dutchie | Kapu-Saffery | Ms. | |
| Maxine | Kahaulelio | Ms. | |
| Ku | Ching | Mr. | Former OHA Trustee |
| Daniel K. | Akaka | Mr. | |
| Leilani | Hino | Ms. | |
| J. Curtis | Tyler | Mr. | |
| Leiola | Garmon-Mitchell | Ms. | |
| Leningrad | Elarionoff | Mr. | |
| Angela | Thomas | Ms. | |
| David | Heaukulani | Reverend | |
| Ruth | Aloua | Ms. | Malu 'Āina Center for Nonviolent Education and Action |
| Napua | Burke | Ms. | |
| Ronald | Fujiyoshi | Mr. | Ola'a First Hawaiian Church (retired) |
| Cory | Harden | Ms. | |
| Danny | Li | Mr. | |
| Stephen | Paulmier | Mr. | |
| Geoff | Shaw | Mr. | |
| Fred | Cachola | Mr. | Moku o Kohala |
| Kū | Kahakalau | Dr. | Kū-A-Kanaka |
| Justin | Hill | Mr. | |
| Hanalei | Fergerstrom | Mr. | Na Kupuna Moku O Keawe |
| Clare | Loprinzi | Ms. | |
| Mana Kaleilani | Caceres | Mr. | Ohana Kupono Consulting Inc |
| Melvin K. | Soong | Mr. | The Imua Group |

Appendix A: Individuals and Organizations Contacted

| First | Last | Title | Organization, if applicable |
|--------------|----------------|--------------|---|
| Tom | Lenchanko | Mr. | Wahiawa Hawaiian Civic Club |
| William J. | Aila, Jr. | Mr. | Department of Hawaiian Home Lands |
| Lani Ma'a | Lapilio | Ms. | Aukahi |
| James | Albertini | Mr. | Malu 'Āina Center for Nonviolent Education and Action |
| Tuahine | Kaleikini | Ms. | |
| JR Keonekapu | Williams | Mr. | |
| James | Medeiros | Mr. | |
| Keola | Lindsey | Mr. | Office of Hawaiian Affairs, East Hawaii |
| Kamuela | Bannister | Mr. | Office of Hawaiian Affairs, East Hawaii |
| Samson | Brown | Mr. | Au Puni O Hawaii |
| Joseph | Kūhiō Lewis | Mr. | Council for Native Hawaiian Advancement |
| Pi'ilani | Hanohano | Ms. | Kamehameha Schools, Government Relations |
| Patrick | Kahawaiola'a | Mr. | Keaukaha Community Association |
| Paula | Kekahuna | Ms. | Maku'u Farmers Association |
| Mililani | Trask | Ms. | Na Koa Ikaika Ka Lahui Hawaii |
| Hanalei | Fergerstrom | Mr. | Na Kupuna Moku O Keawe |
| Carolyn | Keala-Norman | Ms. | |
| Victoria | Holt-Takamine | Ms. | Pa'i Foundation |
| Robin | Puanani-Danner | Ms. | Sovereign Council of Hawaiian Homestead Associations |
| Eugene | O'Connell | Mr. | The Makua Group |



**Revised Cultural Impact Assessment Report for the Army Training Land Retention of
Pōhakuloa Training Area**

**Appendix B: Online Survey Questions and Responses;
Other Comments and Documents Received**

Prepared by



January 2024

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Aggregated Survey Responses

Responses to all survey questions are summarized or provided in their entirety in this section.

Question 1:

I hereby agree to be a participant in the Cultural Impact Assessment (herein referred to as "CIA") for the proposed retention of up to approximately 23,000 acres of State-owned land at Pōhakuloa Training Area. I understand that part of the purpose of the CIA is to conduct oral history interviews with individuals with information about the subject property and surrounding area. I understand that Honua Consulting, LLC will retain the products of my participation (responses to this survey, etc.) for use on the project, but that I will remain owner of any of these products. I have the right to request them at any time. I understand that the material(s) will remain in the possession of Honua Consulting, LLC and that the material(s) may be used for scholarly, educational, land management, and other purposes.

Option A: Yes, I agree to be a participant - A "yes" response will allow you to continue the survey and your answers will be included in the CIA.

Number of responses = 236 (98.33%)

Option B: No, I do not agree to be a participant - A "no" response will disqualify you from the survey and your answers will not be included in the CIA.

Number of skipped responses = 4 (1.67%)

Question 2:

Please provide your name.

Number of responses = 84

Question 3:

What is your current profession?

Number of responses = 84

Question 4:

Where do you live now?

Number of responses = 85

Question 5:

Where were you born and raised?

Number of responses = 84

Question 6: Are you associated or representing a specific Native Hawaiian Organization (NHO), 'ohana, or organization in the completion of this survey? If so, please list the entity you are representing.

Number of responses = 77

Question 7: What is your association, if any, with the Project Area?

Number of responses = 82

| |
|---|
| Spiritual |
| Cultural Advisor for Military at Pōhakuloa, Traditional Practitioner, kiai |
| I was included as a cultural practitioner |
| The Project Area of Pōhakuloa Training Area is on Crown Land, not owned by the State of Hawaii; but under a Trust with Congressional Oversight. I have been trained in Section 106. and Federal Undertakings. |
| None |
| None |
| I will not be answering that right now until 1. I have a better understanding what the army is proposing to do there. 2. Every Kanaka Maoli today is associated to that area so to ask this question hits a nerve with me. |
| Familial ties to Kaohe (Pōhakuloa) |
| a resident and landowner on the Big Island |
| I love it it is sacred ground it is my neighborhood |
| 43 CFR section 50 reestablishing the government to government relations withering the United states |
| I have been to the "Project Area" many times over the period of 27 years I lived and worked in Hawai'i from 1992-2020 |
| This is my home. |
| My home and farm is in Puna. What happens there affects the dust and water that flows throughout the island. I also drive past there regularly. |
| I live on the island, hear the noise, breath the air, and love the mountains. I see the water at Kiholo and have learned much of it comes from the mountain areas. |
| I live on the island |
| resident of Moku o Keawe |
| I live on the Big Island and identify with the area in question and want it removed from the toxic pollution and destruction the U.S. Military has wreaked on this sacred area. The Military is harmful and Colonialist and should be removed from their presence and use of this sacred land! U.S. Military OUT! |
| none, just a resident with concerns about what PTA does to our land |
| Research, study, access restricted by US Army, interference with native Hawaiian traditional practices. |

Appendix B: Online Survey Questions and Responses

| |
|---|
| While I do not have an explicit affiliation with the 'āina contained within the boundaries of by USARHAW, I conduct pig hunting for subsistence purposes on the slopes of Mauna a Wākea within Ka'ohē Mauka Ahupua'a and have ancestral lineage to the moku of Hāmākua. |
| 'A'ohē pilina pilikino, koe wale ka Hawai'i 'ana - No personal connection, save for being a citizen of Hawai'i. |
| Lineal Descendant of those who inhabited the Hawaiian Islands prior to 1778 |
| I am a hunter gatherer, and religious user |
| No association |
| None |
| My only association is protesting the existence of the PTA |
| Passion for landscape photography. |
| Native Hawaiian Cultural Practitioner |
| I live here. |
| concerned citizen |
| None |
| Lived on Hawai'i Island 17 years. Visited and worked there many other times. My ohana includes people with ancestors who lived there |
| Live in Pahoā |
| I am a Hawaii state resident and the Project Area is our public land. |
| The area is ma uka of my home, it borders places that we go, we pass by there often, we have 'ohana that live just on the opposite side as well. |
| Resident of Waikoloa affected by the bombing, airspace and clean up of the project. |
| Resident of Hawai'i Island |
| Through rare native Hawaiian plants |
| none, just a nearby resident |
| None |
| None |
| Local |
| Work |
| Proximity to area |
| Ancestral descendant of the people who once lived in this area. |
| All of the kingdom of Hawai'i |
| Just spending time on Mauna Loa |
| Protected Person living in the Hawaiian Kingdom |

Appendix B: Online Survey Questions and Responses

| |
|---|
| I'm of Hawaiian kingdom Royalty and USA military is illegal occupying our aina. |
| I live on Big Island |
| Just pass through. |
| Botanical survey conducted by Dr. Lani Stemmerman & associated lawsuits to protect critical habitat. |
| I am one of the closest homes to the facility - my backyard abuts DLNR and nothing between me and PTA |
| Native Hawaiian |
| Kanaka Maoli |
| None |
| Hunting |
| Native Hawaiian gathering of resources for sustainability of life and culture |
| None |
| Native hawaiian |
| None |
| Father was Stationed in the ARMY around 1945 at POHAKULOA/ SCHOFIELD / RED HILL / MAKUA VALLEY/ KAHUKU/GREEN VALLEY (PUNALU'U) |
| I am a resident of Hawaii island and a native Hawaiian. |
| We have conducted extensive ethnographic research, oral history interviews and published studies published studies for the 'Aina Mauna (Mauna Kea, Mauna Loa, Ka'ohe-Humu'ula and the "saddle"land included as part of PTA; participated at one time in the PTA Cultural Advisory Committee, and coordinated field/site visits over the last 20 plus years. |
| Drive by |
| N/A |
| I help produce curriculum and educational programs for teenagers and young adults both locally and globally. |
| Born and raised on the big island |
| It is a part of my Hawai'i Island, my homeland. |
| hunting and land management |
| National Guard training area 84/98. |
| As a an ecologist, resident and military 'brat' i feel very concerned about the aina and lease/occupation of land and its use. |
| I'm listed as a cultural Assessor for Pohakuloa |
| None |
| Lineal Descendancy |

| |
|---|
| Local resident, cultural user (Native American) of the saddle region |
| NONE |
| I am a 31 year resident of Hawaii |
| None |
| Island resident |
| The project area is located on lands of the Hawaiian Kingdom and as a Hawaiian Kingdom subject, I have an interest in these lands. Past US military activity in the project area has caused physical and biological damages, as well as radiation contamination of these lands in violation of international laws of occupation and in violation of the neutral (military) status of the Hawaiian Kingdom. I served on the PTA Cultural Advisory group for over a year, which turned out to be nothing more than window dressing. I resigned from the advisory group after it was finally disclosed by the occupying country (US), over half a century after the fact, that radiological spotting rounds for the Davy Crockett nuclear weapons system was used at PTA in the 1960's. No effort was ever made to clean up the contamination and nothing was ever recovered since then. The occupier denied the use of radiological weapons until it was disclosed by a contractor that they discovered radiological spotting rounds use on Oahu resulting in an investigation of the occupier's records, which revealed the occupier's secret. |

Question 8: Are you aware of any traditions or customs that may take place near the Project Area or are otherwise associated with the Project Area?

Number of responses = 82

| |
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| 'Ae, yes. Pōhakuloa is our piko of Hawai'i island. Many sacred sites such as heiau temples, ahu altars built by our Ali'i, and the 'āina and her genealogy itself are sacred to me and to Hawai'i. |
| Ae , (yes) |
| yes |
| No |
| Yes. PTA has different Cultural Sites and includes an old Village with burials. An elderly Hawaiian Man is attempting to pick up bone fragments and long bones, and says Pōhakuloa is being used as a bombing site for foreign countries and wants it to stop. |
| No |
| None |
| Well let me just say the map you sent and description of the proposed sight is generic. With the resources of knowledge with today's technology I would have expected a lot better from you folks. This is the norm for the US military to give us bare minimum but Dr Kehau wow here's a hint of advice, give us better of the area preferably old maps, the older the better, even if you have to write over the names of places on the map do it those names deserve to be said out loud over and over. If there are family names associated with the LCA's or Royal Patents we should know about it. Seeing and reading it is will help us channel our ancestors so we can get that knowledge you seek. Many of us here represent our entire ohana and you know how far that could extend. Take this proposed sight and give it the mana it deserves. We all want to repeatedly say the names of those places to give it mana. For far to long our |

Appendix B: Online Survey Questions and Responses

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| history has been kept silent. So can we not be silent and can you teach geography that way by the time we pau with this the army will have no choice but to leave it as is. |
| Yes |
| no |
| Not formal Just that they are ceremonial |
| We are currently working with other native Hawaiian organizations in regard to traditions and customs |
| Yes |
| The water in this area brings life to plants and animals. We must honor the land and take care of the earth. |
| Yes, Hawaiians conduct cultural activities near the project area. |
| I have friends who go for traditional reasons but I don't. My relationship with the area is more about keeping the environment pristine |
| No |
| yes |
| The whole area is considered sacred and holy to Native Hawaiians and many others. The Military is desecrating this sacred land that is part of the Hawaiian reverence for the area. |
| no |
| Yes, native Hawaiian cultural practices. |
| I am aware of subsistence pig hunting occurring within Pōhakuloa Training Area during certain hunting seasons, a traditional practice. I am not aware of any other traditional Hawaiian practices (e.g. feather collection, 'uwa'u hunting) currently being practiced within the project area as the general public, and particularly kanaka 'ōiwi, are not typically permitted within PTA despite the presence of iwi kūpuna and upwards of a thousand cultural sites, several of which are ceremonial in nature. |
| 'O ke alualu pua'a kekahi hana o ia 'āina, pēlā nō ka māka'ika'i ka'apuni, ka ho'omana, a keu nō i ka po'e hula - Pig hunting is a tradition of that land, as is its status as an important place in the tradition of spiritual island circling excursions, known as "huaka'i ka'apuni," special spiritual meaning and customs may be held by certain individuals especially those involved in hula. Every piece of land is steeped in history, and the land in question was originally held under the tenure of high ali'i Victoria Kamāmalu and Laura Kōnia. Those decedents of these ali'i, and others seeking to honor or connect with them for other cultural and spiritual reasons may find great importance in these lands. |
| Yes |
| No |
| Not aware |
| None |
| Countless |
| Near, yes. Pu'u Huluhulu is a sacred location. There are a few other rolacea nearby also considered sacred. |

Appendix B: Online Survey Questions and Responses

| |
|---|
| Yes |
| yes |
| No |
| Hunting gathering religious activities. Caring for and Visiting of ancestral sites. All this disturbed or prevented by the base |
| Yes, the military has traditionally been put in charge of protecting our country and needs to continue using this training area. |
| No |
| 150 archeological sites and 21 endangered species just south of the Project Area |
| Yes, many of it were available and UXO were cleaned up. |
| The project is area is at the base of Mauna Loa and Mauna Kea and although it has not been inhabited it is a passage way used for prayerful meditation and solice. |
| Yes |
| Plant harvesting |
| Since the time of Princess Kapiolani, the vast majority of Hawaiians turned to the one True God, and the royal family would have objected to the foreigners coming in asking them to go back to such a dirty religion that sacrificed humans. The wokeism is imported from the mainland and practices that people claim are often counterfeit for political agenda. Some radicals would even pretend to be the royal line when the true royal line is conservative. |
| No |
| No |
| Yep |
| Yes |
| Yes |
| Yes |
| Yes |
| Yes As all of aina is sacrd |
| Yes |
| Yes |
| Yes, many traditional customs are significant in pohakuloa |
| Yes |
| No |
| Historic archeological sites |
| Somewhat |
| Yes |

Appendix B: Online Survey Questions and Responses

| |
|---|
| Watershed/ rainforest resources, dry land forest resources, forest reserve, native bird/wildlife sanctuary, hardwood resources for cultural practices ex: Lua implements/weaponry, musical instruments. Ancestral burials. |
| Yes |
| Yes |
| No |
| Yes |
| yes |
| YES |
| Yes |
| Numerous native traditions of these 'āina touch all of Hawai'i, and extend to Kahiki (the ancestral homelands of the gods, goddess, and ancestors of the Hawaiian people). The relationship is also a genealogical one. The god-ancestors from whom Pele and the myriad gods which make the living landscape descend, represent the generations of ancestors from whom the Hawaiians descend. |
| No |
| Yes |
| I feel my awareness is minimal but the calling is not. From archives I have read it seems as though the saddle lands had multiple heaui (temples) with layers of subjects to learn about including training. Each of the island's districts had old trails leading to them. As an ultra runner I have learned the importance of training at higher elevations. As a teacher I also learned the importance of reading the stars and collecting rare bird flight feathers (as one of the ancient currencies that had existed). There are many key cultural stories that I see could be told and brought back alive. |
| It should not be used for military training |
| Traditional and or cultural practices may be done anywhere on our island home. |
| yes |
| No |
| Yes! I was with a group from iceland invited by native kanaka for lono ceremony/makahiki sun rise in November when shelling and very early rounds were being let off. |
| Yes |
| Yes, Hawaiians gather for their cultural practices. They come to pule. |
| Yes. Indigenous & Cultural Ceremonial Activities |
| Yes |
| A FEW |
| I am not aware of any specific customs or traditions associated with the Project area other than my own personal customs and rituals. |
| No |

| |
|--|
| Yes |
| Prior to western contact, and perhaps many years after, the aboriginal people used the area as a transportation corridor and an access way to conduct religious ceremonies on Mauna Kea as well as to gather dense basalt for tool making. Cultural and religious activities also occurred on or at many of the pu'u (mounds) in the area. |

Question 9: What place names do you know for the project area or areas near or adjacent to the project area?

Number of responses = 72

| |
|---|
| Ahu a 'Umi |
| Malama Aina |
| ahupuaa Kaohe , Burial grounds within Pōhakuloa |
| Judd Trail |
| The Pu'u cinder cones all have names in Hawaiian and the area is know to be a gathering place. Bombing has made an impact to the area and Destroyed vegetation and crucial forests, altering these sites named in mo'olelo. |
| None |
| None |
| I am still looking at the map you sent and I still don't know where it is. Now you know I am being sarcastic but if this is a Cultural Impact Assessment this survey is ridiculous it only shows how generic your consulting firm is. |
| Not willing to offer names for the project but I do know names of these places |
| none |
| Waikoloa and Waimea |
| Also working with other native Hawaiian organizations familiar with the aspect of names in the project area |
| Pōhakuloa. Kohala. |
| Mauna Loa, Mauna Kea, Hualālai, Pu'ukea, Pu'ukapele, pu'uma'au, Napu'ukūlua, Omakoili |
| Mauna Kea park |
| the entirety of Hawaii Island is sacred in traditional Hawaiian culture and U.S. military presence here is harmful, illegal desecration |
| I know it as a sacred place that is being misused and polluted and this needs to stop! |
| - |
| Ka'ohe Mauka ahupua'a, Humu'ula ahupua'a, Waimea Crown lands (1848), Keauhou Ii Nene Sanctuary, Kaohe Game Management area, Land Commission Award (LCA Helu 8521 B:1, G.D. Hueu). |
| The name Pōhakuloa may refer to an akua, a |

Appendix B: Online Survey Questions and Responses

| |
|--|
| 'O Pu'uahi, ka punawai 'o Lilinoe, ka punawai 'o Hopukani, 'o Ahumoa, 'o Kilohana, 'o Pu'uukea, 'o Pu'ukoko, 'o Pu'umana'o, 'o Pu'umau'u, 'o Pu'uokau, 'o Pu'uokahua, 'o Pu'upōhakuloa, 'o Pu'u'ula'ula. Aia paha 'o Kawaihūokāne i kēia 'āina, 'a'ole paha. - " ", Kawaihūokāne may be located at or near this piece of land. |
| Kaohe Mauka |
| Kaohe |
| None |
| None |
| All of them |
| Pu'u Huluhulu, Kilohana |
| Pōhakuloa Mauna Awakea Pu'uhuluhulu Mauna Loa Kaumana |
| Kilohana |
| Pu'u Huluhulu |
| Cannot recall. Ask the descendants |
| Mauna Loa |
| Umi's Temple and Bobcat Habitation Caves just south of the project area |
| There are several pu'u in the area (ex. Pu'u Ke'eke'e), not to mention the fact that it is directly between (and on the slope of) Mauna Loa and Mauna Kea. |
| Pohakuloa |
| Puu huluhulu. Humuula. Ahu a umi. Puu nene. |
| The most prominent would be puu huluhulu. |
| None |
| None |
| Mauna a Wakea |
| Pohakuloa |
| Pohakulia |
| Lalamilo, Waikoloa, Pōhakuloa |
| Really? All aina is sacred especially bombing our drinking water aquifer should be enough to stop the USA violence against my people |
| Caves burial areas |

Appendix B: Online Survey Questions and Responses

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| We can't share that type of information because the USA military will desecrate them if we share that knowledge. |
| Pohakuloa |
| Whatever you tell me. |
| PTA, Gilbert Kahele tec area, Pohakuloa game management area... |
| Kaohe |
| Pohakuloa Heiau, Pu'uhuluhulu, Mauna Kea, Kaohe, pu'u manu, pu'u ka pele, na pu'ukulua, ahumoa, kokoolau, naohuleelua, hīnau, ahuaumi heiau, puu o uō |
| Kipuka, kaohe, huumula, Mauna Loa, puuanahulu |
| None |
| Puu keke |
| Mauna Kea |
| KA'OHE / PU'UHULUHULU/ GIRL SCOUT CAMP/ BRADSHAW AIR FIELD/ SHEEP STATION/MAUNAKEA SADDLE UP THRU ICE AGE MAUNAKEA RESERVE AROUND TO KEANAKOLU SIDE. |
| Ahumoa, Ka'ohe |
| All of the 'āina is sacred, even if the surface has been altered through natural or human actions. There are numerous place names associated with the lands on which PTA is situated, or which adjoin PTA. Many of these places have traditions passed down over there generations which describe how the names came to be. The integrated and inclusive Hawaiian world-view of the honua ola (biocultural environment- landscape), causes problems, of course, for the western approach to managing lands, resources, and describing boundaries. The tidy little "dot on the map" makes it easy to dissociate less-tangible parts of the landscape—the beliefs, customary practices, living culture, traditions and access—from the larger part of the landscape. In words familiar to those who engage in traditional cultural properties studies, these other facets of the landscape are "contributing features" of a larger biocultural landscape that is comprised of both tangible and intangible cultural assets. Desecration through the past and ongoing actions by PTA harm both 'āina and kānaka, |
| Mauna Loa, monikea |
| PU'U HULUHULU |
| Ahu-a-Umi by way of Judd's trail. |
| Pu'uhuluhulu |
| na |
| Pu'u O'o, Pu'u Maile, Lava Ridge, Pu'u Keke |
| Maunakea |
| Pu'u Huluhulu, Pohakuloa, Waiki'i, Manā, Keauhou |
| Puuhuluhulu, Ka'ohe, Puuahumoa |
| NONE |

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| Just Pohakalooa |
| Pohakuloa, Humuula, hale pohaku, pu'u hululu, etc |
| Waikahalulu Gulch, Pohakuloa Game Management Area |
| Kaohe |

Question 10: Are you aware of any cultural resources in the Project Area or near the Project Area? If so, please list them below.

Number of responses = 76

| |
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| Ahu A 'Umi- altar built by Ali'i 'Umi a Lilio who is my ancestor and chief of Hawai'i. He trained his warriors here in Pōhakuloa and the entire region is the piko umbilical cord of Hawai'i island. |
| Malama Aina |
| yes, the list would be too long, it is known as a burial and kapu aloha everywhere, |
| No |
| The Project area contained medicinal plants, petroglyphs, burials, and was a resource for hunting and gathering, lei making, and Navigational que stones |
| No |
| None |
| Many |
| There are family heiau, ahu and burials on these lands. We need access to carry out our traditions and practices. |
| Ohio trees and temples |
| We are familiar with the watershed and conservation of aquifers under the slopes of Maunakea and Mauna Loa |
| Hunting. Fishing. Early settlements including farming, living, religious practices. There are many caves where people lived. Many ancient walls and agricultural sites. Also trails and pathways. |
| Yes, water and natural resources. |
| Yes, burial grounds, heiau |
| No |
| endemic plants, petroglyphs, endemic birds, endemic insects, endemic people who inhabited the region until the illegal U.S. overthrow of the Kingdom of Hawaii |
| The whole area is worshipped as part of the sacred area of Mauna Kea. It should be removed from Military control. Period. |
| - |
| Unknown specifically. |

| |
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| <p>Yes. I am aware of a network of lava tubes that extend for miles below the surface of the project area that preserve within them significant and intact cultural resources that have (so far) been protected from the abhorrent destruction that has occurred already within PTA. I am also aware of intact nesting grounds for the ‘uwa‘u (‘ua‘u) bird, a bird that was traditionally caught in the lands of Pōhakuloa according to boundary commission testimonies from the late nineteenth century. There has also been evidence that other birds traditionally significant to Hawaiians were hunted in these lands, including the nēnē. Precontact site types documented within the project area have included but are not limited to human burials as well as those pertaining to temporary habitation, lava tube shelters, transportation, markers (e.g. cairns), terraces, and lithic and volcanic glass flakes. Furthermore, there is great potential to unearth subsurface cultural features within or in the proximity of existing sites. There are also numerous surface features (e.g. hearths, cupboards) associated with these sites that are indicative of a rich plethora of traditional activities which have occurred within the bounds of PTA. Some of the sites that have been lucky enough to have been preserved have yielded rare finds of organic materials including a ti leaf sandal, cordage, ipu, and charcoal, indicating an area rich in pronounced human activity most likely utilized during activities associated temporary and more long-term habitation to facilitate upland resource procurement. I am also aware of several trails that lead to the lands contained within the project area (which include kīpuka) although I am unsure as to their current integrity given the activities that have been undertaken on the lands of Pōhakuloa over the course of the last 77 years.</p> <p>Since the first archaeological survey of the lands of Pōhakuloa wasn't conducted until approximately 30 years subsequent to the initial military use of the lands and 13 years after the lease of the lands to the Army, it is unfathomable to imagine how many significant cultural sites and resources were subject to obliteration during these spans of time.</p> |
| <p>English below. He pilina ko Hawai‘i nei ‘āina i ka Hawai‘i ma kona kanaka ‘ana. He pilina ikaika, anoano, a me ke aloha wale ho‘i. Ke lawe ‘ia ka ‘āina, lawe ‘ia kekahi mea o ke kanaka ‘ana. Ma ‘ō loa aku ka ‘āina o kekahi mea e ho‘onanea ai ka maka, he mea ia e pā ‘e‘ehia ai ka na‘au o ka Hawai‘i. Loa‘a nō ka po‘e nona he pilina ikaika, a he pilina ‘ohana paha i kēia ‘āina i hāpai ‘ia a‘e nei, a he waiwai ka mālama ‘ia o ia ‘āina me ke hāpai a ho‘omana‘o ‘ia o ko lākou kuleana ma laila. Hawaiian lands have a special relationship existential with the identity of the people from Hawai‘i. The land is a part of not just a collective cultural and societal identity, but a strong, spiritual, and personal one as well. When a piece land is taken, it piece of identity is also taken as well. In a very actual Hawaiian perspective, land is more than just something appealing to the eye of man, but is something that strikes a deep and spiritual chord in the identity of anyone of Hawai‘i. There are those who have a deep and possibly even familial connection with the lands mentioned above, and the very existence of this land is a very important cultural resource for them. Disregarding this as a intangible and therefore un-important cultural resource would be objectively ethnocentric and cultural biased and intolerant.</p> |
| <p>substance informs of native plants, animals, and springs as well as places of worship</p> |
| <p>Yes, I have found sacred area's while hunting</p> |
| <p>Not aware</p> |
| <p>None</p> |
| <p>Mauna Loa, Mauna Kea, Nene birds, Puu Huluhulu, everything in the area is a cultural resource</p> |
| <p>I'm sure there are, I'd think collecting of materials for lei, hunting for food, etc.</p> |
| <p>Pōhakuloa training grounds is a culturally significant land site</p> |

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| somewhat |
| Mauna Kea,our water shed |
| It is not my place to say. I know they are there and people are afraid to tell the military or others who will disturb them and who already have disturbed them |
| Many archeological sites along the New Bobcat Trail just south of the Project Area |
| It lies in the area of our most sacred sites and mauna, multiple ‘ahu, heiau, and also our largest aquifer. Not to mention, it lies ma uka of our forests, kīpuka, watersheds, and even residential areas where any particles from shooting, bombing (“practice”), etc are carried downwind, go into the honua, go into our waterways, etc. Our mauna, our water, our ‘ahu, our heiau, our pu’u, and our people are all significant cultural resources. |
| Prayer, Meditation |
| 'Aina is a cultural resource to be used for the perpetuation of life not death dealing. |
| Native carrot. Spermolepis. Native mints. Aalii. Mamane. Portulaca. Kauila. Alaa. Maua. Ae. Wiliwili. Aweoweo. Palila bird. Uou kani. Adze quarry. |
| not within the area, though at one time the Judd Trail was heading that way. |
| No |
| No |
| Mauna a Wakea |
| No |
| Hunting area,and gathering of plants and fruit. |
| Multiple burials and ‘ahu. |
| All pohakuloa is sacred All aina is sacred USA must follow kingdom laws Kanawai states you destroy aina you were a threat to sustainability of all These people were giving death sentences before it kills everyone Kanaka wai is still the law of this land and yes if a consultant approves this toxic extension will be in violation of kanawai the legal law of this land Which states |
| Water table |
| The entire island is a sacred site |
| Can't share such important mana'o with the “treaty violators”. |
| No |
| No |
| Cave system within impact range |
| No |

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| Yes |
| Watershed/ rainforest resources, dry land forest resources, forest reserve, native bird/wildlife sanctuary, hardwood resources for cultural practices ex: Lua implements/weaponry, musical instruments. Ancestral burials. |
| Pohakuloa heiau, ahuaumi heiau, judd trail |
| Sheep, goats, pigs, pheasants, chukar, turkeys, |
| No |
| None |
| no |
| NUMEROUS STONE AHU (Various Elevations) LAKE WAIIAU / ROCK QUARRY/ BURIALS / PIKO PLACEMENTS |
| No, it's too private |
| Many wahi pana (storied sacred landscapes) are known within and adjoining PTA. This is a fact, recorded in the traditions and place names of the region. The Hawaiian worldview of the relationship between sacred places, place names and cultural resources may be summarized by the following statement: Inoa 'Āina and Wahi Pana are tangible evidence of Hawaiian knowledge of the bio-cultural resources that exist all around us. The landscape and its resources are not only valued, but they are integral to the well-being of Hawaiians; and the cultural practices are occurring all around us, whether they are observed or not. (Expanded upon from a statement by Prof. Davianna Pōmaika'i McGregor) |
| Yes, native Hawaiians, protesting the 30 meter telescope |
| N/A |
| The rocks and old flows helps tell some of the oldest stories. The trails shows us the old self-sufficient infrastructure. The water, lava, and other earth elements helps lead us. If accessible, we can look to them to help show us the way. |
| The cultural resource is the whole island and the military's leases are to expire so stop the bombing and military activity's then |
| Unknown as area is restricted, no public access. |
| yes mamane trees for the endangered palila bird! natural water ways . |
| No |
| The land is sacred and has sensitive ecosystems . It is nice to see the uau bird returning to the Mauna Kea for example. Deeply concerned about military contamination and depleted uranium etc |
| Not applicable due to secrecy. |
| Adze Quarry & Lake Waiau on Mauna Kea |
| NOT PERSONALLY |

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| No |
| No |
| No |
| While I served on the PTA Cultural Advisory group, several members went on a field trip sponsored by the army (precise location unknown). During the field trip, various cultural resources were discovered. There were ipu (gourds) found in a lava tube and some were intact and still holding water that dripped from the ceiling of the lava tube. There was evidence of bird collecting activity in shallow lava tubes as evidenced by bashing rocks seen in those areas. There was a small gulch on a north-south foot trail where a bridge was built out of dry stacked basalt so that crossing the gulch was much easier. I assume the bridge was built to ease the burden of transporting dense heavy basalt collected on Mauna Kea back to the communities of the collectors. |

Question 11: Is there anything about the project area that’s particularly significant you would like to share? If so, please share the information below.

Number of responses = 78

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| Ahu A ‘Umi is sacred to me because Ke Ali’i o ‘Umi A Liloa is my kupuna ali’i. This is a sacred site from a pono and important Chief of Hawai’i built thousands of years ago that stands firm today. Second. Pōhakuloa, the ‘āina is thr piko of Hawai’i Island. The mana and spiritual energy as well as natural energy that exists in this realm is sacred. Disturbing this mana and energy disturbs everyone and everything. Respect what is sacred. Our house of worship may not have steeples or look like a cathedral, mosque, or synagagogue but Pōhakuloa and Mauna Kea are our Houses of Worship and we demand mutual respect. |
| Malama Aina |
| needs to be stopped bombing, archeologist are not cultural practitioner and had no accountability of understanding or know place base and destruction within project military base |
| I am curious as to how the US Government acquired ownership of the land as indicated in the purple colored area of the map of Kaohe area. Is this real estate that was acquired from Parker Ranch? |
| PTA was given a Lease by BLNR. The entire site of Pōhakuloa looked very different than it does today, due to severe bombing and live fire training. The "Cultural Impact Statement" and EIS should first be about Complying with the Lease that signed. Focus should be on Clean-up and just how the DoD plans to Comply; what native plants will be grown to plant there to Comply with the former lease. No future lease should be considered because DoD needs to Comply now. |
| No |
| None |
| every piece of aina is significant to me |
| So shared above |
| It is very close to to 2 towns and the military activities are very disturbing |
| Currently in consultation with other native Hawaiian organizations pertaining to that matter |

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| Ancient and historical sites for hunting, fishing, living, worship, observing stars and planetary movement. |
| The water and natural environment must be protected. |
| This place is unique in the entire world. Why on earth would we bomb such a place? It is an inappropriate place for such training. |
| I would like the bombing to stop. It is time to focus on peaceful solutions to problems in our world. |
| This is sacred ground that should be restored to its natural condition then left by the U.S. military |
| The whole area is sacred to Native Hawaiians. Get the Colonialist U.S. Military out of there and off the Saddle. |
| - |
| TMK's 3-3-8-001-013 & 022 belong to the beneficiaries of the Hawaiian Homes Commission Act of 1921, administered by the Dept. of Hawaiian Homelands (DHHL). Removal of these lands from this inventory is prohibited by the ACT, without consultation and approval of the beneficiaries! [HHCA §228 (b)]. |
| The name Ka'ōhe, which literally translates to "the bamboo," may be affiliated with water transportation throughout the ahupua'a and speak to the significance of the richness of water as a natural resource within Ka'ōhe, and thus within the project area. |
| He 'āina ia o ka wao akua, 'a'ōhe noho 'ia e kānaka koe nā mea pili 'uhane a me nā māka'ika'i kuleana. - This land is of the "wao akua" or holy/godlike region. This essentially means that it was not lived on by people, and was only traveled to for the sake of spiritual journeys and other travels of special responsibility. This perspective still lives on in Hawaiian culture today, and isolated untouched lands are held in great esteem and revered. These lands are not considered lands opportune lands for use, as that would be a kind of defilement of sacred land. This is a very real and important aspect of the current cultural worldview and to view it as intangible and therefore unimportant would again be ethnocentric. |
| My great grandparents used to go up their for substance and prayer |
| The military already has too much land, and once in their control most of it is never used, then the usage rule change to the point most people cannot access, and area becomes overgrown. Keamoku is good example, or they restrict access to area's that were open to hunting/ close area, or they put a road through state land so they can more easily access pta while trying to control state land which they have no jurisdiction, they have already taken portions of unit A that were open to public since I was a kid. Too much land has already been taken and military imposes absurd rules for access then want you to pay for the process in the form of a permit. Enough already. |
| Depleted uranium is a health hazard for the entire community. The lands are sacred and should not be used for military training. Protection of native species must be a priority. |
| Good revenue for the island and state. Beneficial partners going forward. |
| 100s of native animals are killed every year by PTA exercises. Their lives are significant even if the military says otherwise |
| Project area includes portion of Mauna Loa itself which is extremely significant. Culturally and otherwise. |

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| The significance was its undeveloped and pristine natural conditions that's provide a habitat for many endangered species of birds. The barren foot of the mountains provides a key role in the nesting habits of many endangered native birds |
| One of the few places left in the world that should be left in peace and not turned into a dump for military activities. |
| no |
| No need |
| The military has ruined and made toxic extensive areas. The military must clean up the plutonium and I exploded ordinance. The military must open records to the public and repair what damage can be repaired |
| Pollution from bombings. Noise from training activities. General disregard for the aina. |
| The leftmost parcels in the project area block public access from the Saddle Road to the New Bobcat Trail and to the proposed Mauna Loa Trail System. |
| See previous answers. Pu'u Ke'eke'e, 'Ahua'Umi, Mauna Loa, Mauna Kea, etc. These cannot be considered as separate or in a different area than Pōhakuloa. They are all connected. |
| My concern as a resident is the bombing and sounds that pollute our overhead airspace and nighttime sleep. As well as how and who will clean up the area of unexploded ordinances after the area doesn't serve the Army any longer. Have we not learned from Kaho'olawe, and even here in Waikoloa Village - children playing in the yard, surrounding areas and discover the left over opalala from your training excercises. |
| The 'Aina is not being used to benefit the people of Hawai'i, instead it is being corrupted with toxic armaments. |
| Most of the rare native plants and birds species are declining because of the current activities in the project area. |
| By reserving it for military use, the land has been kept more pristine than if it would have been given to commercial use. |
| There are very few areas in the star of Hawaii suitable for military training excercises. Training is essential for operational readiness of our armed forces. Without a suitable area in the state, troops would have to be flown to the mainland at considerable time and expense. |
| No |
| Yes. Every culture in the history of the world have their tallest mountains as their places of worship and as 'holy places' The Hawaiian people are no different, whether current or historically. The area should be preserved for Hawaiian use. |
| The water aquafier is affected by chemicals released by live fire excercises in area. |
| Return it to the Kānaka Maoli! |

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| Everything in the kingdom is sacred as we are all connected to aina (which is our mother that feeds us |
| See #10 |
| End all Colonial military desecration. |
| It's located in the middle of an island and should not be used for military purposes |
| No |
| Endangered plant species identified by early studies done by Dr. Lani Stemmerman et.al. |
| As one of Hawaii's closest residents to PTA I am always wanting to understand activities in proximity to my land and any risks they may impose on my family. |
| This is the piko of the island and significant alterations to the landscape can effect the rest of the island |
| 'Aina (land) and Wai (fresh water) are important resources to ALL who live on an island. Land and water resources should be protected from any destruction, pollution, and/or desecration. As seen with Kaho'olawe, Makua Valley, Red Hill, Pohakuloa and countless other Hawaiian Wahi Pana (cherished places) once these places are opened to military use they are destroyed FOREVER. Regardless of "promises" of cleanup and/or returning the land back to pre use form and function these "promises" cannot be fulfilled once the land and water resources are destroyed! Pohakuloa Training Area should NOT be allowed to expand and should be closed permanently immediately before any more irreversible damage can be done to the land and water resources of Hawai'i Island. |
| On an island with limited space and resources, every square inch is particularly significant. This area is home to beloved Pu'u, ancient heiau, and is full of sites of worship. It also contains large areas that could be reforested into native wildlife habitat, and is near some of the few areas where native songbirds can still be found. |
| Gathering areas for food that has been destroyed and has given us no access to it like we used to have before |
| This area used to be a significant area for gathering of food such as mammals and birds. A place that was used to teach the younger generation the how to hunt and gather. |
| Any soil, water, mountain or field in Hawaii shall remain purely untouched to qualify as sustainable and sacred to its people. |
| No |
| Military training bases are critical both national defense and is a large employer and contributor to the economy |
| MY FATHER SERVED UNDER COLONEL KUPAU/ I Was Told About Many DANGEROUS THINGS STILL THERE. |
| It's sad that it's just bombed all the time. |
| See question 18. |
| There's lots of pigs and goats, frequent high fire danger war |
| N/A |

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| This area seems very significant to the historical development of ancient Hawaiians and I hope it can also be available to modern Hawaiians too. |
| I do not want the military on island anymore, they have not been good about the cleanup of unexploded ordinances on any area in the state used for there purposes of training, poor stewardship should not be excepted! |
| Our precious land and resources are being desecrated and destroyed by the military combat practices. |
| Look at any area that PTA has taken over and it is a dead dessert like land scape . where nothing will now grow . There impact on the environment is largely ignored . no ground cover causing big dust storms . who knows what chemicals are in the dust that is lifted into the air and settling in outside habitats contaminating everything |
| None |
| The Military should leave after the lease is up. Other areas like where i lived (Concord Naval Weapon Station) have been decommissioned. This cheap lease does little to benefit Moku e Keawe. Also the military should be required to clean up toxins in soil, etc |
| Stop bombing and the u.s. should pay for the damage at Pohakuloa by its military |
| This area, is being abused by too many bombings. We travel saddle road at least once a week and have been caught in dust storms. The dust is always coming from the Pohakuloa Training side of the road. |
| Value and utilize the area for dark skies and natural open space for cultural observance and solitude |
| NO |
| I would like to see the U.S. Military leave the area. |
| No |
| No |
| Land in the project area was never ceded by the Hawaiian Kingdom to the US, the State of Hawaii, or any other entity. The US and State of Hawaii continue perpetuating the mistruth that Hawaiian Kingdom government ceded land to the US. It is an undeniable fact that no lands in the project area were ever ceded by the Hawaiian Kingdom government to the US or State off Hawaii. |

Question 12: Are there any stories associated with the project area we should be aware of? If so, please share that information below.

Number of responses = 64

| |
|---|
| Stop War |
| I will leave the moolelo to Kupuna whose iwi reside there. |
| Unknown. |
| I am aware of the story of the United States of America (of which I am a Patriot) is involved in the illegal Overthrow of the Hawaiian Kingdom; now "...under a strange form of Occupation" according |


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| to UN Human Rights investigator Dr. De Zayas. PTA military have a Field Manual that explains "Occupation" and how the "Laws of the Occupied" must be followed. Originally, the United States signed the Treaty of Friendship, Commerce and Navigation with No Hawai'i Pae 'Aina (The Hawaiian Kingdom) Recently a letter was sent to Gov. Ige on Nov. 10th, 2020 from the National Lawyers Guild (NLG) made of 6,000 members who voted to send the Compliance letter. Perhaps the story will end well if the USA does the right thing and set Hawai'i Kingdom free.. if America stands for FREEDOM we would be hypocrites if we now know we are Belligerently Occupying Hawai'i Nei and we don't set her free. |
| No |
| No |
| how inconvenient, do you need a history lesson? stories like this are so scarce why would anyone say it for the army? |
| Plenty |
| Loud bombs and fires. Shaking the ground and very upsetting to people |
| Native Hawaiian organization related to this will be assistance for us as we proceed |
| Yes. See booklists available thru the University of Hawai'i at Manoa and Hilo. |
| Some years ago a friend of mine told me that she lived here in the 1960s and that there were some poisonous effects from the military happenings up by Mauna Kea |
| There was no treaty if acquisition, which means it was never legal under U.S. law for Hawaii to become a state. 78% of Hawaiian s signed a petition requesting the Queen be reinstated. Hawaiians weren't who voted for statehood, it was plantation workers and owners who got to vote. An entire, independent country became an illegal state without its citizens getting a vote. Even the United Nations has called Hawaii a "strange" colony of the U.S. |
| The area is talked about as sacred in many historical Hawaiian stories. It was stolen from Native Hawaiians by the Colonialist U.S. govt. Return it to it's rightful owners! |
| - |
| Unknown. |
| The name Pōhakuloa may refer to an akua, and a lover of Poli'ahu, and is discussed in the Kaa Hooniua Puuwai no Ka-Miki tale. He is affiliated with the akua Kāne and also with Waihu Spring and Lake Waiau. There are many more. |
| He 'āina ia i kaua ai 'o Kamalalawalu lāua 'o Lanikaula. He wahi kēia i hele mua ai 'o Hi'iakaikapoliopole, a he ko'iko'i ko laila no ka po'e hula. Nui nā mo'olelo o ka nūpepa i laha 'ole, a he mea pono ka maka'ala loa a me ka noi'i nui loa i ka hana pono. - Kamalalawalu and Lanukaula battled here in the story of Lonoikamakahiki. This is also a specifically mentioned spot that Hi'iakaikapoliopole first traveled to after she left Pele. Due to the great importance of the latter story, and especially its importance to those associated with Hula, this land is of importance. There are great numbers of relatively uncommon stories held in Hawaiian news paper, so great care must be taken to ensure that important landmarks in these stories are not adversely affected by the project. |
| for substance and worship/prayers/halawai/church |

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| If you look close, they are expanding, but not creating jobs for locals, it has always been a select few, or mainland contractors, training is good but they don't use over half of what they have control of, land not being used should be returned. |
| None |
| PTA works with the county to assist in aid to people injured on the DKI Hwy. |
| There are hundreds of stories, do some research on your own |
| Stories? |
| The most impactful story I have ever heard about this area is that the military has been bombing an active volcano for over 30 |
| Nothing like having the peace disturbed by exploding bombs. |
| no |
| So much to list |
| It is not for me to share stories I've heard. You should be aware of the great damage that was done and fix what can be fixed and get out |
| The Saddle Road entrance to the 350 mile proposed Mauna Loa Trail System runs through the westernmost parcels of the project area. This entrance is currently blocked to the public and we cannot access the New Bobcat Trail to Umi's Temple and beyond. |
| It baffles me that there are stores and mosques in PTA but yet our own people are not allowed to use this area for our own cultural practices, gathering rights, etc. We have 'ahu and heiau there that have purpose and instead have been turned into America's wasteland. |
| The 'Aina is sacred to life on this island. |
| Generally the stories you hear will have been made up fairly recently. If you check, over 99% of the Hawaiian people had followed the one True God. Even the top kahunas converted to Christianity. Any stories that survive are made up since then and don't jive with the written records. |
| No |
| No |
| Unexploded ordinances Damage to environment from war games |
| Unknown |
| You already know them. |
| The project area is our water shed for our drinking water hello yeah Research kumulipo |
| This study does not honor those responses presented in 'olelo Hawai'i by refusing to translate in the EIS. |
| End the illegal occupation! |
| . |

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| No |
| N/A |
| Before the closure of the area due to Pohakuloa Training Area this area was an important environmental and cultural resource. This area was used by Kamehameha as a training ground for his Kipu'upu'u warrior forces including food and water resources as well as training grounds |
| Too many to type up on a phone into this little form. |
| N/A |
| No |
| no |
| DANGEROUS UXO'S BEING PLACED THERE FOR YEARS & YEARS. PLUS THE FOREVER CHEMICALS STILL POISONING WATER AQUIFER & AIR WE BREATHE D A N G E R  |
| No |
| See question 18. |
| N/A |
| I found these stories from my quest to follow the path of 'Umi leading to a Heaui he likely built or restructured to represent to unification of this island among other things. |
| It belongs to the Hawaiian people. |
| na |
| No |
| I don't share stories unless in oerson |
| We have seen live shelling out in Pohakuloa especially at night. There are also the uranium up there. |
| NO |
| None known |
| No |
| Kapuna has many stories that are theirs to tell. |
| There is a story about a US presidential executive order that claimed lands in the project area for US military use. The story is untrue. No US presidential executive order has legitimacy in a foreign state such as the Hawaiian Kingdom. |

Question 13: The Department of the Army is proposing retention of up to approximately 23,000 acres of State-owned land at Pōhakuloa Training Area. The project area is comprised of Tax Map Keys 4-4-015:008; 4-4-016:005; 3-8-001:013 & 022; and 7-1-004:007 in the ahupua'a of Ka'ohē Mauka on the Island of Hawai'i. Are you aware of any resources that may be impacted by such a project? What might those impacts be?

Number of responses = 80

| |
|---|
| <p>Yes the further destructions of our wahi pana and wahi kapu. The cultural sites and religious sites will continue to be desecrated and destroyed if this lease is renewed. The water resevoirs, rivers and streams polluted. The atmosphere intoxicated with the most harmful substane ; depleted uranium. This land is supposed to be used for benefit of Hawaiians. Hawaiians have for long been on the backburner and treated as strangers in our homeland. This is cruel and evil to allow a foreign occupier military to pay only \$1 lease for 65 years why Hawaiians are being gentrified and overcharged and losing our lands, homes, and being forced to leave. Many Chiefs and Hawaiian Monarchs such as Ke Ali'i 'o Lunalilo allowed Hawaiians to live on his land for free. Queen Lili'uokalani allowed Hawaiians to live in their homes for \$1 a year. This is how we Hawaiians should continue to be nurtured. Hawaiians should receive this treatment and benefits Not the occupying military receiving those treatments and benefits.</p> |
| <p>Malama Aina , stop war</p> |
| <p>many na pohaku have been attacked and are now lying down when they were put upright because of the importance In relation to all else there. but you all should know this, many questions here are mahaouiI am not comfortable or do we have even have permission to be answering many of these questions.</p> |
| <p>No</p> |
| <p>Correction: None of these Parcels are "owned" by the State of Hawaii. Ka'ohe is Crown Land within the Metes and Bounds of occupied Hawai'i. PTA was found to contain at least four sites with Depleted Uranium. There must be NO LIVE-FIRE TRAINING into any of the RCAs. at PTA to prevent further contamination and reducing Depleted Uranium Oxide...which one particle in the human body an cause havoc. Water Aquifers and soil contamination.</p> |
| <p>No</p> |
| <p>Ohana</p> |
| <p>Ask me again on a later date</p> |
| <p>Water, land, burials, heiau, ahu, wildlife, humans, etc. PTA and its use of depleted uranium!</p> |
| <p>Water, Land abuse, Toxic waste, erosion, and potential historic artifacts</p> |
| <p>The bombing is toxic as well as the noise and nature</p> |
| <p>Water resources and contamination of those waters</p> |
| <p>Numerous cultural sites. I was part of a University of Hawai'i workgroup which did mapping & excavation of sites in the late 1990's. We were allowed on the site but were usually accompanied by a representative employed by the Army. Damage to the area from shelling and other military activity was evident almost everywhere we worked</p> |
| <p>Yes, ahupua'a of Ka'ohe feeds many people. If you contaminate this area, you are responsible for poisoning those people and any future visitors to the area. Further, the Department of the Army would be responsible for any contaminants that are carried away in rainwater and runoff downstream.</p> |
| <p>It is not a matter of resources. It is a matter of protecting an absolutely unique ecosystem.</p> |
| <p>Bombing the land has no positive impact on the earth. It kills whatever is in its way. It is only destructive. It is most likely going to have a negative impact on the ground water</p> |

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| Endemic trees, birds, plants, insects. Ability of Hawaiian people to inhabit the island placed here for them and to use natural resources safely |
| The ability to access and protect this sacred land by Native Hawaiians would be destroyed by letting the Military retain control of an area they have repeatedly polluted and desecrated. The impact is simple and already seen as the U.S. Military keeps destroying native fauna and leaving toxins every where they touch the land. That's a pretty negative impact and interferes with Native Hawaiian culture and belief and ritual ceremonies and practices.. U.S. Military out! |
| - |
| TMK's 3-8-001-013 & 022 belong to beneficiaries of the Hawaiian Homelands. Any leasing of these lands require beneficiary approval. All these lands are close to the Keauhou Ii Nene Sanctuary, and Kaohe Game Management area, which would be negatively impacted by military bombing and other destructive activities. |
| The proposed retention by the Army of the state-leased lands of Pōhakuloa means certain death for the remaining cultural sites within the project area. We can only surmise the amount of such sites destroyed between 1943 and 1964, and then between 1964 up until the initial archaeological survey was conducted in 1977. From now until the end of the current lease in 2029, unimaginable and irreversible damage will be caused to the cultural landscape comprising Pōhakula. |
| Nā waiwai mo'omeheu a'u i hāpai aku nei i luna a'e ma ka hā'ina nīnau 10 me 11. - The cultural resources I previously brought up as answers to questions 10 and eleven. These are real, true cultural resources that can and will be affected. |
| the water springs below the areas, substance in forms of herbs, plants, animals/livestock, insects |
| What for, they don't need it or use it, it should be returned to the people |
| Depleted uranium is a health hazard for the entire community. The lands are sacred and should not be used for military training. Protection of native species must be a priority. Heiau and other cultural artifacts must also be respected and preserved. |
| None |
| Habitat for Hawaiis delicate native ecosystem. It's being destroyed. Not impacted but destroyed. |
| I believe that's why the impact study will be done. To identify those things. |
| The resource of raw and untouched land. Habitats for native wildlife and native humans, the kanaka maoli |
| The military has no business using this land for their practice killing. |
| native species and cultural sites possible destruction |
| Yes |
| Further ruination and toxification of that area |
| Water source for the island. |
| Hiking trails and access to Hawaiian archeological sites are being denied. |
| Our water resources, our plants, endemic plants, our animals, endemic animals (birds, 'ōpe'pe'a, etc), and native people are all impacted by the lack of culturally appropriate land use, having to see and hear explosions, shooting, etc (which has caused disorientation, PTSD symptoms, etc), seeing |

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| the pu'u be degraded by use at PTA rather than being taken care of, having our water resources being used to supply PTA rather than our own people who do not all have access to water (clean water). The list goes on and on. Historical trauma is also perpetuated by this use as America's wasteland at PTA. Two of our most sacred sites have a bombing wasteland right in between them and many of us need to pass through there on a daily basis. It's like having a shooting range down the center of the Sistine Chapel. That in no way is appropriate and definitely has an impact on all who lay eyes on it. |
| Aquafirs located below. |
| Lake Waiau and the water table. The lake developing microfissures from the vibrations caused by the bombing, which could also "break" the underground water reservoir. And the pollution of the land and water reserves due to toxic armaments left to rot on the land. |
| The impact would be positive because there would be no more military occupation on that land. Resources may include those that i shared earlier and maybe more |
| None |
| Unexploded ordinance is always a concern as well as potential soil contamination from chemicals used. |
| No |
| No |
| As previously stated the water aquafier that we use in Hawaii. |
| Multiple cultural and archaeological sites are in danger. Deforestation due to military and uncontrolled feral animals have contributed to the endangerment and extinction of many native plants and animals. |
| Aquafirs Of Hawaii Island are being contaminated with lead & other hazardous materials such as DU, White phosphorous, etc. The dust that originates From Pohakuloa spreads accross the island, it looks like habib! |
| Water air food sources Huge impact on natural resources |
| Water resources |
| Desecration and destruction of all systems |
| Clean up all your "UXO" now.! |
| Housing, traffic, unnecessary live bombing while crews continue cleaning up unexploded ordinance elsewhere on the island |
| No |
| Unable to respond effectively at this time |
| No |
| This is a sensitive environmental area home of native plant, insect, and animal species |
| Various archeological sites as well as anthropological resources that can be used to perpetuate and restore Hawaiian culture could be destroyed by development by the Department or the Army. Past |

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| archeological surveys have been rushed or completely overlooked in the past as military projects have been fast tracked with rules, regulations, and United States Law not followed. |
| Yes- the greatest and most scarce resource of an island nation- land. Space that could be forested, provide habitats, not to mention places of worship that are both well documented and lesser known due to the attempted genocide of the Hawaiian people. |
| Wildlife. These are special places where families spend time together learning how to hunt and provide food. So much has already been taken away, now they are asking for more? |
| Th resources that would be threatened and impacted would be the ability hunting and gathering of food (sheep, goats, pigs, birds.) and the ability to teach the younger generation of the techniques of doing such activities necessary to the survival of our people. By slowing the military to continue having control over these land's greatly diminishes my ability as a native Hawaiian provide food for my family and teach my children the necessary skills needed to be self sufficient. History has shown that the military does not see the importance nor gives enough access to our people to practices such activities. |
| No |
| No |
| THE STATE OF HAWAII DOES NOT OWN THE LAND ANYWHERE. WE WERE ILLEGALLY OCCUPIED. THEW OUR WUEEN IN TO PRISON & ILLEGALLY OVERTHREW THE KINGDOM OF HAWAII WHICH WAS RECOGNIZED BY OVER 60 NATIONS AROUND THE GLOBE. THERE IS " NO TREATY " THERE IS NO PAPERWORK. ITS ALL S T O L E N ! |
| No, it's too private |
| See question 18. |
| No |
| Return the land back us native Hawaiian's |
| Public's accessibility and safety to relive old traditions and paths towards a educational rights of passage. Public trust in managing these lands is an a resource that will be won by proposing to keep managing the lands in the same manner (leaving it worse off than when one comes to it). Water is another worry that I believe should go without saying no matter where we are talking about. |
| Destruction, unexploded ordinances, and a very poor show of stewardship of land and the surrounding county's. To much secrets not disclosed on ordinances used, and it's affects on the entire island population. |
| The land is being desecrated and destroyed by military combat practices, like Kaho'olawe. It will never be the same. It's not safe with unexploded ordinances. Our island is small, do not destroy it. Do your combat practices on the continent where there is abundant land. |
| air contamination soil contamination water contamination unknown side effects of all the artillery used in training |
| No |

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| The whole island is impacted! There is intrinsic value in the land and as the recent eruption showed this is Tutu Peles land. The ecosystem should be replanted with endemic fauna and remediation steward the transition of use. |
| No. Every rock and that's Kant is a resource. |
| Hawaiians also come to hunt. Some is the main source of protein in their diet. They have a spiritual connection to this Aina and the Army is desecrating their land! |
| Light pollution from military activities and facilities, audible impacts to the surrounding region |
| NO |
| All the animals and plants in the area are in danger of being killed, trampled and otherwise destroyed. The Aina will be bombed, shot, dug up and filled with ugly war mongering equipment. |
| Remnant native forest. |
| No |
| The US is responsible for adherence to international laws of occupation while occupying the Hawaiian Kingdom, and as an agent of the US occupier, the State of Hawaii is also responsible for insuring compliance with international laws of occupation. US military activities that have occurred at PTA, and numerous other locations in the Hawaiian Kingdom, are undeniable intentional breaches of international laws of occupation. |

Question 14: Can you think of ways in which any potential impacts can be minimized, mitigated, or avoided?

Number of responses = 82

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| Absolutely, end the lease immediately, the military should stop desecrated not only our 'āina but everyone else's 'āina. They need to leave Pōhakuloa forever, leave our 'āina, go somewhere else and train period. |
| Stop all wars |
| stop the bombing and destruction |
| No |
| Yes. Do not allow further military use of the land other than the beginnings of Clean-up and reforestation. High altitude bombing with cement filled "dummy bombs" and foreign bombing on PTA grounds must cease. The Lease states the DoD's Clean-up Budget would be based on the "Fair Market Value of the Land"--assessed by DLNR Land Division. |
| Does the Army really need 23,000 acres? The question is what does the Army plan to do with all that land? If practice bombing is to take place then that would have an impact on the land. |
| Give more money |
| Before we answer that could we at least know the specific names of these areas. |
| STOP BOMBING HAWAII! |

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| No. And based on past practices, the military cannot be relied on to prevent or remedy such occurrences |
| Stop bombing and playing war games there and not lease any more of this land to them |
| With diplomacy |
| <ol style="list-style-type: none"> 1. Have the military vacate the property. 2. If allowed to remain require the on site presence of an archeologist to survey and inspect sites and botanist to do the same for endangered species. And to then require mitigation measures to be developed and put in place and maintained. 3. Require the notary to pay a fair market rates with appropriate increases. 4. Make those leases for short terms with right of renewal/extension at the sole discretion of the DLNR or whoever is the signatory to the lease. |
| Cancel your plans. Leave the area in its natural state. |
| Do not renew the lease and return the area to Hawaiian control |
| Make it a national park and stop bombing in it. |
| Cease all bombing practices |
| Yes. Keep the U.S. Army off the islands entirely, since it was military action by the U.S. that overthrew the Queen illegally. |
| Easy. Remove the U.S. Military from control and oppressive occupation of this sacred land. |
| - |
| By not renewing the lease of all of these lands to the US Military! There is no great need to conduct such culturally and environmentally disruptive activities on Hawaiian lands. The military has far more space available on the US mainland to conduct destructive exercises, rather than on the limited lands of Hawaii. |
| Pono ka ho'opane'e, a me ke kūkulu i wahi e hāpai ai ka po'e nona he kuleana maoli ma laila i ko lākou mau mana'o, me ke hiki aku i hana e mālama 'ia ai nā pono mo'omeheu a siwila maoli o ia po'e. - There must be dialogue held with people with a firm grasp on Hawaiian culture, and specifically how actions taken at Pōhakuloa will end up affecting the larger public, and also those with legitimate relationships with the land, and a solution must be reached that honors and respects the legitimate cultural and thereby civil and human rights of those people in question. |
| not till i have a better understanding of the project from start to finish |
| Yeah, get out, you don't need the land or use it. |
| Identify and get appropriate cultural approvals for other larger land areas instead of selecting an island state with very limited land mass. Use simulation training. |
| We could use some financial assistance in replacing the Waikoloa road. |
| Shit down the entire PTA. Nothing else will be enough. We will fight until this is accomplished |
| No live training in the vicinity of Mauna Loa. |
| Yes. Leave said area and never return. Stop bombing an active volcano. None of that activity is necessary |

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| Leave the Island, clean up your mess and don't come back. |
| mapping of endemic species/historic cultural sites |
| If the military left the islands |
| Get out |
| No training station on top of the island. |
| If the Army were to allow public access along the proposed corridor of the Mauna Loa Trail System, this would certainly be welcomed by the island's hiking and cycling communities. |
| Yes. Another site can be identified on the American continent where land is more abundant. The former PTA occupants can then clean up their mess in ongoing efforts for the next 50 years as reparations and as they should when vacating the site. Our own people (organizations, 'ohana, etc) should not be cleaning up their mess for decades to come as is happening with Kaho'olawe. |
| Do not use the land for bombing/shooting/ training/fly zone. |
| Stop the live bombing stop using live ammunition, do not renew the lease, demand clean up of PTA |
| To return land back to the state and designate it to conservation land. |
| Keep the general public out of the training area so they don't destroy it. The Army has always done a good job of preserving the features. After all, it is to their advantage to train in a natural setting, so they keep it that way. |
| Minimize live fire exercises. Do better at identifying and safely removing unexploded ordinance. |
| No |
| Leave |
| Less hard fire |
| By not using live fire and bombs for training. |
| Remove human impact from the area. |
| Clean up & stop polluting, return these conservation lands to actual conservation. |
| End USA occupation of my home the kingdom of Hawai'i is the only way Only way to avoid impacts is no end the military violence again the Hawaiian kingdoms As no legal form of annexation occurred as 99% of Hawaiian apprised annexation As annexation never occurred you are illegally deciding land use Illegal Racist Systematic racism Get a clue USA military fuel tanks at red hill in the drinking water Failure to follow laws pits consultants at risk of violating international federal and fake hawaii state laws Honest environmental impact statement will never allow it But getting a for profit consultanting firm to decide legal and not legal is out of the consultants expertise as in how many years has your firm done toxic mitigation? |

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| <p>For profit means if you decide not to approve project you will never get any more military contracts makes you and your firm proves the fix is in</p> <p>For you to make money you have to lie</p> <p>We tell you all land is sacred</p> <p>Every inch is connected to sustainable future for all</p> <p>However you approve this fraud you will be part of killing us all</p> <p>Where do you live?</p> <p>By a atomic waste bombing ?</p> <p>We do and you want to make it ok?</p> <p>It can never be ok</p> |
| <p>Stop doing them it's excessive and disturbing to wildlife</p> |
| <p>USA military has no legal standing here. There is NO Treaty of Annexation, no USA state of Hawai'i, and this "lease" is a war crime. We are under prolonged illegal military occupation by USA since 1893, as determined by the Permanent Court of Arbitration at The Hague. Under International Law, the USA continues to commit war crimes against the Hawaiian Kingdom and all Protected Persons.</p> |
| <p>No more "Rimpac" ✘</p> |
| <p>Close the training area to army and open it to public</p> |
| <p>Do nothing</p> |
| <p>Clear review of documented resource material pre-PTA</p> |
| <p>Better communication on scheduled events and exercises - especially night training</p> |
| <p>Yes, stop bombing the land.</p> |
| <p>No more development and/or use of Pohakuloa Training Area by the US Military and the clean up and removal of the US Military from Hawai'i Island and Hawai'i at large.</p> |
| <p>Stop bombing the area and clean up all ordinance and remnants.</p> |
| <p>Yup, don't ask for any land use</p> |
| <p>One way to minimize the impacts imposed by allowing the military to ration control of said property would be to allow for greater access with less restrictions. Allow for the use of existing roads to be used in and around said property. Simply put the best and most effective way to avoid the impacts made and to prevent further impacts.</p> |
| <p>N/A</p> |
| <p>No</p> |
| <p>YES! PACK UP AND LEAVE NOW!</p> |
| <p>They could stop using it.</p> |
| <p>Cease occupation of the 'āina and engage in a community/organization partnerships to restore or at least stabilize the 'āina from further destruction.</p> |
| <p>No</p> |
| <p>Damaged has been done time to move out and renew our sacred place</p> |

| |
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| Let competitive management plans have fair access to outbid the current lease agreement(s). |
| Remove the military from the big island |
| End the lease, do Not renew the lease. |
| Only prevention or mitigation is to keep the lands as is and not allow any further military destruction. |
| None |
| The army needs to leave. That is only way to mitigate more damage! |
| Leave |
| I can see they should be doing a reforestation of the land. They would have to fence out the feral goats and sheep to keep them from eating the new plantings, of course all Native plants to the area should be used! |
| STOP THE BOMBING AND THE USE OF HIGHLY TOXIC MATERIALS IN THE ARMAMENTS |
| Design any new facilities in accordance with light pollution standards, retrofit existing facilities to minimize upwards directed lights, restrict the use of temporary area lights and insure lights are extinguished when an area is unused |
| ? |
| The military can leave the Big Island. That will avoid it destroying the Aina and the People who live here. It would also avoid harming the troops who presently are stationed here illegally. The Aina belongs to the Hawaiians and must be returned to them. |
| Avoid fire, and vehicular traffic through vegetated areas. |
| Meet with Kapuna |
| The land should be cleared of all traces of weaponry, ammunition, and resulting contamination. Burn pits should be excavated and the burnt remnants and contaminated soil disposed of in the US capitol grounds. The Pohakuloa land must be restored to it's natural state as it was prior to the State of Hawaii issuing their unlawful lease to the US Army. |

Question 15: Are you aware of any traditions or customs that may be impacted by such a project? What might those impacts be?

Number of responses = 77

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| Absolutely, the heiau and cultural sites that we as Kānaka could enter, have ceremony, cleanse the 'āina and injustices through pule and oli and cleanups, restoring Pōhakuloa are all being restricted from us because the occupying american military is bombing our sacred Pōhakuloa. |
| Destruction of all life , Kanaka Seek Truth Justice Peace , Hale o Lono |
| I have been a traditional midwife here for 25 yrs. Am keeping documentation on the history of trauma that native Hawaiian women have with high miscarriage and fetal mortality rates during RIMPAC exercises on aina ame kai. you should be aware already that Native Hawaiians who have a high cultural affiliation with Pōhakuloa and their iwi there, experience a greater impact on them on body, mind and spirit. Statistics show that they are impacted disproportionately. |

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| No |
| Yes, but under NHPA Section 106, these practices are allowed to be confidential. |
| No |
| The plant dying custom |
| Aina that has lost its history can always be rejuvenated all it takes is for us to know |
| The negative impacts have BEEN affecting Hawai'i and its people. Cancer is on the rise while bombs continue to fall. The lawsuit is still intact and needs to be fulfilled with a hefty cleanup by PTA |
| The proper handling of significant artifacts and burial remains, have been and continue to be mishandled by authorities. I see neither any acknowledgment nor any behavior changes unless monitored and enforced by an agency outside of the government. |
| Ceremony by the Hawaiians |
| Mamalahoakanawai |
| Only bad impacts such as not allowing free access, decimation of cultural sites loss of historical physical documentation, which may be unknown at the present time. |
| Fencing off an area with Hawaiian cultural areas and bombing it has a huge impact on the people and the 'aina. |
| No one except the military is allowed on the land so it impacts all of us. We're not allowed to hike or walk anywhere near there |
| All traditional customs will be impacted. Prove the U.S. military has legal right to be on the islands under U.S. and international law or get out. |
| Remove the Military, their presence is 100% blocking all sacred rituals of the Hawaiian people. |
| - |
| Native Hawaiian practices. |
| Ua hiki ke pā nō nā mea a'u i hapai a'e ai ma ka helu 8, 10 me 11. The traditions and customs I previously brought up on number 8, 10, and 11 could all surely be affected. |
| substance and worship |
| I have already been denied access to places I go to talk to GOD, this will just make it worse. |
| Hawaiian values, traditions, culture and history. |
| None |
| Again, hundreds of them. For god sake do some research beyond a survey monkey poll is this really how the military conducts itself? |
| This is sounding pretty repetitive and leading. |
| Hundreds if not thousands of cultural traditions and customs are already dead and gone because of this project. The impacts are the cultural traditions and customs to be forgotten or no longer have access to those areas. |
| So blowing up stuff to practice killing is ok if it doesn't impact local customs and traditions? Really? |

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| live bombing |
| Our water our Aina or access |
| Caring for ancestral lands and resources. Impact will be further ruination of the area and increased climate change |
| Hiking along the old established trail systems near the base of Hualalai is currently impacted. |
| See previous answers. Everyday that we pass that site to visit 'ohana, get to where we need to, to engage in cultural protocols and practices- is another time that our traditions and customs are impacted. The use of the site is the direct opposite of the many cultural practices that we engage in. Many focus on growth, fertility, and abundance, which is exactly the opposite of what we need to see as we currently pass the site to engage in these practices elsewhere as that land is inaccessible and currently unsafe for our kānaka in its present state. |
| The tradition of stewarding the land is highly impacted by the desecration of the land and natural resources. |
| The cultural practices of the hereditary inhabitants of the ahupuaa. While we may be impacted we will not stop. |
| None. People will surely make up, spread rumors of such traditions and customs that never existed, and so forth. |
| No |
| No |
| I'm pretty sure that the land has a long history of cultural practices before it was appropriated by USA. |
| Not knowledgeable enough |
| Hunting and subsistence by Natives Will be affected |
| The impact would be the continued loss of natural resources and the eradication of Native Hawaiian identity and resources. |
| The Lāhui should be able to visit sacred site & malama iwi kupuna in these areas. Ceremony & protocol should be performed in the various wahi pana within the PTA. |
| Yes living a clean environment is a must to have healthy outcomes Pollinating aina what feeds us will force us all to have negative outcomes forever How can you mitigate that? Do you have any degrees in environmental science? You would know better if you did but as I read the questions you believe you can approve it before we even give input The USA illegally occupying over 150 independent sovereign countries not for freedoms of Americans but to control natural resources of the other countries like us in the kingdom of Hawai'i |
| The ability to hear oneself think |
| Continued denationalization. ALL traditions and customs are impacted! |
| All traditional customs will be violated |

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| Bit late now |
| No |
| N/A |
| No |
| Yes. Training and live fire or ordinance create a hazard that make these areas unsafe. |
| Access will be denied for all land and water activities by the US Army due to “public safety”. All traditions and customs will be prohibited in the area if the proposed project is allowed to go through. |
| Protocol and worship, native plant gathering, hunting |
| Gathering rights. Spiritual practices |
| Same as described in my earlier comments |
| N/A |
| No |
| THE RIGHTS OF WE THE INDIGENOUS HAWAIIAN KANAKA WHOM HAVE BEEN HERE FOR 1,000 YEARS !!! |
| No |
| Almost all traditional and customary practices, wahi pana and 'ohana places are impacted by PTA operations, starting with fences and unexploded ordinance. When one is unable to be on the 'āina, the ability to pass traditions and practices on is diluted. Then the argument used by the agency is, "No one knows anything or goes to the sites, it must not be important. |
| No |
| Kupuna iwi's and historical archeological areas |
| I believe historic model of how this island can be unified and self sufficient is at risk of not being available to follow if this area is being utilized for other means. |
| That we become a target by foreign powers |
| Our Hawaiian cultural practices, we mālama (take care) of our land, we do not destroy it. The land is our ancestors, we mālama not destroy them. |
| hunting gathering of foods . |
| None |
| The whole existence of the army there is alarming and offensive while no treaty of annexation was acquired. The state and federal government do not own any land here except by assumption and fraud. |
| Already stated, Hawaiians use the area for cultural gatherings and should be first and foremost in respect to the aina |
| The Desecration of our 'āina impacted by military training exercises. |

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| Light and sounds from military activities can dramatically impact the environment across a large area, this includes cultural users such as myself who seek natural open spaces |
| ? |
| Hawaiians must answer this. |
| No |
| No |
| The area is traditionally a quiet area where residents could commune with nature and exercise daily activities such as transmitting the area on foot and engaging in various cultural activities. US military generated noise, dust, and ground and airborne toxins now have a 24-7 impact on traditional activities which can never resume until the US withdraws their military forces from the area, cleans up their messes, and decontaminates the soil. High perched aquifers and other ground water sources may be contaminated after decades of US military use. Water sampling to investigate for contaminated underground water should be carried out by drilling on a 100' X 100' grid to a minimum depth of 1,000 feet and water samples collected and analyzed by an independent third party. |

Question 16: Are you aware of any traditions or customs that may be impacted by such a project? What might those impacts be?

Number of responses = 77

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| End the lease. Military needs to leave our 'Āina and leave Hawai'i for good. |
| Stop war |
| There should be studies done and information gathered on fetal morality rates and miscarriages due to RIMPAC exercises. Where are they? Why has the Department of Health refused to release Hawaii Fetal and Maternal Mortality rates the last 20 years. |
| No |
| Stop all LIVE-FIRE Training into RCAs. Neutrality, Geneva IV and Geneva V. Show the DoD will comply with current lease requirements for Clean-up. No further destruction of the land. |
| Avoid war games |
| Give Hawaiians with 100% bloodline a class on racism. |
| any impact on any aina when we are dealing with the United States Army should be avoided in fact state owned lands (de facto) should never be leased to the military. |
| Yes.. STOP BOMBING HAWAII! |
| Only the constant monitoring of ALL military activities by outside agencies such as OHA could possibly prevent damaging impacts. |
| Stop the military activity here |
| Diplomacy |

Appendix B: Online Survey Questions and Responses

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| No. As long as the military is allowed free reign, shelling etc. known and unknown sites will be lost |
| The only way to avoid the potential impacts is not to renew the lease. |
| Make it a national Park and stop bombing in it. |
| Stop bombing |
| Yes. Leave the islands (after restoring to pristine condition). |
| Remove the U.S. Military presence and control of the land. Return it to Native Hawaiians. That would fix everything. |
| - |
| Not renewing the leases to US military. |
| Please see below. |
| E like nō me ka' u i hāpai ai ma ka helu 14 - Similarly to what I brought up on number 14. |
| not till I have a better understanding of the project from start to finish |
| Yeah give it up, you don't need it |
| Terminate lease and find another alternative site not in Hawaii. |
| None |
| Shut it down |
| Again.... Repetitive |
| Leave and never come back. Leave the land alone. Let it heal. |
| Again, leave the Island, clean up your mess, and don't come back. |
| mapping |
| If the military left |
| Already answered this |
| Allow hiking along the established roads and trails in the western regions of Pohakuloa. |
| PTA lease should never have been granted and should be rescinded due to the damage that they have caused to our land, water, and people. They should be fined and have to make reparations for the next 50 years dedicating one week per month of clean-ups to dispose of UXOs. |
| Choose another location for training, in another remote area, like New Mexico, north/South Dakota, Arizona, Idaho etc. |
| Do not renew the lease. Land is for the perpetuation of life not a playground for the practice of death. |
| Allow the Army to keep it so it doesn't fall into general use and be turned into city. |
| See #14 |
| No |
| Leave |

Appendix B: Online Survey Questions and Responses

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| No |
| Plant more trees. |
| REMOVE HUMAN IMPACT |
| Stop using this conservation wahi pana as War training grounds. Clean up, restore & return these siezed lands. |
| End USA occupation |
| Clean up the trash |
| End illegal occupation, restore Hawaiian Kingdom government. |
| No new lease for USA military |
| Close the training area to military and open it to the public |
| Building inspections |
| Better communication between PTA management and local residents. Maybe a web site ... |
| Yes, stop bombing. |
| The complete closure of Pohakuloa training area and a complete and thorough clean up commenced immediately |
| Stop bombing the area, clean up any ordinance and remnants. |
| As stated earlier |
| Same as earlier comment |
| No |
| CLEAR THESE LANDS OF PRACTICING W A R ! BE RESPECTFUL OF OUR AQUIFER AND OUR LANDS ! STOP ALL BOMBING AND WAR GAMES PRACTICING AND DESTRUCTION OF OUR LANDS, VEGETATIONS, ESPECIALLY ALL POISONS KILLING PEOPLES NEEDS OF SURVIVAL NO WATER.... NO LIFE ! |
| The military could leave. |
| Cease occupation of the 'āina and engage in a community/organization partnerships to restore or at least stabilize the 'āina from further destruction. |
| No |
| Avoided by not renewing any leases |
| Let competitive management plans have fair access to outbid the current lease agreement(s). |
| Go completely clean up Kahoolawe and makua on Oahu, Waikoloa kawaihae puukapu on the big island so the people can use the land without fear for farming, building, living on land that may have unexploded ordinances. Clean it up before you use any more land for military purposes. |
| End the lease contract. Do not renew or extend the lease. Our lands must be taken care of, not destroyed. |

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| not allowing any further military use of hawaii public state lands ! all state lands belong to the people |
| No |
| Only solution is to leave and clean up! Please read this i share respectfully as the daughter of a military father. https://www.military.com/daily-news/2022/06/15/forever-chemicals-linked-hundreds-of-military-bases-are-unsafe-any-level-epa-warns.html/amp |
| Leave |
| This should not go forward, because the Hawaiians should have this land returned to them |
| Total cessation and withdrawal of all military training exercises. |
| Do Less. |
| The military should pack up and leave after they clean up the mess they have made. |
| Keep vehicles and live fire out of native vegetation. |
| No |
| De-occupation of the Hawaiian Kingdom by the belligerent US occupier and reparations for damages and human rights violations is a good first step. |

Question 17: Are you aware of any traditions or customs that may be impacted by such a project? What might those impacts be?

Number of responses = 78

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| LEAVE HAWAI'I. WHY ARE ILLEGAL OCCUPYING AMERICAN FORCES BEING TREATED ROYALLY ON OUR HAWAIIAN LANDS? WHY ARE HAWAIIANS BEING TREATED AS THE FOREIGNERS? WHY ARE OUR SACRED SITES AND CULTURAL SITES AND ANCESTRAL LANDS BEING PROSTITUTED FOR TARGET PRACTICE AND BEING DESTROYED. HOW WOULD YOU FEEL IF THIS WERE YOUR OWN HOME? |
| Turn Pōhakuloa into world healing center for PTSD |
| Malama na keiki o hawaii nei. Respect the land, stop bombing, if this is a Hawaiian organization you should already know the best management practices for a area that without a doubt is kapu aloha. abide by these practices. |
| None |
| No. This project should NOT proceed for continued use and bombing. DoD must compile monies, resources, and draw up a Clean-up Compliance Plan. The Lease requires Signs in dangerous areas. No "DANGER RCAs" have ever been placed in areas known to contain the Davy Crockett Spotter Rounds. Civilians and Soldiers should be wearing Radiation Detection Badges right now. The NRC stated in reports that water sampling must be done to check on DU contamination. |
| Honor the land and preserve wild life and waterways |
| As a good steward. |
| It will not proceed if we know the specific names of the areas. |

Appendix B: Online Survey Questions and Responses

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| STOP BOMBING HAWAII! No it should not proceed |
| Constant Monitoring with halting power in all operations. But realistically? No! Not at all. |
| Managed by a environmental group |
| We propose that native Hawaiian organization Hawaiian Kingdom Task Force facilities be created within the project area as an oversight committee and to partake with the United States military in regards to the project. |
| Monitoring, monitoring, monitoring. And adequate funding of all mitigation measures. |
| The best management practice would be to not renew the lease and return the area to the Hawaiians who will malama the area rather than bombing it. |
| Finish cleaning up the mess you left before such as the depleted uranium etc. and then don't make anymore. |
| Offer up many community meetings to get feedback from the people who live on Hawaii Island. If we cannot meet in person have meetings on zoom. But you also need to reach out to people who do not have access to computer technology |
| Require zero impact on endemic plants, birds, insects, humans or environment. |
| The U.S. Military has ruined the land with toxins and toxic evil behaviors. Give the land back to Native Hawaiians to cleanse and return to it's original sacred status. |
| - |
| It should NOT proceed. |
| Clearly my viewpoint is against the lease renewal, and I am staunch in my belief that this project should absolutely, under no conditions, proceed. However if, for some reason the PTA lease is renewed, there needs to be not only extensive consultation conducted with the aboriginal kānaka 'ōiwi community, but also a serious commitment to ongoing collaboration with members of said community who wish to be involved. To exclude kānaka 'ōiwi from the process dictating what happens on their 'āina hānau is inexcusable and intolerable. There should be full disclosure to all participants in this process, and full transparency should the United States military wish to proceed on an ethical journey, of which this request for renewal is not. Those kānaka 'ōiwi who wish to conduct traditional cultural practices at sites within PTA (where safe) should be allowed unrestricted access (with reasonable notice) accompanied by a team of EODs for their safety. And cultural resource management staff should work in full cooperation with members of the community. An outreach program to kanaka 'ōiwi and to keiki should also be ongoing, to facilitate learning about the cultural resources present within Pōhakuloa from a firsthand perspective and also to allow for the learning of the traditions and practices that commonly occurred there. It is absolutely imperative that the lands contained within the bounds of the project area be considered as a cultural landscape. Our kūpuna viewed the world holistically, as a multitude of elements, each forming an intricate network that influenced their world view, their lives, their beliefs and practices. The lava flows and geologic features contained within PTA are just as significant as the physical material culture left behind by our kūpuna, as are the waters that flow towards the project area from freshwater springs and the ua that falls from the sky blown by the winds. A pōhaku is not just a pōhaku. A pu'u is not just a pu'u, and it is unethical and unwise to |

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| <p>consider these as suitable objects for target practice. Each individual element contained within the cultural landscape at Pōhakuloa must be taken into consideration, as it was by our kūpuna, and thoughtfully be considered cohesively with other material elements of culture in conjunction with living kānaka ‘ōiwi to truly comprehend the significance of the Pōhakuloa lands and to preserve what is left for the future generations to come. Our ‘āina has been ravaged at the hands of the oppressor, and the aboriginal descendants of these lands have been victimized through this continued exploitation not only of our lands, but of our cultural resources and the prohibition of our traditional cultural practices that are our birthright. I urge the United States military and PTA personnel to reflect deeply upon these reflections and lead from a place of genuine understanding. An understanding of our precious ‘āina. An understanding of kānaka and the culture of the people whose lands are continually exploited. An understanding of the relationship between the ‘āina and its people. The ‘āina doesn't simply exist to serve for profit (especially to an illegally occupying country), it is that which feeds, but you must mālama ‘āina first and foremost. The continued lease of these 23,000 acres termed the "project area" is a promise of extensive desecration and serves as an insult to kānaka, the ‘āina, and the legacy of our ancestors. So much has been stripped already, will you not stop until the ‘āina is wiped clean of any trace of our history?</p> <p>These suggestions and musings are merely a basis upon which to form the best management practices should, in the worst case, the project proceed and the lands lawfully belonging to the Hawaiian Kingdom be illegally re-leased to the United States military as they continue their belligerent, prolonged occupation of the kingdom and perpetuate their continued failure to comply with international humanitarian law.</p> |
| <p>Ka ho‘omana‘o me ka ho‘omaopopo mau i ka ‘oia‘i‘o maoli nō ho‘i o ka ‘oko‘a lua ‘ole o ke kuana‘ike me ka mo‘omeheu Hawai‘i. He mea ia e maka‘ala mau ai ka haole. - The remembrance and recognition of the true and unique differences of Hawaiian perspective and culture. It is something that non-Hawaiian people working in Hawaii must be constantly be aware of, lest they end up working to break down an already marginalized culture.</p> |
| <p>a meeting of the minds amongst the lineal descendants, cultural descendants, and any other parties that can come together with reason</p> |
| <p>No restrictions on public access none of the nonsense happening now, why do I need a background check, or register my weapons with military, then they want me to pay for process in the form of a permit, no thank you, I worked for federal govt for 20 plus years and probably held a higher clearance than most people there so , this is a hard no for me you can't have it.</p> |
| <p>None other than to find another training area outside of Hawaii</p> |
| <p>Invite the public to view live fire exercises.</p> |
| <p>Do not proceed</p> |
| <p>I personally would like to see no live fire training on the Mauna.</p> |
| <p>Listen and obey the native people of the land.</p> |
| <p>Clean up would be a good start.</p> |
| <p>mapping and consulting with agencies/persons which have been doing archaeological investigation</p> |
| <p>No</p> |
| <p>Do not proceed with any military activity. Clean it up</p> |

Appendix B: Online Survey Questions and Responses

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| Minimal use of explosives. |
| Establish a public hiking corridor along the old established trails in the western region of Pohakulao |
| 'Ohana and kākāka should have rights to access our own self-identified cultural sites (to include pu'u, 'ahu, heiau, vegetation, animals, and any waterways- whether currently running or not) in the area, conduct our own evaluations of their use of the land, and there should be one weekend per month where they dedicate it to clean-up and kākāka can have access to actually see these efforts in action. No further structures should be erected and they should submit monthly soil and water samples from surrounding areas. |
| My recommendation is to not use this land space for training, and clean up when you leave. |
| Do not renew the lease. The military may be framing the conversation, but it is God and the people who will have the last word. Vipers in the temple. |
| It would be good to set aside a path for possible future expressway between Hilo and South/Central Kona that would pass south of Haleakala in the general direction of Judd Trail but modified route to make it more level. |
| See #14 |
| Use inert rounds for practice / no explosives |
| Leave |
| To leave as much land untouched as possible |
| Create a board consisting a majority of groups that represent Kākāka Maoli to decide the best course of action for the restoration of the 'āina. |
| A'ole, lease is up & should never have been made in the first place. |
| This leading question As there is no way to mitigate bombing what feeds us The root word in 'Āina is Ai which means to feed and you want to continue to bomb my home No thank you |
| Stop doing it |
| End the Illegal Occupation |
| It should NOT proceed |
| Nope |
| Unknown at this time |
| See 16 |
| The project should not proceed and the army should begin clean up and restoration efforts. |
| The project should not proceed. Historical evidence (Kaho'olawe, Makua Valley, Red Hill etc) shows that the US Army is not in the business of environmental or cultural preservation and is exempt from US law regarding environmental protection. Should the project proceed the project should be |

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| open to the public at all times with no restrictions and the public should be given power to stop the project at any time for any means. |
| Stop bombing the area, and clean up any ordinance and remnants. |
| No live fire. Let hunters hunt. Let gatherers gather |
| Vehicles and equipment being brought on said properties need to be thoroughly cleaned of any and all vegetation. To prevent further introduction of invasive plants and insects. Allow for significantly greater opportunities and access to said properties for the cultural practice of hunting and gathering. |
| no |
| RECOMMEND DISMANTLING THIS OUT OF DATE DESTRUCTION TO MANKIND & EARTH |
| Remove spent munitions and leave. |
| Cease occupation of the 'āina and engage in a community/organization partnerships to restore or at least stabilize the 'āina from further destruction. |
| No |
| Quite while ahead |
| Join in some of the approved mission statements of the surrounding mountain area management plans. |
| See previous answer |
| No, do Not proceed. The lease must not be renewed. Please do Not proceed. Our Fire Goddess Tūtū Pele lives on our island and she sent her lava flows near to Pōhakuloa. |
| It should not proceed |
| None, the Army has a good policy of policing the areas used. |
| Also read https://www.army.mil/article/109769/picatinny_to_remove_tons_of_toxins_from_lethal_rounds . The area should be tested! What are levels now? What happens with soil leaching? What are levels of barium nitrate and perchlorate ? |
| Leave. No. |
| Other than plants that will help with soil control, maybe water drops to keep the dust storms down. When there is a construction sight the contractor are required to have dust control. The army should be required to keep it down also. You do remember history of the dust bowl? |
| TOTAL CESSATION & WITHDRAWAL OF MILITARY |
| Continue open engagement with the community to inform of activities that have a regional impact, actively seek to minimize impacts to the local community through policies and practices that avoid any unnecessary disturbances. Expand opportunities for community interaction beyond a single open house each year. e.g: Send staff out to provide presentations on biological or cultural resources, recent fieldwork, etc. |

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| no |
| None. |
| No use of explosive projectiles or depleted uranium projectiles. |
| No |
| No, the project should not proceed. What should proceed is a withdrawal of US military equipment and a thorough clean up of the area. A civilian committee with members elected by regional communities should oversee the withdrawal and clean up. The committee members should be compensated for their time and effort rather than being expected to volunteer. |

Question 18: Are you aware of any traditions or customs that may be impacted by such a project? What might those impacts be?

Number of responses = 73

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| DEFEND PŌHAKULOA! THIS IS THE HAWAIIAN KINGDOM. NOT AMERICA. EVERYTHING OCCURRING IS ILLEGAL UNDER INTERNATIONAL LAW, HAWAIIAN KINGDOM LAW, AND U.S. CONSTITUTIONAL LAW. |
| Make Peace NOT war |
| What impact did the bombing have at Kahoolawe ? why is allowed on the aquifers for all of Moku o Keawe? |
| Not at this time |
| More efforts of "Friendly Relations and Diplomatic discussions on "Exit Strategy". NOTE: The lands of Pohukuloa are NOT owned by the State of Hawaii, who actually have no legal right to issue any future lease. Also, it is good to know about the Trophorestorative enzyme called "P4D1" which was discovered after the bombing of Nagasaki and Hiroshima and reducing effects.ofutatkons and birth defects caused by radiation. |
| Can the Army be transparent with how the land would be used? |
| Stop capitulating to the racist Hawaiians. |
| Lots, but I will reserve for now, mahalo |
| Our military has still not cleaned up their previous destruction. They continue to damage our environment to this day. Increasing their domain is moving in the wrong direction. They have not adequately justified their need for this land abuse. |
| Delay the lease approval till, more people know and have a chance to voice their concerns |
| Under DoD instructions 4710.03 We here at IDP/HKTF would like to continue a mutual agreement for reestablishing a formal government to government relationships |
| The military is getting/taking a free ride in many areas in the islands such as Pōhakuloa and Makua. It needs to stop. |
| We are living in a time of great destruction. The pandemic is a direct result of man's ignorance. If we are to have a home on earth- We must create spaces of sanctuary and care for the environment. |

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| If you want to do the best with this land, then work on creating a place of sanctuary. Protect the land. |
| Once again, I would like to say that uniquely uniquely situated spot such as this in a tiny island chain with situations that don't exist anywhere else in the world is an inappropriate place for any military activity. |
| No |
| Please leave the islands altogether. You were never meant to be here. |
| End the Military occupation and end the desecration of our sacred Mauna Kea/Mauna Loa. Return the land to Native Hawaiians. |
| Please stop bombing the land and polluting the air |
| I don't support the military practices that PTA does to our land. The noise pollution, the air pollution that goes to Kona, the damage it does to our land...many many many residence feel the same way. We don't support PTA - period. |
| US military needs to release the lands on Oahu as well. The impact to Honolulu is even greater, due to the limited space and large population there! |
| No. Mahalo. |
| Ma ka mo'omeheu 'oia'i'o o ka Hawai'i, 'elua wale nō mea e hehi ai ke kanaka ma kahi malihini, 'o ke kuleana, a me ke kama'āina. He maha'oi, a he hō'eha ka hele wale o ke kanaka. Ma 'ane'i ho'i e 'ike ai, 'o kēia hanana a ka pū'ali koa i Pōhakuloa, he kuleana 'ole, a kama'āina 'ole. He hakina kolonaio nō ia.- In an again real and actual Hawaiian perspective, there are only two reasons one would go to a place one is not framiliar with. They are "kuleana" or responsibility, and "kama'āina," or interpersonal connections. If one does not a specific responsibility to a place or have people to welcome one to an unfamiliar spot, it is considered rude to go there. This is the fundemental reason why the U.S. training camp at Pōhakuloa is so painful and displeasing to people of Hawai'i. It is a vestige of Hawai'i's colonial history. |
| not at the current moment or told othewise |
| No |
| Thank you for the opportunity for input. |
| I support the continued lease of the training area for the benefit of military training. |
| I will fight against PTA and the destruction of the Hawaiian ecosystem until I die. Get out of here. |
| Nope |
| The US has a long history of taking advantage of the native Hawaiian community and their land. Native Hawaiians had their land stolen and have never been raised up to their true status in these islands. They remain oppressed and in a state of minority. Hawaiians needs help retaining our sacred lands and lifestyle. With the growth of industrialism and capitalism, the Hawaiian lifestyle is loosing its foothold and more and more Hawaiians are losing our way of life due to expensive living conditions and laws put in place that do not allow us to live in the manner in which we are most accustomed to. |
| I think I am clearly stating I do not believe a weapons training facility is not welcome here. |

Appendix B: Online Survey Questions and Responses

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| no |
| The military took our Aina by force and did nothing for the Hawaiian people but destroyed our land and tainted our water |
| Clean it up and get out immediately |
| Please consider leaving this area and island. |
| There is conflicting signage at the two entrance gates of the public hunting area at the western end of Pohakuloa, between the old and the new saddle roads. |
| Eviction notice is long past due. Why wait until the lease is up? They've proven that they have been irresponsible occupants. Anyone with sight can see this. Hawai'i is not responsible for America's warfare with our limited resources. |
| The impact of heavy vehicles on our 1 road to and from the site is highly affected and traffic only continues to increase. |
| I can only share my Aloha and resolve to free the land from further injury by the military and state. |
| We need protection of the Army. If we are ever invaded, all hope of protecting any culture or anything else is lost. Invaders won't care. Just look at what's happening in Ukraine. |
| In the past, the US military were not the best stewards of the land. However, they have adapted to being more environmentally conscious in accordance with applicable laws. I support continued operation of this training area. |
| No |
| Leave |
| Yes, Mahalo for the opportunity |
| I doubt my concerns will be considered, but I know I am not alone, and our voices will be ignored, as usual. |
| It is way past time for the USA Military to begin to make right all the wrong done to the peoples Of Hawaii for 130+ years. The past cannot be undone but, America, in good faith, can begin to pursue a pono direction by releasing, restoring & returning this vital wahi pana to conservation & preservation. Ke oluolu? |
| Yes End this toxic consultant process I live an hours drive to Pohakuloa and the photo I uploaded of the Mauna Loa eruption from my home Imagine how close this active volcano can do to us? Then add a bombing range into an active volcano is stupid and does not give a shit about us here |
| 130 years of illegal military occupation and denationalization doesn't change the fact that this is the Kingdom of Hawai'i, an independent nation in continuity since 1843 under International Law. |
| No treaty = War Crimes USA is illegally occupying the Hawaiian kingdom. |
| Pull the Army out of Hawaii. Try CO or AZ |

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| Nope |
| I fully support the PTA mission but better communication on usage - current, past and future is required. |
| Please respect the sacredness of the aina and stop destroying it and creating long lasting potential danger and damage. |
| Aloha 'Aina Oia I'o! We will forever love and protect our 'Aina (land). Until the last Aloha 'Aina! |
| Stop bombing the area. |
| bases like this are critical to training. the military makes all attempts at working with local population. It's is the squeaky wheel complainers that make the base sound bad. |
| TIME TO GO ! WE ARE TIRED OF DESTRUCTION ! PLEASE LEAVE GO ELSEWHERE ! |
| The military are terrible kind stewards. |
| The links below will take you to several studies which cover the 'aina of PTA and larger 'aina mauna. https://www.kumupono.com/wp-content/uploads/2021/12/2001_11_26_Ahu-a-Umi-Keauhou-Kona-Hawaii-PDF.pdf https://www.kumupono.com/wp-content/uploads/2021/12/2004_03_31_Humuula-Piihonua-Hilo-Hawaii-PDF.pdf https://www.kumupono.com/wp-content/uploads/2021/03/Mauna_Kea_Kuahiwi_Ku_Hao_i_ka_Malie_KPA02_0827-4.pdf https://www.kumupono.com/wp-content/uploads/2021/03/HiWaikii61-Vol-1c.pdf https://www.kumupono.com/wp-content/uploads/2021/03/HiWaikii61-App-A.pdf https://www.kumupono.com/wp-content/uploads/2021/11/HiNars80-Puu-Makaala-b.pdf ; https://www.kumupono.com/wp-content/uploads/2021/03/ https://www.kumupono.com/wp-content/uploads/2021/03/Mauna_Kea_Ka_Piko_Kaulana_o_ka_Aina.pdf https://www.kumupono.com/wp-content/uploads/2021/11/2006_05_06_Mauna-Kea%E2%80%93Ka-Piko-Kaulana-o-ka-Aina-Hawaii-Island-OH-PDF.pdf |
| Keep the bathroom/ rest area open and clean please and thank you |
| Enough is enough to much damage done over the years time give replenish the land clean up all exploded and unexploded ordinances |
| I appreciate this survey being accessible. |
| The military has a bad reputation for use of Hawaiian lands, from unexploded ordinances to fuel contamination of underground aquifers, pollution of waterways etc. if you can't keep it clean then you shouldn't be allowed to use it for any military activity. |
| Again, do Not renew the lease. |
| End |

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| The military must vacate the Pōhakuloa area and return the land to the Native Hawaiian people. Mahalo. |
| soil and air quality samples should be taken of current areas occupied by PTA |
| No |
| Im deeply concerned about continued “training “ and long term impacts to soil, ground water and flora/fauna. Also the vast lease does little to support kanaka or local economy. I have seen the over militarization of Oahu and it saddens me... i can list a plethora of whys! |
| You are bankrupt. We don’t want to be part of your wars. |
| I do understand the need for the army to train, but the lease for 1.00 is unacceptable! The army should be paying an adequate amount of funds to compensate the Hawaiian people! |
| STOP DESTROYING OUR ‘ĀINA |
| I would like to hear of a way to protect the aina,but help the finances of the BIG ISLAND |
| No |
| No |
| I support the US withdrawal of all military forces from the Hawaiian Kingdom and commencement of negotiations for a peace treaty and reparations for harms committed by the US against the Hawaiian Kingdom's natural resources including but not limited to lands, fresh water sources, airspace, the ocean, and citizens. |

Question 19: If there are any documents you would like to share, feel free to upload them here.

Number of responses = 3

Question 20:

CONFIRMATION OF PARTICIPATION - I hereby understand and agree that the answers I have provided in this survey are to be included in the Cultural Impact Assessment (herein referred to as “CIA”) for the proposed retention of up to approximately 23,000 acres of State-owned land at Pōhakuloa Training Area.

Number of responses = 86 (85 “yes” responses; 1 “no” response that was removed from CIA)

Numbers of skipped responses = 154

Question 21 (OPTIONAL): If you would like to share your contact information, please do so below. This information will be redacted from your response in the CIA to protect your privacy.

Number of responses = 32

Numbers of skipped responses = 208

Four individuals provided additional resources and comments to Honua Consulting which are appended to the CIA here. These resources and comments informed the archival research and cultural context of the document. These resources and comments were not, however, considered in the analysis presented **in Section 8.0.**

**Comments and Documents Received from
Mililani Trask**

From: Mililani Trask mililani.trask@icllchawaii.com

Subject: Pohakuloa Survey Responses

Date: October 14, 2020 at 4:56 PM

To: community@honuaconsulting.com

Cc: Mililani Trask mililani.trask@icllchawaii.com, Lakea Trask lakeatrask@gmail.com, Leilani Lindsey lkaapuni@gmail.com, Damien Trask onaonatrank@gmail.com

MT

Aloha Trisha,

I tried using the on-line survey but it keeps closing before I can finish it!!!!

I am sending you this input because of this. Please put it as my survey response.

I think you will find 2 efforts in your survey box, neither completed.

Name: Mililani B. Trask, I reside at Olaa Hawaii. PO Box 6377 Hilo HI 96720

Responses:

I am a cultural practitioner, an indigenous Hawaiian, and have used the Pōhakuloa Area for cultural purposes over the years.

I have hiked the Pohakuloa area and used it for gathering purposes for pohaku, including Kuni stones, and also for plants including medicinals.

I have used the data in various Reports over the years as well as some of the chants & songs about the area and island.

In 1915-17 I learned about the DU at Pohakuloa and radiation problems. I took all the stones I had gathered back to the areas from which I had collected them near Pohakuloa because I was afraid of radiation poisoning. Prior to that time I had gathered at Maunakea, Pohakuloa & Mauna Loa but thereafter I limited myself to the Maunakea side of the Saddle Road.

Some of the resources I have used are the modern archaeological & historical data including the rare plant surveys by Robert Shaw have not been updated for awhile.

I gathered & hiked this area for years until the radiation problem arose.

XX

MBT

Some of the Resources I have used that I am identifying & requesting be included in the CIA are listed below.

I AM INCLUDING & INCORPORATING THESE RESOURCES BY REFERENCE IN MY ANSWERS TO THIS SURVEY.

PLEASE INCLUDE THIS EMAIL AS PART OF MY RESPONSE TO THE SURVEY.

1. 1993-TITLE Archaeological survey and testing for the Saddle Road improvement project, Pohakuloa area, Island of Hawaii by Welch, David J., International Archaeological Research Institute,

2. 1996-

An archaeological collections summary for Pohakuloa Training Area, Hawaii

by the U.S. Army Corps of Engineers, TITLE Archaeological surveying Pohakuloa Training Area (PTA)1996,

3. 2004

An overview of the archaeological context of Pohakuloa Training Area in Hawaii island

Godby, William C., Carson, Mike T.

Adzes Pohakuloa; Archaeological surveying Pohakuloa Training Area (PTA); Bird hunting; Pohakuloa Training Area (PTA); Saddle Road; Volcanic glass quarries and quarrying.

4. 2004

The Pohakuloa Chill Glass Quarry Complex, U.S. Army Pohakuloa Training Area, Hawaii Island, by Williams, Scott S. locations: surveying Pohakuloa Training Area (PTA); Pohakuloa Chill Glass Quarry Complex; Pohakuloa Training Area (PTA); Saddle Road

5. 2012

Ethnographic study of Pohakuloa Training Area and Central Hamakua District, Island of Hawaii, State of Hawaii, final report

McCoy, Patrick C., Orr, Maria, Pacific Consulting Services, Inc.

Archaeological surveying Pohakuloa Training Area (PTA); Cultural property Hawaii Island; Natural resources; Pohakuloa Training Area (PTA)

6. 1997

Title: Rare plants of Pohakuloa Training Area, Hawaii by Author: Shaw, Robert Blaine. Part I & Part II.

Comment: Trisha, this is a two part study that uses the Land Condition-Trend Analysis (LCTA) that was designed to inventory and monitor the Army's lands.

One of the major components of LCTA is a floristic inventory. The LCTA floristic inventory for Pohakuloa Training Area (PTA) began in November 1988 and continues today. Numerous rare and endangered plants were discovered through the course of the initial inventory, prompting more extensive surveys and research. These surveys have added valuable information concerning the biology, ecology, and abundance of the rare taxa found on the installation. The report introduces the physical features of PTA, summarizes major threats to rare plant species on the installation, and outlines and illustrates information concerning each taxa. An updated list of species inhabiting the installation is provided as well

species inhabiting the installation is provided as well.

URL: <http://www.denix.osd.mil/nr/upload/97-23-Rare-Plants-of-the-Pohakuloa-Training-Area-Hawaii-Part-I.pdf>
<http://www.denix.osd.mil/nr/upload/97-23-Rare-Plants-of-the-Pohakuloa-Training-Area-Hawaii-Part-II.pdf>

7. 7. Kumu Pono Associates (Kepa Maly) has done several studies on Maunakea & Kahohe. These studies include data on gathering as well as wahi pana of Pohakuloa that also lies in Kahohe. There are significant sites involved including the trail of Umi that leads to the Ahu A Umi. The trail comes in from Hilo side & Kona side.

8. I am requesting the Honua Consulting contact & interview Kepa Maly and his wife Onaona (Kumupono Associates) about the Kahohe area (which is a component of Maunakea in Hawaiian Cosmogony).

Pohakuloa is part of the larger cultural landscape now referred to as "Maunakea" . The Hawaiian Cosmogony, traditional belief system and cultural practices identify Pohakuloa not only as an area between Maunakea & Maunaloa, but clarify that the God Pohakuloa resided at Lake Waiau. Hawaiian Cultural & religious practitioners, including myself, understand & utilize Pohakuloa as one part of the biocultural cultural landscape which we access for cultural reasons.

The following is a verbatim quote from Pohakuloa - 'AinaMauna Historic Notes' Compiled by Kepa Maly, Kumupono Associates) re: the "Inoa pana"of the traditional area.

"Inoa Pana o ka 'Āina Mauna (Storied Place Names of the Mountain Lands)

While much has been lost since western contact, the persistence of inoa pana that have survived the passing of time, give us a glimpse into the Hawaiian knowledge of place, and the cultural attachment that Hawaiians share with their biocultural landscape. These names are among those that demonstrate the Hawaiian familiarity with the sites and features, and varied elevations of the mountain regions. In ancient times, named localities served a variety of functions, including but not limited to — heiau or other features of ceremonial importance; triangulation points such as ko'a (land markers for fishing and bird catching areas; residences; areas of planting; water sources; trails and trail-side resting places (o'io'ina), such as a rock shelter or tree shaded spot; sources of a particular natural resource or any number of other features; or the names may record a particular event or practice (e.g., use for burials, or making of ko'i {adzes}) that occurred in a given area. (emphasis added by MBT)

Mauna Kea – May be literally translated as “White Mountain,” because during the winters, the summit is often covered with snow. The peak of Mauna Kea (Pu'u Kūkahau'ūla) stands 13,796 feet above sea level. Also, early native accounts (cf. Malo 1951 and Kamakau 1991) suggest that other translations are appropriate. One such account, recorded by an elderly Hawaiian source in c. 1917 by researcher and translator, Theodore Kelsey tells us that “Mauna Kea” may also be translated as “Wakea’s Mountain.” Wākea, also written and pronounced as Ākea and Kea, was the god-father of the island of Hawai'i. The island child was born by Papa or Haumea, the goddess who gave birth to islands. Mauna Kea as a place name, can be traced to the earliest written and cartographic resources of the Hawai'i; for examples see the Journals of Captain James Cook (Beaglehole 1967) and S.C. Wiltse (in Register Map No. 668).

Houpo-o-Kāne
also written

Ka-houpo-o-Kāne – May be literally translated as “The chest (bosom) of Kāne.” The god Kāne is believed to be foremost of the Hawaiian gods, and is credited with creation, procreation, light, waters of life, abundance, and many other attributes. A land being likened to the chest of Kāne, can imply that the land was cherished and blessed by the god Kāne. (This name is now written Hopukani; known as one of the springs near the 10,000 foot level on the north side of Pōhakuloa Gulch.)

S. N. Hale'ole's tradition of Lā'ie-i-ka-wai (In Kū 'Okō'a 1862-1863), records that “Kahoupokane” was one of three companions of Poli'ahu. The other two companions were Lilinoe and Waiau.

The area identified as Ka-houpo-o-Kāne is situated below Waiau, on the southwestern slopes of Mauna Kea, in the land of Ka'ōhe (Figure2). One of the primary attributes of Kāne are the wai ola (life giving waters), sacred springs and water sources made by Kāne around the islands, to provide for the welfare of the people and the land (cf. Kamakau 1976 and Beckwith 1970). Interestingly, at Ka-houpo-o-Kāne are found the waters of Pōhakuloa, Hopukani, and Waihū (also known by the name “Ka-wai-hū-a-Kāne”).

Kū-ka-hau-ūla – Kū of the red hewed dew or snow: named for a male deity form of the god Kū and lover of Poli'ahu, goddess of the mountain (see the section of traditional narratives in this study). Kūkahau'ūla is identified in the Boundary Commission testimonies of 1873 as the highest peak on Mauna Kea (now generally identified as Mauna Kea peak or Pu'u Wekiu) and is recorded by C. Lyons in his 1884 survey the summit peaks of Mauna Kea (cf. Register Map 1210 of 1884; in the collection of the State Survey Division). (Figure 2)

Pōhaku-a-Kāne – May be literally translated as the “Stone made by Kāne.” A traditional Hawaiian account recorded in the early twentieth century tells us that Pōhaku-a-Kāne, also called Ka-paepae-kapu-a-Kāne (the sacred platform of Kāne), was named for a form taken by the god Kāne. A platform near Waiau was named for and dedicated to this deity (see the historical narratives in this study).


Pōhaku-loa – May be literally translated as the “Long Stone.” A traditional account recorded in the early twentieth century tells us that Pōhakuloa was named for a deity who was a guardian of Ka-wai-kapu-a-Kāne (The sacred water of Kāne) at Waiau. The name Pōhakuloa is applied to a land area, gulch, and water source situated on the slopes of Mauna Kea and making up a portion of the saddle between Mauna Kea and Mauna Loa. As a place name, Pōhakuloa can be traced back to a least the Boundary Commission testimonies of native informants in the 1870s (see selected narratives in this study)."

Please include this email as my testimony & response to the Survey.
I request the opportunity for an interview, please call me at 808-990-0529.
I will return to Oahu in November.

.....
Mahalo,
Mililani B. Trask

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From: Mililani Trask mililani.trask@icllchawaii.com 
Subject: Fwd: Pohakuloa Consultation
Date: January 12, 2021 at 10:43 AM
To: community@honuaconsulting.com, Ku Kahakalau kukahakalau@gmail.com



----- Forwarded message -----

From: Mililani Trask <mililani.trask@icllchawaii.com>
Date: Tue, Jan 12, 2021 at 9:24 AM
Subject: Pohakuloa Consultation
To: <admin@honuaconsulting.com>, Luana Busby <alakupui@aol.com>, Ku Kahakalau <kukahakalau@gmail.com>

Aloha Trisha,

Your letter dated December 12, 2020 was received by me on January 11th! It was 1 month late!
The Post offices in Hilo & Keaau were backed up for miles last month, and no wonder it never arrived. I immediately called Luana Busby Neff to talk with her about it, she did not receive it either. She did not know or hear about it at all. She is following up with you directly.

Luana, Craig & a few others have been Makahiki practitioners on Pohakuloa for many years.

In my submittal to the U.S. DoD, I state that I was a practitioner on Pohakuloa for years, going there to gather Kuni stones, however when Uncle KU learned about the radiation resulting from US Military testing & the problem with rocks being contaminated & washing down during heavy rains, I had to stop going up and return all the stones because there was no way to insure that the Kuni stones were safe. My sister Keonaona (Damien) came with me during this years. She later was diagnosed with Breast Cancer.

I am sending photos of the letter to Luana today. Please follow up with her directly. She is on this email. Please confirm that you have received these attachments.

I am forwarding herewith the response I sent to the US DoD (Gilda) and the attachments which include my request for copies of all cultural reports done by the US DoD these past years. The DoD has significant data including reports on the location status of cultural features being impacted in Pohakuloa, but refuses to release these data.

XX
MBT
Call me
808-990-0529

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Indigenous Consultants LLC Mail - Comments - DoD 4710.03

11/5/20, 10:31 AM



Mililani Trask <mililani.trask@icllchawaii.com>

Comments - DoD 4710.03

Mililani Trask <mililani.trask@icllchawaii.com>

Fri, Nov 6, 2020 at 10:28 AM

To: laura.j.gilda@mail.mil, DoD_NativeAffairs@keresnm.com

Bcc: Mililani Trask <mililani.trask@icllchawaii.com>, Luana Busby <alakukui@aol.com>, Leilani Lindsey <lkaapuni@gmail.com>, Kyle Kajihiro <kyle.kajihiro@gmail.com>, Malia Nobrega <malianob@gmail.com>, Ku Kahakalau <kukahakalau@gmail.com>

Forwarding attachments including Testimony & Submission to DOD Re: DoD 4710.03 – Re: Consultation Policy of USA with Native Hawaiians, as well as executed forms for continuing Consultation with US DoD on protection of Hawaiiin Cultural properties & affiliated human rights.

Please confirm receipt.

XX

Mililani B. Trask
Convener,
Na Koa Ikaika Kalahui Hawaii

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3 attachments



DoD-USAGP Training PA Cons Party Status Request2020.pdf
332K




DoD - 2020GeneralConsultUpdateForm.pdf
195K



MBT- NaKoa DOD COmments- FNL:PDF.pdf
458K



MBT- DOD
COmm...6.docx

From: Mililani Trask mililani.trask@icllchawaii.com 
Subject: Fwd: Comments - DoD 4710.03
Date: January 12, 2021 at 3:49 PM
To: community@honusconsulting.com



Hre is my complete submission to DoD Cnsultation
XX
MBT

----- Forwarded message -----
From: Mililani Trask <mililani.trask@icllchawaii.com>
Date: Fri, Nov 6, 2020 at 10:28 AM
Subject: Comments - DoD 4710.03
To: <laura.l.gilda@mail.mil>, <DoD_NativeAffairs@keresnm.com>

Forwarding attachments including Testimony & Submission to DOD Re: DoD 4710.03 – Re: Consultation Policy of USA with Native Hawaiians, as well as executed forms for continuing Consultation with US DoD on protection of Hawaiiin Cultural properties & affiliated human rights.

Please confirm receipt.

XX
Mililani B. Trask
Convener,
Na Koa Ikaika Kalahui Hawaii

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United States Army Garrison - Pōhakuloa

Consulting Party Request Form for Hawaii Island Training Programmatic Agreement

Name of Person Completing Form: Milani B. Trask

- I request to be added as a consulting party to the Training PA.
- I am no longer interested in consultation on the development of the Training PA.



Na Koa Ikaika o Ka Lahui Hawaii
Affiliate of Indigenous World Association
P.O.Box 6377 ❖ Hilo, HI 96720
mililani.trask@icllchawaii.com



To: U.S. Dept. of Defense
DoD_NativeAffairs@keresnm.com

October , 2020

From: Mililani B. Trask, Convenor
Na Koa Ikaika KaLahui Hawaii
ECO-SOC Affiliate to Indigenous World Association
And NHO on U.S. Federal 106 Consultation list.

Re: DoD 4710.03 – Re: Consultation Policy of USA with Native Hawaiians.

I. *Objections to the manner in which this Consultation is being conducted by the USDOD & Proposed Corrective Measures to address these deficiencies:*

- A.** The US DOD is trying to include Native Hawaiians (hereafter Hawaiians)in its federal policy governing Consultations with Indians, who have federally recognized tribes. Hawaiians are not federally recognized Tribes and so do not have an indigenous governing body to speak for & represent their interests. Because Hawaiians are not federally recognized, the USDOD has tried& is trying, to avoid real Consultations with real Hawaiian cultural practitioners by substituting the Office of Hawaiian Affairs as the Hawaiian peoples representative government, and hosting informal discussions with Hawaiian Social groups who are not cultural practitioners.
- B.** This cannot be done. What is required is a Consultation process & procedures with Hawaiians who are cultural practitioners with family & traditional affiliations to Land and Ocean based resources that comprise the Native Hawaiian land trusts, including the Northwest Hawaiian Islands, which trust lands and resources are impacted by DoD activities.

Recommendations for Procedural Requirements: Published Notice in News Media outlets statewide & mailouts to Hawaiian individuals & NHO's whose members are practitioners and for all NHO's on the 106 list of Interior.

The USDOD needs to adopt a procedure for providing notice to Hawaiians practitioners of future Consultations at least 60 days prior to the actual Consultation, that requires (at a minimum) detailed information on what the Consultation process is, the topic & scope of the Consultation are as well as the timeframe for submitting written input and comments.

Notice to Hawaiian cultural practitioners should be published in local & Statewide newspapers for 8 consecutive weeks prior to the date of the scheduled consultation. COVID is no excuse for not hosting ZOOM meetings so that Hawaiians can participate directly in Consultations re: USDOD activities in our State, on Ceded as well as DHHL lands and State waters.

OHA is a State Agency elected by the public, Statewide. OHA Trustees are elected primarily by non-Hawaiian voters from Oahu who are not ethnically Hawaiian and who do not “represent” Hawaiians from any State or County Election district. Most importantly. The record indicates that Hawaiians have repeatedly had to sue OHA for accountability and that there have been in recent years at least 3 Audits questioning OHA's use of trust funds, and failure to be transparent and accountable to its Hawaiian beneficiaries. In recent years the State Legislature withheld funding from OHA because of these problems.

II. The failure of the current process, including the current “Consultation” on DoD 4710.03 is evident in the evolution of this USDOD Policy.

It is now 2020, the USDOD claims that it has already completed its ‘initial’ “Consultation” with Native Hawaiian practitioners because it held “community” meetings with some Hawaiian Social groups, (Civic Clubs) , OHA, CNHA and others “interested in the impact of DoD operations and efforts to preserve natural and cultural resources and places of traditional religious and cultural significance.” These meetings were held for 2 years, between 2006 and 2008.

(See Report to Congress, Department of Defense Consultation With Native Hawaiians, Sept. 2019).

Three years later, in 2011 DoD entered into an MOU with two other Federal Agencies (Interior & ACHP) called the “ Native Hawaiian Federal Interagency Working Group”. In October, 2011 DoD adopted its own internal policy which it has recently sent out as a “DRAFT” for further input from OHA & Hawaiian Social groups.

DoD never actually adopted any procedure or policy framework for consultations with Native Hawaiian cultural practitioners. In its 2019 Report to Congress, Dod States...” DoD established a separate consultation policy 2011, *Department of Defense Instruction 4710.03: Consultation With Native Hawaiian Organizations* (DoDI 4710.03). DoD remains the only federal agency with a policy specific to consultation with NHOs. “ This is patently false. DoD is now circulating another red lined “Draft” Policy for input.

What is required is a real Consultation, publically Noticed NOW. Instead DOD is trying to use data gathered from Social groups, businesses, a State Agency & “others” 12-14 years ago as input to a Consultation on current cultural uses & practices & related belief systems impacted by current DOD Land & Ocean Activities on EO, State trust lands & resources leased to the US & utilized by the USDOD.

Recommendation: NaKoa requests that the DOD hold real consultations NOW on the adoption of a DOD policy framework & procedures for DOD Consultation with Native Hawaiians Hawaiians that includes but is not limited to NHO's on the 106 list as well as others who respond to the published notice which has yet to be undertaken.

A. Current efforts of DoD to hold secret “off the record” discussions with Hawaiian practitioners using Pohakuloa, in KAOHE, Hawaii Island:

Recently, DOD acting with the support of the Chamber of Commerce held quiet ZOOM meetings with a few Hawaiians in secret. The contractor hired was Noe Kalipi (Kalipi Enterprises). Hawaiians involved (about 7 people) were not even told what the ZOOM was about or who would be on the ZOOM. It turned out it was a USDOD “Consultation” being paid for by the Chamber of Commerce! Military personal including several Generals & the topic was renewal of the DOD leases in Pohakuloa!!

After weeks, it went nowhere, two months later, this USDOD notice came out in the OHA Newsletter. Outer islands saw it in mid-October when the newspapers are sent out, leaving only 3 weeks to respond. However, the USDOD posting of data referred to in the OHA newspaper could not be accessed on line as represented.

B. Misrepresentation of U.S. to United Nations on Consultation with Native Hawaiians:

On April 26, 2019 Valerie Houser, Advisor to the US Mission to the U.N. delivered a false statement to the US Permanent Forum representing that US Agencies had a functioning policy for consulting with Native Hawaiians when federal “projects” protection of Hawaiian and Indian affect Hawaiian “properties” Hawaiians view as religious or culturally significant. In her Statement Houser only mentions the NHPA, ACHP, the ARPA and NEPA – the USDOD WAS EXCLUDE BECAUSE THERE IS NO POLICY OR PROCEDURE IN PLACE FOR Consultation with real Hawaiian cultural and religious practitioners.

III. Request for DoD disclosure of all relevant current & historic data, including archeological, cultural, & scientific reports relating to all US DoD uses & the impacts of such uses to Native Hawaiian trust lands & oceanic resources & assets.

A. Na Koa Ikaika KaLahui Hawaii requests copies of the following Reports & studies, including appendixes, attachments including cultural mapping diagrams in order to facilitate its review of the impact of DoD uses of Native Hawaiian trust lands and oceanic resources & areas...

Beavers, Andrew M., and Robert E. Burgan. 2002. "Analysis of Fire History and Management Concerns at Pohakuloa Training Area." CEMML TPS 02-02. Center for Environmental Management of Military Lands.

"Final Report Ecosystem Management Program Cultural Resources Inventory Survey of Previously Unsurveyed Areas, Redleg Trail Vicinity, U.S. Army." 2002. DACA83-95-D-0006, Task Order 0030 and 0031. U.S. Army Corps of Engineers.

Roberts, Alice K.S. 2002. "Archaeological Reconnaissance of 1,010 Acres of Pu'u Ke'eke'e Lands, U.S. Army Pohakuloa Training Area (PTA), Island of Hawaii, Hawaii." DACA83-01-D-0013, Task Order No. 0008. U.S. Army Corps of Engineers.

Williams, Scott S. 2002. "Final Report Archaeological Reconnaissance Survey U.S. Army Pohakuloa Training Area (PTA) for the U.S. Army Garrison, Hawaii, Ecosystem Management Program, Hawai'i Island, Hawai'i." U.S. Army Corps of Engineers.

Garcia and Associates. 2010. "Final Archaeological and Cultural Monitoring of Construction of Battle Area Complex (BAX) for Stryker Brigade Combat Team (SBCT), Pōhakuloa Training Area, Hawai'i Island, Hawai'i." DACA83-03-D-0011, Task Order No. 0016. U.S. Army Corps of Engineers.

Monahan, Christopher M., and SWCA Environmental Consultants. 2009. "Cultural Resource Evaluations of Stryker Transformation Areas in Hawai'i." Office of Hawaiian Affairs and U.S. Army.

Monahan, Christopher M., Sarah Wilkinson, and Momi Wheeler. 2013. "FINAL Archaeological Phase II Crater Investigation, U.S. Army Pōhakuloa Training Area, Island of Hawai'i, Hawai'i: A Functional and Temporal Interpretation of Excavated Pits in the Mauna 'Āina and Their Significance in Hawaiian Prehistory." W9128A-08-D-0009, Task Order No. 0012. U.S. Army Corps of Engineers.

Taomia, Julie M E, James A Head, Kelly Leialoha Luscomb, and J Cary Stine. 2008. "Cultural Resources Management Projects Performed at the Pohakuloa Training Area, Island of Hawai'i, Hawai'i," 178.

Thurman, Douglas, Katie M. Sprouse, Christopher Manahan, and David Shidleler. 2013. "Final Archaeological Reconnaissance Survey Report of Infantry Platoon Battle Area, U.S. Army Pōhakuloa Training Area (PTA), Ka'ōhe Mauka Ahupua'a, Hāmākua District." W9128A-08-D-0009. U.S. Army Corps of Engineers.

Wheeler, Momi, Sarah Wilkinson, and Hallett H. Hammatt. 2014. "Archaeological and Cultural Monitoring Report for the Stryker Brigade Combat Team (SBCT) Construction-Related Activities along the Loop Trail, Main Supply Route, and Ke'eke'e Road, Ke'āmuku Maneuver Area (KMA), U.S. Army Pōhakuloa Training Area (PTA), Island of Hawai'i, Hawai'i." W9128A-08-D-0009, Task Order No. 0019. U.S. Army Corps of Engineers.

Wilkinson, Sarah, Momi Wheeler, Auli'i Mitchell, and Christopher M. Monahan. 2014. "Archaeological and Cultural Monitoring Report for Activities Related to Construction of the Proposed Battle Area Complex (BAX) for the Stryker Brigade Combat Team (SBCT), U.S. Army Pōhakuloa Training Area (PTA), Island of Hawai'i, Hawai'i, TMK: (3) 4-4-016:005." U.S. Army Corps of Engineers.

HHF Planners. 2020. "Real Property Master Plan Pohakuloa Training Area, Hawai'i Island - Final" Full Report.

Institute for Sustainable Development, and Belt Collins Hawai'i. n.d. "Environmental Assessment (EA) for Marine Corps Amphibious Training in Hawaii." Contract Number N62742-94-D-0006, Delivery Order 22.

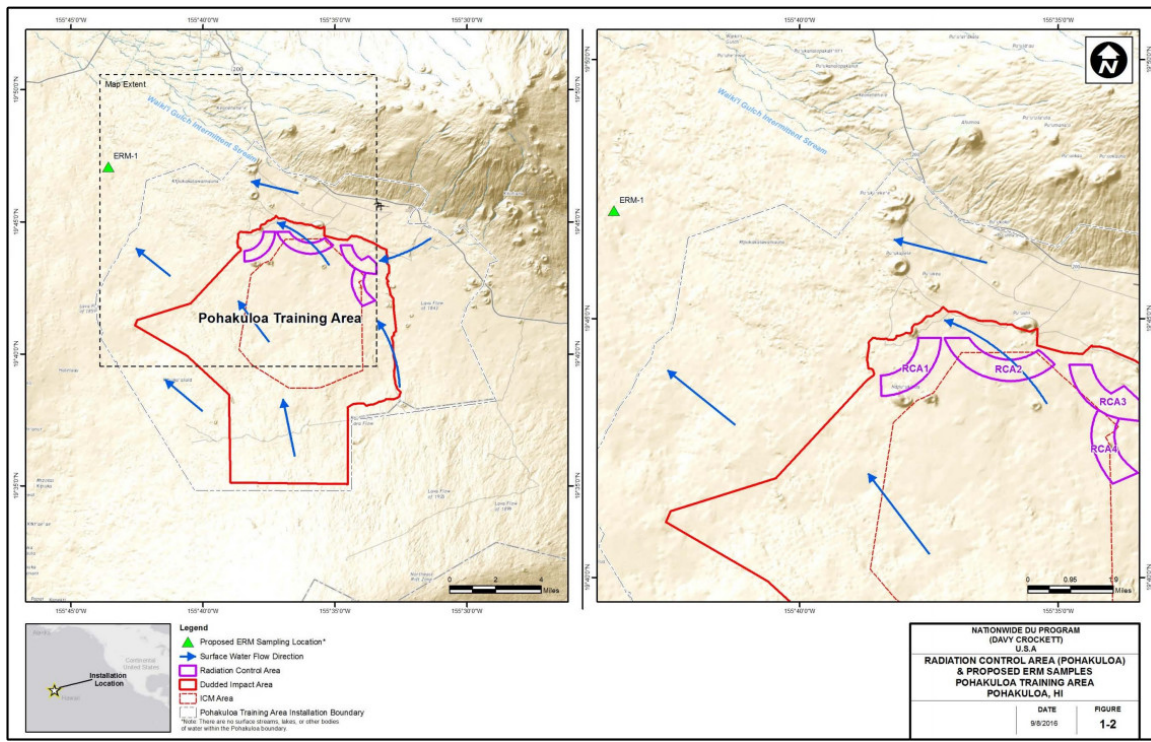
James Kent Associates, and Institute for Sustainable Development. 1998. "Decision Support Document: Community Resources Summary and Recommendations Marine Corps Amphibious Training at Makua Beach." Kane'ōhe, Hawai'i: Marine Corps Base Hawaii.

James Kent Associates, and Institute for Sustainable Development. 1999. "Three Reports Related to the Makua Beach Amphibious Training of the U.S. Marine Corps, Support Documents for the Environmental Impact Statement." Kane'ōhe, Hawai'i: Environmental Department, Marine Corps Base Hawaii.

Maly, Kepā, and Institute for Sustainable Development. 1998. "Oral History Study: Ahupua'a of Mākua and Kahanahāiki, District of Wai'anae, Island of O'ahu." BCH Project No. 442.0122. N62742-94-D-0006 D.O. 22. U.S. Navy, PACDIV.

Maly, Kepā.; Rechtman, Robert B., 1961-; Rosendahl, Paul H. (Paul Harmer). 1997. "Guidance for the preparation of a community caretaker/partnership plan for cultural resources stewardship at Marine Corps Base Hawaii (MCBH) Mōkapu Peninsula, Hawaii : lands of He'ēia and Kāne'ōhe, Ko'olau Poko District, Island of O'ahu." Marine Corps Base Hawaii.

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Following these representations, the PA includes several pages of “Stipulations” and agreements between the State & DoD. Na Koa requests that DoD address in writing, the progress made in implementation of the Stipulations.

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CONCLUSION:

The US is a signatory to the UNDRIP which sets minimum standards for protection of the rights on indigenous peoples, whether or not they are recognized by States. NaKoa suggests that the US DoD utilize the standards contained in the UNDRIP to address their obligations to Native Hawaiians and that the US DoD create a procedure to facilitate working with Hawaiians with cultural & ohana ties to the trust lands & resources impacted by USDoD activities.

Upon receipt & review of the materials requested, NaKoa will respond in more detail to the DoD draft policy (red-lined) that was forwarded with the materials.

Dated: November 6th, 2020,

Mililani B. Trask
Na Koa Ikaika KaLahui Hawaii

Organization Name: Na KOa Ikaika KaLahui Hawaii
(if applicable): _____

Native Hawaiian Organization serving and representing interests of Native Hawaiians, providing services to Native Hawaiians, and with expertise in aspects of historic preservation significant to Native Hawaiians.

Other relationship to undertaking or concern with effects to historic properties.
Please briefly describe:

ECO-SOC affiliate to Indigenous World credential at UN

Contact information

Please take this opportunity to update the contact information on file. If no change is necessary, this section can be left blank.

Organizational Contact Name if different from above: Na KOa Ikaika KaLahui Hawaii

Mailing Address (Street, City, State, Zip Code): PO BX 6377m Hilo HI 96720

Email Address: mililani.trask@iclichawaii.com **Phone Number:** 10808-90-0529

Please submit this form via email to Mr. Richard Davis, USAG-HI Cultural Resources Manager, at usarmy.hawaii.crm@mail.mil or by U.S. Postal mail to: Department of the Army, United States Army Garrison, Pohakuloa, DPW Environmental – Cultural Resources Section, P.O. Box 4607, Hilo, Hawaii 96720. Please contact Dr. Taomia at (808) 436-4280 if you have any questions.



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Na Koa Ikaika o Ka Lahui Hawaii
Affiliate of Indigenous World Association
P.O.Box 6377 ❖ Hilo, HI 96720
mililani.trask@icllchawaii.com



To: U.S. Dept. of Defense
DoD_NativeAffairs@keresnm.com

October , 2020

From: Mililani B. Trask, Convenor
Na Koa Ikaika KaLahui Hawaii
ECO-SOC Affiliate to Indigenous World Association
And NHO on U.S. Federal 106 Consultation list.

Re: DoD 4710.03 – Re: Consultation Policy of USA with Native Hawaiians.

I. *Objections to the manner in which this Consultation is being conducted by the USDOD & Proposed Corrective Measures to address these deficiencies:*

- A.** The US DOD is trying to include Native Hawaiians (hereafter Hawaiians)in its federal policy governing Consultations with Indians, who have federally recognized tribes. Hawaiians are not federally recognized Tribes and so do not have an indigenous governing body to speak for & represent their interests. Because Hawaiians are not federally recognized, the USDOD has tried& is trying, to avoid real Consultations with real Hawaiian cultural practitioners by substituting the Office of Hawaiian Affairs as the Hawaiian peoples representative government, and hosting informal discussions with Hawaiian Social groups who are not cultural practitioners.
- B.** This cannot be done. What is required is a Consultation process & procedures with Hawaiians who are cultural practitioners with family & traditional affiliations to Land and Ocean based resources that comprise the Native Hawaiian land trusts, including the Northwest Hawaiian Islands, which trust lands and resources are impacted by DoD activities.

Recommendations for Procedural Requirements: Published Notice in News Media outlets statewide & mailouts to Hawaiian individuals & NHO's whose members are practitioners and for all NHO's on the 106 list of Interior.

The USDOD needs to adopt a procedure for providing notice to Hawaiians practitioners of future Consultations at least 60 days prior to the actual Consultation, that requires (at a minimum) detailed information on what the Consultation process is, the topic & scope of the Consultation are as well as the timeframe for submitting written input and comments.

Notice to Hawaiian cultural practitioners should be published in local & Statewide newspapers for 8 consecutive weeks prior to the date of the scheduled consultation. COVID is no excuse for not hosting ZOOM meetings so that Hawaiians can participate directly in Consultations re: USDOD activities in our State, on Ceded as well as DHHL lands and State waters.

OHA is a State Agency elected by the public, Statewide. OHA Trustees are elected primarily by non-Hawaiian voters from Oahu who are not ethnically Hawaiian and who do not “represent” Hawaiians from any State or County Election district. Most importantly. The record indicates that Hawaiians have repeatedly had to sue OHA for accountability and that there have been in recent years at least 3 Audits questioning OHA’s use of trust funds, and failure to be transparent and accountable to its Hawaiian beneficiaries. In recent years the State Legislature withheld funding from OHA because of these problems.

II. The failure of the current process, including the current “Consultation” on DoD 4710.03 is evident in the evolution of this USDOD Policy.

It is now 2020, the USDOD claims that it has already completed its ‘initial’ “Consultation” with Native Hawaiian practitioners because it held “community” meetings with some Hawaiian Social groups, (Civic Clubs) , OHA, CNHA and others “interested in the impact of DoD operations and efforts to preserve natural and cultural resources and places of traditional religious and cultural significance.” These meetings were held for 2 years, between 2006 and 2008.

(See Report to Congress, Department of Defense Consultation With Native Hawaiians, Sept. 2019).

Three years later, in 2011 DoD entered into an MOU with two other Federal Agencies (Interior & ACHP) called the “ Native Hawaiian Federal Interagency Working Group”. In October, 2011 DoD adopted its own internal policy which it has recently sent out as a “DRAFT” for further input from OHA & Hawaiian Social groups.

DoD never actually adopted any procedure or policy framework for consultations with Native Hawaiian cultural practitioners. In its 2019 Report to Congress, Dod States...” DoD established a separate consultation policy 2011, *Department of Defense Instruction 4710.03: Consultation With Native Hawaiian Organizations* (DoDI 4710.03). DoD remains the only federal agency with a policy specific to consultation with NHOs. “ This is patently false. DoD is now circulating another red lined “Draft” Policy for input.

What is required is a real Consultation, publically Noticed NOW. Instead DOD is trying to use data gathered from Social groups, businesses, a State Agency & “others” 12-14 years ago as input to a Consultation on current cultural uses & practices & related belief systems impacted by current DOD Land & Ocean Activities on EO, State trust lands & resources leased to the US & utilized by the USDOD.

Recommendation: NaKoa requests that the DOD hold real consultations NOW on the adoption of a DOD policy framework & procedures for DOD Consultation with Native Hawaiians Hawaiians that includes but is not limited to NHO’s on the 106 list as well as others who respond to the published notice which has yet to be undertaken.

A. Current efforts of DoD to hold secret “off the record” discussions with Hawaiian practitioners using Pohakuloa, in KAOHE, Hawaii Island:

Recently, DOD acting with the support of the Chamber of Commerce held quiet ZOOM meetings with a few Hawaiians in secret. The contractor hired was Noe Kalipi (Kalipi Enterprises). Hawaiians involved (about 7 people) were not even told what the ZOOM was about or who would be on the ZOOM. It turned out it was a USDOD “Consultation” being paid for by the Chamber of Commerce! Military personal including several Generals & the topic was renewal of the DOD leases in Pohakuloa!!

After weeks, it went nowhere, two months later, this USDOD notice came out in the OHA Newsletter. Outer islands saw it in mid-October when the newspapers are sent out, leaving only 3 weeks to respond. However, the USDOD posting of data referred to in the OHA newspaper could not be accessed on line as represented.

B. Misrepresentation of U.S. to United Nations on Consultation with Native Hawaiians:

On April 26, 2019 Valerie Houser, Advisor to the US Mission to the U.N. delivered a false statement to the US Permanent Forum representing that US Agencies had a functioning policy for consulting with Native Hawaiians when federal “projects” protection of Hawaiian and Indian affect Hawaiian “properties” Hawaiians view as religious or culturally significant. In her Statement Houser only mentions the NHPA, ACHP, the ARPA and NEPA – the USDOD WAS EXCLUDE BECAUSE THERE IS NO POLICY OR PROCEDURE IN PLACE FOR Consultation with real Hawaiian cultural and religious practitioners.

III. Request for DoD disclosure of all relevant current & historic data, including archeological, cultural, & scientific reports relating to all US DoD uses & the impacts of such uses to Native Hawaiian trust lands & oceanic resources & assets.

A. Na Koa Ikaika KaLahui Hawaii requests copies of the following Reports & studies, including appendixes, attachments including cultural mapping diagrams in order to facilitate its review of the impact of DoD uses of Native Hawaiian trust lands and oceanic resources & areas...

Beavers, Andrew M., and Robert E. Burgan. 2002. "Analysis of Fire History and Management Concerns at Pohakuloa Training Area." CEMML TPS 02-02. Center for Environmental Management of Military Lands.

"Final Report Ecosystem Management Program Cultural Resources Inventory Survey of Previously Unsurveyed Areas, Redleg Trail Vicinity, U.S. Army." 2002. DACA83-95-D-0006, Task Order 0030 and 0031. U.S. Army Corps of Engineers.

Roberts, Alice K.S. 2002. "Archaeological Reconnaissance of 1,010 Acres of Pu'u Ke'eke'e Lands, U.S. Army Pohakuloa Training Area (PTA), Island of Hawaii, Hawaii." DACA83-01-D-0013, Task Order No. 0008. U.S. Army Corps of Engineers.

Williams, Scott S. 2002. "Final Report Archaeological Reconnaissance Survey U.S. Army Pohakuloa Training Area (PTA) for the U.S. Army Garrison, Hawaii, Ecosystem Management Program, Hawai'i Island, Hawai'i." U.S. Army Corps of Engineers.

Garcia and Associates. 2010. "Final Archaeological and Cultural Monitoring of Construction of Battle Area Complex (BAX) for Stryker Brigade Combat Team (SBCT), Pōhakuloa Training Area, Hawai'i Island, Hawai'i." DACA83-03-D-0011, Task Order No. 0016. U.S. Army Corps of Engineers.

Monahan, Christopher M., and SWCA Environmental Consultants. 2009. "Cultural Resource Evaluations of Stryker Transformation Areas in Hawai'i." Office of Hawaiian Affairs and U.S. Army.

Monahan, Christopher M., Sarah Wilkinson, and Momi Wheeler. 2013. "FINAL Archaeological Phase II Crater Investigation, U.S. Army Pōhakuloa Training Area, Island of Hawai'i, Hawai'i: A Functional and Temporal Interpretation of Excavated Pits in the Mauna 'Āina and Their Significance in Hawaiian Prehistory." W9128A-08-D-0009, Task Order No. 0012. U.S. Army Corps of Engineers.

Taomia, Julie M E, James A Head, Kelly Leialoha Luscomb, and J Cary Stine. 2008. "Cultural Resources Management Projects Performed at the Pohakuloa Training Area, Island of Hawai'i, Hawai'i," 178.

Thurman, Douglas, Katie M. Sprouse, Christopher Manahan, and Davidf Shidleler. 2013. "Final Archaeological Reconnaissance Survey Report of Infantry Platoon Battle Area, U.S. Army Pōhakuloa Training Area (PTA), Ka'ohē Mauka Ahupua'a, Hāmākua Dstrict." W9128A-08-D-0009. U.S. Army Corps of Engineers.

Wheeler, Momi, Sarah Wilkinson, and Hallett H. Hammatt. 2014. "Archaeological and Cultural Monitoring Report for the Stryker Brigade Combat Team (SBCT) Construction-Related Activities along the Loop Trail, Main Supply Route, and Ke'eke'e Road, Ke'āmuku Maneuver Area (KMA), U.S. Army Pōhakuloa Training Area (PTA), Island of Hawai'i, Hawai'i." W9128A-08-D-0009, Task Order No. 0019. U.S. Army Corps of Engineers.

Wilkinson, Sarah, Momi Wheeler, Auli'i Mitchell, and Christopher M. Monahan. 2014. "Archaeological and Cultural Monitoring Report for Activities Related to Construction of the Proposed Battle Area Complex (BAX) for the Stryker Brigade Combat Team (SBCT), U.S. Army Pōhakuloa Training Area (PTA), Island of Hawai'i, Hawai'i, TMK: (3) 4-4-016:005." U.S. Army Corps of Engineers.

HHF Planners. 2020. "Real Property Master Plan Pohakuloa Training Area, Hawai'i Island - Final" Full Report.

Institute for Sustainable Development, and Belt Collins Hawai'i. n.d. "Environmental Assessment (EA) for Marine Corps Amphibious Training in Hawaii." Contract Number N62742-94-D-0006, Delivery Order 22.

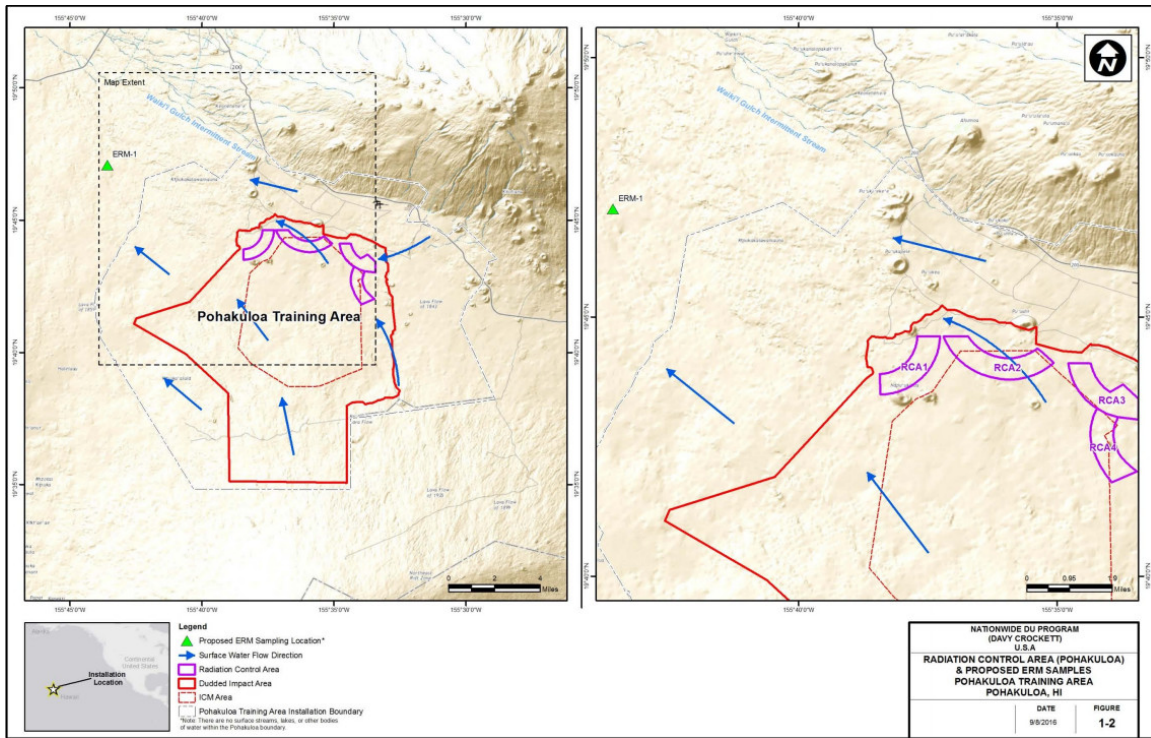
James Kent Associates, and Institute for Sustainable Development. 1998. "Decision Support Document: Community Resources Summary and Recommendations Marine Corps Amphibious Training at Makua Beach." Kane'ohē, Hawai'i: Marine Corps Base Hawaii.

James Kent Associates, and Institute for Sustainable Development. 1999. "Three Reports Related to the Makua Beach Amphibious Training of the U.S. Marine Corps, Support Documents for the Environmental Impact Statement." Kane'ohē, Hawai'i: Environmental Department, Marine Corps Base Hawaii.

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Dated: November 6th, 2020,

Mililani B. Trask
Na Koa Ikaika KaLahui Hawaii

United States Army Garrison Hawaii Consultation Request Form

| | |
|--|--|
| Organization Name (if applicable): Na Koa Ikaika KaLahui Hawaii | |
| * Native Hawaiian Organization? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ** Other? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Primary Contact Name: Mililani B. Trask Convener, NaKoalkaika KaLahui Hawaii | Mailing Address (Street, City, State, Zip Code): PO BX 6377, Hilo Hawaii 96 720 |
| Phone Number: 1-808-990-0529 | Email Address: mililani.trask@icllchawaii.com |

* A Native Hawaiian Organization is any organization which serves and represents the interests of Native Hawaiians; has a primary stated purpose of providing services to Native Hawaiians; and has demonstrated expertise in aspects of historic preservation that are significant to Native Hawaiians.

**Other individuals and organizations with a demonstrated interest in the project may participate in Section 106 review as consulting parties "due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties." Their participation is subject to approval by the responsible federal agency.

- I / We would like to participate in National Historic Preservation Act (NHPA) Section 106 Consultation with the U.S. Army Garrison Hawaii regarding (check all that apply):
- Architectural concerns including historic buildings, structures, and districts
 - Archaeological concerns including sites, districts, and places of traditional, religious and cultural significance
- I am / We are no longer interested in participating in consultation and wish to be removed from the Army's consultation list.
- I / We have no updates for the Army's consultation list.
- Help conserve paper and resources, please opt in to receive all consultation correspondence by email. If at any time you prefer a paper copy please let us know.

United States Army Garrison Hawaii Consultation Request Form

Please check all areas of interest:

Hawai'i Island

| | | | |
|-------------------------------------|---|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Kawaihae Military Reservation Moku: South Kohala Ahupua'a: Kawaihae 1st | <input checked="" type="checkbox"/> | Kilauea Military Camp Moku: Ka'u Ahupua'a: Keauhou |
| <input checked="" type="checkbox"/> | Pōhakuloa Training Area Moku: Hāmākua, South Kohala, North Kona, North Hilo Ahupua'a: Ka'ohe, Waikoloa, Pu'u Anahulu, Humu'ula | | |

O'ahu Island

| | | | |
|-------------------------------------|--|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Aliamanu Military Reservation Moku: Kona Ahupua'a: Moanalua, Hālawā | <input checked="" type="checkbox"/> | Makua Military Reservation Moku: Wai'anae Ahupua'a: Mākua, Kahanahāiki |
| <input checked="" type="checkbox"/> | Dillingham Military Reservation/ Mokule'ia Army Beach Moku: Waialua Ahupua'a: Keālia, Kawaihāpai, Mokulē'ia, Ka'ena | <input checked="" type="checkbox"/> | Mauna Kapu Communication Station Moku: Wai'anae, 'Ewa Ahupua'a: Nānākuli, Honouliuli |
| <input checked="" type="checkbox"/> | Field Station Kunia Moku: 'Ewa Ahupua'a: Waikele | <input checked="" type="checkbox"/> | Pilila'au Army Recreational Center Moku: Wai'anae Ahupua'a: Wai'anae Kai |
| <input checked="" type="checkbox"/> | Fort DeRussy Moku: Kona Ahupua'a: Waikīkī | <input checked="" type="checkbox"/> | Pūpūkea-Pa'ala'a Uka- Drum Road Moku: Waialua, Ko'olauloa Ahupua'a: Kahuku, Kapaeloa, Kaunala, Kawailoa, Lauhulu, Paumalū, Pa'ala'a, Punanue, Waimea, 'Ōi'o |
| <input checked="" type="checkbox"/> | Fort Shafter Moku: Kona Ahupua'a: Kahauiki | <input checked="" type="checkbox"/> | Schofield Barracks East, West, South Ranges & Cantonment Area Moku: Wai'anae, 'Ewa Ahupua'a: Wai'anae Uka, Honouliuli |
| <input checked="" type="checkbox"/> | Helemano Military Reservation Moku: Waialua Ahupua'a: Pa'ala'a | <input checked="" type="checkbox"/> | Tripler Army Medical Center Moku: Kona Ahupua'a: Moanalua |
| <input checked="" type="checkbox"/> | Kahuku Training Area Moku: Ko'olauloa Ahupua'a: Paumalū, Kaunala, Waiale'e, 'Ōpana, Kawela, Hanaka'oe, 'Ō'io, Kahuku, Mālaekahana, Ulupehupehu, Pahipahiālua, Kahuku, Keana | <input checked="" type="checkbox"/> | Waikakalaua Ammunition Storage Site Moku: 'Ewa Ahupua'a: Waikele |
| <input checked="" type="checkbox"/> | Kawailoa Training Area Moku: Waialua Ahupua'a: Pa'ala'a, Kawailoa, Lauhulu, Kuikuiloloa, Punanue, Kapaeloa, Kamananui | | Wheeler Army Airfield Moku: Wai'anae, 'Ewa Ahupua'a: Wai'anae Uka, Waikele |
| <input checked="" type="checkbox"/> | Kipapa Ammunition Storage Site Moku: 'Ewa Ahupua'a: Waipi'o | | |

Please submit this form via email to Mr. Richard D. Davis, Cultural Resources Manager, at usarmy.hawaii.crmp@mail.mil or by U.S. Postal mail to: Department of the Army, United States Army Garrison, Hawaii, DPW Environmental – Cultural Resources Section, 948 Santos Dumont Ave. Bldg 105, Wheeler Army Airfield, Schofield Barracks, Hawai'i 96857-5013. Contact Mr. Davis at (808) 655- 9709 if you have any questions.

United States Army Garrison - Pōhakuloa

Consulting Party Request Form for Hawaii Island Training Programmatic Agreement

Name of Person Completing Form: Mililani B. Trask

- I request to be added as a consulting party to the Training PA.
- I am no longer interested in consultation on the development of the Training PA.

Organization Name: Na KOa Ikaika KaLahui Hawaii
(if applicable):

- Native Hawaiian Organization serving and representing interests of Native Hawaiians, providing services to Native Hawaiians, and with expertise in aspects of historic preservation significant to Native Hawaiians.
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Mailing Address (Street, City, State, Zip Code): PO BX 6377m Hilo HI 96720

Email Address: mililani.trask@icllchawaii.com Phone Number: 10808-90-0529

Please submit this form via email to Mr. Richard Davis, USAG-HI Cultural Resources Manager, at usarmy.hawaii.crmf@mail.mil or by U.S. Postal mail to: Department of the Army, United States Army Garrison, Pōhakuloa, DPW Environmental – Cultural Resources Section, P.O. Box 4607, Hilo, Hawai'i 96720. Please contact Dr. Taomia at (808) 436-4280 if you have any questions.

**Comments Received from
Thomas Lenchanko**

From: Thomas Lenchanko tlenchanko1@hawaii.rr.com

Subject: Pohakuloa... December 12, 2020 Cultural Impact Assessment

Date: December 20, 2020 at 4:38 AM

To: community@honuaconsulting.com, admin@honuaconsulting.com

Cc: Matthew Kahoopii matthewkahoopii@gmail.com, daniel.misigoy.mil@mail.mil, Gilda, Laura L CIV USARMY USAG (USA) laura.l.gilda.civ@mail.mil

TL

December 20, 2020

Daniel Misigoy
Colonel
USAG-Hawaii
Commanding

Loreto V. Borce
Lieutenant Colonel
US Army Pohakuloa
Commanding

Ms. Trisha Kehaulani Watson JD, PhD
Honua Consulting

Regarding: Kaohe Mauka, Hawaii Island; and 23,000 acres of State of Hawaii owned land

aloha no na kau A pauole ke kuamoo o na kupuna ma

We, Aha Ula Puuhonua Kukaniloko – aha kukaniloko koa mana mea ola kanaka maui hoalii iku pau the living evidence of those ancients buried within our homeland, continue our non-concurring posture to all injury, damages, ground disturbing activities, undertaking, programs and projects within and without the inviolable and sacrosanct Pokahuloa, relative traditional cultural property upon Hawaii Island and throughout the Hawaiian Archipelago...

Note: Please affirm and demonstrate proof of clear unbroken chain of ownership and the transfer of “exclusive territorial” jurisdiction of Kingdom of Hawaii property throughout the Hawaiian Archipelago to the United States government, its agent the State of Hawaii and the liable to public and private citizens working in their behalf...

oia ua ike a aia la

Thomas Joseph Lenchanko
Hawaiian National, Protected Person and Private Citizen
Aha Ula Puuhonua Kukaniloko
kahuakaiola ko laila waha olelo aha kukaniloko koa mana mea ola kanaka maui hoalii iku pau
808-349-9949
tlenchanko1@hawaii.rr.com



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**Comments Received from
Kamanawa Kini**

From: Kamanawa Kinimaka kahukamanawa@gmail.com
Subject: Re: Pohakuloa
Date: January 20, 2021 at 12:16 PM
To: Honua Consulting community@honuaconsulting.com

KK

Aloha Again Kehau,

This message is completely unrelated to our Kanaka kine political kine things...

I have read over your accomplishments and narratives.

Especially this:

We were born here, raised here, and are raising our families here. We work only for the good of Hawai'i, because Hawai'i is the only home we have ever known...

I believe this is at the heart of Kanaka. I hope with your continual efforts it one day may be a perspective that every human on earth is able to comprehend.

Aloha,

IKKM

On Tue, Jan 19, 2021, 9:16 AM Kamanawa Kinimaka <kahukamanawa@gmail.com> wrote:

Aloha Again Kehau,

My cousin Jon Kinimaka takes the position of full eviction of the Army from Pohakuloa if not immediately then by 2033 when the lease is terminated.

My cousin also takes the lead voice in our 'Ohana's political positions.

We are both descendants of Col. David Leleo Kinimaka, Hanai to our Late King David Kalakaua.

Mahalo again for all your hana hana, and May the Good Lord Bless and Keep your Family.

Mahalo,

IKKM

On Fri, Jan 15, 2021, 2:30 PM Kamanawa Kinimaka <kahukamanawa@gmail.com> wrote:

Mahalo Kehau for answering one of my questions.

I have read through your organization's letter several times now and also had it reviewed by one of my aids on the mainland.

I am myself new to the Hawaiian Culture. I would not be considered a Hawaiian Cultural Practitioner by the status quo of our cultural authorities of the current day. I was given away to a Haole 'Ohana at birth by my Tutu Lady Maile Kinimaka.

But I am Hawaiian and I do exist in a culture inherent that requires not only a daily interaction with Akua, Na'aumakua and Kupuna but a singularly focused moment to moment attention and dedicated worship to the Diety of Iesu Kristo.

I would like to be very frank about my worship of the Diety. A foreign scripture of another culture from the opposite side of the world was imposed onto our Kupuna, now passed on to the Po, or in modern Hawaiian Christianity the Kingdom of Heaven. And many of our gifted and dedicated Keiki 'O Ka 'Aina have fallen mentally and physically ill to the introduction of such a foreign manuscript upon a people so heavily dedicated in the current historical era of time to the worship and communion with Nature. An example of this is the recent human sacrifice and self surrender to Akua of former mayoral candidate Mr. Mikey Glendon a Kia'i of Mauna A Wakea. This is an example of the presence of Kupuna at conflict with Christian Dogma. The idea of human sacrifice is still historically fresh to the Kanaka Maoli and held by some practitioners as honorable. While in Christianity only one single sacrifice was needed to be made. The sacrifice of God's only begotten son Iesu Kristo, Jesus Christ. Yet, doesn't that also encourage the idea that suicide is acceptable compounded with the notion that human sacrifice is honorable as well? I observe this confusion and complicated spiritual phenomenon especially in Kanaka Maoli Men.

Yet, the cognitive dissonance even though negative in parts is actually the needed cultural salvation for the hypocrisy of abrahamic religions. It is the reform of a relationship with the Divine through the protection of, communication with and technology forgotten through all aspects of nature. Abrahamic Religions possess a part of a greater story, but indigenous perspectives and Eastern philosophy must be interwoven into the very modern challenges of today's chaos and anarchy to stabilize the World's Security. Iesu Kristo provides the Avenue for the Kanaka Maoli to represent the potential of a new covenant with Akua through accessing Ho'o Mana (I always credit Kupuna Dr. Marie Alohalani Brown the Hawaiian Religion Professor of U.H. Manoa for the identity of what the practice is called.)

If the Bible was written and established by a patriarchal entity and then perpetuated by a consumeristic colonizing entity then doesn't our human salvation potentially exist within our own making by assessing Akua and our relationship with the Creator and the Creation through an indigenous matriarchal cultivating lense?

I am going to pose a question. If I as a practitioner recognize Snow as the Kino Lau of Poli'ahu, then is she therefore present in all things that are considered and associated with Snow? Not only ecologically and geographically but also metaphorically, spiritually, mentally poetically, verbally and linguistically.

The United States of America represents a out of date, archaic model of authority regarding human freedom, because the idea of freedom was still exclusive. Luckily, the Kingdom of Hawai'i dormant like Mauna Kea has been resting for the last 128/129 years. And in needing to gather in its protection we witness a host culture welcoming alternative cultural perspectives as offerings of ho'okupu. True and ancestral diplomacy on all accounts offered in faith and aloha versus contracts and currency.

You, Kehau and your consultation firm have a true opportunity to create changes that usher in a new era of our people at the most important and vital seat of a global discussion.

When you have that discussion I pray with all good intentions that Tutu Pele and the Tutu Lady Haumea are present by your side, because as I am sure you are aware...The Department of the Army of the United States of America continues to physically encroach upon the territory of the Matriarchal Akua.

This storyline is just a continuation and retelling of the same inappropriate non-consensual relationship between a patriarchal figure like Wakea with victimized figure like Ho'ohokuokalani. If we correct the storyline, the mo'olelo then we fulfill our responsibility as a chosen and favored People of God.

Therefore, in my humble sight towards global salvation the only redress towards the affront on the occupied land by the Department of the Army to better support the cultural demands of the host culture they are guests of would be to stop physically altering or infringing upon the physical manifestations of our Akua and Kupuna and facilitate a new approach towards global security.

The Hula. Halau O Kekuhi and the Kanak'ole Foundation would be the most appropriate in facilitating a complete transition of the Training Facility. Instead of our Native Community pushing for total removal and eviction of Pohakuloa in 2033, perhaps we re-engineer the entire purpose of the military industrial complex to a method of self protection and security that far outweighs the continued study of a bomb.

I however am just one voice speaking on behalf of myself. I realize that you have taken the time to entertain the radical ideas of a slowly deteriorating friar...thank you for listening to my vision for our people.

Akua Bless and Keep you and your 'Ohana, Now and Forever.

Faithfully,

Iosua Kamanawa Kinimaka Mano'I

On Thu, Jan 14, 2021, 8:49 PM Honua Consulting <community@honuaconsulting.com> wrote:

Aloha e Iosua,

I don't mind at all. I'm proud of my family and it's a totally appropriate ask. Mahalo for asking. I've only included some of my Hawaii Island ties below. I'm happy to provide more information if you want.

My full name is Trisha Kehaulani Watson-Sproat. My grandfather was Walter Oliver Lehuanani Watson Jr. His family are Victors from Hilo side (my great great grandmother was Lucy Pe'a Victor). My grandfather was born in Hilo, as was my father and two of his siblings. My grandmother was a Hoapili and a Naipo. My great great grandmother on my great grandmother's side was Eliza Kaaionalani Naipo of Kohala. My great great great grandfather was Judge John Green Ulumaheihē Hoapili Kanehoa of Kona, his daughter Lydia Kamakanoe Hoapili was my great great grandmother.

My husband is Matthew Kawaiola Sproat, the singer from Waipuna, and his family is originally from Kohala. I'm pretty sure I got all of those correct :) Matt and I were both born on Oahu.

Mahalo nui,
Kehau

On Jan 11, 2021, at 2:39 PM, Kamanawa Kinimaka <kahukamanawa@gmail.com> wrote:

Aloha Kehau,

What a beautiful name. 😊😘

I appreciate your very respectful manner. Before we chat on the phone, I would like to become more acquainted with what information exactly you are tasked in gathering?

information exactly you are tasked in gathering:

And where are you and your family originally from if I may ask?

Mahalo,

Iosua Kamanawa Kinimaka Mano'i

On Sun, Jan 10, 2021, 3:57 PM Honua Consulting <community@honuaconsulting.com> wrote:

Aloha e Iosua,

Apologies for the delay in responding. I was largely out of the office this week. I would love the opportunity to speak with you.

Is there a best time for us to talk? '

Mahalo nui,
Kehau Watson

> On Jan 4, 2021, at 1:57 AM, Kamanawa Kinimaka <kahukamanawa@gmail.com> wrote:

>

> Aloha,

>

> I am Iosua Kamanawa Kinimaka Mano'i.

> One of my Kahus forwarded me a letter from your organization regarding Pohakuloa.

>

> You are free to contact me directly for the time being at (808) 345-8063.

>

> Mahalo Piha

>

> IKKM

**The resources and materials provided by
Kyle Kajihiro can be found appended in the EIS.**



**Revised Cultural Impact Assessment Report for the Army Training Land Retention of
Pōhakuloa Training Area**

Appendix C: Interview Questions and Summaries

Prepared by



January 2024

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Interview with Kamana Kapele

Interviewer: Trisha Kehaulani Watson

Interviewee: Mana Kapele

Date: September 12, 2021

Location: via phone

Biography

Mr. Kapele is self-employed and retired. He currently lives in Kealahou on Hawai'i Island. He was born on O'ahu and raised in Kāne'ohe until the mid-1960s, when his family then moved to Hawai'i Island. In this interview, he represents his family and others who share a similar connection and association with the project area.

Overview

Mr. Kapele's association with the project area is through his own namesake. Pu'u Kapele, a prominent geographic feature in the project area, is associated with his family name. He is also associated with the ki'i and shrine next to the pu'u.

General Discussion

When asked about specific place names associated with the project area, Mr. Kapele mentioned Kilohana and Hāmākua. He also noted that Kona District and Hāmākua District merge at Pu'u Kapele.

Mr. Kapele shared the story of the shrine during the interview. Mr. Kapele was raised by his grandfather and spent his early childhood with him before moving to Hawai'i Island. He recalls fondly the vivid memories and dreams associated with his childhood, which include spending time with his grandfather. After moving to Hawai'i Island, his grandfather passed away.

In the early 1990s, he had a tremendous spiritual awakening. Mr. Kapele noted that he would receive information (names of places and people) which he described as surfacing within his mind. Not knowing where this information had originated, Mr. Kapele recounted how he eventually realized that this received information was coming from his late grandfather. This prompted him to join the sovereignty movement. The eclipse of 1991 was a part of this journey, said Mr. Kapele.

Around 2000, a friend of Mr. Kapele notified him that the military was leasing Pōhakuloa and Pu'u Kapele. Noting the shared namesake, he began a journey to Pu'u Kapele. He noted that while he had never been to Pu'u Kapele before, he knew how to get there. When he arrived, it was as if he had been there before, as if he had stood in the exact place generations ago. Then, Mr. Kapele describes hearing his ancestors' voice ask him to "find the stone". He walked through the grass in the area, soon finding a stone covered in dirt. After wiggling it free, he discovered one half of a geode.

Understanding this to be of spiritual significance, Mr. Kapele placed the stone to serve as an ahu. He recited a pule. As he was preparing to leave, Mr. Kapele recounted that he heard the voice instruct him to find the other half. After walking through the field, he then found the other half of the geode partially buried. He joined the two halves of the geode together, which fit seamlessly.

Mr. Kapele noted that this experience shows that Native Hawaiian spiritual practices are alive and well. They are not only distant stories. From this experience, Mr. Kapele noted how other insights came. The establishment of the ahu in the early 2000s prompted him to meet with the military later in 2004. The discussion focused primarily on the Queen's protest. He noted that his time spent in spiritual reflection and within the sovereignty movement have provided him with a further understanding of history, law, and cultural practice.

Eventually, Mr. Kapele and his family were granted access to Pu'u Kapele with military escort. This is the only way Mr. Kapele and his family can now visit Pu'u Kapele. Mr. Kapele had previously been able to access Pu'u Kapele without escort, prior to blockades on the old hunting roads, along with fencing which was constructed after the bypass. He noted that visiting Pu'u Kapele was not associated with a specific time, but rather that he would access it whenever he felt called to do so.

Mr. Kapele specifically described how the Queen's protests are relevant today, not just for his family, but also for the Hawaiian Islands and kānaka maoli overall. Through his years of research and spiritual practice, he has come to realize that the Queen's protest is more than just an appeal by a private person, and is rather a document that was entered under a condition of war. It is a wartime convention to prevent the loss of life and a suspension of hostilities until a treaty of peace terminates the war. The terms and stipulations laid out in the treaty, recounted by Mr. Kapele, state: until such time that the government of the United States shall, upon the facts being presented to it, undo the action of its representative, reinstate me in the authority I claim as the constitutional sovereign of the Hawaiian Islands.

Mr. Kapele noted that these terms and stipulations have been established, and questions how the United States can continue its illegal occupation. Mr. Kapele stated that it is their responsibility, as descendants of the Queen, to carry on her work.

Cultural Resources

Mr. Kapele confirmed that Pu'u Kapele, the ki'i, and the shrine are all cultural resources. He noted that Pu'u Kapele is fenced off due to the endangered species of plants found in the habitat, specifically honohono (an endemic mint).

Traditions and Customs

Mr. Kapele noted that his family makes regular visits to the site for spiritual and religious practices. He noted that his traditional and customary association with the project area is centered on Pu'u Kapele. However, he also noted that Native Hawaiian traditional and customary beliefs suggest that there is connectivity between sacred spaces, and that other prominent pu'u in the area, including Pu'u Ke'eke'e, are also culturally significant.

Impacts

Mr. Kapele noted that should the military retain its usage and lease of the land, they will continue to bomb and degrade the environment. He explained that in agreeing to the continued military usage of Pōhakuloa is to agree to the desecration of other sacred sites. Mr. Kapele also noted that another impact would be the continued barring of access to important cultural and religious sites.

Mitigation Measures & Recommendations

Mr. Kapele has been working with personnel at Pōhakuloa regarding access. He believes that access to his spiritual areas, including Pu‘u Kapele, should be free access.

Interview with Dr. Ku Kahakalau

Interviewer: Mathew Sproat

Interviewee: Dr. Ku Kahakalau

Date: 10/15/2022

Location: via telephone

Biography

Dr. Kahakalau is an educator, researcher, activist, and cultural practitioner. Dr. Kahakalau lives in Kukui Haile above Waipi'o Valley. She was born and raised in Honolulu. Dr. Kahakalau represents Kū-A-Kanaka, a Native Hawaiian social enterprise which is registered as an interested party with PTA.

Overview

As a researcher, educator, and cultural practitioner, Dr. Kahakalau brings a wealth of knowledge regarding Native Hawaiian practices and customs that take place in the area. Dr. Kahakalau stated that the entirety of the land at Pōhakuloa was culturally significant, and that any negative impact to the land by the Army was a negative impact on the integrity and psyche of Native Hawaiians, beyond the negative impacts to the land itself.

General Discussion

Dr. Kahakalau explained that the whole project area is culturally significant. All land is seen as an older sibling. It has a responsibility to take care of us, and we as younger siblings have a responsibility to serve that land. She shared a metaphor that just as her grandmother is important and significant to her (not just a finger, an ear, etc.), so are the lands at Pōhakuloa. Any part that is being destroyed, abused, or poisoned, is a destruction to the goddess Papahānaumoku and her children, Native Hawaiians. That someone who has no responsibility to this land feels entitled to hurt and kill the living land is an offense to Native Hawaiians.

Regarding stories, Dr. Kahakalau said that there is an association with Līloa and Umi-a-Līloa. There are other stories related to the iwi kupuna that are found in the area. All these stories indicate that kūpuna existed and thrived in the area to the extent the environment would allow. Other stories include the battles of Kamehameha and other warriors who crossed the area while transiting the island.

Dr. Kahakalau explained that Pōhakuloa was designated as within the ahupua'a of Ka'ohē in the district of Hāmakuā by kūpuna (except for a little part that is on the Kohala side). Ka'ohē reaches over to Mauna Loa.

Cultural Resources

In the project area, Dr. Kahakalau said that there is evidence of the presence of Native Hawaiian ancestors and practitioners. The area has been used for cultural practices for a very long time. This includes sacred sites including a heiau built by Umi-a-Līloa (which has not been found physically but is mentioned in historical records) at Pu'u Ke'eke'e. There are also iwi kupuna and burial sites in the area, some just recently found in caves. In the area are also shelters which were used by Native Hawaiians traveling over the mountain.

Other place names in the general area include Pu'u Ke'eke'e, Pu'u Kapele (significant for Dr. Kahakalau and other 'ohana). There are also many other pu'u in the area that are culturally significant, and all of which have names. Dr. Kahakalau explained that all the areas or geographic features which have been named by kupuna carry cultural significance.

Traditions and Customs

Dr. Kahakalau and a group of Native Hawaiian practitioners have three years' of makahiki celebrations and ceremonies where they access Pōhakuloa. Makahiki ceremonies were conducted traditionally during the "winter" or wet seasons. The ceremonies typically involved gifts to Lono asking for fertility across the 'āina, ocean, people, animals, etc. Due to Americanization and Christianization, many of these practices ceased. In the 1970s, the ceremonies were revived again. Makahiki is practiced across all of Polynesia for the last 2,000 years. Dr. Kahakalau explained that the purpose of the Makahiki practice at Pōhakuloa is to bring fertility, peace, and growth back to the area which has been desecrated, bombed, and raped by the US military.

Dr. Kahakalau explained that traveling from one place to another is a cultural practice. As such, all the paths that go through Pōhakuloa were utilized by kupuna to provide access across the island. These paths have also been used during modern times.

Dr. Kahakalau noted that gathering and hunting are also cultural practices that take place in the area. These subsistence lifestyle practices carry cultural significance. Other resources gathered in the area include pōhaku, māmane, and a'ali'i. The a'ali'i in the area have a deeper and darker color than elsewhere, adding to the plants' cultural significance. Historically the area was likely used for bird gathering (both for food and feathers). There is also a current practice of water gatherers that has been ongoing.

Dr. Kahakalau explained that in order to gain access to the sacred places, practitioners have to work hard with the military. It was easier with the former Commander who was local and married to a Native Hawaiian. For example, with the new Commander, practitioners have to ride in military vehicles to access sacred sites. Practitioners must also be accompanied. For individual practitioners, getting a permit is quite difficult. For hunters, there are separate avenues to get permission to access.

Access to the impact zone is prohibited. There are no archaeological or cultural surveys planned for the impact zone despite having the funding, which Dr. Kahakalau finds problematic. Dr. Kahakalau explained that they have been denied access on specific dates, and noted that from the perspective of the Army, their training dates are more important than cultural practitioners.

Impacts

Dr. Kahakalau explained that the land is the resource most severely impacted, along with the water. Dr. Kahakalau noted that the military has looked for water in the area since they currently have to haul water with trucks. Depleted uranium may leach into the groundwater.

Dr. Kahakalau stated that the land has suffered for too long for no reason whatsoever. She claimed that the military is not doing what they say they are doing: practicing for defense. They are practicing for offense and to invade elsewhere. The impact of bombing on the land harms a physical resource, natural resource, and spiritual resource which impacts Native Hawaiians.

Regarding flora, impacts to māmane will impact the palila. For this reason, there are efforts to conserve māmane trees.

Dr. Kahakalau shared that several weeks ago, a purposeful fire got out of hand and burned miles of the land. Hawai'i Island firefighters and local resources had to be used in order to fight the fire.

Mitigation Measures and Recommendations

Dr. Kahakalau believes that the way to mitigate the impact is to not renew the lease agreement and end the training at Pōhakuloa. The last lease has been violated multiple times, which is another reason it should not be renewed. Allowing the military activities in the area to continue will result in further destruction, desecration, and damages to everything Native Hawaiians are – including their way of life.

Dr. Kahakalau reiterated that if the military is using the land, there is no way to lessen the impact. The most important impact is on the psyche of the Hawaiian people. The impact represents that the Hawaiian culture and way of life is of no value to the United States military. And that is an impact that cannot be lessened or mitigated.

Interview with Carl Sims

Interviewer: Mathew Sproat

Interviewee: Carl Sims

Date: 10/15/2022

Location: In person

Biography

Mr. Sims is a part-time taro farm and landscaper. He currently lives in Waipi'o Valley. Mr. Sims was born and raised in Hāmakua, specifically in Waipi'o Valley. As such, he is an active member within the community. Mr. Sims is associated with the project area through Native Hawaiian practices. He specifically mentioned Pu'uhuluhulu and making offerings to the associated kuahu.

Overview

Mr. Sims brings an awareness and understanding of how impacts on Mauna Kea and the general area of Pōhakuloa can also impact downstream environments and communities. He believes that the current trainings and Pōhakuloa can eventually negatively impact downstream areas such as Waipi'o in addition to negatively impacting the immediate area.

General Discussion

Mr. Sims explained that other place names associated with the project area include the ahupua'a of Ka'ohe. It reaches from the nu'u of Mauna Kea to Waipi'o Valley. There is a trail called the Umi-a-Līloa that went from the back of Alakahi into Waimea (Mana Road). All these communities had trails that went to Mauna Kea to get materials at the adze quarries.

Mr. Sims explained that the training area is historically and culturally significant. Mauna Kea and its associated lands allow people to commune with ke akua more closely. Regarding stories, Mr. Sims said there are many stories associated with the general area, including the Native Hawaiian creation story of Papa and Wākea.

While the Army has stated that the Army has not restricted access to the area, Mr. Sims says that this is not true.

Cultural Resources

Mr. Sims noted that there are endemic species of plants that are wholly unique to the environment of the area. Beyond plants, Mr. Sims explained that the adze quarries in the regions are very culturally significant. Mr. Sims also said that perhaps the most significant cultural resource in the area is the freshwater aquifer that exists beneath Mauna Kea. This aquifer and watershed on the mountain feed the lower valleys, including Waipi'o.

Traditions and Customs

Mr. Sims noted that he and other Native Hawaiians conduct various cultural practices in the area. Protocols include acknowledging ancestors and those who came before them. These protocols include saying prayers for guidance during these hard times and offering ho'okupu. Others practice

gathering plants for la'au lapa'au and cultural practices (particularly during the hula festival, Merrie Monarch). Mr. Sims noted that his uncle owns a ranch in the area on Hawaiian Homelands that he grew up on. Regarding hunting, Mr. Sims explained that people use the area for hunting regularly (including himself a few times a year).

Impacts

Mr. Sims believes there may be an impact to the water resources in the project area. He believes that in the long run, the training in Pōhakuloa will pollute and contaminate the water resources (including the water table). Mr. Sims believes that eventually this will impact the quality and quantity of the water in Waipi'o Valley. This water is vital for taro farming and subsistence agriculture in the valley.

Mr. Sims also believes that the munitions used in training will also negatively impact native species of plants and animals.

Mr. Sims noted that the training itself disrespects the many cultural resources in the project area and the cultural practices associated with the project area. He explained further that he has been denied access to culturally significant areas by the military.

Mitigation Measures and Recommendations

Mr. Sims believes that the land not being leased to the military for training purposes would mitigate the negative impacts to the environment, water, flora, and fauna. Regarding impacts to customary practices, including access, Mr. Sims believes the best mitigation measure would be to allow more access by cultural practitioners. Allowing people access for cultural practices should be "set in stone".

Should the Army retain the lands past 2029, Mr. Sims believes they should be aware of the cultural sites and resources (including plants and animals) that exist in the area. The Army should also mitigate impacts to water resources. Mr. Sims recommends less training using live munitions and bombing, such as depleted uranium.

Interview with Dr. Michelle Noe Noe Wong-Wilson

Interviewer: Mathew Sproat

Interviewee: Dr. Noenoe Wong

Date: 11/10/2022

Location: via telephone

Biography

Dr. Wong-Wilson is retired from the University of Hawai'i system. She is executive director of the Lāla'kea Foundation, a 501(c)(3). She has lived on the island of Hawai'i since 1989, and was born and raised in Kailua, O'ahu.

Overview

In this testimony, Dr. Wong-Wilson represents herself, her 'ohana, and the Hawaiian Civic Club of Hilo through her role as president. Ms. Wong-Wilson is associated with the project area, stating that she is a part of the "land basin" of the area. She noted that the land basin between Mauna Kea and Mauna Loa is highly significant. Dr. Wong-Wilson also explained that the military activities in the area are a major concern and pose a negative impact to herself, her 'ohana, and the organizations she represents.

General Discussion

Regarding place names, Dr. Wong-Wilson shared that each pu'u and most of the geographic features in the area have specific names. Dr. Wong-Wilson also shared that there are many stories associated with the general area (outside the specific 23,000 acres), including the winds, weather, clouds, etc. These stories are important to fostering a relationship with the environment.

Cultural Resources

Dr. Wong-Wilson explained that adjacent to the 23,000 acres is the piko of Moku o Keawe – the geographic center of Hawai'i Island. This area is culturally significant. Dr. Wong-Wilson further noted that from a western perspective, examining the impact to an area relies on drawing lines or boundaries of said area. However, for her, she does not believe you can separate impacts to one area from another. The entire area and region are culturally significant – from the summit of Mauna Kea to the summit of Mauna Loa.

Dr. Wong-Wilson noted that there is scientific and archaeological evidence of structures that are recently being discovered. The stone structures that have been erected may have correlations with geographic locations. A prominent theory is that the structures were further correlated with navigation, hence why the pu'u in the area are often named after astronomical bodies and their function. Each pu'u is culturally significant. As such, the area had a very specific function.

Dr. Wong-Wilson shared that there are iwi and burials in the area. These burials were likely for ali'i.

Water is an important cultural resource in the area, and Dr. Wong-Wilson expressed disapproval of the military tapping into the springs from the Mauna. She also expressed disapproval of the building of roads and facilities, which are damaging to the area.

Traditions and Customs

Dr. Wong-Wilson noted that there is a select group that are given access by the military to the area. She believes that if access weren't restricted, there would be more practitioners who would access the area.

Dr. Wong-Wilson shared that even though there is a lack of evidence to suggest that people historically lived in the area long-term (given the harsh environment), there is growing evidence to suggest that the area was historically frequently used by kūpuna for various traditions and customs. This adds to the sacredness of the area.

There are various reasons that people may want to access the area. These include cultural practices, hunting, gathering, or learning about the archaeological connections that have been detained by the Army. Regarding gathering, Dr. Wong-Wilson explained that there are native plants that grow in the area that are used in cultural practices. She also shared that the a'ali'i that grows in the area is different than anywhere else.

Impacts

Dr. Wong-Wilson believes that bombing has impacts beyond the training area. She recounted that when their group was about six miles from a live-fire training, the entire earth shook. The sound reverberates from the bombing and machine guns. She explained that the trainings can be heard and felt from Hilo, Waimea, and Waikōloa. Dr. Wong-Wilson shared that in her view, Native Hawaiians are inseparable from the 'āina, with specific ties to the places Native Hawaiians are born, raised, live, and the places of their kūpuna. As such, the ongoing possession of the land by the military can be viscerally felt by, and are painful for, those who are connected to the 'āina.

There are culturally significant pu'u in the area. The general public is denied access to the 23,000 acres. The only thing allowed is to drive along the highway, and if a vehicle stops, the military will investigate. Hunting and gathering by the general public is not allowed. A small group is allowed in beyond the barriers, but only with arrangements with the military. Dr. Wong-Wilson also shared that her group inquired about viewing the artifacts that had been discovered in the area. The military noted that such a viewing would have to be arranged.

Dr. Wong-Wilson explained that to get access, one would have to reach out to the public affairs officer. However, in practice, only a small group of practitioners (6-7 individuals) have historically been granted access.

As such, access is very limited to the community and general public, which is an impact to traditions and customs. The military does not have a program which invites the community in.

Mitigation Measures and Recommendations

Regarding live-fire training and bombing, Dr. Wong-Wilson has continually posited the question: why can't live-fire trainings and bombings be simulated? Further, she feels that the military has not provided a satisfactory answer as to why the bombs used for training have to have live warheads.

Dr. Wong-Wilson does not believe that the military needs the 23,000 acres. She explained that the military has repeatedly said that they do not use the area for training. Rather, the military needs the

Appendix C: Interview Questions and Summaries

23,000 acres as a connection between two parcels that the military owns. She believes that the military could move its administrative buildings to their own land holdings and return the 23,000 acres to the state.

Should the military be able to retain the 23,000 acres, Dr. Wong-Wilson believes that there needs to be greater access allowed to the public.

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Archaeological Literature Review

**Archaeological Literature Review for
Army Training Land Retention at Pōhakuloa Training Area
Project, Ka‘ohe Mauka and Humu‘ula Ahupua‘a,
Hāmākua and Hilo Districts, Island of Hawai‘i**

TMKs (3) 3-8-001:013 and :022, (3) 4-4-015:008, (3) 4-4-016:005, and (3) 7-1-004:007

Prepared By:

Ryan Gross, M.A., RPA

David Byerly, B.A.

Amanda E. Sims, B.A.

and

Cacilie Craft, M.A., RPA

Kleinfelder, Inc.
1221 Kapiolani Blvd., Ste. 201
Honolulu, Hawai‘i 96814

Hawai‘i SHPD Permit No. 23-07

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13 March 2023

MANAGEMENT SUMMARY

Kleinfelder, Inc. prepared an archaeological literature review for the Army Training Land Retention at Pōhakuloa Training Area (PTA) project located within the ahupua‘a of Ka‘ohe Mauka (Hāmākua District) and Humu‘ula (Hilo District) on the island of Hawai‘i. The project does not involve new training, construction, or resource management activities at PTA. Instead, it is a real estate/administrative action that would enable continued military use of the State-owned land.

The current study consists of background archival research, a records search at the State Historic Preservation Division Library in Kapolei, and a review of archaeological reports and geographic information system (GIS) data on file with the PTA Cultural Resources Management Program. This archaeological literature review also includes summary discussions on previously conducted archaeological work and known archaeological resources within the project area; these summaries were limited to prior studies and site information approved for use by the U.S. Army Garrison-Hawaii. The results of this literature review and desktop analysis lead to recommendations to ensure impacts to culturally and historically significant archaeological sites are identified, mitigated, and managed.

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1.0 INTRODUCTION

At the request of Group 70 International, Inc. (G70), and on behalf of the U.S. Army Corps of Engineers, Honolulu District, Kleinfelder, Inc. prepared an archaeological literature review for the Army Training Land Retention (ATLR) at Pōhakuloa Training Area (PTA) project located within the ahupuaʻa of Kaʻohe Mauka (Hāmākua District) and Humuʻula (Hilo District) on the island of Hawaiʻi (Figure 1 and Figure 2). PTA encompasses approximately 132,000 acres of U.S. Government-owned and State-owned land. Since 1964, the U.S. Government has leased approximately 23,000 acres of State-owned land (the project area) which has been a keystone of PTA, supporting numerous facilities and capabilities that are deemed essential to U.S. Army Hawaii (USARHAW) and other military services and local agencies. This lease expires in August 2029.

G70 is preparing an Environmental Impact Statement (EIS) for the ATLR at PTA project which does not involve new training, construction, or resource management activities at PTA. Instead, it is a real estate/administrative action that would enable continued military use of the State-owned land. The EIS evaluates the potential impacts of a variety of reasonable alternatives that meet the purpose and need of the project. Alternatives analyzed in the EIS include 1) Full Retention, 2) Modified Retention, 3) Minimum Retention and Access, and 4) a No Action Alternative (no retention of State-owned land after 2029).

The current study consists of background archival research, a records search at the State Historic Preservation Division Library in Kapolei, and a review of archaeological reports and geographic information system (GIS) data on file with the PTA Cultural Resources Management (CRM) Program. This archaeological literature review also includes summary discussions on previously conducted archaeological work and known archaeological resources within the project area; these summaries were limited to prior studies and site information approved for use by the U.S. Army Garrison-Hawaii (USAG-HI).

1.1 Project Overview

The ATLR at PTA project proposes to retain up to approximately 23,000 acres of State-owned land prior to the expiration of the current lease to ensure training is not interrupted. The Army's Proposed Action does not include retention of approximately 250 acres of State-owned land that is managed and administered by the Department of Hawaiian Homelands (DHHL). Following retention of the project area (or portion thereof), the Army would continue to conduct ongoing activities (training and other activities such as public use programs). The Army would continue to permit and coordinate training and other activities on the retained State-owned land by other PTA users.

The purpose of the ATLR at PTA project (a Proposed Action) is to enable USARHAW to continue to conduct military training on the State-owned land within PTA to meet its ongoing training requirements. The Proposed Action is needed to enable access between major parcels of U.S. Government-owned land in PTA, retain substantial Army infrastructure investments, allow for future facility and infrastructure modernization, preserve limited maneuver area, provide austere environment training, and maximize use of the impact area in support of USARHAW-coordinated training.

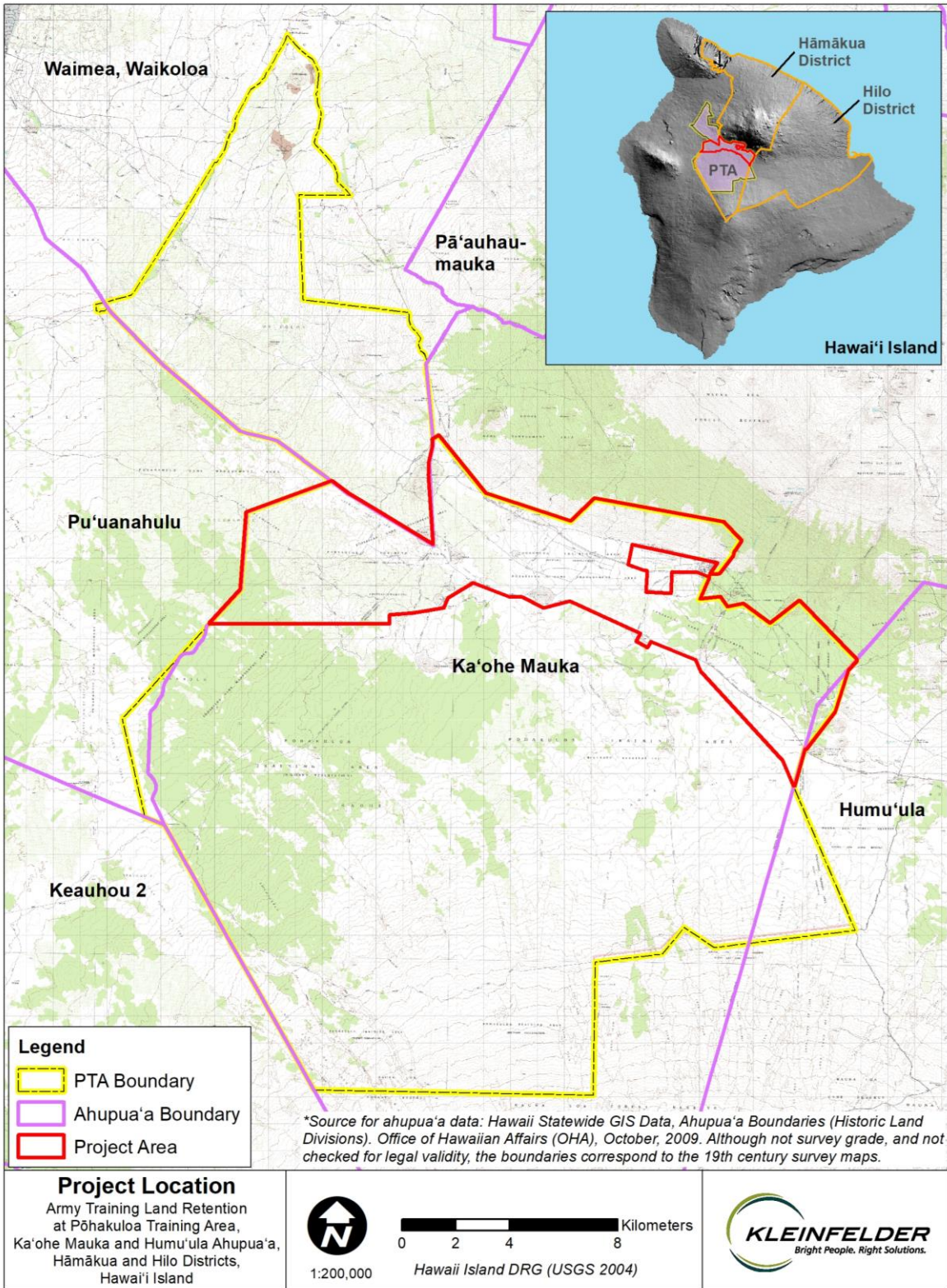


Figure 1. Project area depicted on 2004 USGS quadrangle.

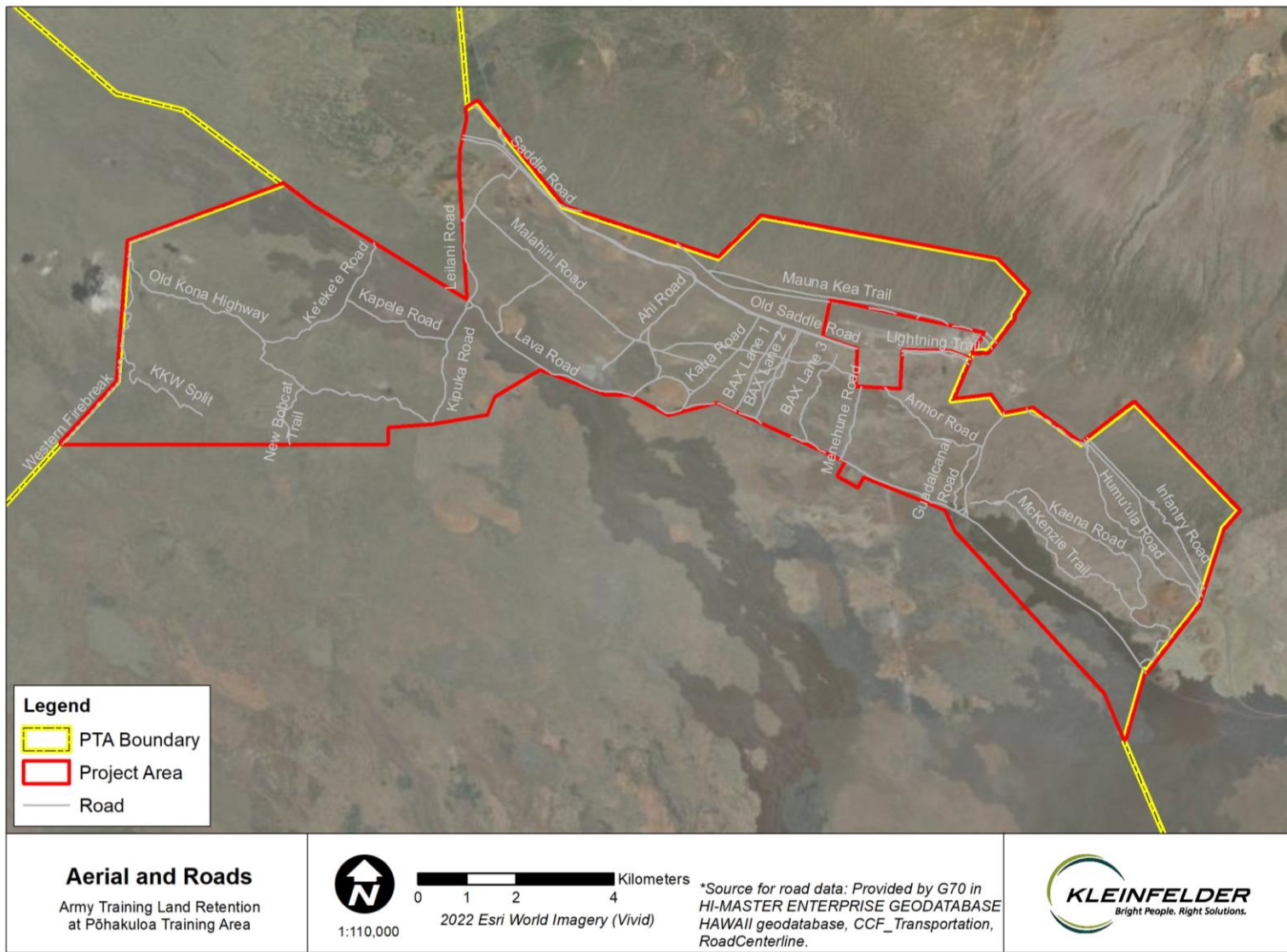


Figure 2. Project area and roadways within project area depicted on aerial imagery.

1.2 Regulatory Framework

The Proposed Action requires compliance with the National Environmental Policy Act of 1969 (NEPA). NEPA directs federal agencies to examine the direct and indirect environmental impacts that may result from the Proposed Action and alternatives, including potential impacts to “historic and cultural resources” (42 United States Code 1502.16). NEPA requirements ensure that environmental information is available to public officials and citizens for review before decisions are made and before actions are taken. The EIS will address relevant laws and regulations to provide decision makers with a comprehensive overview of the regulatory issues associated with the Army’s Proposed Action.

The Army is initiating an EIS process under the Council on Environmental Quality NEPA implementing regulations in Title 40 Code of Federal Regulations (CFR) Parts 1500–1508, and Army NEPA implementing regulations in Title 32 CFR Part 651. The EIS will also fulfill the Hawai‘i EIS statute and implementing rule, codified in Hawai‘i Revised Statutes (HRS) Chapter 343 and Hawai‘i Administrative Rules (HAR) Chapter 11-200-1. Collectively, the Hawai‘i statute and rule are referred to as the “Hawai‘i Environmental Policy Act (HEPA).” Like NEPA, HEPA requires disclosure of the direct and indirect effects of a Proposed Action and alternatives on the environment, including “natural and human-made resources of historic, archaeological, or aesthetic significance” (HAR 11-200-17).

This document is meant to support the NEPA review process by compiling background information on existing conditions of tangible cultural resources (historic architectural resources and archaeological sites) known to exist within State-owned land at PTA. This document will be appended to the EIS as a contributing technical study. The effects on cultural practices, areas of traditional importance, and intangible cultural resources are evaluated through a cultural impact assessment (CIA) prepared in accordance with the Hawai‘i Office of Environmental Quality Control “Guidelines for Assessing Cultural Impacts” (adopted November 19, 1997). The Army has contracted for the completion of a CIA in support of the HEPA requirement through a separate technical study.

1.3 Project Area Description

The project area consists of State-owned land within PTA that is currently leased by the U.S. Government which encompasses five Tax Map Key (TMK) parcels: (3) 3-8-001:013 and :022, (3) 4-4-015:008, (3) 4-4-016:005, and (3) 7-1-004:007 (Figure 3). These parcels are also referred to as “Parcel A” (Tract A-105-1), containing approximately 15,420 acres; “Parcel B” (Tract A-105-2), containing approximately 1,944 acres; and “Parcel C” (Tract A-105-3), containing approximately 5,607 acres (Figure 3). These parcels are designated by the Army as Training Areas (TAs) 1–22, although TAs 16, 17, 21, and 22 also include portions of U.S. Government-owned land.

The eastern two-thirds of the project area consists of a roughly two-mile-wide corridor extending northwest-southeast through PTA along the Saddle Road (State Route 200) corridor between Gilbert Kahele Recreation Park to the east and the Saddle Road-Daniel K. Inouye Highway junction to the west. The western third of the project area comprises a roughly 8,000-acre area which extends towards the western PTA boundary and southwest of the Ke‘āmuku Maneuver Area.

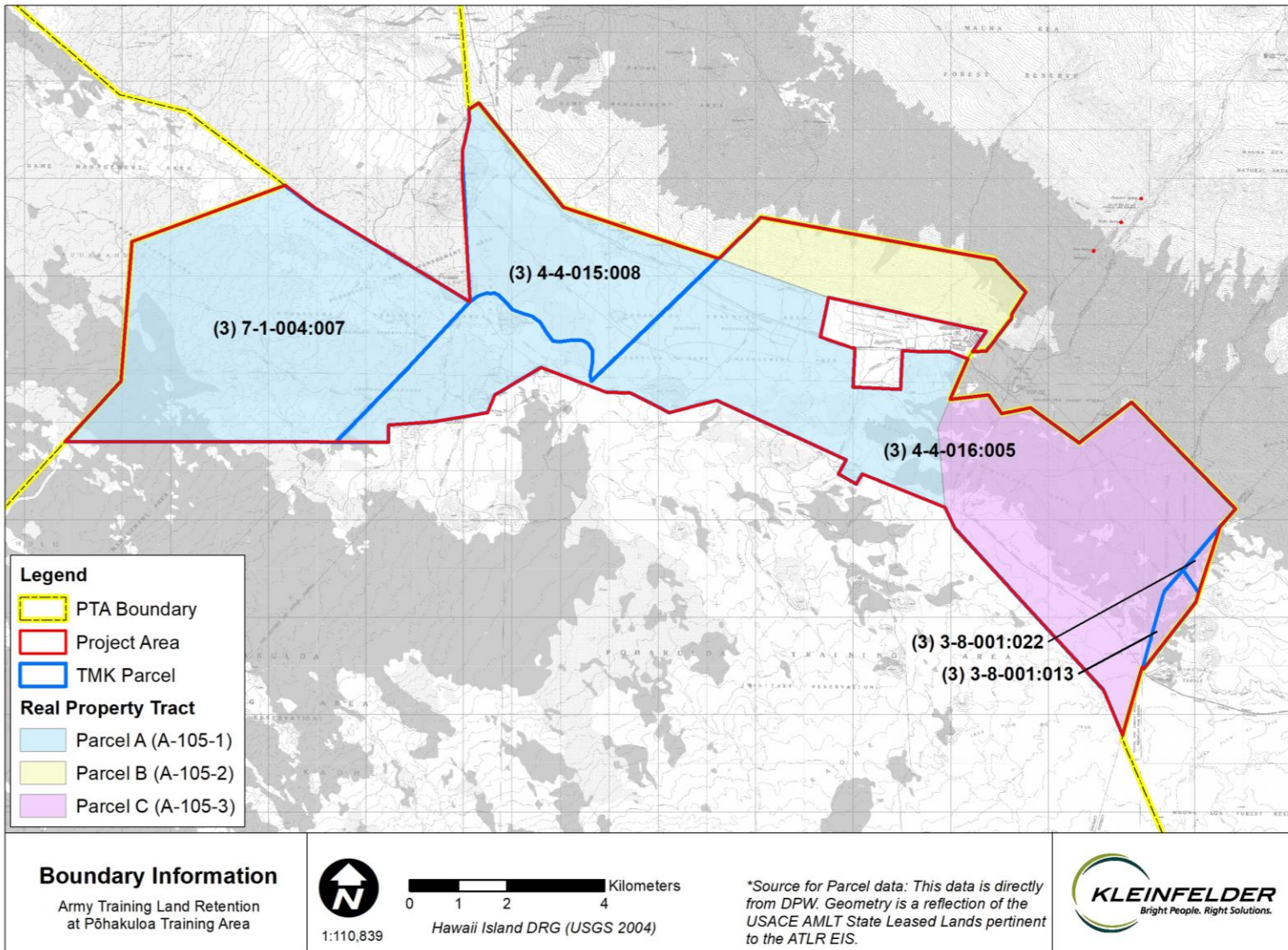


Figure 3. Project area showing TMK and Real Property Tract parcel boundaries.

The lands surrounding PTA include federal, State-owned, and private lands. Land use in the area includes cattle grazing at Parker Ranch, a residential subdivision at Waiki‘i Ranch, and undeveloped lands owned by the state of Hawai‘i and Kamehameha Schools.

1.4 Definition of Historic and Cultural Resources

NEPA analysis considers impacts to “unique characteristics of the geographic areas such as proximity to historic or cultural resources” [40 CFR Section 1508.27(b)(3)] as well as “the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places [NRHP] or may cause loss or destruction of significant scientific, cultural, or historical resources” [40 CFR Section 1508.27(b)(8)]. Potential impacts to the relationship of people to their environment (40 CFR Section 1508.14) include cultural and historical resources [40 CFR Section 1508.1(g)(1)].

Most resources that are cultural or historical in nature are defined by several federal laws as historic properties under the National Historic Preservation Act (NHPA) (districts, sites, buildings, structures, or objects eligible for, or listed in the NRHP); as archaeological resources as defined by the Archaeological Resources Protection Act of 1979 (ARPA); or human remains (iwi kūpuna) and cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA). Cultural resources considered in this document, therefore, include those associated with Traditional Hawaiian and historical items and sites, buildings and structures, and other physical remains.

2.0 BACKGROUND

The following background information establishes the environmental and historical setting of the project area. This information provides a contextual framework for assessing current conditions and conducting an environmental analysis for the project EIS.

2.1 Environmental Context

PTA is located in the arid Saddle Region of the island of Hawai‘i, between Mauna Kea and Mauna Loa volcanic mountains, extending over an area approximately 44,055 hectares (170 square miles). The Saddle Region is characterized by fairly level, undulant lava flows marked by pu‘u (cinder cones). Elevations within the project area range from approximately 4,200 feet above mean sea level (amsl) in the west to approximately 7,700 feet amsl in the northeast along the southwestern slope of Mauna Kea. Annual rainfall in the region ranges from 43 to 56 centimeters (Giambelluca et al. 2013).

The geology of the project area is comprised mostly of older (300,000 to 11,000 B.P.) lava flows (Laupahoehoe Volcanics) originating from Mauna Kea partially overlain with more recent (5,000 to 180 B.P.) pāhoehoe and a‘a flows (Kau basalt) originating from Mauna Loa (Sherrod et al. 2007) (Figure 4). These lava flows created a variety of geologic features that were utilized by Native Hawaiians, particularly lava tubes and blisters. Lava tubes are linear cavities under solidified lava that are the result of underground rivers of molten lava, while lava blisters are “small, steep-sided swellings that are hollow and raised on the surfaces of some basaltic lava flows [and are] formed by gas bubbles pushing up the lava’s viscous surface” (Parker 1997:146). Collapsed lava tubes and blisters were conducive for human habitation, storage, and shelter.

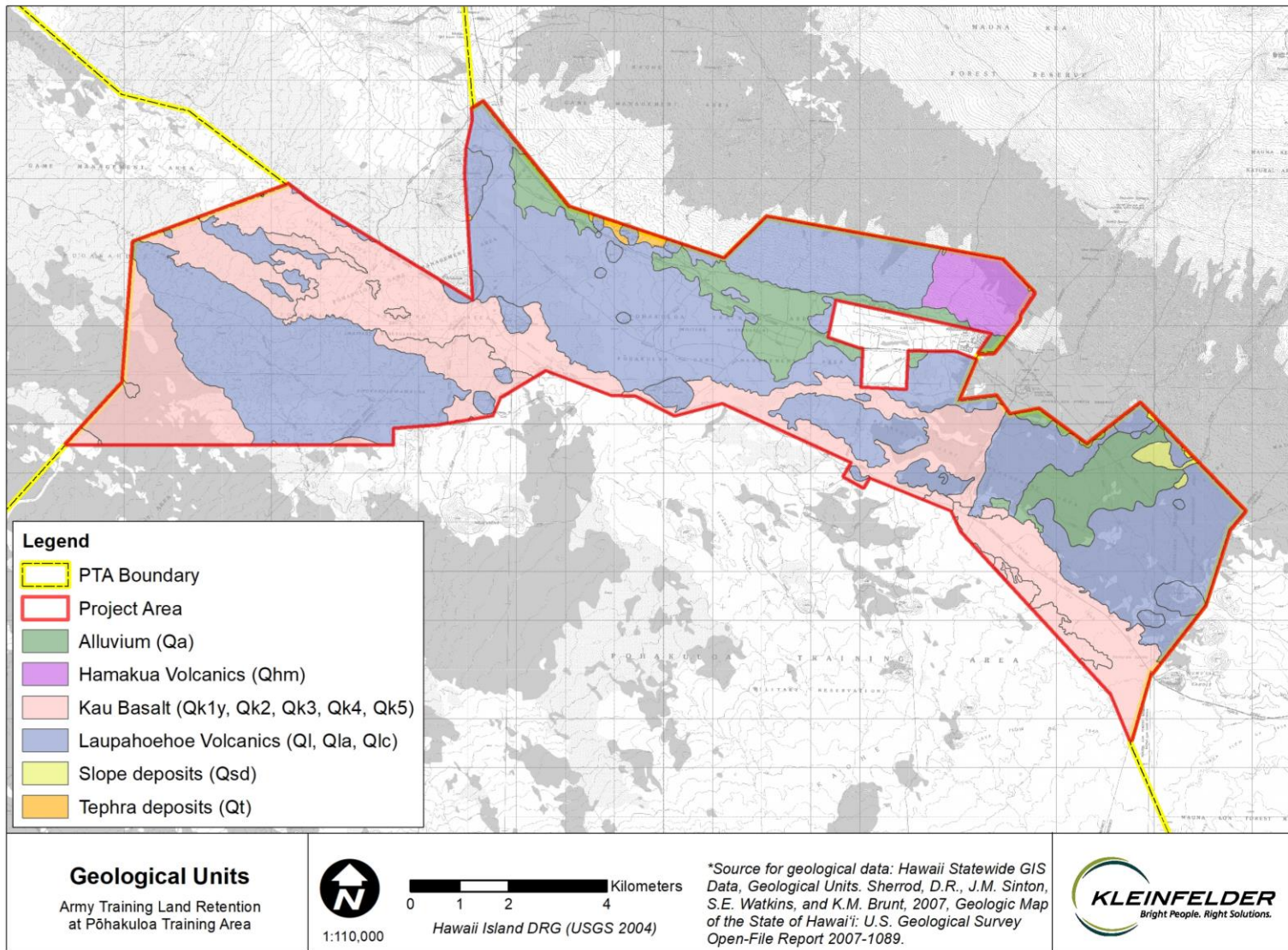


Figure 4. Geological units within the project area.

Pāhoehoe flows provided rocks suitable for construction of Traditional Hawaiian architectural features (e.g., platforms, terraces, and cairns), as well as ranching features (e.g., boundary walls, fence-lines, enclosures) and recent military features (e.g., cairns, C-shapes, walls, and related construction for defensive positions).

Some pāhoehoe flows such as the Kau basalt series formed surface chills of volcanic glass that were utilized as lithic quarries by Hawaiians. Sinton (2004) describes the processes by which the flow is formed:

The flow field is a complex of individual flow lobes that range in character from brown-weathering areas with only very thin glass crusts, to blue-black-weathering units that are characterized by conspicuous glass surface crusts ranging up to ~3cm in thickness. It is within the latter units that specific areas were exploited as glass quarries. The black-weathering units are very dense pāhoehoe, typical of that which has degassed during transit in lava tubes and subsequently oozed out down slope....The quarried lava is a basalt with scattered micro-phenocrysts of olivine ranging up to ~1mm in size.

Soils within the project area are generally comprised of weakly developed series, supporting a vegetation community classified as montane dry and mesic forest grading to subalpine forest and shrubland. According to Shaw (1997:10) vegetation at PTA “is a complex mosaic of plant communities directly related to the type and age of the substrate and subsequent amount of soil development.” Younger flows are relatively barren, supporting only limited vegetation such as ‘ohi‘a lehua (*Metrosideros* spp.), while older flows with more developed soils support grasses, small trees, and shrubs, such as māmane (*Sophora chrysophylla*), naio (*Myoporum sandwicense*), pūkiawe (*Leptecophylla tameiameiae*), a‘ali‘i (*Dodonaea viscosa*), and ‘āweoweo (*Chenopodium oahuense*) (Shaw 1997:10; Juvik and Juvik 1998:125–126).

2.2 Traditional Hawaiian Land Use

Pre-Contact Hawaiians generally favored coastal and lower valley locales for habitation. Traditional land use centered on agricultural production, coastal exploitation of marine resources, and the collection of wild plants and animals (Kirch 1985:2–3). Agricultural intensification accounted for a wide variety of cultigens, the two most prolific being kalo (*Colocasia esculenta*, taro) and ‘uala (*Ipomoea batatas*, sweet potato). Kalo was grown across the islands but particularly within irrigated pond fields along river valleys. Sweet potato was grown primarily in drier areas or those not typically favorable to wetland farming. Other important cultigens included pia (*Tacca leontopetaloides*, arrowroot), ti (*Cordyline terminalis*), niu (*Cocos nucifera*, coconut), mai‘a (*Musa paradisiacal*, banana), and kō (*Saccharum officinarum*, sugarcane). The exploitation of coastal marine resources was equally important and centered on fishing, the collection of limu (various seaweed species), marine invertebrates, salt production, and aquaculture.

The mauka areas beyond the limits of agriculture also provided a wide range of natural resources. While specific information regarding traditional land use of the Saddle Region is extremely limited, ethnohistoric information can be inferred from data collected from previous archaeological work conducted in the region (Maly 1999). While the arid environment, high altitude, lack of reliable water sources, and scarce cultivable land within the region discouraged use of the area for permanent settlement, radiometric assays from archaeological excavations indicate use of the region soon after settlement of the island of Hawai‘i as early as AD 1000–1200, with intermittent

visits occurring by AD 1200–1300 (Athens and Kaschko 1989; Haun 1986; Shapiro and Cleghorn 1998). Early use of the area likely involved short-term, low-impact visits by small groups of Hawaiian specialists who used the area to gather wild fauna, hardwood for tool use and canoe making, and wild plants for subsistence, medicinal, and ceremonial purposes.

Archaeological evidence suggests that many of the site types identified within PTA may be associated with travel corridors through the region (Robins et al. 2006; Shapiro et al. 1998; Williams 2002). Travel routes through the Saddle Region have been identified in ethno-historical documents that connected Traditional Hawaiian settlements (e.g., Kona, Waimea, and Hilo) and led to the Mauna Kea adze quarry and places of ceremonial and cultural importance (Byerly et al. 2014; Cordy 2000). Two of the Saddle Region’s main trails are referenced in the 1873 Boundary Commission testimonies as “Chief ‘Umi’s trails” (Cordy 2000:210) (Figure 5). Native historian Samuel Kamakau (1992:18) noted ‘Umi-a-Liloa’s use of trails for traveling through the Saddle during times of war:

“Umi went by way of the mountains to stir up fight with I-mai-ka-lani and the chiefs of Kona. He became famous as a chief who traveled through the mountains of Hawaii, and (its trails) became the routes by which he went to war.”

Resource gatherers and travelers through the area found shelter in lava tubes, blisters, overhangs, and, to a lesser degree, small C-shaped surface structures that were typically found near the travel corridors (Athens and Kaschko 1989; Cordy 1994:206; Hommon and Ahlo 1983; Streck 1992:102). Occupation and use of these shelters were likely confined to short-term stays, although these groups likely established repeated-use camps while exploiting resources (Reinman and Schilz 1993:116–118).

Sociopolitical changes during AD 1400–1650 included the expansion of dryland agriculture and the development of territorial land divisions (e.g., ahupua‘a) which coincided with a surge in population growth (Kirch 1985). Pre-Contact activity in the Saddle Region increased around AD 1400–1450 (Athens et al. 1991); by AD 1450, there was a dramatic increase of production at the Mauna Kea adze quarry to mine the highly valued volcanic glass and fine-grained basalt (Williams 2002).

Increased use of the Saddle Region may also be related to the capture of birds whose feathers were increasingly used as tribute items (Athens et al. 1991:81–82). The plumage of the ‘ō‘ō (*Moho nobilis*), ‘i‘iwi (*Vestiaria coccinea*), and ‘apapane (*Himatione sanguinea*) provided colorful feathers, a particularly potent symbol of chiefly power. Goods ornately decorated with feathers were a direct measure of a chief’s power and influence, including ‘ahu ‘ula (feathered capes), mahiole (helmets), and akua hulu manu (feathered gods) (Valeri 1985:246). According to Emerson (1885, in Welch 1993:26), the collection of bird feathers was done by a specialist known as a kia manu, who captured a bird using a pole with a sticky gum-like substance derived from the pāpala kēpau (*Pisonia umbellifera*) or ‘oha (*Delissea rhytidosperra*) plants. Although some of the birds with fewer colorful feathers survived the plucking, the ‘i‘iwi and ‘apapane were inevitably cooked and eaten, having not survived the extensive plucking of their abundant red plumage (Buck 2003:217–218). The ground-nesting pueo (*Asio flammeus sandwichensis*, Hawaiian owl), although considered an ‘aumakua (family or personal god) by many Hawaiians, were also captured for their plumage which was commonly used in the making of feather kāhili (feather standard, symbolic of royalty) (Malo 1971:38).

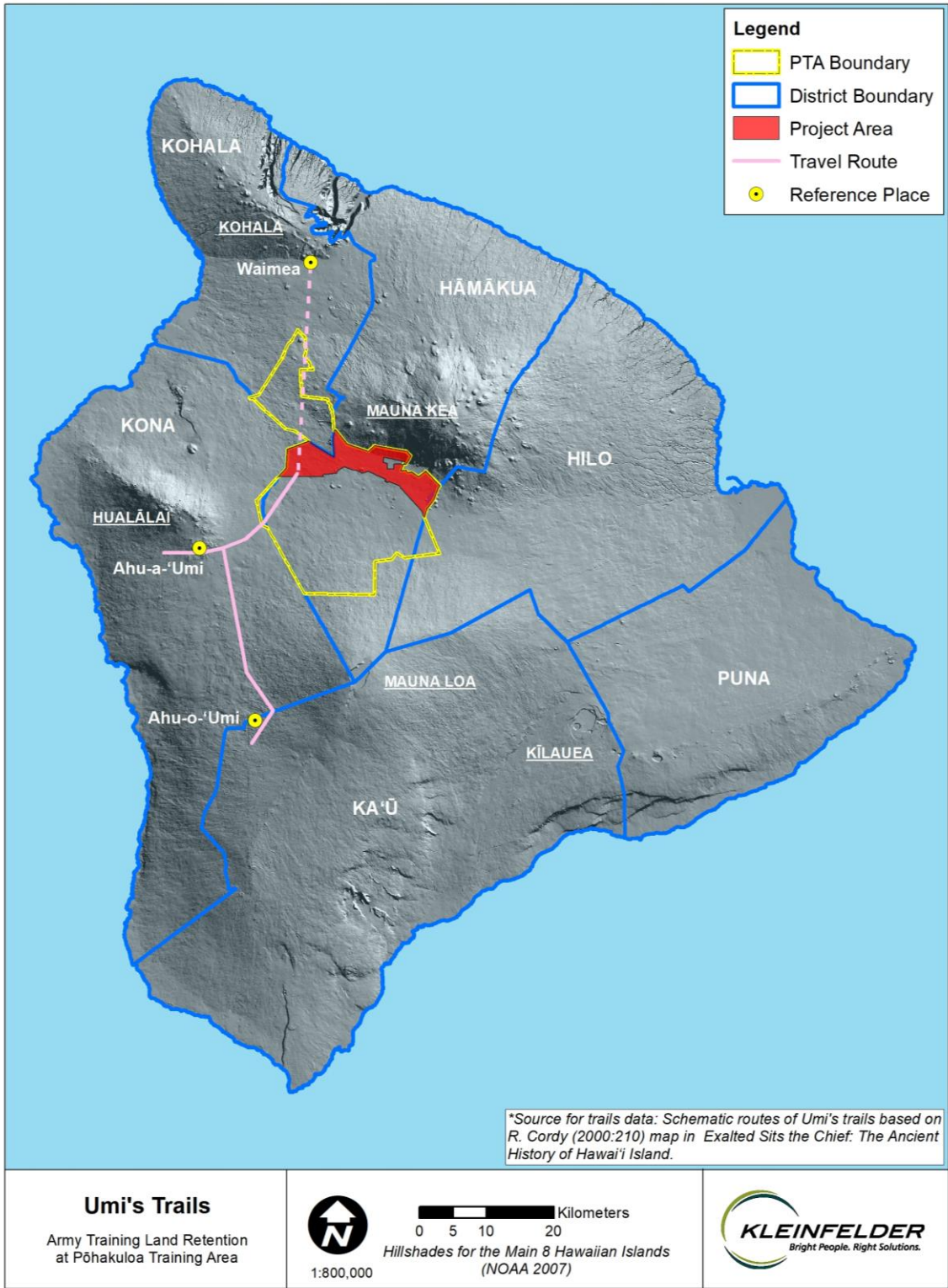


Figure 5. Map of the island of Hawai'i showing schematic routes of 'Umi's trails, adapted from Cordy (2000:210).

A number of bird species that habituated the Saddle Region were consumed by Hawaiians, particularly the larger nēnē (*Branta sandvicensis*, Hawaiian goose) and ‘ua‘u (*Pterodroma sandwichensis*, Hawaiian petrel). A post-Contact native testimony discussing the upland boundaries of Waikōloa Ahupua‘a claimed that nēnē and ‘ua‘u were hunted beyond Waikōloa in neighboring Ka‘ohe and the Saddle Region (Records from Proceedings of Boundary Commission, in Maly and Maly 2002:87). Malo (1971:37) reported that nēnē were often captured in the uplands during their molting season for food and feathers, the latter of which was used in the making of kāhili (Malo 1971:37).

The ‘ua‘u were seasonally hunted in the Saddle Region and were considered a high value food resource, especially for the adze makers visiting the quarries on the Mauna Kea summit (McCoy 1986; Williams 2002; Ziegler 1994, 2003). As a subsistence resource, Moniz (1997) suggests Hawaiians may have favored seabirds over land birds due to their large size and predictable behavioral patterns that made them an easier target to catch. A mid-nineteenth century account stated the residents of Ka‘ohe Ahupua‘a had the “sole privilege of capturing the ‘ua‘u, a mountain-inhabiting sea-fishing bird” (Lyons 1875:111, in Hommon and Ahlo 1983:21). Petrel fledglings were also reportedly procured for the ali‘i (Athens et al. 1991:81–82). Juvenile ‘ua‘u were extracted from their burrows with a long stick used to pierce the bird’s down feathers:

It is said the years ago the nesting of the uuau were considered a great delicacy, and were tabooed for the exclusive use of the chiefs. Natives were dispatched each season to gather the young birds which they did by inserting into the burrows a long stick and twisting it into the down of the young which were then easily pulled to the surface. [Henshaw 1902:102]

Hawaiians also captured the ‘ua‘u with nets as the birds flew up to the mountains in the evening (Handy et al. 1972:259). The birds were cooked by broiling their carcasses over hot stones or coals, or the birds were “cooked in ti leaves with young taro leaves (lu‘au) and stems (haha)” (Handy et al. 1972:259). Food items, including birds, were also cooked from the inside out, as described by Buck (2003:18):

The boiling method used throughout Polynesia consisted of applying heat from the inside instead of from the outside. The food was placed in wooden bowls with water, into which red hot stones were dropped. Heated stones termed ‘eho were also placed in the interior of the fowls.

An 1891 map by C.J. Lyons referred to the historic survey station Nā‘ōhule‘elua on the western boundary of Ka‘ohe Mauka Ahupua‘a as being the “scene of battle between Kona and Hāmākua bird-catchers” (Figure 6), thus suggesting territorial conflicts between traditional bird catchers in the Saddle Region. Nā‘ōhule‘elua, and an ahu that marks it, was named for two bald men from Waimea and Kona who met on the road at this place (Emerson 1885). One may surmise the two men were the embattled bird catchers mentioned on Lyons 1891 map. At the turn of the twentieth century, it was noted the ‘ua‘u once “nested in great numbers in the lava between Mauna Kea and Mauna Loa,” but the nesting sites were no longer occupied after being invaded by the introduced mongoose (Henshaw 1902:120).

2.3 Early Post-Contact Accounts

During the early post-Contact era, Waimea and Kawaihae continued to be the primary population centers of the region, with a sizable fishing village maintained at Puakō on the shoreline south of Kawaihae. The upland settlement of Waimea contained prime agricultural lands that provided crops to the Kawaihae settlement and foreign voyagers arriving at the busy leeward port. Menzies (1920:55–56) described the cultivated lands of Waimea from afar:

I saw in the verge of the woods several fine plantations, and my guides took great pains to inform me that the inland country was very fertile and numerously inhabited. Indeed I could readily believe the truth of these assertions, from the number of people I met loaded with the produce of their plantations and bringing it down to the water side to market, for the consumption was now great, not only by ship but by the concourse of people which curiously brought into the vicinity of the bay.

Between approximately 1815 and 1826, ‘iliahi (*Santalum* spp., sandalwood) was actively harvested in the upland forests of the Hawaiian Islands for export to China (Cuddihy and Stone 1990:38). ‘Iliahi was a desirable export as the trees were plentiful, could be harvested year-round, and did not have to be cultivated. The maka‘āinana (commoners) were forced to labor in the upland forests for days or weeks to satisfy their chiefs’ growing debts to the King and foreign entrepreneurs (Kamakau 1992:252; McGrath et al. 1973:18). Thousands of trees were taken from the upland slopes of Kohala and Mauna Kea and transported by foot to Kawaihae for shipping to Honolulu and beyond. A Native testimony described the boundary of Waikōloa bordering Ka‘ohe Mauka Ahupua‘a on the west and speaks of cutting sandalwood in the region:

Kiai, sworn: ...Puuhinai is a slight rise in the pili lands, a low hill...Keamuku is a lava field quite near Puukapele. Hanaialii is two miles perhaps from Keamuku. Puuhinai is about the same distance from Hanaialii. There is no road nor any gulches on the boundary. I know no gulch between Hanaialii and Puukapele. There is a gulch of Waikii and one of Palihai, but they are not near the line. These gulches join at Naamana or Namahana. The same gulch runs to the sea at Puako, runs through Waikoloa... I am well acquainted with that part of the boundary and the rest of it also. I have travelled the whole line personally. Used to hunt for uwau and neenee [nēnē], and to cut sandal wood in that part of the country... [Records from Proceedings of Boundary Commission, in Maly and Maly 2002:87]

The overharvesting of ‘iliahi would soon exhaust the resource, leaving the upland regions deforested. By the 1840s, the ‘iliahi forests had been completely depleted to the point that only saplings remained (Wilkes 1845:217, in Clark 1983:48).

In 1823, British missionary William Ellis toured the island of Hawai‘i in search of suitable areas in which to establish churches. In his journal, Ellis (1984:3–4) noted the sparse settlement of the uplands and, of particular interest, included accounts of Native Hawaiians who traveled into the mountain lands.

There are few inland settlements on the east and north-west parts of the island, but, in general the interior is an uninhabited wilderness. The heart of Hawaii, forming a vast central valley between Mauna Roa, Mauna Kea, and Mauna Huararai, is almost unknown, no road leads across it from the east to the western shore, but it is reported by the natives who have entered it, to be "Bristled with forests of ohia," or to exhibit vast tracts of sterile and indurated lava.

Early historic accounts provide some insight into the remoteness of the Saddle Region and the difficulties foreigners had while traveling across the Saddle. Hommon and Ahlo (1983:27) provide a summary of historic accounts that suggest the Saddle Region contained a scarcity of well-defined trails and those that existed were difficult to follow even with Hawaiian guides present (Hommon and Ahlo 1983:28). As accounted by J.S. Emerson in his survey field book on December 8, 1885, during his journey from Waimea through Ke‘āmuku to the Judd Trail near Ahu a ‘Umi, located on the southwest corner of the Saddle, the arid and rocky landscape was an added challenge for Western travelers:

The terminus of the Judd Road among the other points is carefully located. No expedition which I have ever conducted has caused me such anxiety and has attended with such loss as this. It was a frightful trip, the remembrance of which haunts me. The water holes were dry and the country parched with drought. At Waimea we encountered a cold storm of wind and rain. At Keamuku the animals drank too freely of bad water. Used up with hunger, thirst, cold and improper drink, they fell by the way. Though I did my best to save them, I lost my poor old horse at Waimea and left the old Waawaikinaauao to die on the flow of 1859 along with a mule belonging to my man. [Emerson 1885]

2.4 The Māhele and Land Tenure Change

In 1848, the Māhele ‘Āina (division of lands) instituted a change from the Traditional Hawaiian system of land tenure to a system based on the western concept of fee simple ownership. During the Māhele, the Hawaiian chiefs and konohiki (headman of an ahupua‘a) were required to present their claims to the Land Commission and receive awards for the lands quit-claimed to them by Kamehameha III. Until an award for these lands were issued, the title remained with the government. A Land Commission Award (LCA) gave complete title to the lands except for the government’s right to commutation. Upon satisfaction of the commutation, which could be settled by cash payment or through the exchange of land of equal value, a Royal Patent was issued by the minister of the interior. A Royal Patent quit-claimed the governments’ interest in the land and served as proof that the government’s right to commutation no longer existed.

The Kuleana Act of 1850, sometimes referred to as the “Second Great Māhele,” bolstered private land ownership even further by permitting maka‘āinana to own land as well as foreign-born individuals. The restrictions within the Kuleana Act, however, made it difficult for commoners to receive a land award. The Act also discouraged Hawaiians who did not actively cultivate the land. The Act of August 10, 1854, later dissolved the Land Commission and stated, “a Land Commission Award shall furnish as good and sufficient a ground upon to maintain and action for trespass, ejectment, and other real action, against any persons or persons, whatsoever, as is the claimant, his heirs of assigns, has received a Royal Patent for the same” (Chinen 1958:14). An LCA recipient was thus still protected if they had not received a Royal Patent (Chinen 1958:13–14).

Overall, the Māhele and subsequent land ownership regulations marked a key shift in Hawaiian land use history and ushered in a drastic transformation from a redistributive economy to a market-based system. This facilitated the rapid decline of native land tenure and led to the widespread purchase of land by wealthy foreign investors.

2.4.1 LCA and Kuleana Claims within Project Area

The majority of the project area is located within the ahupua‘a of Ka‘ohe Mauka, with a small portion of the project area extending into the ahupua‘a of Humu‘ula. It is important to note that Ka‘ohe Mauka is a modern ahupua‘a designation that has divided the traditional ahupua‘a of Ka‘ohe into two separate areas; Ka‘ohe Mauka is not named in the Māhele or listed in the LCA Indices.

In 1848, Ka‘ohe Ahupua‘a was held by Victoria Kamamalu, who relinquished the land to Kamehameha III (Buke Māhele 1848:5–6). Later that same year, Kamehameha III gave Ka‘ohe to the government land inventory (Buke Māhele 1848:191). There were four kuleana claims registered by native tenants within Ka‘ohe, of which only one award was granted (Table 1). Koolau was granted one ‘āpana of seven acres under LCA 3705B. The LCA testimony indicates kalo, arrowroot, banana, and coffee were cultivated on the parcel. This parcel was likely located north of Mauna Kea at lower elevations where the modern boundary of Ka‘ohe Mauka Ahupua‘a is delineated.

Like Ka‘ohe, Humu‘ula Ahupua‘a was also held by Victoria Kamamalu in 1848, who relinquished it to Kamehameha III (Buke Māhele 1848:5–6). Kamehameha III later retained Humu‘ula as part of the Crown Land inventory (Buke Māhele 1848:190–191). One kuleana claim in Humu‘ula was registered but not awarded (Maly and Maly 2005:269).

Table 1. Kuleana Claims for Ka‘ohe Ahupua‘a

| <i>LCA Number</i> | <i>Claimant</i> | <i>Awarded</i> | <i>Description</i> |
|-------------------|-----------------|-------------------|-------------------------------------|
| 3705B | Koolau | 1 ‘āpana, 7 acres | Kalo, arrowroot, banana, and coffee |
| 3722B | Keopohaku | Not awarded | - |
| 8297 | Kookooku | Not awarded | - |
| 10180 | Malao, Tatina | Not awarded | - |

2.5 Historic Period Land Use

Concurrent with the declining ‘iliahi (sandalwood) trade, the ranching industry soon came to dominance in the Saddle Region, supplying a growing foreign population in the Hawaiian Islands with meat, tallow, hides, and wool. The rocky, arid landscape, inconducive to commercial agriculture, eventually gave way to U.S. military use of the area by the 1930s, which has continued into the modern period.

2.5.1 Cattle and Sheep Industry

Ranching has a long history on the island of Hawai‘i, traced back to the introduction of cattle and sheep in 1793 when the English Captain George Vancouver presented Kamehameha I a gift of seven longhorn cows and four sheep (Brennan 1974:23). Vancouver returned the following year bringing goats and geese, as well as more cattle and sheep. These first cattle were the personal property of Kamehameha I and initially had little economic impact (Desilets et al. 2017:9). To ensure the cattle had a chance to propagate, Kamehameha I instituted a kapu (prohibition) stipulating cattle were not to be molested or killed, which was punishable by death (Brennan 1974:19–20).

The free roaming cattle herds reproduced rapidly in the Waimea Region and mountain slopes, and by 1802, the animals had become so feral “that none of the natives dare approach them” (Turnbull 1813:243, in Kelly 1974:44). During the ten-year-long kapu, cattle numbers increased dramatically and had an enormous impact on the environment, devouring and trampling native crops (Brennan 1974:45). Stone walls were built on a massive scale throughout the island of Hawai‘i to protect traditional homes and agricultural fields from the free roaming cattle. Large tracts of land were negatively impacted as a direct result of the cattle and sheep industries.

Kamehameha III lifted the kapu on cattle in 1815, and in a measure to control the large free roaming herds, he sanctioned the hunting of bullocks by hiring foreign hunters in 1819. One of the first bullock hunters to be authorized by the Hawaiian Kingdom was John P. Parker, the founder of the Parker Ranch (Kelly 1974:44). Parker was compensated with live cattle, from which he selected the best cattle for breeding and re-domestication to form Parker Ranch (Brennan 1974:48). Cattle started to become a significant economic resource as the bullocks were hunted for meat, hides, and tallow to supply the visiting fleets of whaling ships stopping in the islands to replenish their stores (Brennan 1974:45). Reverend William Ellis described early bullock hunting observed by his companion Mr. Goodrich after returning from a trip to Mauna Kea:

In his way down, he saw at a distance several herds of wild cattle, which are very numerous in the mountains and inland parts of the island, and are the produce of those taken there, and presented to the king, by Captain Vancouver. They were, at his request, tabued for ten years, during which time they resorted to the mountains, and became so wild and ferocious, that the natives are afraid to go near them.

Although there are immense herds of them, they do not attempt to tame any; and only advantage they derive is by employing persons, principally foreigners, to shoot them salt the meat in the mountains, and bring it down to the shore for purpose of provisioning the native vessels. But this is attended with great labour and expense. They first carry all the salt to the mountains. When they have killed the animals, the flesh is cut off the bones, salted immediately, and afterwards brought on the men’s shoulders ten or fifteen miles to the sea-shore. [Ellis 1984:402]

By the 1830s, bullock hunting was a flourishing industry with over 60 independent operators (Bergin 2004:28). The arrival of the *vaqueros* or Spanish cowboys from California in the early 1830s brought with them skilled horsemanship and advanced strategies for capturing and killing cattle. It is during this time there was a significant shift from procuring salted beef for the visiting merchant and whaling ships to hunting bullocks for just their hides and tallow (*Sandwich Island Gazette* 1836). By 1840, the unrestricted hunting of bullocks for hides and tallow effectively depleted the once numerous free roaming wild herds, forcing Kamehameha III to restore the kapu on killing bullocks for their hides alone (Langlas et al. 1999:43). During an expedition to Hawai‘i, naturalist Charles Pickering noted in his journal on January 10, 1841, the decline in wild cattle was largely due to the induction of horses and the more effective hunting methods of the experienced *vaqueros*:

Horses have been imported at a great expense, and Spaniards from N. California employed to carry on the business systematically. The consequence is that the cattle are now almost exterminated, and the few that remain are so harassed that they even seek the very summit of the mountain “to get out of the way.” [Pickering 1838–1841]

2.5.1.1 Parker Ranch

Following the Māhele, John P. Parker acquired land from the Land Commission in 1847 (Desilets et al. 2017:10). In 1861, Parker acquired the pasture lands of Pā‘auhau Mauka (37,888 acres), adjacent to Kā‘ohe Mauka. The following year Parker bought Pā‘auhau Makai (8,165 acres) from C.R. Bishop. These tracts were acquired by Parker to secure unbranded cattle (many of which were the offspring of Parker Ranch cattle) wandering beyond the ranch’s immediate holdings and to thwart cattle rustling (Bergin 2004:155). Parker also obtained 640 acres at the base of Mauna Kea through his Hawaiian wife Chiefess Kipikane, granddaughter of Kamehameha I. Upon Parker’s death in 1868, the 94,000-acre ranch was divided between his two sons, John Parker II and Samuel Parker. Parker Ranch continued to flourish through the remainder of the nineteenth century, shipping many of its cattle to Honolulu for processing (Figure 7).

In 1903, Alfred Carter became the manager of Parker Ranch, with Samuel Parker still owning half of the ranch assets. John Parker II’s 50-percent interest was transferred through inheritance to John Parker III’s five-year-old daughter Annie Thelma Parker (Brennan 1974:115–117). The PTA portion of the leased land was used as pasture by Parker Ranch until about 1943, when the U.S. military began operating a camp for artillery live-fire exercises (Langlas et al. 1999:55; Maly and Maly 2005:15).

2.5.1.2 Humu‘ula Sheep Station

The sheep industry in Hawai‘i emerged concurrently with cattle ranching and was prevalent by the 1840s (Langlas et al. 1999:43). During this time, the merchant William French was already raising sheep and goats in Waimea and was exporting wool by 1844 (Wellmon 1969:57). Frances Spencer and James Louzada came to Waimea in the 1850s and following the death of French, acquired his holdings with the purchase of a tract of land called Lihu‘e (Wellmon 1969:76). They raised cattle and sheep on the land and operated a store in Kawaihae (Langlas et al. 1999:44).

In 1857, Spencer purchased the leases for Ka‘ohe and Humu‘ula which extended their land holdings through the mountain lands of Mauna Kea, the Saddle, and the north slope of Mauna Loa (Maly and Maly 2005:15). In 1860, Robert Janion bought out Spencer and Louzada’s operation in Ka‘ohe and Humu‘ula after securing his own lease of the land in 1859 (Maly and Maly 2005:377–378). A year later, Janion, Spencer, Louzada, and Henry Cornell consolidated their holdings to establish the Waimea Grazing and Agricultural Company (WGAC):

This indenture made the first day of August A.D., One Thousand Eight Hundred & Sixty one, between Francis Spencer & Robert Janion, lately copartners in the Grazing business at Puuloa, Waimea, on the Island of Hawaii, under the name & Style of F. Spencer & Company, of the first part, & the Waimea Grazing & Agricultural Company of the other part. Whereas by articles of agreement & co partnership made & entered into & concluded by & between the said F. Spencer & R.C. Janion of the one part and Francis Spencer, James Louzada and Henry Cornell copartners in another Grazing Establishment at Lihue in the District of Kohala in the said Island of Hawaii, of the other part, reciting that the said several parties & firms respectively had agreed & did thereby agree to consolidate & unite their several partnership propositions that the same should be therefore held, managed & conducted as a Joint Stock Establishment in the name style & title of “The Waimea Grazing and Agricultural Company...” [Maly and Maly 2005:377–378]



Figure 7. Preparing cattle for loading on an approaching steamer in Kawaihae Harbor (Hawai'i State Archives online).

The WGAC had various business interests including the hide and tallow trade, the export of salted beef, sheep production and the export of wool, and the selling of goods at company stores in Waimea (Langlas et al. 1999:44). According to Bergin (2004:231), Spencer developed three separate stations at Kalai'eha, Lahohinu, and Keanakolu around 1870. By 1873, a wagon road, likely following a Traditional Hawaiian trail and generally following the present route of the Saddle Road, was in use and provided access to the sheep station from Waimea. Traveler Isabella Bird, who visited Humu'ula in 1873, described the Kalai'eha sheep station:

There are 9000 sheep here, but they require hardly any attendance except at shearing time, and dogs are not used to herd them. Indeed, labour is much dispensed with, as the sheep are shorn unwashed, a great contrast to the elaborate washings of the flocks of the Australian Riverina. They come down at night of their own sagacity, in close converging columns, sleep on the gravel about the station, and in the early morning betake themselves to their feeding grounds on the mountains. [Bird 1998:232–233]

Three years later, in 1876, the declining WGAC sold the Humu'ula land lease and sheep station operation to James Gay who incorporated the Humu'ula Sheep Company. The company was later mortgaged to a German businessman named Hackfeld in 1885 (Bergin 2004:231). Hackfeld's holdings were managed by the Haneburg brothers who eventually purchased the Humu'ula Sheep Company in 1893. Ranch walls, many of which can be seen from Saddle Road, were laid out by A. Haneburg, station manager, and built by Japanese immigrants in 1895 (Langlas et al. 1999:45).

Samuel Parker bought a controlling interest in the Humu'ula Sheep Company in 1900 (Langlas et al. 1999:50). The purchase was a private venture and not incorporated into the Parker Ranch estate.

In 1914, Samuel Parker decided to sell the sheep operation in Humu‘ula to an anonymous buyer, A.W. Carter, representing Parker Ranch (Maly and Maly 2005:439–440). A series of 1926–1927 United State Geological Survey (USGS) quadrangle maps show a telephone line and the Saddle Road being called “Humuula-Waikii Road,” which likely served the sheep operations in the area (Figure 8). An informant in the 1930s recalled witnessing the cowboys drive sheep across the Saddle from Humu‘ula to Kawaihae for shipping to Honolulu (Langlas et al. 1999:53):

We used to bring the sheep down in the afternoon from Humu‘ula, down to a corral they call Pu‘u Ke‘eke‘e on the right hand side of Saddle Road as you come up Pu‘u Mau, we used to put sheep in there and ride back to Humu‘ula, spend the night at Humu‘ula and leave Humu‘ula about 2:00 in the morning, ride down to Pu‘u Mau, pick up the sheep and bring ‘em down to Nohonaohae and leave ‘em at Nohonaohae.

Right where the big pasture. Then from there the sheep were brought into Waimea for about a night and then from there-down to Pu‘u Iki, halfway to Kawaihae. And then the next morning early they would take ‘em to Kawaihae and put on the boat, send to Honolulu.

By 1950, there were approximately 6,000 to 8,000 sheep and 3,000 cattle in Humu‘ula. Around 1965, the sheep operation was phased out completely after the ranch constructed a number of water ponds to run more cattle (Langlas et al. 1999:51).

2.5.2 U.S. Military Land Use

In 1943, during World War II, the U.S Government constructed Kaumana Road (currently Saddle Road) to allow soldiers ease of access to the island interior in the event of a coastal attack by invading forces (Langlas et al. 1999:55). At this time, the U.S. military also established several firing ranges at Pōhakuloa as well as Bradshaw Army Airfield (BAAF) and an Army camp consisting of Quonset huts and tents (Langlas et al. 1999:55–56) (Figure 9). Following the war, Pōhakuloa was under the control of the Hawai‘i Territorial Guard until 728 acres were ceded to the Army under the Territorial Governor’s Executive Order No. 1719 for the establishment of a multi-functional military training facility. The training facility was established in 1956, which included over 116,000 acres of land under lease and ownership.

In 1964, lease agreements were reorganized, and approximately 84,057 acres (including the 55,000-acre impact area) was transferred to the Army under Presidential Executive Order No. 11167. The project area, consisting of approximately 23,000 acres between the base camp and the impact area, were leased from the state of Hawai‘i under Lease No. DA-94-626-ENG-80c. The most recent expansion to PTA was the purchase of the 24,000-acre Ke‘āmuku parcel from Parker Ranch in 2006, located northwest of the project area.

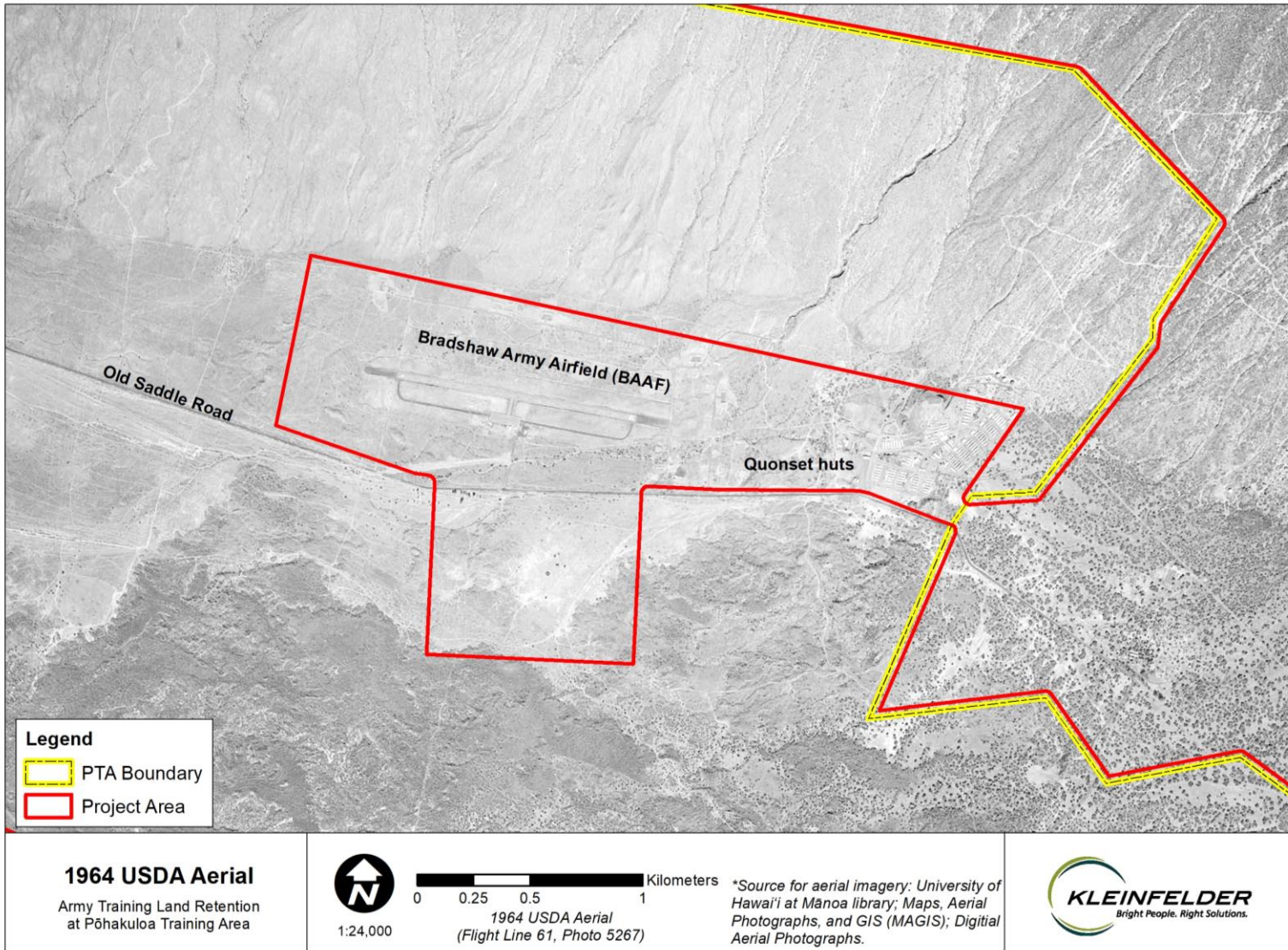


Figure 9. 1964 aerial photograph showing post-World War II developments at PTA.

3.0 ARCHAEOLOGICAL CONTEXT

This section provides a summary of previously conducted archaeological studies and previously recorded archaeological sites within the project area, followed by an overview of the Traditional Hawaiian and Historic Period site types known to exist in the region. Archaeological sites are referred to using the unique portion of the Hawai'i State Inventory of Historic Places (SIHP 50-10-31-) site numbers and by temporary numbers (C-, PL-, T-) designated during surveys by consultants and PTA CRM staff.

3.1 Previous Archaeological Studies within the Project Area

PTA is well studied archaeologically and has been subjected to numerous Phase I and II inventory surveys that include portions of the project area (Figure 10 to Figure 13). Inventory surveys of PTA began in the 1960s and 1970s, supported by the Bishop Museum (Rosendahl 1977). Since the 1980s, PTA archaeologists and CRM consultants have conducted numerous archaeological investigations associated with infrastructure development projects, including the construction of roadways, firebreaks, training facilities, fence lines, an ammunitions holding area, and a tactical vehicle wash. The majority of these studies have been conducted internally by PTA CRM staff, who currently are responsible for the management of more than one hundred archaeological sites within the project area.

Several previously conducted inventory surveys within the project area have been omitted from the present discussion, as they do not meet current archaeological standards and do not count toward the Army's total survey coverage. For example, Shapiro and Cleghorn (1998) performed both intensive pedestrian and aerial (i.e., helicopter) surveys within the project area, and of their total 8,000-acre survey area, only 2,300 acres of pedestrian-surveyed land is included in the present study. Other unsurveyed portions of the project area include the steep foot slopes of Mauna Kea (in the north and northeast) and areas covered in geologically recent lava flows (in the west and south).

According to the GIS data provided by USAG-HI, these recent lava flows cover 3,546 acres of the project area and represent two eruption events, one that occurred at some point between 200 and 750 years ago and another that occurred in AD 1843 (see Figure 10 to Figure 13). The land upon which the very hazardous, sharp, young lava is present would likely not contain Traditional Hawaiian archaeological resources and have a very low probability of historic resources, since the lava would have covered any resources that may have been present prior to the flow event. In the documentation that accompanied the GIS data, USAG-HI indicated some of the previous archaeological studies included this young lava in their survey areas but once the fieldwork commenced the lava was found to be unsafe for survey:

Note, several surveys include some of this flow in the polygon on east side [of the project area], however report text says the flow was not surveyed. They counted the acreage because it was part of their project area, but it was not actually surveyed but determined unsurveyable because of safety.

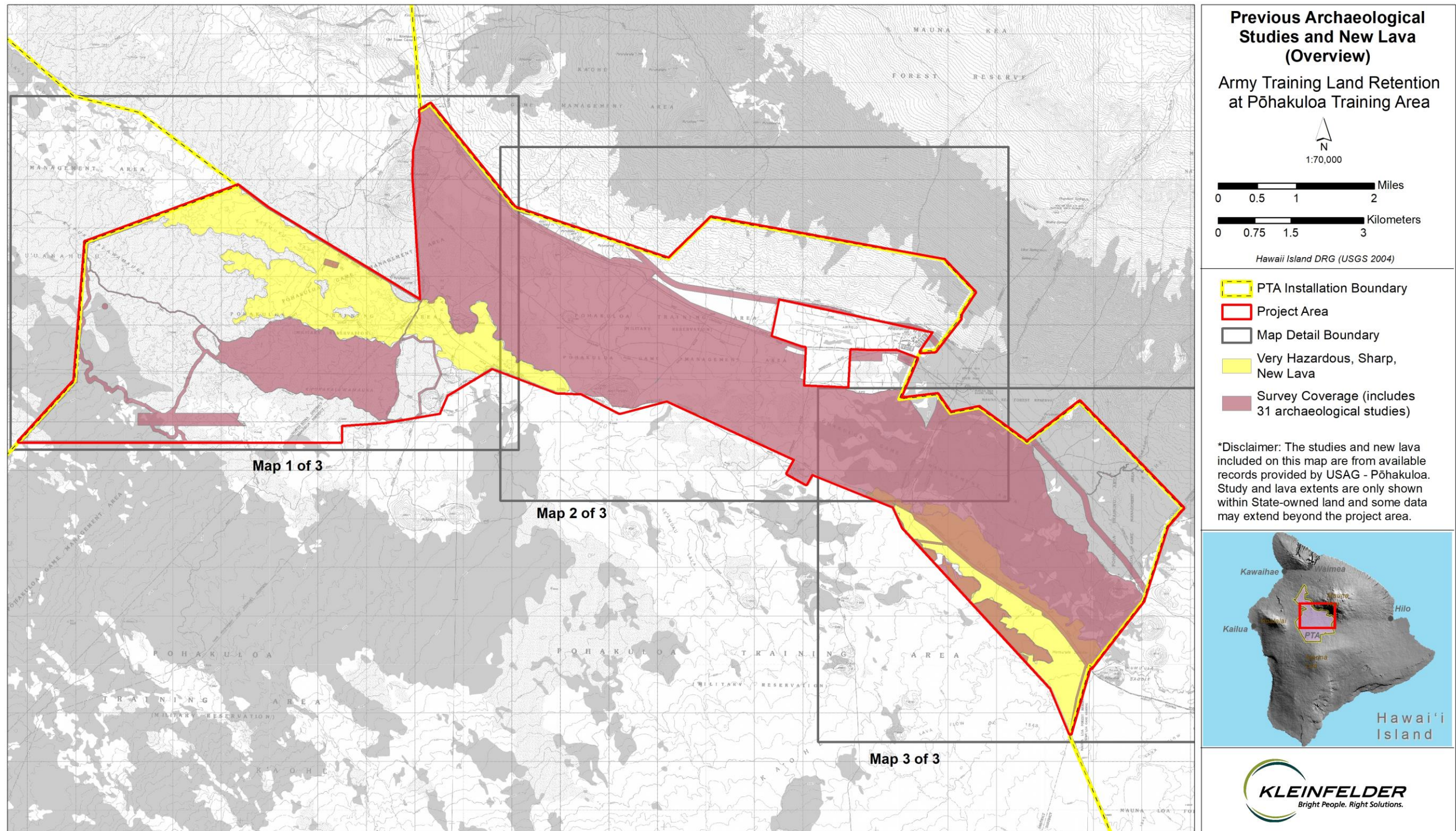


Figure 10 Overview map showing areas of new lava and survey coverage of previous archaeological studies within the project area.

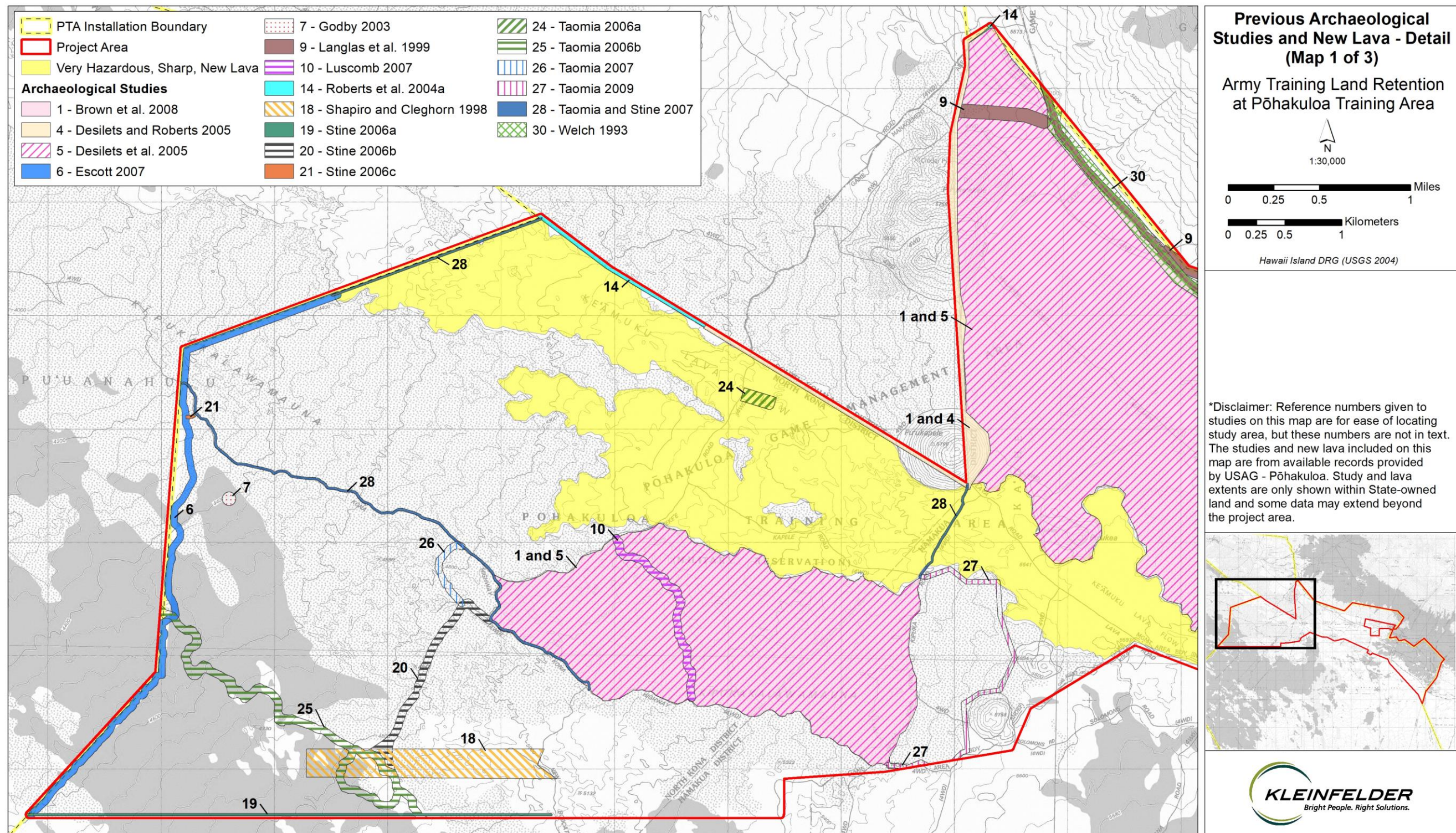


Figure 11 Detail map 1 showing archaeological studies and new lava within the project area.

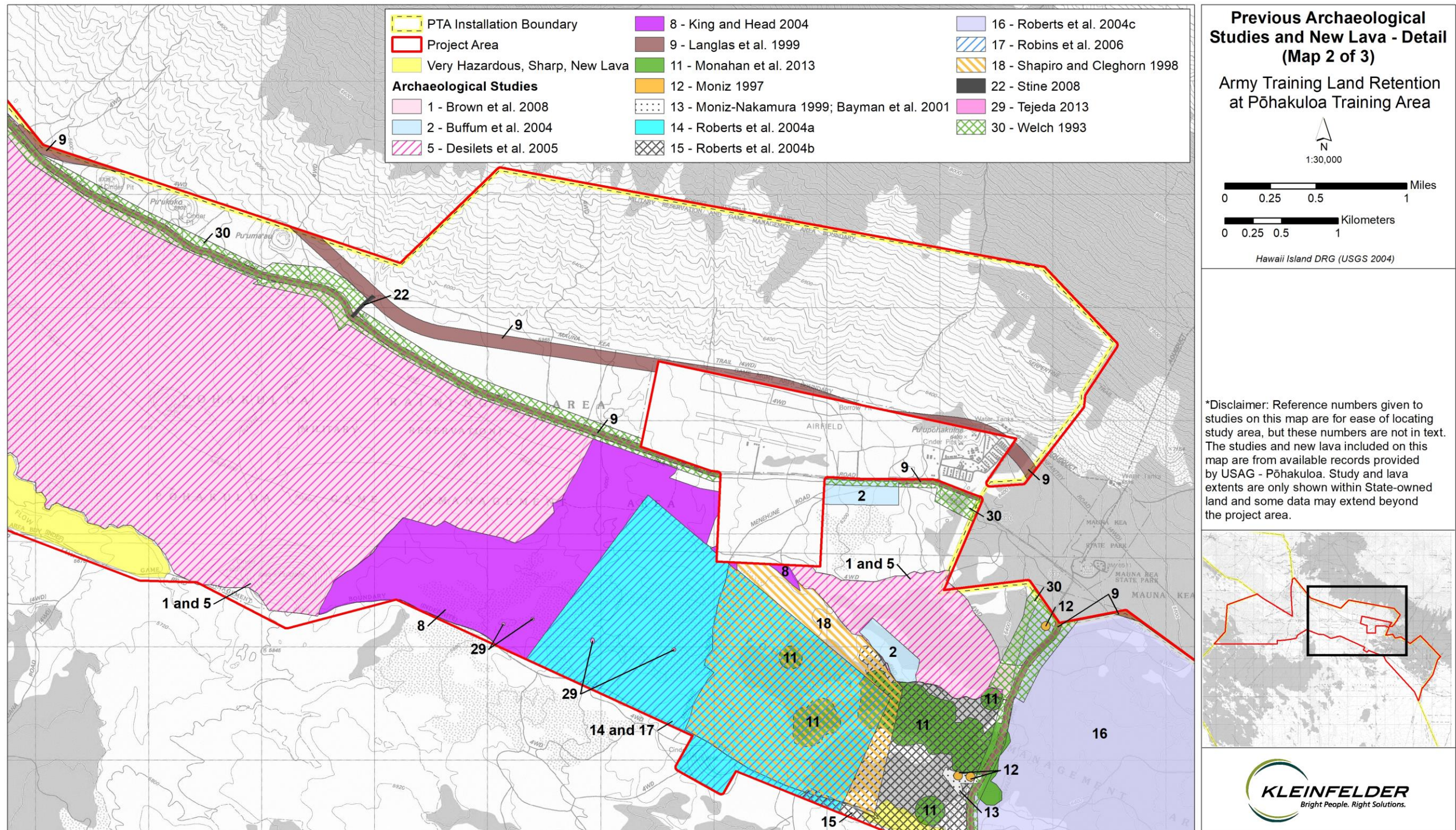


Figure 12 Detail map 2 showing archaeological studies and new lava within the project area.

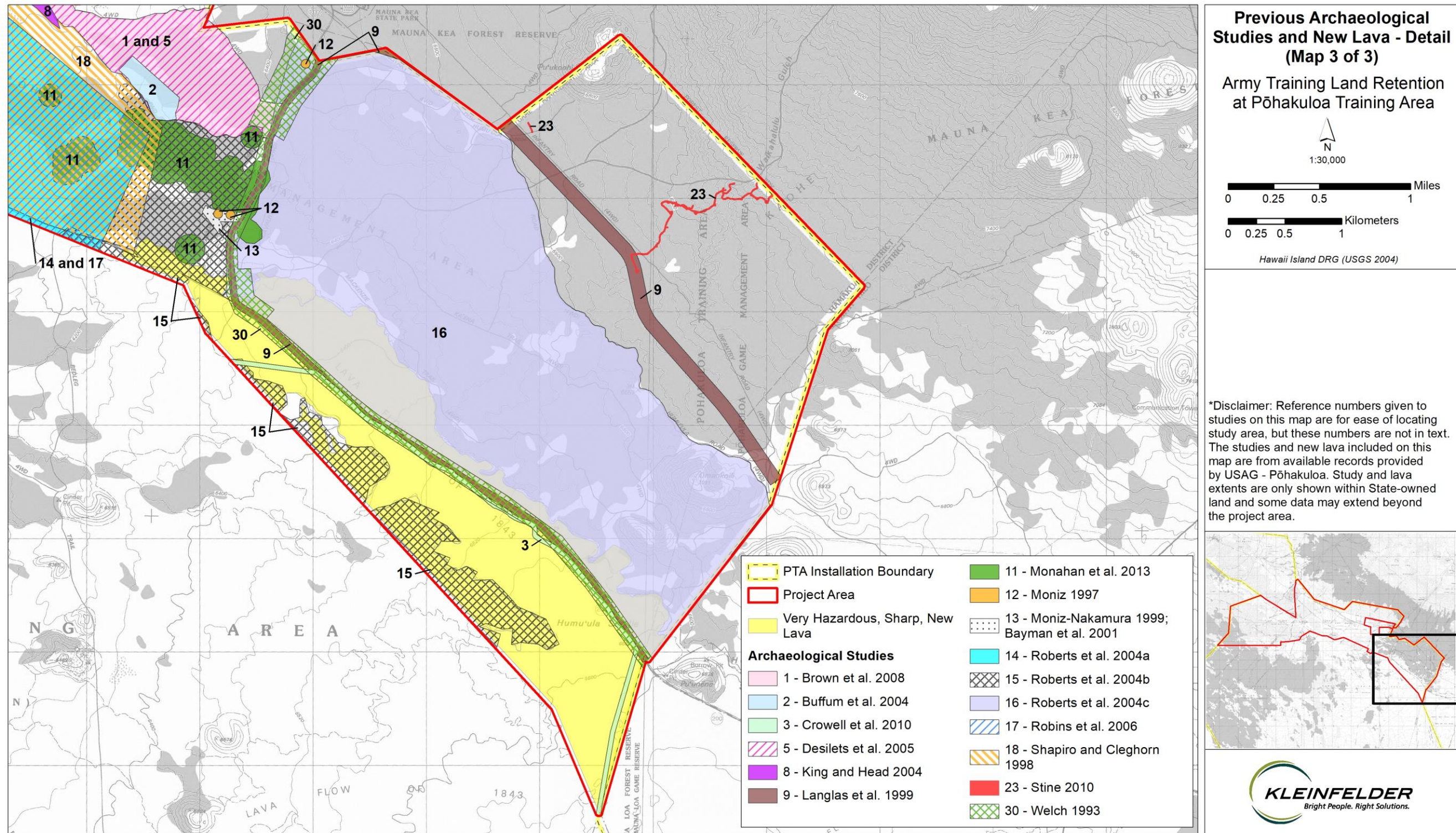


Figure 13 Detail map 3 showing archaeological studies and new lava within the project area.

3.1.1 PTA Cultural Resources Management Studies

PTA CRM staff have conducted numerous archaeological studies within the project area (Table 2). Ongoing documentation of known archaeological sites is also regularly conducted by PTA CRM staff, consisting of mapping, archaeological testing, site evaluations and condition updates, and GIS documentation. These studies have been documented in various annual reports that provide project descriptions and results of the various projects.

3.1.2 Consultant Studies

Cultural resources management consultants have conducted 12 archaeological surveys within the project area, beginning in the 1990s (Table 3; see Figure 11 to Figure 13). Other, less rigorous studies have been omitted from the present discussions as PTA CRM staff does not include these studies as part of the formal survey coverage of PTA.

Archaeological surveys of the Saddle Road corridor were conducted in the 1990s and included portions of the project area. An intensive archaeological survey of a 14.5-mile-long segment of Saddle Road was conducted that included portions of TAs 1, 3–9, 12, 15, and 16 (Welch 1993). During that survey, two previously recorded sites were identified within the project area including a historic rock wall (SIHP 5002) and a lava tube cave shelter (SIHP 5003). Subsurface testing was conducted at SIHP 5003 which documented cultural deposits containing charcoal, ash, faunal bone, and lithic debitage. Welch (1993:85) interpreted the site as a temporary shelter related to the procurement of lithic resources from the quarries on Mauna Kea. One new site (SIHP 14638) was identified at the edge of the survey corridor, consisting of a volcanic glass quarry with associated lithic scatters and lava blisters. In 1996, an archaeological survey was conducted of more than 187 miles of the Saddle Road corridor (including existing roadways and alternative corridors) that included portions of TAs 1, 3–9, 11, 12, 15, and 16 (Langlas et al. 1999). That study identified 13 new sites, but none were located within the project area.

In 1994, an archaeological survey was conducted within the project area that included portions of TAs 5 and 22 (Shapiro and Cleghorn 1998). Forty sites were identified or re-located during that study, consisting of 39 newly identified sites (SIHPs 19490 to 19529) and one previously recorded site (SIHP 10265). Three of these new sites (SIHPs 19490, 19509 and 19529) were identified within the project area.

The largest survey projects conducted within the project area were performed by Garcia and Associates (Brown et al. 2008; Buffum et al. 2004; Desilets and Roberts 2005; Desilets et al. 2005; Roberts et al. 2004a, 2004b, 2004c; Robins et al. 2006), which focused on Stryker Brigade Combat Team (SBCT) project areas and potential maneuver areas covering approximately 10,315 acres. Archaeological surveys were conducted for the SBCT facilities within TAs 6 and 7 (Buffum et al. 2004). No new sites were identified during that study; however, seven new pāhoehoe pit features were documented at SIHP 23455. In 2002, additional surveys were conducted within TAs 5, 7, and 21 (Roberts et al. 2004a). Five sites were identified within the project area during that study, including four new sites (SIHPs 23455, 23456, 23457, and 23462) and one previously recorded site (SIHP 19490). Archaeological surveys were also conducted within TAs 5 and 21 between 2001 and 2002 (Roberts et al. 2004b). During that study, four previously recorded sites (SIHPs 14638, 21351, 21744, and 21745) and eight new sites (SIHPs 23455, 23562, 23563, 23565, 23566, 23568, 23572,

Table 2. Archaeological Studies Conducted by PTA CRM Staff

| <i>Reference</i> | <i>Training Area</i> | <i>Study Type</i> | <i>Summary of Findings</i> |
|---|----------------------|-------------------------|--|
| Moniz 1997 | 5, 6 | Survey | Two previously recorded sites (SIHPs 5003 and 14638) and one new site (SIHP 21351). |
| Moniz-Nakamura 1999; Bayman et al. 2001 | 5 | Survey and Testing | Two previously recorded sites (SIHPs 5003 and 21351) and two new sites (SIHPs 21744 and 21745). Testing at SIHP 5003 documented lithic debitage, basalt tools, and bird bone. Radiocarbon dating placed SIHP 5003 within the Pre-Contact to Historic Period. Testing at SIHP 14638 recovered charcoal. |
| Godby 2003 | 22 | Survey | Identified human remains at SIHP 23694. |
| King and Head 2004 | 6–8 | Survey | Four previously recorded sites (SIHPs 23452, 24326, 24327, and 24328). |
| Stine 2006a | 22 | Survey | Five new sites (T-082306-01 to T-082306-05). |
| Stine 2006b | 22 | Survey | No sites identified within the project area. |
| Stine 2006c | 22 | Survey | No sites identified within the project area. |
| Taomia 2006a | 17 | Survey | No sites identified within the project area. |
| Taomia 2006b | 22 | Survey | No sites identified within the project area. |
| Taomia 2007 | 22 | Survey | No sites identified within the project area. |
| Taomia and Stine 2007 | 17–20, 22 | Survey | SIHP 23452 identified and flagged for avoidance. |
| Luscomb 2007 | 22 | Survey | No sites identified within the project area. |
| Escott 2007 | 22 | Survey | No sites identified within the project area. |
| Stine 2008 | 11 | Survey | No sites identified within the project area. |
| Taomia 2009 | 18 | Survey | One new site (T-031709-01). |
| Crowell et al. 2010 | 21 | Survey | No sites identified within the project area. |
| Stine 2010 | 2 | Survey | No sites identified within the project area. |
| Tejeda 2013 | 7 | Testing and Evaluations | Testing conducted at four previously recorded sites (SIHPs 23457, 23462, 24326, and 24327). SIHP 23457 was evaluated as eligible and SIHPs 23462, 24326, and 24327 were evaluated as not eligible. |

Table 3. Archaeological Studies Conducted by Consultants

| <i>Reference</i> | <i>Training Area</i> | <i>Study Type</i> | <i>Summary of Findings</i> |
|---------------------------|------------------------|----------------------------------|--|
| Welch 1993 | 1, 3–9, 12, 15, 16 | Survey and Testing | Two previously recorded sites (SIHPs 5002 and 5003) and one new site (SIHP 14638). Testing at SIHP 5003 documented cultural deposits containing charcoal, ash, faunal bone, and lithic debitage. |
| Langlas et al. 1999 | 1, 3–9, 11, 12, 15, 16 | Survey | No sites identified within the project area. |
| Shapiro and Cleghorn 1998 | 5, 22 | Survey | Three new sites (SIHPs 19490, 19509, and 19529). |
| Buffum et al. 2004 | 6, 7 | Survey | Seven new pāhoehoe pit features were documented at SIHP 23455. |
| Roberts et al. 2004a | 5, 7, 21 | Survey | One previously recorded site (SIHP 19490) and four new sites (SIHPs 23455, 23456, 23457, and 23462). |
| Roberts et al. 2004b | 5, 21 | Survey | Four previously recorded sites (SIHPs 14638, 21351, 21744, and 21745) and eight new sites (SIHPs 23455, 23562, 23563, 23565, 23566, 23568, 23572, and 23575). |
| Roberts et al. 2004c | 1, 3, 4 | Survey | Three previously recorded sites (SIHPs 5002, 21746, and 22941) and 14 new sites (SIHPs 23842 to 23854 and 23856). |
| Desilets and Roberts 2005 | 16, 17, 20 | Survey | No sites identified within the project area. |
| Desilets et al. 2005 | 6, 8, 9, 12–16, 19 | Survey | Three previously recorded sites (SIHPs 23450, 23452, and 23455). |
| Robins et al. 2006 | 5, 7, 21 | Survey, Testing, and Evaluations | Five previously recorded sites (SIHPs 19490, 23455, 23456, 23457, and 23462). |
| Brown et al. 2008 | 6, 8, 9, 12–17, 19, 20 | Survey and Testing | Three previously recorded sites (SIHPs 23450, 23452, and 23455). |
| Monahan et al. 2013 | 4–6 | Survey and Testing | Investigated previously recorded pit features. |

and 23575) were identified within the project area. In 2003, Garcia and Associates conducted more surveys within TAs 1, 3, and 4 (Roberts et al. 2004c). Seventeen (17) sites were identified within the project area during that study, including three previously recorded sites (SIHPs 5002, 21746, and 22941) and 14 newly recorded sites (SIHPs 23842 to 23854 and 23856).

Survey work continued in 2003 to support the designation of SBCT Go/No Go maneuver areas within TAs 6, 8, 9, 12–16, and 19 (Desilets et al. 2005). Three previously recorded sites (SIHPs 23450, 23452, and 23455) were identified within the project area during that study. Six possible Traditional Hawaiian sites were also identified, along with dozens of likely military features. Further work was recommended at all but one site (two stone cairns designated as Site 13) to assist with determining cultural affiliation, function, age, and intensity of use.

In 2002, an archaeological survey was conducted of 1,010 acres within Ke‘āmuku Maneuver Area (Desilets and Roberts 2005), which overlaps slightly into TAs 16, 17, and 20 within the project area. Twenty sites (SIHPs 23368 to 23387) were identified during that study, but none were located within the project area.

In 2003, Phase II archaeological surveys that included subsurface testing and site evaluations were conducted within TAs 5, 7, and 21 (Robins et al. 2006). Five previously recorded sites (SIHPs 19490, 23455, 23456, 23457, and 23462) were identified within the project area. All of the sites were Traditional Hawaiian in origin and were associated with short-term habitation, lithic quarrying activities, possible seabird hunting, and travel through the region. Additional Phase II surveys were conducted between 2004 and 2005 within TAs 6, 8, 9, 12–17, 19, and 20 (Brown et al. 2008) that investigated three sites (SIHPs 23450, 23452, and 23455) within the project area.

In 2013, Cultural Surveys Hawai‘i conducted an archaeological investigation of previously recorded pit features within TAs 4–6 (Monahan et al. 2013). Monahan et al. (2013:256) determined the likely function of the pits was to enhance nesting seabird habitat based on the results of residue analysis that identified avian signals in collected soil samples.

3.2 Previously Recorded Sites in State-Owned Land of PTA

PTA CRM staff are currently responsible for the management of 105 archaeological sites (Figure 14; Table 4) within the project area, and also keep track of military-associated features (foxholes, enclosures, walls, excavations, trash/ammunition scatters). Due to their recent age, military features are not included in the table or maps in this report.

3.2.1 Traditional Hawaiian Sites

Traditional Hawaiian archaeological resources recorded in the project area fall into several broad site types, including temporary habitation features (lava tube caves, blisters, and overhangs, stone platforms, walls, enclosures, and C-shaped structures); excavated pāhoehoe pits, likely related to the procurement of ‘u‘au; lithic quarries; rock cairns; and trail segments.

3.2.1.1 Temporary Habitation Sites

Temporary habitation sites are typically classified as either limited-use or repeated-use sites. Limited-use sites were occupied on a short-term basis, such as an overnight stay (Streck 1992:102) in surface structures (e.g., rock-constructed enclosures) and natural shelters formed in lava flows (e.g., caves and rock shelters). The limited-use occupations are defined by sparse amounts of cultural material, often limited to charcoal scatters or shallow ash deposits, and small artifact scatters.

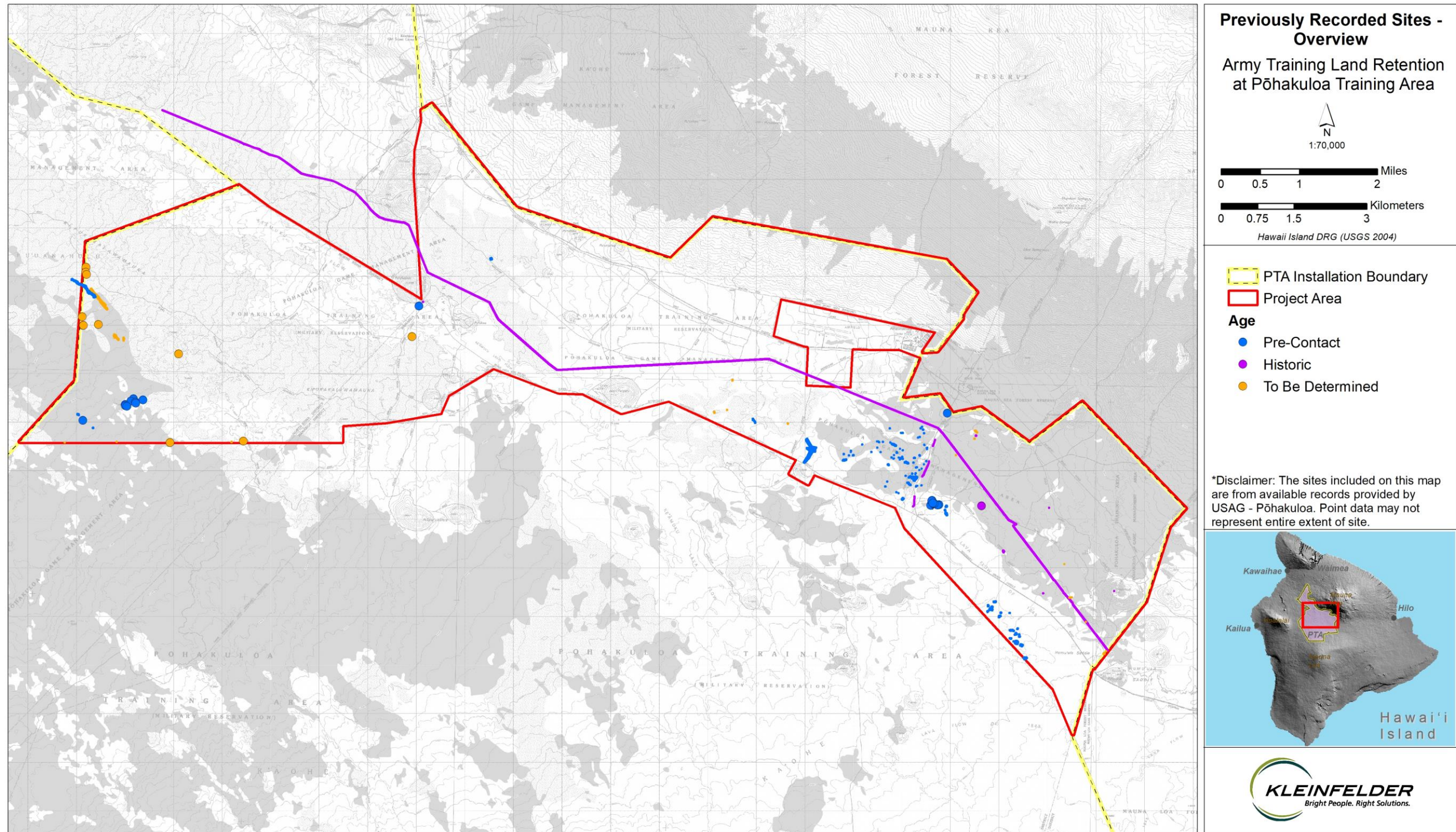


Figure 14. Overview map showing archaeological sites within the project area.

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Table 4. Archaeological Sites within the Project Area

| <i>Site Number</i> | <i>Training Area(s)</i> | <i>Description</i> | <i>Period</i> |
|--------------------|-------------------------|---|---------------|
| 50-10-31-5002 | 5 | Ranch wall | Historic |
| 50-10-31-5003 | 6 | Habitation lava tube | Traditional |
| 50-10-31-5009 | 17 | Trail | Traditional |
| 50-10-31-14638 | 5 | Habitation lava tubes, rectangular house foundation, artifact scatter, pavement | Traditional |
| 50-10-31-19490 | 5 | Habitation lava tubes, trails, C-shape | Traditional |
| 50-10-30-19509 | 22 | Habitation lava tube | Traditional |
| 50-10-30-19529 | 22 | Habitation lava tube | Traditional |
| 50-10-31-21351 | 5 | Lithic workshop complex | Traditional |
| 50-10-31-21744 | 5 | Lithic scatter | Traditional |
| 50-10-31-21745 | 5 | Habitation lava blister | Traditional |
| 50-10-31-21746 | 4 | Mound/excavation complex | Unknown |
| 50-10-31-22941 | 4 | Lava blisters | Traditional |
| 50-10-31-23450 | 15 | Habitation, overhang shelter, artifact scatter, pictographs | Traditional |
| 50-10-31-23452 | 1, 3–9, 13, 14, 16, 17 | Ranching fence line | Historic |
| 50-10-31-23455 | 5 | Pāhoehoe pits | Traditional |
| 50-10-31-23456 | 5 | Possible habitation enclosure | Traditional |
| 50-10-31-23457 | 7 | Trail | Traditional |
| 50-10-31-23462 | 7 | Cairn | Unknown |
| 50-10-31-23562 | 5 | Habitation lava tube | Traditional |
| 50-10-31-23563 | 5 | Modified outcrop/wall | Traditional |
| 50-10-31-23565 | 5 | Volcanic glass quarry | Traditional |
| 50-10-31-23566 | 5 | Habitation lava tube | Traditional |
| 50-10-31-23568 | 5 | Habitation lava tube | Traditional |
| 50-10-31-23572 | 5 | Habitation complex | Traditional |
| 50-10-31-23575 | 5 | Habitation lava blister | Traditional |
| 50-10-30-23694 | 22 | Lava tube and burial | Traditional |
| 50-10-31-23842 | 1 | Habitation platform/terrace | Unknown |
| 50-10-31-23843 | 1 | Enclosure/mound complex | Unknown |
| 50-10-31-23844 | 1 | Mound | Unknown |

Table 4. (cont.)

| <i>Site Number</i> | <i>Training Area(s)</i> | <i>Description</i> | <i>Period</i> |
|--------------------|-------------------------|--|---------------|
| 50-10-31-23845 | 1 | Mound | Unknown |
| 50-10-31-23846 | 1 | Ranching enclosure | Historic |
| 50-10-31-23847 | 3 | Ranching alignments | Historic |
| 50-10-31-23848 | 3 | Mound | Historic |
| 50-10-31-23849 | 4 | Mound | Historic |
| 50-10-31-23850 | 4 | Ranch corral | Historic |
| 50-10-31-23851 | 4 | Habitation lava tube | Unknown |
| 50-10-31-23852 | 1, 3–9, 13, 14, 16, 17 | Rock wall and enclosure | Historic |
| 50-10-31-23853 | 4 | Habitation lava tube | Unknown |
| 50-10-31-23854 | 3 | Volcanic glass quarry | Traditional |
| 50-10-31-23856 | 4 | Pāhoehoe pits | Traditional |
| 50-10-31-24326 | 7 | Blister cave and pit complex | Unknown |
| 50-10-31-24327 | 7 | Cairn | Unknown |
| 50-10-31-24328 | 7 | Wall, C-shape | Unknown |
| 50-10-31-26728 | 5 | Habitation lava tube | Traditional |
| 50-10-31-26729 | 5 | Habitation lava tube blister | Traditional |
| C-020305-01 | 22 | Lava tube | Unknown |
| C-031705-01 | 22 | Lava tube | Traditional |
| C-031705-02 | 22 | Lava tube | Traditional |
| C-031705-03 | 22 | Lava tube | Traditional |
| C-031705-04 | 22 | Lava tube | Traditional |
| C-031705-05 | 22 | Lava tube | Traditional |
| C-031705-06 | 22 | Lava tube | Traditional |
| PL-PTA-02 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-03 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-04 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-05 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-06 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-029 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-030 | 21 | Volcanic glass quarry | Traditional |

Table 4. (cont.)

| <i>Site Number</i> | <i>Training Area(s)</i> | <i>Description</i> | <i>Period</i> |
|--------------------|-------------------------|--|---------------|
| PL-PTA-031 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-032 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-033 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-034 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-061 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-062 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-063 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-064 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-065 | 21 | Volcanic glass quarry | Traditional |
| PL-PTA-066 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-067 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| PL-PTA-068 | 21 | Volcanic glass quarry and artifact scatter | Traditional |
| T-012805-02 | 22 | Habitation lava tube | Traditional |
| T-020305-02 | 22 | Habitation lava tube | Traditional |
| T-020701-02 | 6 | Artifact scatter | Traditional |
| T-031709-01 | 18 | Mound | Unknown |
| T-040418-01 | 1 | USGS survey marker | Historic |
| T-041906-01 | 22 | Habitation lava tube | Unknown |
| T-041906-02 | 22 | Habitation lava tube | Unknown |
| T-041906-03 | 22 | Habitation lava tube | Unknown |
| T-043094-02 | 22 | Habitation lava tube | Unknown |
| T-043094-03 | 22 | Habitation lava tube | Unknown |
| T-043094-04 | 22 | Habitation lava tube | Unknown |
| T-043094-05 | 22 | Habitation lava tube | Unknown |
| T-050906-01 | 22 | C-shape | Unknown |
| T-070104-01 | 5 | Artifact scatter | Traditional |

Table 4. (cont.)

| <i>Site Number</i> | <i>Training Area(s)</i> | <i>Description</i> | <i>Period</i> |
|--------------------|-------------------------|-----------------------|---------------|
| T-071306-01 | 22 | Enclosure | Unknown |
| T-080206-01 | 1 | Enclosure | Unknown |
| T-082217-08 | 14 | USGS boundary marker | Historic |
| T-082306-01 | 22 | Cairn | Unknown |
| T-082306-02 | 22 | Modified outcrop | Unknown |
| T-082306-03 | 22 | Lava tube | Unknown |
| T-082306-04 | 22 | Pāhoehoe pit | Unknown |
| T-082306-05 | 22 | Pāhoehoe pit | Unknown |
| T-092202-01 | 3 | Volcanic glass quarry | Traditional |
| T-092202-02 | 3 | Artifact scatter | Traditional |
| T-092202-03 | 3 | Artifact scatter | Traditional |
| T-092202-04 | 3 | Artifact scatter | Traditional |
| T-092202-05 | 3 | Artifact scatter | Traditional |
| T-092899-01 | 22 | Habitation lava tube | Traditional |
| T-100606-01 | 22 | Mound | Unknown |
| T-100606-02 | 22 | Mound | Unknown |
| T-111402-01 | 3 | Artifact scatter | Traditional |
| T-111402-02 | 3 | Volcanic glass quarry | Traditional |
| T-111402-05 | 3 | Volcanic glass quarry | Traditional |
| T-111402-06 | 3 | Volcanic glass quarry | Traditional |

Repeated-use sites contain midden deposits, features, and exhibit structural modifications, such as platforms, walls, terraced areas, and cupboards. Within the project area in TA 15, one habitation complex (SIHP 23450) includes a panel of at least 13 pictographs with anthropomorphic figures, an animal, and linear patterns (Figure 15). Cultural deposits at repeated-use sites are stratified and typically contain a wide range of well-preserved artifacts (Athens and Kaschko 1989; Haun 1986; Robins et al. 2006; Shapiro and Cleghorn 1998; Shapiro et al. 1998). Faunal assemblages at repeated-use sites are dominated by bird bone, particularly those of adult ‘ua‘u, though marine shell and fish bone also occur in limited quantities (Athens and Kaschko 1989; Ziegler 1994). Some repeated-use sites may represent base camps for groups exploiting resources in upland areas (Reinman and Schilz 1993:116–118).

Temporary and repeated-use habitation site types are typically located along trails running through the Saddle Region and near important upland resources, such as quarries, lava tubes with drip water sources, and bird nesting areas. Within the project area, habitation sites are generally concentrated within TAs 5 and 22. SIHP 19490 in TA 5 is comprised of several lava tube habitation features along with a trail segment, a C-shaped structure, and other archaeological features, including midden deposits, ahu, and a surface artifact scatter. In 2003, a pair of well-preserved ti leaf sandals (Figure 16) was collected from SIHP 19490 by PTA CRM staff. Within TA 22, SIHP 23694 is situated within the “C” (Charlie) lava tube cave system (Figure 17), where archaeological features and cultural materials were first identified during a biological resources survey of PTA (Godby 2003). A subsequent site visit by PTA CRM staff in 2003 documented human remains at SIHP 23694 along with an artifact scatter containing lithic debitage, water-worn stones, and gourd fragments. A circular-shaped hearth containing charcoal, ash, and bird bone was also noted near one of the cave entrances (Godby 2003).



Figure 15. Pictograph panel at SIHP 23450, photograph from Brown et al. (2008:169).



Figure 16. Ti leaf sandals (ti kama'a) from SIHP 19490, photograph from Robins et al. (2006:35).



Figure 17. Entrance 3C at SIHP 23694 where human remains were documented, photograph from Godby (2003:11).

3.2.1.2 Excavated Pāhoehoe Pits

Excavated pāhoehoe pits are by far the most abundant feature type within the Saddle Region and have been subjected to numerous archaeological investigations. Williams (2002:26) noted the pit features typically exhibit broken ceiling slabs removed from the excavations that are stacked, piled, or merely “thrown” along the outer rim of the pits. Some pits appeared to be filled in, which Williams (2002:26) suggested might be from rocks being thrown behind the excavator (into the open pit) as the pāhoehoe shelf continues to be dismantled. He also noted the presence of deep battering scars on the pit edges that suggest the use of a heavy, pointed tool to break open the lava crust (Williams 2002:26).

Moniz-Nakamura (Moniz 1997; Moniz-Nakamura 1999) suggested the excavated pits represented efforts to create nesting habitat for ‘ua’u or to enlarge natural burrows to retrieve nestlings. Nesting burrows can be up to 1.8 meters long with 15- to 20-centimeter-high entrances; enlarging these entrances makes it easier to retrieve the nestlings from the burrow. Microfossil and organic residue analysis of sediment samples from excavated pit features within the project area was conducted at SIHP 23455 (Figure 18) in TA 5 and SIHP 23856 in TA 4 (Monahan et al. 2013).

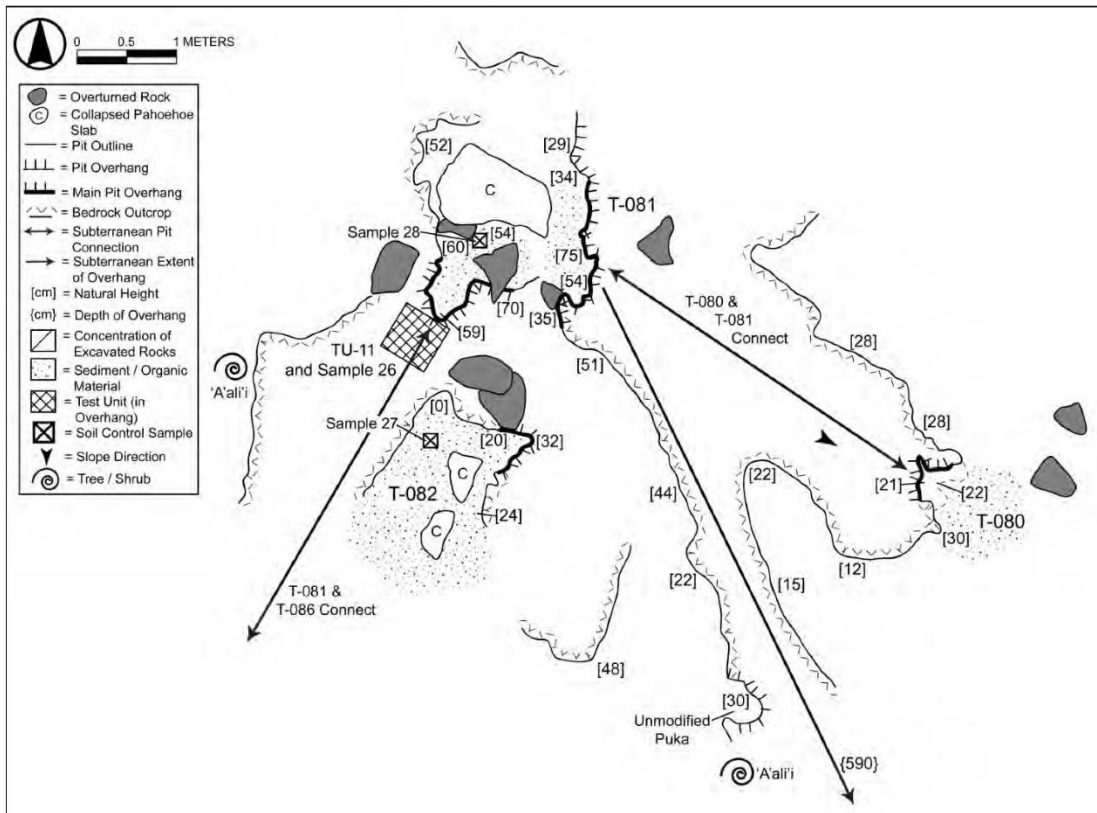


Figure 18. Plan view of pit features and excavation unit at SIHP 23455, from Monahan et al. (2013:171).

Using control samples from known petrel nesting sites on the slopes of Mauna Loa, the samples produced strong Fourier Transform Infrared Spectroscopy (FTIR) avian signatures from all sampled pits and some of the samples closely resembled the Mauna Loa samples (Monahan et al. 2013:252). However, this same signature was also found in control samples outside the pits, indicating birds were in the area but not necessarily targeting the excavated pits. Monahan also cautioned that the avian signature is general (not classified to genus or species) and could reflect the presence of birds other than seabirds that are known to use the pits during recent times (Monahan et al. 2013:250).

Moniz-Nakamura (1999) and Monahan et al. (2013) attempted to cultivate ‘uala in excavated pits; however, these experimental attempts were unsuccessful; the plants sustained green leaves for up to several months, but none produced viable tubers (Monahan et al. 2013:255).

3.2.1.3 Lithic Quarries

The Saddle Region is one of Hawai‘i’s most abundant volcanic glass sources. The project area’s relatively recent pāhoehoe flows contain a great number of volcanic glass outcrops, most of which have been exploited. Lithic quarries identified within the project area are generally concentrated within the eastern portion of the project area.

In addition to volcanic glass debitage, quarry sites also frequently contain fragmented and complete hammerstones, hundreds of which have been documented within the project area. Williams (2002:71) noted the use of “large hammerstones made of vesicular pahoehoe” for initial quarrying of the material and small, dense basalt hammerstones derived from Mauna Kea basalt for secondary reduction activities. While lithic scatters are commonly associated with quarried areas where primary reduction of lithic material occurred, they are also frequently documented at both repeated and limited-use occupation sites (Figure 19), representing secondary reduction to produce adze blanks, and the maintenance and production of flake tools.



Figure 19. Volcanic glass artifacts recovered from excavations at SIHP 19490, photograph from Robins et al. (2006:139).

3.2.1.4 Trails

Several Traditional Hawaiian trail segments are situated within the project area and other major trails have been identified within the larger PTA boundaries. These isolated trail segments often consist of worn lava paths, sometimes with associated linear curbstone constructions, and alignments of cairns or ahu. SIHP 5009, the Pu‘u Kapele trail, is located within TA 17, and a 100-meter-long trail segment is mapped at SIHP 23457 within TA 7. Trail segments leading to habitation features have also been documented at SIHP 19490 within TA 5 (Figure 20).

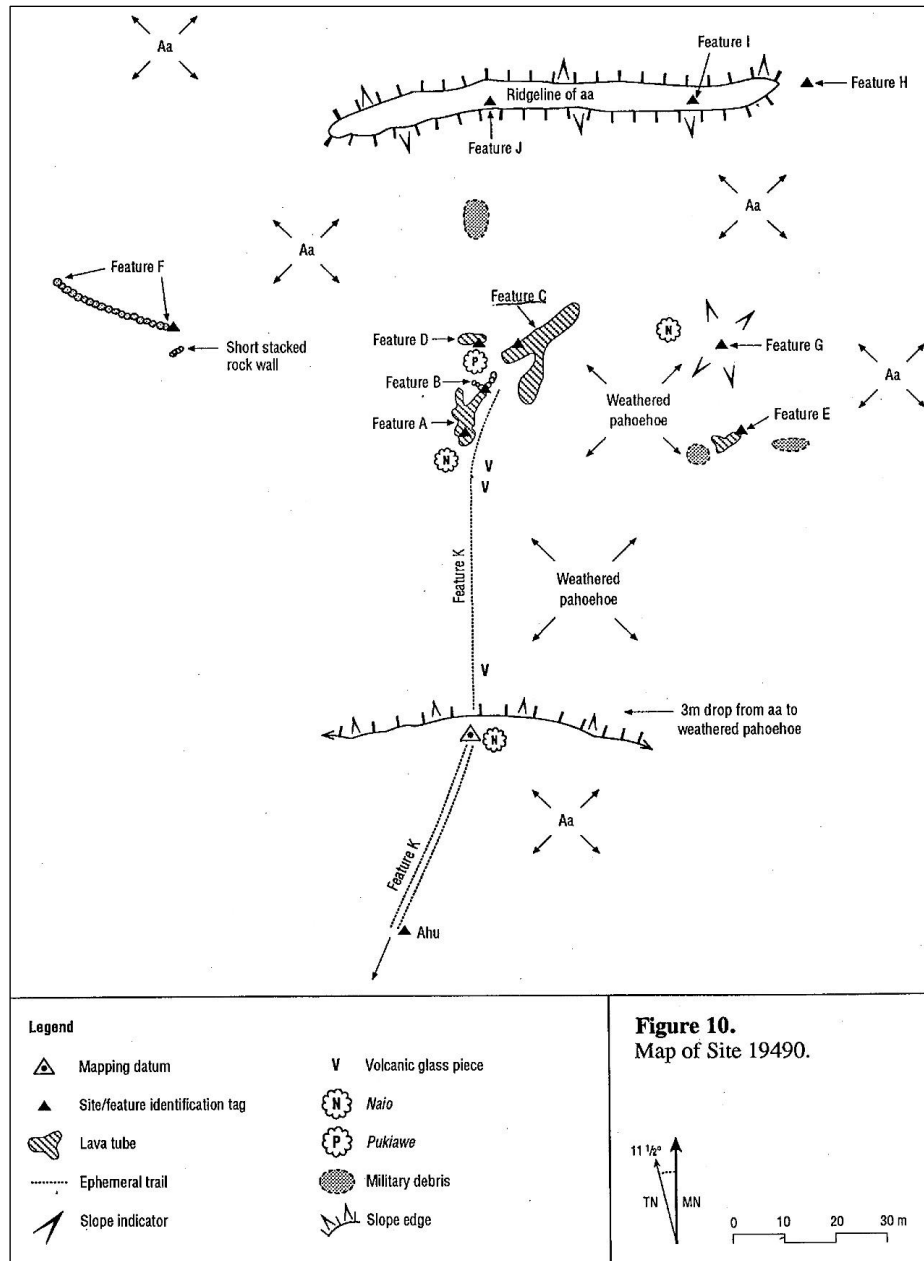


Figure 20. Plan view showing trail segments (Features F and K) mapped at SIHP 19490, from Shapiro et al. (1998:45).

3.2.2 Historic Period Sites

Historic Period archaeological sites located within the project area include late-nineteenth to early-twentieth century ranching infrastructure remnants (walls, mounds, animal enclosures, fence lines) and features associated with land surveying activities (survey benchmark, boundary monuments). Several additional sites of unknown origin (mounds, modified outcrops, C-shaped structures, habitation lava tubes) may be affiliated with the early Post-Contact to Historic periods, but no determination on the origin of these sites has been made by PTA CRM staff.

3.2.2.1 Ranching Sites

Ranching sites include rock walls, fence lines, and animal enclosures. Some of these are associated with Parker Ranch and the Humu‘ula Sheep Station, located just east of the project area. SIHP 23452, a fence line incorporating a rock wall base constructed around 1895, extends across a roughly 10-mile-long alignment within the project area, situated to the south of Saddle Road. Other Historic Period ranching features are in the eastern portion of the project area, including SIHPs 23846 (animal enclosure), 23847 (alignment), and 23850 (corral).

3.2.2.2 Trails, Transportation, and Land Survey Associated Sites

While the age of the trail segments located within the project area (SIHPs 5009 and 23457) are classified as Traditional Hawaiian in origin, they were also likely utilized during the Post-Contact and Historic periods. Their original construction and/or design may have been modified or expanded by foreigners traveling with horses and other pack animals.

Two historic features associated with government land surveying activities are situated within the project area, including a USGS survey marker (Site T-082217-08) at the southern boundary of the Ke‘āmuku parcel in TA 14 and a USGS elevation benchmark (Site T-040418-01) at the top of Pu‘u Omaokoili in TA 1.

3.2.3 Recent Military Features

Following the attack at Pearl Harbor in 1941, over 50,000 acres of Parker Ranch were taken over by the U.S. military for war maneuvers (termed the Waikoloa Maneuver Area) and used as a live-fire training area. The town of Waimea was converted to an encampment named Camp Tarawa (Brennan 1974:164). The current Saddle Road was constructed in 1943 to allow movement into the interior in case of another foreign attack (Langlas et al. 1999:55). Military training maneuvers have expanded into the project area in the modern era, as indicated by the presence of hastily constructed rock training structures and associated debris. PTA CRM staff and cultural resource consultants have identified at least 435 military-associated features within the project area. Basic descriptive and locational data is maintained for these recent military features, which are avoided during current training activities.

4.0 HISTORIC ARCHITECTURAL RESOURCES

Historic architectural resources represent the built human environment and are typically expressed as buildings and as structures, such as engineering works. The NHPA provides a definition for historic architectural properties as being typically 50 years of age or older and retaining historical significance and integrity per 36 CFR Part 800.4(c). To date, there are no historic architectural

resources known to be extant within State-owned land. Previous cultural resources studies have recorded and evaluated historic structures within PTA, including Quonset huts and other Cantonment facilities that date from the World War II to Cold War periods. These resources are located outside the region of influence in the nearby Cantonment and BAAF.

5.0 CONCLUSIONS

Kleinfelder, Inc. conducted an archaeological literature review to support the preparation of an EIS that analyzes the environmental effects of a Proposed Action for the ATR at PTA project. The current document is meant to support the NEPA review process by compiling background information on existing conditions of tangible cultural resources (historic architectural resources and archaeological sites) known to exist within State-owned land at PTA. The results of this analysis help to generate a preliminary assessment of the project's potential impacts on tangible cultural resources as well as recommendations for managing the impacts of the Proposed Action. This document will be appended to the EIS as a contributing technical study.

The majority of the project area is located within Ka'ohē Mauka Ahupua'a, Hāmākua District, with a small portion extending east into Humu'ula Ahupua'a, Hilo District, on the island of Hawai'i. The State-owned land forming the project area consists of approximately 23,000 acres encompassing five TMK parcels: (3) 3-8-001:013 and :022, (3) 4-4-015:008, (3) 4-4-016:005, and (3) 7-1-004:007. The eastern two-thirds of the project area consist of a roughly two-mile-wide corridor extending northwest-southeast through PTA along the Saddle Road (State Route 200) corridor between Gilbert Kahele Recreation Park to the east and the Saddle Road-Daniel K. Inouye Highway junction to the west. The western third of the project area comprises a roughly 8,000-acre area which extends towards the western PTA boundary and southwest of the Ke'amuku parcel.

One hundred-five (105) archaeological sites are recorded within the project area. Recorded sites within the project area include a range of Traditional Hawaiian and Historic Period archaeological sites; no historic structures or buildings are present within the project area. Approximately 50 percent of the project area has been subjected to archeological inventory survey, comprising 31 separate investigations. Although other archaeological projects have been conducted within State-owned land, these 31 studies meet USAG-HI's standards for archaeological investigation and so are counted as surveyed and inventoried land. Approximately 50 percent of State-owned land has either remained unsurveyed or was subjected to older studies that do not meet the USAG-HI's current standards.

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Biological Species Descriptions

Appendix K

BIOLOGICAL SPECIES DESCRIPTIONS

K.1 Protected Plant Species

***Exocarpos menziesii* (Menzie’s ballart, heau):** This long-lived perennial shrub is a member of the *Santalaceae* (sandalwood) family. It grows up to 6.6 feet tall with densely branched stems with maroon-tinged ends, scale-like leaves that are elliptic to oblanceolate, and red flowers. It prefers *Metrosideros* shrublands, dry forest areas, and sparsely vegetated lava flows between 4,600 and 6,900 feet in elevation (USAG-PTA, 2022a). The U.S. Fish and Wildlife Service (USFWS) statewide population estimate is between 1,983 and 2,431 individuals across 17 populations (USFWS, 2021a). The current Pōhakuloa Training Area (PTA) population estimate is 5,550 individuals, which is greater than the USFWS population estimate for Hawai’i. There have been two individuals documented on State-owned land at PTA, which represents less than 1 percent of the statewide population based on the more recent PTA survey estimates (USAG-PTA, 2024).

***Festuca hawaiiensis* (Hawaiian fescue):** This perennial grass is a member of the *Poaceae* (grass) family. It grows annually in clumps 1.6 to 5 feet tall with flat, smooth blades. It prefers dry montane ecosystem forest at 6,000 feet in the *Dodonaea viscosa* Shrubland Alliance, *Metrosideros polymorpha* Woodland Alliance, *Myoporum sandwicense* – *Sophora chrysophylla* Shrubland Alliance, and *Myoporum sandwicense* – *Sophora chrysophylla* Woodland Alliance vegetation types (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 1,083 individuals across 3 populations (USFWS, 2021b). The current PTA population estimate is 11,669 individuals, which is greater than the USFWS population estimate for Hawai’i. There was a minimum count of 181 individuals documented on State-owned land at PTA, which represents at least 1.8 percent of the statewide population based on the most recent PTA survey estimates (USAG-PTA, 2024).

***Haplostachys haplostachya* (Hawaiian mint, honohono):** This perennial, short-lived, woody herb is a member of the *Lamiaceae* (mint) family. It has square wooly stems that grow 1 to 2 feet tall with leaves that are simple and have a narrow heart shape. It prefers dry exposed areas on stony, shallow soils, lava outcrops, and ash-veneered lava (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 24,000 individuals across 14 populations between PTA and the adjacent State-owned land at Pu’u Anahulu, and the PTA-specific population estimate is 17,215 individuals (USFWS, 2020a). There was a minimum count of 11,242 individuals documented on State-owned land at PTA, which represents at least 46.8 percent of the statewide population (USAG-PTA, 2024).

***Kadua coriacea* (leather-leaf sweet ear, kio’ele):** This short-lived small, many branched shrub is a member of the *Rubiaceae* (coffee) family. It has leathery oblong leaves 1 to 3 inches long and 0.6 to 1 inch wide with clusters flowers at the branch ends. It is found in pāhoehoe lava flows in the *Metrosideros polymorpha* Woodland Alliance vegetation type at elevations between 4,500 and 5,000 feet (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 145 individuals across 6 populations

at PTA, which is greater than the statewide population estimate provided in the 2020 5-year review (USFWS, 2020b). In 2020, there were 150 individuals across 128 locations installation-wide, which is 5 individuals greater than the statewide population estimate provided in the 2020 5-year review (USAG-PTA, 2022a). There has been a single *K. coriacea* individual documented on State-owned land at PTA, which represents less than 1 percent of the statewide population (USAG-PTA, 2023b).

***Portulaca sclerocarpa* (hard fruit purslane, po'e):** This short-lived perennial herb is a member of the *Portulacaceae* (purslane) family. It has a woody tuberous taproot with 8-inch stems and succulent green to grayish leaves. At PTA, it is found on barren lava and in the *Metrosideros polymorpha* Woodland Alliance and *Myoporum sandwicense* - *Sophora chrysophylla* Shrubland Alliance vegetation types between 3,000 and 5,000 feet in elevation (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 450 individuals across 15 locations (USFWS, 2020c). There have been 5 individuals documented on State-owned land at PTA, which represents 1.1 percent of the statewide population (USAG-PTA, 2023b).

***Silene hawaiiensis* (Hawaiian catchfly):** This sprawling, short-lived perennial shrub is a member of the *Caryophyllaceae* (pink) family. It has an enlarged root with 6- to 16-inch climbing stems with short, sticky hairs and slender leaves. At PTA, it is found on barren lava, on disturbed sites, and in the *Metrosideros polymorpha* Woodland Alliance, *Chenopodium oahuense* Shrubland Alliance, *Dodonaea viscosa* Shrubland Alliance, *Myoporum sandwicense* - *Sophora chrysophylla* Shrubland Alliance, and *Eragrostis atropioides* Herbaceous Alliance vegetation types (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 2,344 individuals across 1,324 locations (USFWS, 2020d). The current PTA population estimate is 7,479 individuals, which is greater than the USFWS population estimate for Hawai'i. There was a minimum count of 1,991 individuals documented on State-owned land at PTA, which represents at least 21.9 percent of the statewide population based on the most recent PTA survey estimates (USAG-PTA, 2024).

***Silene lanceolata* (lance-leaf catchfly):** This upright perennial shrub is a member of the *Caryophyllaceae* (pink) family. It has an enlarged root with a 6- to 20-inch single stem from a woody base with multiple branches above and narrow smooth leaves with open clustered flowers. At PTA, it is found in the *Metrosideros polymorpha* Woodland Alliance, *Myoporum sandwicense* – *Sophora chrysophylla* Woodland Alliance, *Myoporum sandwicense* – *Sophora chrysophylla* Shrubland Alliance, and *Dodonaea viscosa* Shrubland Alliance vegetation types (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 12,242 individuals across three islands, and 10,326 individuals have been observed at PTA (USFWS, 2021c). There is a minimum count of 646 individuals documented on State-owned land at PTA, which represents at least 5.3 percent of the statewide population (USAG-PTA, 2024).

***Solanum incompletum* (Hawaiian prickly leaf, pōpolo kū mai):** This short-lived woody perennial shrub is a member of the *Solanaceae* (nightshade) family that grows up to 9 feet. Stems and lower leaves have reddish prickles and oval leaves that are 4 to 6 inches long and 3 inches wide with loose flower clusters and round berry fruit that is black to orange/yellow in color. At PTA, it is found on lava flows of various ages in the *Metrosideros polymorpha* Woodland Alliance, *Myoporum sandwicense* – *Sophora chrysophylla* Shrubland Alliance, and *Dodonaea viscosa* Shrubland Alliance vegetation types (USAG-PTA, 2022a). The USFWS statewide population estimate is approximately 73 to 113 individuals across 3 locations; this species benefits especially from ungulate and rodent control (USFWS, 2020e). There have been 11 individuals documented on State-owned land at PTA, which represents 9.7 to 15.1 percent of the statewide population (USAG-PTA, 2023b).

***Stenogyne angustifolia* var. *angustifolia* (creeping mint):** This short-lived perennial vine is a member of the *Lamiaceae* (mint) family with slender stems and opposite branching that are smooth and four-sided with a leathery leaf that is between 1 and 3 inches long and 3 to 4 inches wide with tubular flowers. It is found to grow on relatively flat, ash-veneered lava and shallow soils in semi-arid shrublands and woodlands (USAG-PTA, 2022a). The USFWS statewide population is estimated to be between 2,609 and 3,330 individuals, with a PTA-specific population estimate between 2,515 and 3,238 individuals (USFWS, 2020f). The current PTA population estimate is 12,038 individuals, which is greater than the USFWS population estimate for Hawai'i. There is a minimum count of 4,640 individuals documented on State-owned land at PTA, which represents at least 33 percent of the statewide population based on the most recent PTA survey estimates (USAG-PTA, 2024).

***Tetramolopium arenarium* (Mauna Kea pāmakani):** This short-lived perennial, erect tufted shrub is a member of the *Asteraceae* (sunflower) family that is 2.5 to 4 feet tall with alternate toothless (or shallow toothed) lance-shaped leaves with flower clusters at the end of the stems. At PTA, this species is found in the *Dodonaea viscosa* Shrubland Alliance vegetation type at elevations between 4,000 and 7,000 feet (USAG-PTA, 2022a). The USFWS statewide population estimate is 420 individuals in a single population at PTA (USFWS, 2020g). There have been 94 individuals documented on State-owned land at PTA, which represents approximately 22.4 percent of the statewide population (USAG-PTA, 2023b).

***Zanthoxylum hawaiiense* (Hawaiian yellow wood, a'e):** This small deciduous tree is a member of the *Rutaceae* (rue) family that is 9 to 24 feet tall with alternate lance-shaped, toothed, lemon-scented leaves comprised of three leaflets. At PTA, this species is found in *Metrosideros*-dominated lowland dry or mesic forests, in montane dry forests, and on lava from 1,800 to 5,700 feet (USAG-PTA, 2022a). The USFWS statewide population estimate is one population of 660 mature plants and seedlings (USFWS, 2021d). There have been 47 individuals documented on State-owned land at PTA, which represents approximately 7.1 percent of the statewide population (USAG-PTA, 2023b).

Note: USFWS provides 5-year reviews for protected species; however, PTA reevaluates species either annually or every 3 years. Therefore, the PTA surveys may be higher than what is shown by USFWS because the survey cycles are out of sync.

K.2 Protected Invertebrate Species

***Hylaeus anthracinus* (anthracinan yellow-faced bee):** The anthracinan yellow-faced bee is a solitary small to medium-sized bee that resembles a small wasp with black legs and clear to smokey wings. They occupy all native habitat types up to 9,000 feet in elevation and are generally associated with native plants. In 2004, a single, yellow-faced bee specimen was collected at PTA, but the exact location is unknown (USAG-PTA, 2020c). This bee species, typically found along coasts, was found in a *K. coriacea* fruit capsule in an unknown location at PTA and was suspected to have been accidentally transported to the installation. A 2018 *Hylaeus* species survey did not record any anthracinan yellow-faced bees at PTA (USAG-PTA, 2022a). While there are no population estimates for this species, according to the 2021 USFWS 5-year status review, this species occurs in five coastal and possibly one montane dry forest population on the island of Hawai'i, five coastal locations on the island of O'ahu, one coastal and one dry forest location on the island of Maui, three coastal locations on the island of Moloka'i, and one coastal location on the island of Kaho'olawe (USFWS, 2021e).

***Manduca blackburni* (Blackburn’s sphinx moth):** The Blackburn’s sphinx moth has a 5-inch wingspan and is considered Hawai’i’s largest native moth, with long narrow forewings and a spindly shaped body that is grayish brown with black bands and five orange spots along both sides of the abdomen. It is found in coastal mesic and dry forests between sea level up to 5,000 feet in elevation in areas receiving less than 50 inches of rain annually (DLNR, 2015). The moth was discovered at PTA in July 2019, and there have been three documented occurrences to date; none of the observations have been on State-owned land, which is mostly above the moth’s 5,000-foot elevation preference (USAG-PTA, 2022a). This species appears to be closely tied with *N. glauca* plants, although caterpillars were documented on *S. incompletum* in November 2019. USFWS is working with the Department of Land and Natural Resources, Division of Forestry and Wildlife to obtain species abundance. There are no statewide population estimates for this species due to its rarity and wide-ranging behaviors. A 2014 Hawai’i Department of Transportation survey of approximately 50 acres along Saddle Road estimated a moth density of approximately 0.54 moths per acre (USFWS, 2019).

K.3 Protected Bird Species

***Branta sandvicensis* (Hawaiian goose, nēnē):** The translocation of 595 Hawaiian geese from Kaua’i to the island of Hawai’i between 2011 and 2016 created new visitation patterns and breeding behaviors for the species on the island. Many of the translocated geese were released at Pu’u O’o in the Hilo Forest Reserve, 11 miles east of PTA. Hawaiian geese have been observed at PTA, including on State-owned land in TAs 1, 3, 4, 6, and 7. The most frequent observations occur at BAAF and on TAs 1, 3, and 4 (USAG-PTA, 2014a). Of the geese that could be identified by leg bands, it is estimated approximately 48 percent of the sightings (12 geese) were from the translocated population. Hawaiian goose breeding activity has been exceedingly rare at PTA, with three documented nesting events since 2014. In 2014, two successful nesting events occurred; defined as “hatched goslings,” one nest was at BAAF and a second at Forward Operating Base Warrior (a collective reference to TAs 1, 3, and 4) on State-owned land (USAG-PTA, 2014a; USAG-PTA, 2014b). There were no known nesting attempts between 2019 and 2021. PTA Natural Resources Program (NRP) staff conducted 191 surveys in 2021; four Hawaiian geese were observed during monitoring events, with two of these sightings occurring at TA 3 on State-owned land. There have been an additional four geese reported, not on State-owned land, from incidental sightings not associated with monitoring events (USAG-PTA, 2022a).

The current statewide population estimate for the Hawaiian goose is 3,252 individuals, with 1,091 Hawaiian geese estimated on the island of Hawai’i (84 FR 69918). The two documented occurrences of the goose in TA 3 on State-owned land represents approximately 0.06 percent of the statewide population and just under 0.2 percent of the estimated population on the island of Hawai’i (USAG-PTA, 2022a).

***Hydrobates castro* (band-rumped storm petrel, ‘akē‘akē):** The band-rumped storm petrel has been detected at PTA since 2008; however, this species has not been detected on State-owned land at PTA. Acoustical activity suggests the species may be present seasonally; however, it is unknown how this species may use habitats in PTA. The band-rumped storm petrel is known to use the Saddle Region as a flyway to nesting habitat, typically located on the steep slopes of the northeast rift zone of Mauna Loa within Hawai’i Volcanoes National Park (USMC, 2013).

Since May 2020, the Army has been working informally with USFWS on predator control during breeding season at the band-rumped storm petrel colony in the southeastern portion of PTA on U.S. Government-owned land. USFWS concurred that these actions, which include burrow surveys with a detector dog and

predator management, may affect, but are not likely to adversely affect, the colonies. Over approximately 30 days between August and September 2021, a trained search dog covered approximately 14 miles of area. The search dog showed interest in two established burrows with cameras and a new burrow that had a monitoring camera added. Monitoring cameras are positioned 6 feet away facing the burrow; a total of six burrows were monitored between May and September 2021. Two of the burrows were determined to be active (USAG-PTA, 2022a). Because there is not much known about the Hawai'i Distinct Population Segment of the band-rumped storm petrel, surveys and monitoring add much needed life-cycle information for this species.

NRP staff maintain a State *Protected Wildlife Permit - Scientific Collection (WL19-42)* for the band-rumped storm petrel that authorizes the collection and possession of up to 25 band-rumped storm petrel carcasses per year for the purpose of understanding predation level at PTA. Additionally, NRP staff maintain a *USFWS Scientific Collection Permit (MB85880B)* and a *USFWS Recovery Permit (TE40123A-3)* (USAG-PTA, 2022a; Shannon et al., 2016; USAG-HI, 2001).

K.4 Protected Mammal Species

In Hawai'i, observations of the Hawaiian hoary bat have occurred in native, non-native, developed, and agricultural areas between sea level and 7,500 feet. No Hawaiian hoary bat roosts have been observed or detected at PTA, but passive acoustic detection of the bat has occurred at three monitoring locations on State-owned land (USAG-PTA, 2022a). While there are no population estimates for this species, according to the 2018 USFWS 5-year status review of Hawaiian hoary bat, the species has been confirmed to be widely distributed and breeding on the island of Hawai'i (USFWS, 2021f).

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State and County Plans and Policies

Appendix L

STATE AND COUNTY PLANS AND POLICIES

L.1 Hawai'i State Plan, Hawai'i Revised Statutes Chapter 226

Table L-1 details which goals from HRS Chapter 226, the *Hawai'i State Plan*, are supported by, or not applicable to, the Proposed Action. For those goals that are supported by the Proposed Action, a discussion and consistency review are provided in **Table 5-2, Section 5.3.2**.

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|---|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| Section 226-4: State Goals. | | | | |
| In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: | | | | |
| (1) | A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations. | X | | |
| (2) | A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. | X | | |
| (3) | Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life. | X | | |
| Section 226-5: Objective and Policies for Population. | | | | |
| (A) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter; | | | | |
| (B) To achieve the population objective, it shall be the policy of this State to: | | | | |
| (1) | Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county. | | | X |
| (2) | Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs-and desires. | | | X |
| (3) | Promote increased opportunities for Hawai'i's people to pursue their socioeconomic aspirations throughout the islands. | | | X |
| (4) | Encourage research activities and public awareness programs to foster an understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population. | | | X |
| (5) | Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among states, provided that such actions do not prevent the reunion of immediate family members. | | | X |
| (6) | Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population. | | | X |
| (7) | Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area. | | | X |
| Section 226-6: Objectives and Policies for the Economy in General. | | | | |
| (A) Planning for the State's economy in general shall be directed toward achievement of the following objectives: | | | | |
| (1) | Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people, while at the same time stimulating | X | | |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited. | | | |
| (2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands. | | | X |
| (B) To achieve the general economic objectives, it shall be the policy of this State to: | | | |
| (1) Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State. | | | X |
| (2) Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State. | | | X |
| (3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people. | | | X |
| (4) Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities. | | | X |
| (5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i. | | | X |
| (6) Seek broader outlets for new or expanded Hawai'i business investments. | | | X |
| (7) Expand existing markets and penetrate new markets for Hawai'i's products and services. | | | X |
| (8) Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation. | | | X |
| (9) Strive to achieve a level of construction activity responsive to, and consistent with, State growth objectives. | | | X |
| (10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small-scale producers, manufacturers, and distributors. | | | X |
| (11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility. | | | X |
| (12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i. | | | X |
| (13) Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities. | | | X |
| (14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems. | | | X |
| (15) Maintain acceptable working conditions and standards for Hawai'i's workers. | | | X |
| (16) Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures. | | | X |
| (17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited. | | | X |
| (18) Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy, particularly with respect to emerging industries in science and technology. | | | X |
| (19) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy. | | | X |
| (20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular. | | | X |
| (21) Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry. | | | X |
| Section 226-7 Objectives and Policies for the Economy – Agriculture. | | | |
| (A) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: | | | |
| (1) Viability of Hawai'i's sugar and pineapple industries. | | | X |
| (2) Growth and development of diversified agriculture throughout the State. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being. | | | X |
| (B) To achieve the agriculture objectives, it shall be the policy of this State to: | | | |
| (1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy. | | | X |
| (2) Encourage agriculture by making best use of natural resources. | | | X |
| (3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture. | | | X |
| (4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits. | | | X |
| (5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy. | | | X |
| (6) Seek the enactment and retention of federal and State legislation that benefits Hawai'i's agricultural industries. | | | X |
| (7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's food producers and consumers in the State, nation, and world. | | | X |
| (8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products. | | | X |
| (9) Enhance agricultural growth by providing public incentives and encouraging private initiatives. | | | X |
| (10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs. | | | X |
| (11) Increase the attractiveness and opportunities for an agricultural education and livelihood. | | | X |
| (12) In addition to the State's priority on food, expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises. | | | X |
| (13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104. | | | X |
| (14) Promote and assist in the establishment of sound financial programs for diversified agriculture. | | | X |
| (15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment. | | | X |
| (16) Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses. | | | X |
| (17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu. | | | X |
| (18) Increase and develop small-scale farms. | | | X |
| Section 226-8 Objective and Policies for the Economy - Visitor Industry. | | | |
| (A) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy. | | | |
| (B) To achieve the visitor industry objective, it shall be the policy of this State to: | | | |
| (1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities. | | | X |
| (2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people. | | | X |
| (3) Improve the quality of existing visitor destination areas by utilizing Hawai'i's strengths in science and technology. | | | X |
| (4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities. | | | X |
| (5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people. | | | X |
| (6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|--|--|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (7) | Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit. | | | X |
| (8) | Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values. | | | X |
| Section 226-9 Objective and Policies for the Economy - Federal Expenditures. | | | | |
| (A) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy. | | | | |
| (B) To achieve the federal expenditures objective, it shall be the policy of this State to: | | | | |
| (1) | Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment; | X | | |
| (2) | Promote Hawai'i's supportive role in national defense, in a manner consistent with Hawai'i's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai'i's economy; | X | | |
| (3) | Promote the development of federally supported activities in Hawai'i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment; | X | | |
| (4) | Increase opportunities for entry and advancement of Hawai'i's people into federal government service; | X | | |
| (5) | Promote federal use of local commodities, services, and facilities available in Hawai'i; | X | | |
| (6) | Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i; and | X | | |
| (7) | Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties. | X | | |
| Section 226-10 Objective and Policies for the Economy - Potential Growth Activities. | | | | |
| (A) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai'i's economic base. | | | | |
| (B) To achieve the potential growth activity objective, it shall be the policy of this State to: | | | | |
| (1) | Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors; | | | X |
| (2) | Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products; | | | X |
| (3) | Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements; | | | X |
| (4) | Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity; | | | X |
| (5) | Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus; | | | X |
| (6) | Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people; | | | X |
| (7) | Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts; | | | X |
| (8) | Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste; | | | X |
| (9) | Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State; | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| (10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai'i's social, economic, physical, and environmental objectives; | | | X |
| (11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research; | | | X |
| (12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i; | | | X |
| (13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawai'i; | | | X |
| (14) Encourage the development and implementation of joint federal and State initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives; | | | X |
| (15) Increase research and development of businesses and services in the telecommunications and information industries; | | | X |
| (16) Foster the research and development of non-fossil fuel and energy efficient modes of transportation; and | | | X |
| (17) Recognize and promote health care and health care information technology as growth industries. | | | X |
| Section 226-10.5 Objectives and Policies for the Economy - Information Industry. | | | |
| (A) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region. | | | |
| (B) To achieve the information industry objective, it shall be the policy of this State to: | | | |
| (1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i; | | | X |
| (2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy; | | | X |
| (3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i; | | | X |
| (4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-State; | | | X |
| (5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry; | | | X |
| (6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people; | | | X |
| (7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry; | | | X |
| (8) Foster a recognition of the contribution of the information industry to Hawai'i's economy; and | | | X |
| (9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific. | | | X |
| Section 226-11 Objectives and Policies for the Physical Environment - Land-based, Shoreline, and Marine Resources. | | | |
| (A) Planning for the State's physical environment with regard to land-based, shoreline and marine resources shall be directed towards achievement of the following objectives: | | | |
| (1) Prudent use of Hawai'i's land-based, shoreline, and marine resources. | X | | |
| (2) Effective protection of Hawai'i's unique and fragile environmental resources. | X | | |
| (B) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to: | | | |
| (1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources. | X | | |
| (2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems. | X | | |
| (3) Take into account the physical attributes of areas when planning and designing activities and facilities. | | | X |
| (4) Manage natural resources and environs to encourage their beneficial and multiple uses without generating costly or irreparable environmental damage. | X | | |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|--|---|----------|------------|------------|
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| (5) | Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions. | X | | |
| (6) | Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i. | X | | |
| (7) | Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion. | | | X |
| (8) | Pursue compatible relationships among activities, facilities, and natural resources. | X | | |
| (9) | Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes. | X | | |
| Section 226-12 Objective and Policies for the Physical Environment - Scenic, Natural Beauty, and Historic Resources. | | | | |
| (A) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources. | | | | |
| (B) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to: | | | | |
| (1) | Promote the preservation and restoration of significant natural and historic resources. | X | | |
| (2) | Provide incentives to maintain and enhance historic, cultural, and scenic amenities. | | | X |
| (3) | Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features. | X | | |
| (4) | Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage. | X | | |
| (5) | Encourage the design of developments and activities that complement the natural beauty of the islands. | | | X |
| Section 226-13 Objectives and Policies for the Physical Environment - Land, Air, and Water Quality. | | | | |
| (A) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives: | | | | |
| (1) | Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources. | X | | |
| (2) | Greater public awareness and appreciation of Hawai'i's environmental resources. | | | X |
| (B) To achieve the land, air, and water quality objectives, it shall be the policy of this State to: | | | | |
| (1) | Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources. | | | X |
| (2) | Promote the proper management of Hawai'i's land and water resources. | X | | |
| (3) | Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters. | X | | |
| (4) | Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people. | X | | |
| (5) | Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters. | X | | |
| (6) | Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities. | | | X |
| (7) | Encourage urban developments in close proximity to existing services and facilities. | | | X |
| (8) | Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors. | | | X |
| Section 226-14 Objective and Policies for Facility Systems - In General. | | | | |
| (A) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives. | | | | |
| (B) To achieve the general facility systems objective, it shall be the policy of this State to: | | | | |
| (1) | Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with State and county plans. | | | X |
| (2) | Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities. | | | X |
| (3) | Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user. | | | X |
| (4) | Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| Section 226-15 Objectives and Policies for Facility Systems - Solid and Liquid Wastes. | | | |
| (A) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives: | | | |
| (1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes. | | | X |
| (2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas. | | | X |
| (B) To achieve solid and liquid waste objectives, it shall be the policy of this State to: | | | |
| (1) Encourage the adequate development of sewerage facilities that complement planned growth. | | | X |
| (2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic. | | | X |
| (3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes. | | | X |
| Section 226-16 Objective and Policies for Facility Systems - Water. | | | |
| (A) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities. | | | |
| (B) To achieve the facility systems water objective, it shall be the policy of this State to: | | | |
| (1) Coordinate development of land use activities with existing and potential water supply. | | | X |
| (2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs. | | | X |
| (3) Reclaim and encourage the productive use of runoff water and wastewater discharges. | | | X |
| (4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use. | | | X |
| (5) Support water supply services to areas experiencing critical water problems. | | | X |
| (6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs. | | | X |
| Section 226-17 Objectives and Policies for Facility Systems - Transportation. | | | |
| (A) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives: | | | |
| (1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods. | | | X |
| (2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State. | | | X |
| (B) To achieve the transportation objectives, it shall be the policy of this State to: | | | |
| (1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter; | | | X |
| (2) Coordinate State, county, federal, and private transportation activities and programs toward the achievement of statewide objectives; | | | X |
| (3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties; | | | X |
| (4) Provide for improved accessibility to shipping, docking, and storage facilities; | | | X |
| (5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs; | | | X |
| (6) Encourage transportation systems that serve to accommodate present and future development needs of communities; | | | X |
| (7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods; | | | X |
| (8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs; | | | X |
| (9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification; | | | X |
| (10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment; | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| (11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation; | | | X |
| (12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and | | | X |
| (13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency. | | | X |
| Section 226-18 Objectives and Policies for Facility Systems - Energy. | | | |
| (A) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all: | | | |
| (1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; | | | X |
| (2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation; | | | X |
| (3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems; | | | X |
| (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and | | | X |
| (5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority. | | | X |
| (B) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand. | | | |
| (C) To further achieve the energy objectives, it shall be the policy of this State to: | | | |
| (1) Support research and development as well as promote the use of renewable energy sources; | | | X |
| (2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth; | | | X |
| (3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits; | | | X |
| (4) Promote all cost-effective conservation of power and fuel supplies through measures including: (A) Development of cost-effective demand-side management programs; (B) Education; (C) Adoption of energy-efficient practices and technologies; and (D) Increasing energy efficiency and decreasing energy use in public infrastructure; | | | X |
| (5) Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies; | | | X |
| (6) Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies; | | | X |
| (7) Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure; | | | X |
| (8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and | | | X |
| (9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives. | | | X |
| (10) Provide priority handling and processing for all State and county permits required for renewable energy projects; | | | X |
| (11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and | | | X |
| (12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i. | | | X |
| Section 226-18.5 Objectives and Policies for Facility Systems - Telecommunications. | | | |
| (A) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people. | | | |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | S | N/S | N/A |
|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | |
| (B) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand. | | | |
| (C) To further achieve the telecommunications objective, it shall be the policy of this State to: | | | |
| (1) Facilitate research and development of telecommunications systems and resources; | | | X |
| (2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning; | | | X |
| (3) Promote efficient management and use of existing telecommunications systems and services; and | | | X |
| (4) Facilitate the development of education and training of telecommunications personnel. | | | X |
| Section 226-19 Objectives and Policies for Socio-Cultural Advancement - Housing. | | | |
| (A) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives: | | | |
| (1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai'i's population. | | | X |
| (2) The orderly development of residential areas sensitive to community needs and other land uses. | | | X |
| (3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people. | | | X |
| (B) To achieve the housing objectives, it shall be the policy of this State to | | | |
| (1) Effectively accommodate the housing needs of Hawai'i's people. | | | X |
| (2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households. | | | X |
| (3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing. | | | X |
| (4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas. | | | X |
| (5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas. | | | X |
| (6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing. | | | X |
| (7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community. | | | X |
| (8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i. | | | X |
| Section 226-20 Objectives and Policies for Socio-Cultural Advancement - Health. | | | |
| (A) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives: | | | |
| (1) Fulfillment of basic individual health needs of the general public. | | | X |
| (2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities. | | | X |
| (B) To achieve the health objectives, it shall be the policy of this State to: | | | |
| (1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse. | | | X |
| (2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State. | | | X |
| (3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs. | | | X |
| (4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures. | | | X |
| (5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions. | | | X |
| (6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|--|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (7) | Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data. | | | X |
| Section 226-21 Objective and Policies for Socio-Cultural Advancement - Education. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations. | | | | |
| (B) To achieve the education objective, it shall be the policy of this State to: | | | | |
| (1) | Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups. | | | X |
| (2) | Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs. | | | X |
| (3) | Provide appropriate educational opportunities for groups with special needs. | | | X |
| (4) | Promote educational programs which enhance understanding of Hawai'i's cultural heritage. | | | X |
| (5) | Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands. | | | X |
| (6) | Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities. | | | X |
| (7) | Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning. | | | X |
| (8) | Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence. | | | X |
| (9) | Support research programs and activities that enhance the education programs of the State. | | | X |
| Section 226-22 Objective and Policies for Socio-Cultural Advancement - Social Services. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being. | | | | |
| (B) To achieve the social service objective, it shall be the policy of the State to: | | | | |
| (1) | Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities. | | | X |
| (2) | Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society. | | | X |
| (3) | Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities. | | | X |
| (4) | Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations. | | | X |
| (5) | Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect. | | | X |
| (6) | Promote programs which assist people in need of family planning services to enable them to meet their needs. | | | X |
| Section 226-23 Objective and Policies for Socio-Cultural Advancement - Leisure. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations. | | | | |
| (B) To achieve the leisure objective, it shall be the policy of this State to: | | | | |
| (1) | Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|---|--|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (2) | Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently. | | | X |
| (3) | Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance. | | | X |
| (4) | Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved. | | | X |
| (5) | Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources. | | | X |
| (6) | Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs. | | | X |
| (7) | Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people. | | | X |
| (8) | Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms. | | | X |
| (9) | Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts. | | | X |
| (10) | Assure adequate access to significant natural and cultural resources in public ownership. | | | X |
| Section 226-24 Objective and Policies for Socio-Cultural Advancement - Individual Rights and Personal Well-Being. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations. | | | | |
| (B) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to: | | | | |
| (1) | Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment. | | | X |
| (2) | Uphold and protect the national and state constitutional rights of every individual. | | | X |
| (3) | Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice. | | | X |
| (4) | Ensure equal opportunities for individual participation in society. | | | X |
| Section 226-25 Objective and Policies for Socio-Cultural Advancement - Culture. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people. | | | | |
| (B) To achieve the culture objective, it shall be the policy of this State to: | | | | |
| (1) | Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i. | X | | |
| (2) | Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs. | X | | |
| (3) | Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i. | X | | |
| (4) | Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors. | X | | |
| Section 226-26 Objectives and Policies for Socio-Cultural Advancement - Public Safety. | | | | |
| (A) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives: | | | | |
| (1) | Assurance of public safety and adequate protection of life and property for all people. | X | | |
| (2) | Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances. | X | | |
| (3) | Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people. | | | X |
| (B) To achieve the public safety objectives, it shall be the policy of this State to: | | | | |
| (1) | Ensure that public safety programs are effective and responsive to community needs. | | | X |
| (2) | Encourage increased community awareness and participation in public safety programs. | | | X |
| (C) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to: | | | | |
| (1) | Support criminal justice programs aimed at preventing and curtailing criminal activities. | | | X |

| Table L-1: Hawai'i State Plan, Hawai'i Revised Statutes, Chapter 226 | | S | N/S | N/A |
|---|--|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (2) | Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies. | | | X |
| (3) | Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community. | | | X |
| (D) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to: | | | | |
| (1) | Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times. | X | | |
| (2) | Enhance the coordination between emergency management programs throughout the State. | X | | |
| Section 226-27 Objectives and Policies for Socio-Cultural Advancement - Government. | | | | |
| (A) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives: | | | | |
| (1) | Efficient, effective, and responsive government services at all levels in the State. | | | X |
| (2) | Fiscal integrity, responsibility, and efficiency in the State government and county governments. | | | X |
| (B) To achieve the government objectives, it shall be the policy of this State to: | | | | |
| (1) | Provide for necessary public goods and services not assumed by the private sector. | | | X |
| (2) | Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response. | | | X |
| (3) | Minimize the size of government to that necessary to be effective. | | | X |
| (4) | Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i. | | | X |
| (5) | Assure that government attitudes, actions, and services are sensitive to community needs and concerns. | | | X |
| (6) | Provide for a balanced fiscal budget. | | | X |
| (7) | Improve the fiscal budgeting and management system of the State. | | | X |
| (8) | Promote the consolidation of State and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible. | | | X |

L.2 Hawai‘i State Environmental Policy

Table L-2 details which policy guidelines from HRS Section 344-4, the *State Environmental Policy*, are supported by, or not applicable to, the Proposed Action. For those policies that are supported by the Proposed Action, a discussion and consistency review are provided in **Table 5-4, Section 5.3.2**.

| Table L-2: Hawai‘i State Environmental Policy, Hawai‘i Revised Statutes, Chapter 344-4 | | S | N/S | N/A |
|---|--|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (1) Population. | | | | |
| (A) | Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation; | | | X |
| (B) | Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined. | | | X |
| (2) Land, water, mineral, visual, air, and other natural resources. | | | | |
| (A) | Encourage management practices which conserve and fully utilize all natural resources; | X | | |
| (B) | Promote irrigation and waste water management practices which conserve and fully utilize vital water resources; | | | X |
| (C) | Promote the recycling of waste water; | | | X |
| (D) | Encourage management practices which conserve and protect watersheds and water sources, forest, and open space areas; | X | | |
| (E) | Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves; | | | X |
| (F) | Maintain an integrated system of state land use planning which coordinates the state and county general plans; | | | X |
| (G) | Promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling so that all our wastes become utilized. | | | X |
| (3) Flora and fauna. | | | | |
| (A) | Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard; | X | | |
| (B) | Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment. | | | X |
| (4) Parks, recreation, and open space. | | | | |
| (A) | Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses; | X | | |
| (B) | Protect the shorelines of the State from encroachment of artificial improvements, structures, and activities; | | | X |
| (C) | Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people. | X | | |
| (5) Economic development. | | | | |
| (A) | Encourage industries in Hawai‘i which would be in harmony with our environment; | | | X |
| (B) | Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands; | | | X |
| (C) | Encourage federal activities in Hawai‘i to protect the environment; | X | | |
| (D) | Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment; | | | X |
| (E) | Establish visitor destination areas with planning controls which shall include but not be limited to the number of rooms; | | | X |
| (F) | Promote and foster the aquaculture industry of the State; and preserve and conserve productive aquacultural lands. | | | X |
| (6) Transportation. | | | | |
| (A) | Encourage transportation systems in harmony with the lifestyle of the people and environment of the State; | | | X |

| Table L-2: Hawai'i State Environmental Policy, Hawai'i Revised Statutes, Chapter 344-4 | | S | N/S | N/A |
|---|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| (B) | Adopt guidelines to alleviate environmental degradation caused by motor vehicles; | | | X |
| (C) | Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users. | | | X |
| (7) Energy. | | | | |
| (A) | Encourage the efficient use of energy resources. | | | X |
| (8) Community life and housing. | | | | |
| (A) | Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods which reflect the culture and mores of the community; | | | X |
| (B) | Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation; | | | X |
| (C) | Encourage the reduction of environmental pollution which may degrade a community; | | | X |
| (D) | Foster safe, sanitary, and decent homes; | | | X |
| (E) | Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas. | | | X |
| (9) Education and culture. | | | | |
| (A) | Foster culture and the arts and promote their linkage to the enhancement of the environment; | | | X |
| (B) | Encourage both formal and informal environmental education to all age groups. | | | X |
| (10) Citizen participation. | | | | |
| (A) | Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and | | | X |
| (B) | Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues. | | | X |

L.3 County of Hawai‘i General Plan

Table L-3 details which goals from the 2005 County of Hawai‘i General Plan are supported by, or not applicable to, the Proposed Action. For those policies that are supported by the Proposed Action, a discussion and consistency review are provided in **Table 5-5, Section 5.3.3**.

| Table L-3: County of Hawai‘i General Plan | | S | N/S | N/A |
|---|--|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| Economic | | | | |
| A. | Provide residents with opportunities to improve their quality of life through economic development that enhances the County’s natural and social environments. | X | | |
| B. | Economic development and improvement shall be in balance with the physical, social, and cultural environments of the island of Hawai‘i. | X | | |
| C. | Strive for diversity and stability in the economic system. | X | | |
| D. | Provide an economic environment that allows new, expanded, or improved economic opportunities that are compatible with the County’s cultural, natural and social environment. | X | | |
| E. | Strive for an economic climate that provides its residents an opportunity for choice of occupation. | X | | |
| F. | Strive for diversification of the economy by strengthening existing industries and attracting new endeavors. | X | | |
| G. | Strive for full employment. | X | | |
| H. | Promote and develop the island of Hawai‘i into a unique scientific and cultural model, where economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents of the County, not only in terms of immediate short run economic benefits. | X | | |
| Energy | | | | |
| A. | Strive towards energy self-sufficiency. | | | X |
| B. | Establish the Big Island as a demonstration community for the development and use of natural energy sources. | | | X |
| Environmental Quality | | | | |
| A. | Define the most desirable use of land within the County that achieves an ecological balance providing residents and visitors the quality of life and an environment in which the natural resources of the island are viable and sustainable. | X | | |
| B. | Maintain and, if feasible, improve the existing environmental quality of the island. | X | | |
| C. | Control pollution. | X | | |
| Flooding and Other Natural Hazards | | | | |
| A. | Protect human life. | X | | |
| B. | Prevent damage to man-made improvements. | X | | |
| C. | Control pollution. | X | | |
| D. | Prevent damage from inundation. | X | | |
| E. | Reduce surface water and sediment runoff. | X | | |
| F. | Maximize soil and water conservation. | X | | |
| Historic Sites | | | | |
| A. | Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawai‘i. | X | | |
| B. | Appropriate access to significant historic sites, buildings, and objects of public interest should be made available. | X | | |
| C. | Enhance the understanding of man’s place on the landscape by understanding the system of ahupua’a. | X | | |
| Natural Beauty | | | | |
| A. | Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources. | X | | |

| Table L-3: County of Hawai'i General Plan | | S | N/S | N/A |
|---|---|----------|------------|------------|
| S = Supportive, N/S = Not Supportive, N/A = Not Applicable | | | | |
| B. | Protect scenic vistas and view planes from becoming obstructed. | X | | |
| C. | Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty. | X | | |
| Natural Resources and Shoreline | | | | |
| A. | Protect and conserve the natural resources from undue exploitation, encroachment and damage. | X | | |
| B. | Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources. | X | | |
| C. | Protect and promote the prudent use of Hawai'i's unique, fragile, and significant environmental and natural resources. | X | | |
| D. | Protect rare or endangered species and habitats native to Hawai'i. | X | | |
| E. | Protect and effectively manage Hawai'i's open space, watersheds, shoreline, and natural areas. | X | | |
| F. | Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake. | X | | |
| Housing | | | | |
| A. | Attain safe, sanitary, and livable housing for the residents of the County of Hawai'i. | | | X |
| B. | Attain a diversity of socio-economic housing mix throughout the different parts of the County. | | | X |
| C. | Maintain a housing supply that allows a variety of choices. | | | X |
| D. | Create viable communities with affordable housing and suitable living environments. | | | X |
| E. | Improve and maintain the quality and affordability of the existing housing inventory. | | | X |
| F. | Seek sufficient production of new affordable rental and fee-simple housing in the County in a variety of sizes to satisfactorily accommodate the needs and desires of families and individuals. | | | X |
| G. | Ensure that housing is available to all persons regardless of age, sex, marital status, ethnic background, and income. | | | X |
| H. | Make affordable housing available in reasonable proximity to employment centers. | | | X |
| I. | Encourage and expand home ownership opportunities for residents. | | | X |
| Public Facilities | | | | |
| A. | Encourage the provision of public facilities that effectively service community and visitor needs and seek ways of improving public service through better and more functional facilities in keeping with the environmental and aesthetic concerns of the community. | | | X |
| Public Utilities | | | | |
| A. | Ensure that properly regulated, adequate, efficient, and dependable public and private utility services are available to users. | | | X |
| B. | Maximize efficiency and economy in the provision of public utility services. | | | X |
| C. | Design public utility facilities to fit into their surroundings or concealed from public view. | | | X |
| Recreation | | | | |
| A. | Provide a wide variety of recreational opportunities for the residents and visitors of the County. | X | | |
| B. | Maintain the natural beauty of recreation areas. | X | | |
| C. | Provide a diversity of environments for active and passive pursuits. | X | | |
| Transportation | | | | |
| A. | Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically. | | | X |
| B. | Make available a variety of modes of transportation that best meets the needs of the County. | | | X |
| Land Use | | | | |
| A. | Designate and allocate land uses in appropriate proportions and mix and in keeping with the social, cultural, and physical environments of the County. | X | | |
| B. | Protect and encourage the intensive and extensive utilization of the County's important agricultural lands. | X | | |
| C. | Protect and preserve forest, water, natural and scientific reserves and open areas. | X | | |